

Teachers' Handbook

Class 1 and 2



एक कदम स्वच्छता की ओर

Teachers' Handbook

CLASS 1 AND 2

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
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FOREWORD

India has a rich tradition of nurturing the holistic development of children during their most formative years. These traditions provide for complementary roles for the immediate family, the extended family, community, and formal institutions of care and learning. In addressing the first eight years of a child's life, this holistic approach, which includes the cultivation of *sanskar* that are passed on from generation to generation, has a critical and positive lifelong influence on every aspect of a child's growth, health, behaviour, and cognitive capabilities in the later years.

Considering the importance of the early years in a child's lifelong development, the National Education Policy 2020 (NEP 2020) envisioned a 5+3+3+4 curricular and pedagogical structure as providing a much-needed focus on formal education and childcare in the country during the first five years corresponding to ages 3–8, naming it the Foundational Stage. Class 1 and 2 form an integral part of this Foundational Stage, continuing from the ages of 3–6 years, in which a child's holistic growth is taken care of in *Balvatika*. An individual's lifelong learning, social and emotional behaviour, and overall health depend deeply upon the experiences gained during this critical Foundational Stage.

The policy thus recommended developing a National Curriculum Framework specifically for this stage, which would comprehensively guide the whole education system toward providing high-quality education in children's early years, thereby carrying this momentum forward to the other later stages of school education. On the basis of the principles and objectives enunciated under NEP 2020, as well as on research from a range of disciplines (including neuroscience and early childhood education), on experiences and accumulated knowledge from the ground, and on the aspirations and goals of our nation — the National Curriculum Framework for Foundational Stage (NCF-FS) was developed and released on 22 October 2022. Subsequently, textbooks were developed to bring to life the curricular approach of the NCF-FS. The textbooks attempted to connect to the children's real life by recognising their learning in the classroom and the significant learning resources in the family and the community. The approach in the NCF-FS is also resonant with the *Panchkoshiya Vikas* (the development of the five sheaths of human personality) as elucidated in the *Taittiriya Upanishad*. The NCF-FS enunciates the five domains of learning, i.e., physical and motor; socio-emotional; cognitive; language and

literacy; and cultural and aesthetic, which map to the Indian tradition of *Panchkosh* consisting of five *Kosh* viz. *Annamaya*, *Pranmaya*, *Manomaya*, *Vijnanmaya* and *Anandmaya*. Besides, it also focuses on integrating a child's experiences at home with the knowledge, skills, and attitudes that would be developed within the school's precinct.

The present Teachers' Handbook is intended to support the teacher in ameliorating the classroom transaction and to act as a companion to the textbook. It should be used by the teacher to seek inspiration and ideas which would, in turn, help them develop their own pedagogical tools and methods. The handbook is suggestive in nature and the teacher should take its perspectives and adapt them as per their local need and context. Additionally, the handbook provides a well-organised framework, teaching strategies, and resources to facilitate engaging and fruitful language and numeracy learning experiences in the classroom. The handbook also includes information on suggested activities, instructional tactics, assessment techniques, curriculum objectives, and how to develop teaching-learning resources. It aids in designing engaging classrooms that satisfy the students' diverse learning needs and promote language, numeracy, and communication development.

NCERT appreciates the hard work done by the committee set up to develop the syllabus and Teaching-Learning Material for the Foundational Stage and all the subject experts who have contributed in the development of this handbook. I am also thankful to all the institutions and organisations, which have generously extended their help and assistance in making this possible.

As an organisation committed to reforming school education in Bharat and continuously improving the quality of all learning and teaching material that it develops, NCERT looks forward to critical comments and suggestions from all its stakeholders to further improve upon this textbook.

DINESH PRASAD SAKLANI
Director

New Delhi
September 2024

National Council of Educational
Research and Training

INTRODUCTION

The first eight years of a child constitute the most pivotal period in their lifetime, holding unparalleled significance and profound impact. It is these formative years of a child's life that lay the foundation for his/her lifelong well-being, and overall growth and development across all dimensions: physical, cognitive, and socio-emotional. Due to the critical importance of the Foundational Stage for the development of an individual, and for the long-term benefit to society as a whole, the National Education Policy (NEP) 2020 apply recommended bringing in the pre-school years into the foundational five years of children (3–8 years of age group) as a domain of school education. The National Curriculum Framework for Foundational Stage lays a clear path for the goal of achieving foundational literacy and numeracy as articulated in NEP 2020, with age-appropriate strategies. Early literacy and numeracy skills are linked to a better quality of life and personal well-being. These skills empower individuals to access information, make informed decisions, and engage with society more effectively. Proficiency in literacy and numeracy during early childhood lays the groundwork for future academic achievement. Children who possess strong skills in these areas from the start are better prepared to tackle more challenging subjects as they progress through their education.

The recommendations outlined in the NEP 2020 and the NCF-FS are evident in the recently introduced textbooks for Class 1 and 2, covering subjects, such as, Hindi, English, Urdu, and Mathematics. These new textbooks represent a notable shift in the educational landscape, distinguished by the inclusion of interactive exercises and activities. Recognising that learning during this stage is an active and participatory process, the textbooks aim to engage children through play and involvement in their social and cultural contexts. Children are seen as dynamic learners who continuously adapt and utilise new information to comprehend their surroundings and experiences. The selection of content in these textbooks is predominantly guided by the desired competencies and learning outcomes, in conjunction with the chosen pedagogical approach. These new textbooks stand out for their careful inclusion of material with a strong Indian setting, drawing from a variety of rich sources, including folktales and narratives. This approach serves to make the educational material not only culturally relevant, but also relatable to the student's everyday lives. It gives teachers greater opportunities to tailor conversations and courses to the local and regional context of each student, resulting in a

more individualised and fulfilling learning-teaching experience. Furthermore, the information in these textbooks goes beyond the usual function of imparting knowledge; rather, it acts as a powerful catalyst for the development of mathematical, as well as language skills and critical thinking abilities. The carefully curated content actively prompts students to delve deeper, encouraging them to analyse, question, and engage critically.

The Teachers' Handbook, crafted as a companion to the textbook, seamlessly aligns with its approach and content. Although designed primarily for teachers, its utilisation promises enriching benefits for the children as well. This handbook serves as an essential guide for providing assistance on various aspects of classroom processes, including content, pedagogical methods, and assessment strategies. While allowing teachers the flexibility to incorporate supplementary materials, it offers valuable resource for structuring progressive, cohesive, and purposeful learning experiences aimed at attaining desired learning outcomes. With a shift of focus towards competencies, this handbook reflects coherent mapping of content towards enabling achievement of specific competencies. In curating the content, whether it is for languages or mathematics, care has been taken to consider the challenges one would face in the practical scenario, and equip with suitable and varied solutions.

As language serves as a vital tool not just for communication, but also for fostering cognitive growth, the NCF-FS recognises the significance of language development during early childhood. Children arrive at school with their unique experiences, thoughts, and expectations, using language to express diverse facets of their identities. Hence, language proficiency plays a pivotal role in empowering children to become effective communicators. The Teachers' Handbook for Languages presents a well-organised framework, instructional methods, and resources to facilitate engaging and enriching language learning experiences in the classroom. It offers insights into curriculum goals, teaching strategies, evaluation techniques, suggested exercises, and methods for crafting teaching materials. This resource assists educators in designing captivating lessons that cater to the diverse learning needs of children, while fostering their language acquisition, communication abilities, and linguistic competence.

The foundation of learning mathematics in the classroom should be built upon the diverse mathematical skills that children bring with them from their environments and cultural backgrounds. The mathematics textbooks for children in class 1 and 2 reflect a thoughtful and comprehensive approach to mathematics education. These textbooks are designed to align with the learning

goals of mathematics education while considering the child's cultural and experiential background. The textbooks incorporate various mathematical processes to help children achieve both higher-order thinking skills and content-specific goals. These processes include problem-solving, where students learn to tackle mathematical challenges and provide well-reasoned solutions, as well as communication, which encourages them to explain their mathematical ideas clearly. These all ideas and essential learning and teaching points have been dealt in detail in this handbook with chapter and topic-wise examples from the book. As a teacher, one can most likely observe that the extended guidelines given in this handbook for these activities are not only pedagogically sound, but also highly learner-friendly. They strike a harmonious balance between providing clear teacher instructions and encouraging active student participation.

The handbook also provides a comprehensive overview of cross-curricular integration at foundational level as this will help teachers and children establish a detailed understanding of the world by linking concepts across different disciplines, including Language, Arts, Mathematics, Science, and Physical Education.

Learning and teaching materials for class 1 and 2 should be captivating, interactive, and suitable for the children's age level. These resources can be bought, created by teachers or even by the students themselves. The handbook offers numerous suggestions for crafting such materials using local resources and maximising their effectiveness. Additionally, it empowers teachers to leverage technology by integrating interactive online resources, educational apps, and digital platforms into the learning process. The Ministry of Education's portal, DIKSHA, serves as a comprehensive repository of e-resources sourced from across India for teaching various subjects. This portal is easily accessible to all educators and provides its resources free of charge. The handbook enables teachers to access *Jaadui Pitaara* which is a collection of play materials and educational resources, designed to assist in teaching various subjects in an enjoyable manner.

This Teachers' Handbook transcends its role as a mere teaching tool; it serves as a guiding roadmap for educators to navigate the intricacies of the modern classroom and ensure the unlocking and nurturing of every child's potential. It takes one from the framework to classroom implementation with ease. Furthermore, it acknowledges the crucial role of teachers as facilitators of learning, and advocates for professional development and continuous improvement. It encourages educators to reflect on their practices, collaborate with colleagues, and explore innovative approaches to teaching and learning.

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ABOUT THE TEACHERS' HANDBOOK

The new NCERT textbooks for class 1 and 2 have been developed using play, activity, art, music and story-based approaches as per the recommendations of National Education Policy, 2020 and National Curriculum Framework for Foundational Stage, 2022. The textbooks aim to provide holistic, student centric education that integrates experiential learning, critical thinking and life skills.

When teachers understand the paradigm shift in the content, pedagogy and assessment, then only they will be able to engage with the students and deliver the content. A handbook for teachers bridges the gap between textbook content and effective classroom practice. It also empowers teachers, enhances student engagement, and contributes to a vibrant learning environment.

The Teachers' Handbook provides clear guidelines on how to navigate the textbook. It explains the sequence of topics, how curricular goals, competencies and learning outcomes are addressed and how the four blocks for language and mathematics learning have been integrated in the textbook. The handbook also offers pedagogical insights, suggesting interactive activities, discussion prompts, and assessment methods. It empowers teachers to create engaging lessons that go beyond rote learning.

There are three subjects in class 1 and 2, i.e., Hindi/Urdu as first language, English as second language and Mathematics. The Mathematics textbook is available in English, Hindi and Urdu languages.

Two versions of the Teachers' Handbook have been developed:

English and Hindi Version: This version has two sections: Section A has Hindi language and Mathematics in Hindi for class 1 and 2. Section B has English language and Mathematics in English for class 1 and 2.

Urdu Version: The Urdu version has Urdu language, English and Hindi Languages and Mathematics in Urdu for class 1 and 2.

Teachers can choose the handbooks as per the subjects offered in their schools.

CONSTITUTION OF INDIA

Part III (Articles 12 – 35)
(Subject to certain conditions, some exceptions
and reasonable restrictions)
guarantees these

Fundamental Rights

Right to Equality

- before law and equal protection of laws;
- irrespective of religion, race, caste, sex or place of birth;
- of opportunity in public employment;
- by abolition of untouchability and titles.

Right to Freedom

- of expression, assembly, association, movement, residence and profession;
- of certain protections in respect of conviction for offences;
- of protection of life and personal liberty;
- of free and compulsory education for children between the age of six and fourteen years;
- of protection against arrest and detention in certain cases.

Right against Exploitation

- for prohibition of traffic in human beings and forced labour;
- for prohibition of employment of children in hazardous jobs.

Right to Freedom of Religion

- freedom of conscience and free profession, practice and propagation of religion;
- freedom to manage religious affairs;
- freedom as to payment of taxes for promotion of any particular religion;
- freedom as to attendance at religious instruction or religious worship in educational institutions wholly maintained by the State.

Cultural and Educational Rights

- for protection of interests of minorities to conserve their language, script and culture;
- for minorities to establish and administer educational institutions of their choice.

Right to Constitutional Remedies

- by issuance of directions or orders or writs by the Supreme Court and High Courts for enforcement of these Fundamental Rights.



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THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a ¹**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the ²[unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949 do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

1. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Unity of the Nation" (w.e.f. 3.1.1977)

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1. INTRODUCTION

The importance of language in learning is significant during the formative years of childhood. Language functions as an essential gateway that not only enables communication, but also lays the foundation for cognitive development. It allows young minds to express their thoughts, feelings and curiosity, cultivating a sense of confidence and assurance. Through language, children begin a journey of storytelling, imagination, and understanding. It is during these dramatic years that language equips them to unravel the hidden magic of books and conversations, sparking a passion for lifelong learning. Thus, the development of language skills in childhood paves the way for a rich and rewarding educational voyage.

The NCF-FS recognises the importance of the development of language in early childhood years. Children come to school with their own set of experiences, ideas, and expectations and use language as a tool to express different aspects of their personality. Thus, language skills play a crucial role in facilitating children as children to become effective communicators.

Language as an entity is not restricted to language classrooms; it strongly marks its presence across the curriculum. Language learning happens not only through the textbook content in a classroom but also during daily school life the child: beginning with the initial greetings, school assembly activities, interpersonal communications, and so on.

1.1 ABOUT THIS TEACHERS' HANDBOOK—ENGLISH SECTION

The Teachers' Handbook—English section is a thorough manual created to help you successfully teach the English language. It offers a well-structured framework, instructional techniques, and materials to support motivating and fulfilling language learning encounters in the classroom. The manual also contains details on curricular objectives, instructional strategies, assessment methods, suggested activities, and ways to create learning-teaching materials. It helps you design engaging classes that meet the children's varied learning requirements while encouraging their language learning, communication skills, and language competency.

It is mainly divided into two parts: Part A and Part B.

1.1.1 Part A

Part A of the Teacher's Handbook for English serves as a foundational guide, introducing essential components for effective language instruction. The introduction establishes the handbook's purpose: to facilitate a comprehensive learning experience for young children. It lays out the expected outcomes of English Language learning, focusing on language acquisition, communication skills, and cognitive development.

The necessity of providing a supportive environment, encouraging active engagement, and matching instruction to children's developmental phases are highlighted by key concepts for language learning. The *Mridang* series of textbooks have been carefully crafted keeping in mind the balanced approach. This has been done through the Four Block Method for teaching English as the second language. This approach integrates the four basic language skills: listening, speaking, reading and writing, in a holistic manner, catering to diverse learning styles and abilities.

With each block deftly placed within the textbook, the manual illustrates how the Four Block Method is easily blended into the curriculum. However, many challenges, such as, varying proficiency levels and other situations may arise. To address these, the handbook also provides a

variety of possible solutions, emphasising differentiation, collaborative learning, and the use of technology.

The use of both – ‘assessments for learning’ and ‘assessments of learning’ is encouraged in order to effectively assess the child’s progress in learning the language. With the help of this detailed manual, you may design engaging, interactive and fruitful English language learning experiences for the children, fostering skills that extend beyond the classroom and into real-life communication.

1.1.2 Part B


Part B of the Teacher’s Handbook for English delves into innovative methods for successfully using the textbook in the classroom. It addresses significant paradigm shifts in English language instruction and promotes a collaborative and learner-centred setting. The alignment of class 1 and 2 with the Early Childhood Care and Education (ECCE) framework, which creates a unified Foundational Stage (FS) for holistic development, represents a novel approach.

This section goes into detail about the educational tools that help with this transition and includes a wide range of materials, such as, narratives, poems, images, and interactive exercises. It promotes multilingualism by valuing the children’s native languages as valuable assets that can aid in learning English.

The use of group projects, role-play, and hands-on learning are highlighted as effective pedagogies for teaching English as a second language. The handbook underscores the purpose of the themes that are included in the textbook; each was chosen with care to resound with the lives of young learners while imparting the core values.

Notably, cross-curricular integration is exemplified, connecting English with other subjects to enhance comprehension and application. The handbook provides suggestions for additional learning-teaching materials that further enrich the learning experience, ensuring a comprehensive grasp of language nuances.

A range of additional activities has been suggested interspersed throughout, to help you to engage the children

creatively, nurturing a deep and lasting connection with the language. You would find this symbol  beside all the suggested additional activities (out of the textbook activities) in the text to use them in the classroom and also to help you with ideas to create more such ones.

This symbol  is to highlight the important points that need be kept in mind while transacting in the classroom.

Part B serves as a comprehensive roadmap, empowering you to orchestrate an immersive English learning journey that nurtures linguistic prowess, cultural appreciation, and holistic development.

1.2 EXPECTED LEARNINGS FOR ENGLISH LANGUAGE

To create a strong foundation for language development, communication skills, and readiness for further academic progression in the English language, the expected learning by the end of Class II would be:

A. Early Literacy Skills

1. Recognise English letters and their sounds.
2. Begin forming letters and simple words, laying the foundation for reading and writing.

B. Vocabulary and Communication

1. Develop a basic vocabulary of everyday English words.
2. Engage in simple conversations and follow instructions.

C. Listening and Speaking

1. Understand and respond to basic English conversations and stories.
2. Express thoughts and ideas using simple sentences.

D. Social Interaction and Confidence

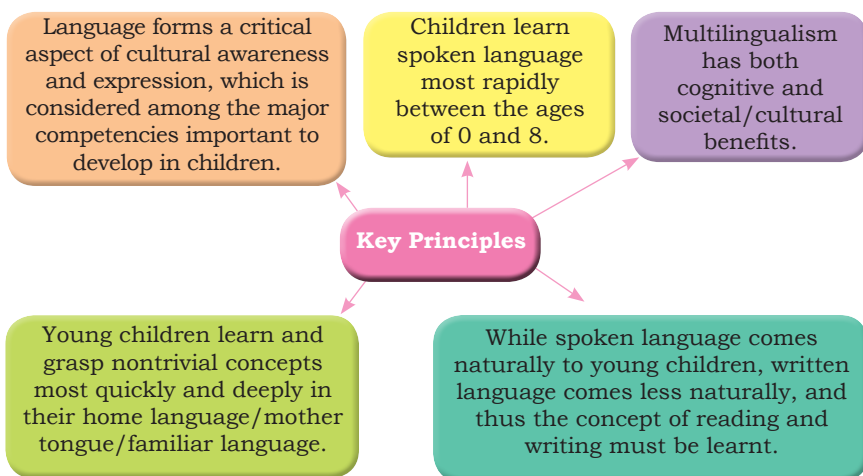
1. Participate in group activities, fostering collaborative learning.
2. Gain confidence in using English for communication and sharing of thoughts and ideas.

E. Cultural Appreciation and Emotional Expression

1. Experience English through songs, rhymes, and stories.
2. Use English words to express emotions, feelings, and basic needs.

1.3 KEY PRINCIPLES FOR LANGUAGE LEARNING

The Key Principles given in NCF-FS shed light on language(s) as subject(s) and the role it plays in shaping the overall development of the child.



2. APPROACH TO LEARNING LANGUAGES

The NCF-FS 2022 promotes a holistic and child-centered approach to language learning that focuses on the development of basic literacy in children. Since the textbooks of class 1 and 2 cater to the young children of the twenty first century, the approach to language learning needs to ensure that the transaction of the content is not limited to teachers delivering the content. It is of utmost importance that children



Key terms

- L1- Mother tongue/Home language/Familiar language of the child.
- L2- Less familiar language. It is generally adopted to expose and immerse the child in multiple oral languages.

actively participate when learning takes place. The new textbook series for English as a subject, titled *Mridang*, is an effort to achieve this through newly-designed content in the form of teacher-guided exercises, pair tasks and group work.

The approach of NCF-FS towards languages is summarised below:

A. L1 will be the medium of instruction:

Children are not to be overburdened with the vocabulary of a language, here English (L2), they are not familiar with. Common concepts like nouns, and verbs may be introduced by drawing connections with similar concepts in L1.

B. Children should be exposed to and immersed in multiple oral languages:

The foundational stage recommends that the children get to study in a stress-free environment where their expression is not hindered by the language they use. In a multicultural and multilinguistic country, like India, children shall be exposed to and immersed in multiple oral languages, which offer plenty of opportunities for them to use their respective mother tongues. As teachers and facilitators, you may ease children into the language by helping them with the common phrases of everyday use, labelling items in the classroom and school, and using sound-symbol relationships wherever possible.

C. The use of additional scripts can be introduced post the development of reading and writing in R1:

In class 1 and 2, the primary focus will be on the development of oral-aural skills. Reading and writing will be gradually introduced. One of the concerns while teaching would be to check if the children comprehend what they are reading or writing. Children's understanding is reflected when they extend their learnings to the irregular varieties. In such cases, though the product is incorrect, learning is still taking place. Providing opportunities

R1- The language in which a child first learns the concept of reading and writing. R1 is preferably in L1 but may be L2 in certain scenarios.

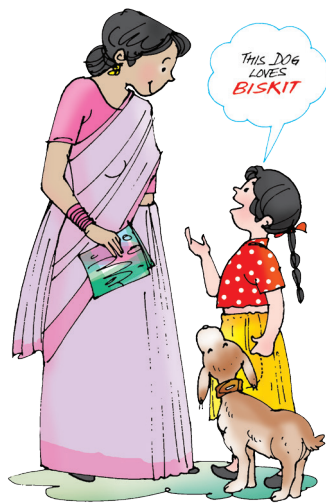
R2- The second such language in which a child reads or writes, R2 is gradually introduced after the concept of reading and writing has already been learnt through R1.

to experiment with language should be a part of the learning process itself.

D. Meaning-making is at the heart of any language:

Merely reproducing what is said or written is not reflective of the child's linguistic abilities. Retelling of stories using their own expressions, reciting poems, and creating short poems are some of the activities that you may take up to experiment with the language learning.

While crafting the *Mridang* textbooks, it has been assumed that the children are learning English as a language for the first time. Hence, they should have the freedom to use any language of their choice (even L1), but it is advisable to gently nudge them towards using familiar English (L2) words and phrases, as much as possible.



Oral language development, decoding-related work, reading, and writing activities should all take place concurrently along with meaning-making and on a daily basis at the Foundational Stage, as part of a balanced language and literacy curriculum.

3. FOUR BLOCK MODEL TO LANGUAGE ACQUISITION (L2)

The incorporation of the balanced approach to the learning of the English language in the *Mridang* series textbooks has been done through the four-block model. Let us look at the four blocks in brief:

Oral Language Development

- Picture conversation
- Sharing experience
- Story telling
- Drama and role play

Word Recognition

- Phonological awareness activities
- Letter-recognition
- Sound-symbol association
- Skill-focused writing (of letters and words)
- Letter and word writing

Reading

- Read aloud
- Shared reading
- Guided reading
- Independent reading

Writing

- Modeled writing
- Shared writing
- Guided writing
- Independent writing

3.1 ORAL LANGUAGE DEVELOPMENT

Children learn language by listening and speaking before they learn to read and write. Even before they enter school, they acquire vocabulary from their immediate environment. In the classroom, it is important to expose children to the language through listening and speaking. Some ways to focus on the oral language development of children in early years are:

- A. Provide opportunities for children to talk in the classroom.
- B. Children think in their home language or mother tongue and sometimes use words from their language while thinking and expressing. It is important to use the child's home language or mother tongue as a bridge to teach the language of instruction.
- C. Use activities like conversations (with or without pictures), discussions, sharing of experiences, feelings and ideas, asking and answering questions, using simple instructions, etc.
- D. Sing rhymes and songs, read aloud to the children, play games, engage children in drama or role play and dialogue.
- E. Enhance children's vocabulary by teaching the newer words and ways of expression.

3.2 WORD RECOGNITION

Word recognition in English language learning refers to the ability of young children to identify and comprehend individual words visually, auditorily, or through other sensory cues. This skill is a fundamental aspect of early literacy development and lays the groundwork for reading and language acquisition. This would involve:

- A. Phonological awareness activities:** Child's ability to manipulate, classify and listen to each speech sound or phoneme. These activities will make the children recognise and articulate the spoken parts of sentences and words.
- B. Letter recognition:** Call out a letter shown by you or pick out a letter in a group of letters.
- C. Awareness of words and syllables:** Counting or separating words or syllables.
- D. Rhyming:** You as a teacher may enable children to rhyme monosyllabic words, e.g., cat-bat-rat (listening to the words that rhyme the same and create new words).
- E. Blending and segmenting:** The child may put together sounds to make a word, e.g., break a word into its different sounds, e.g., 'Monkey' is broken into 'Mon' and 'key'.
- F. Identifying beginning, middle and end sounds:** Identifying words that begin with the same sound. Example: Which of the following begins like the initial sound of 'Balloon'?
- G. Manipulating sounds and syllables:** Making new words by removing or replacing sounds in a word, e.g., "den", by replacing the first letter we can make words, like 'hen, pen, men', etc.
- H. Sound symbol association:** The sound-symbol association helps children in decoding explicitly and supports the process of deciphering print.
- I. Sight words:** Children also learn to visually identify frequently used words without decoding them. This kind of reading is known as logo graphic reading where they learn to read words called 'sight words'.

3.3 READING

Reading skill in English language learning refers to the foundational abilities and processes that young children develop to make sense of the written text. This could be developed in a phased manner.

A. Read Aloud: is a teaching strategy where teachers (you), parents or caregivers read books aloud to the children. The purpose of this activity is to provide a model of fluent reading, improve pronunciation, improve listening skills, and promote comprehension, understanding of the text, language use and meaning. This is particularly beneficial for young students. This allows children to understand how the language sounds when it is read, along with voice modulation and expression. However, you may remember the 4 points:

1. Use age-appropriate big books that are in terms of characters, events and language, and have vivid illustrations (Do not use textbooks).
2. Plan read-aloud ahead and decide where to pause for engaging in emphasis, where to ask questions and elicit children's responses.
3. Conduct the reading aloud in an open, quiet space and ensure that children can see the book and you.
4. Allow time for children to observe the illustrations, ask questions and make comments to think about what is happening or what might come next followed by a discussion about the story.

B. Shared Reading: is an instructional approach, which involves multiple participants, you and children. As children read aloud stories and participate in shared reading, they can progress beyond the level at which they are currently reading and become confident in their reading abilities. You may read the text while children join when they recognise a word from the illustrations, sight words or from memory. Children start developing the concept of print through this activity. The following points need to be considered during shared reading:

1. The chosen text must have a large-sized print, readable even from a distance.
2. Big books, poems, short stories or children generated writing can be read during shared reading. While reading, point to each word of the text using finger.

3. Read each text aloud multiple times so that children are able to participate.

C. Guided Reading: It is an instructional approach where the responsibility for reading shifts from the teacher to the children. In this, children are introduced to texts, which are appropriate to their reading abilities and interest and you support them as needed. To successfully guide the children in their reading journey, you may remember the following:

1. Make small groups of children who are at the same reading levels, or even opt for grouping children at different reading levels to encourage peer learning.
2. Select a text that the children are already familiar with and which is at their reading level, i.e., text which children can read with little support.
3. Encourage all the children in the same group to read the same text at the same time.

D. Independent Reading: refers to the practice of reading books or other materials independently without direct guidance or support from a teacher or instructor. Here, the children have the freedom to select books or texts that appeal to them. Opportunities to read independently, help children develop the habit of silent reading and for themselves. Children start reading for pleasure and start reflecting and experiencing the text.

3.4 WRITING

Writing skill development in English language learning focuses on the abilities and processes that children develop to express themselves through written communication. These skills encompass both physical and cognitive aspects of writing:

A. Modelled Writing: It is an instructional strategy in which you demonstrate the writing process by writing collaboratively with young children who are learning to write. You may ask the children what they have scribbled or drawn, and then write it below or beside their writing.

This helps in showcasing how one writes using different print conventions, such as, writing from left to right or using a full stop at the end of the sentence. By doing this, you are modelling how to compose and write text describing the child's experience and thoughts.

- B. Shared Writing:** Shared writing is a collaborative writing activity where you and young children work together to compare a text. It involves active participation and contribution from both the teacher and the students. Children gain knowledge of and interest in writing as they are continually exposed to print in their environment, and activities related to writing, such as, making lists, marking attendance, etc. A few children may commit mistakes when it comes to writing the following letters: b-d, p-q, w-m. The confusion arises due to the similarity in images. You may create opportunities where they get exposure to such letters in reading and writing and practise it.
- C. Guided Writing:** involves providing support and guidance to the young children as they engage in the writing process. It aims to strike a balance between independent writing and direct instruction. You may also encourage peer collaboration, allowing children to work together, provide feedback to each other, and revise their writing based on the input received. Though these are four different blocks, you must remember that they cannot be transacted independently. They occur simultaneously in the process of language learning.
- D. Independent Writing:** is a process in which children are encouraged and given time to write individually or independently without your direct guidance or supervision. This encourages them to write stories, poems, messages, etc. It gives them opportunities to use their creativity and imagination as well as engage with functional aspects of literacy.

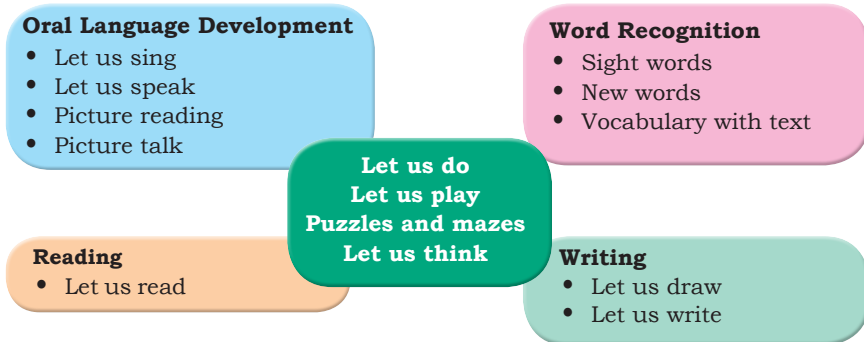
4. FROM NCF-FS TO MRIDANG

It is a common misconception that children have no language skills before they come to school. In fact, children come to school with diverse exposure to language and possess varied abilities to communicate using gestures, words and some sentences. Knowing the use of language around them helps them to make sense of the world and leads to early language development.

It is your role as a teacher to create the classroom environment in such a way that provides children further exposure to different key competencies related to the language learning, and support their development in a structured and planned manner.

4.1 REFLECTIONS OF THE FOUR-BLOCK APPROACH IN THE MRIDANG TEXTBOOK

The four-block approach has been transacted in the book in a creative way. Though each of the blocks is shown as a separate element, you may, however, keep in mind that these occur simultaneously in the learning process. Activities shown in the central circle help in making learning fun and joyful.



Let us have a closer look at each of them:

4.1.1 Let us sing

Children singing rhymes and songs is one of the ways to focus on their oral language development in early years. You may begin with just reciting it for the rhythm of it and later move to meaning-making at a later stage.

Look at this illustration. This is the first page of *Mridang* 1. You may begin this by singing (with appropriate actions) the first line of the rhyme and letting the children repeat it after you. Then you may continue till you have covered the first stanza. Repeat this if required.

Once the children are comfortable with the rhyme and rhythm, you may then move on to the next stanzas. You may continuously observe the children and make sure they are enjoying it.

Later on, you may help them understand the meaning of the lines of the rhyme and help them associate the part of the body with its name and action. You may try various combinations of reciting the above rhyme (by taking turns) to make it more enjoyable.



You may even give the liberty to the children to create similar lines connecting the body part with the actions.

Example:

Two little eyebrows to lift, lift, lift

Ten little fingers to snap, snap, snap



You may bring in more rhymes and songs to your class depending on the preferences of your children. You may also choose any local rhyme that the children enjoy. You may also try the popular rhymes in the regional language and then relate them to the ones in English.

Examples of number rhymes

1. Five fat peas

Five fat peas in a pea pod
pressed,
One grew, two grew, so did all
the rest.

They grew and grew,
And did not stop,
Until one day,
The pod went POP!

2. How many fingers

How many fingers on one hand?
How many fingers on one hand?
How many fingers on one hand?

Let's all count together.

1, 2, 3, 4, 5

1, 2, 3, 4, 5

1, 2, 3, 4, 5

1, 2, 3, 4, 5

How many fingers on two hands?

How many fingers on two hands?

How many fingers on two hands?

Let's all count together.

1, 2, 3, 4, 5

6, 7, 8, 9, 10

1, 2, 3, 4, 5

6, 7, 8, 9, 10

4.1.2 Let us speak

This section aims at developing the oral language of the child. It may be the sounds of letters, words, simple sentences or conversations. These tasks are included in all the units, enabling practice of the skill throughout. You may repeat this exercise either with these words or any other word to give ample repetitive practice to the children.



You may use this repeated sentence structure of conversation building even outside the classroom, say during lunch time. Pointing to the lunch box you may ask the children, "What is this?" You may repeat this with items around the children, each time making sure to show different objects at different times. The children will then understand to ask and to answer.



Letter sounds

| f | g | h | i | j |
|------|------|-------|--------|-----------|
| fox | goat | house | iron | jacket |
| foot | gate | hand | ice | jackfruit |
| fish | girl | hut | inkpot | jug |

Note to the teacher

- Draw attention of the children to the initial sound of each word given above.
- Help them say the words aloud focusing on the initial sound.

18 Mridang

B. Talk in pairs

Ask your partner questions such as the ones below.

- Nitin:** What is this?
Neha: This is my nose.
Neha: What are these?
Nitin: These are my shoulders.
Nitin: What is this?
Neha: This is my mouth.
Neha: What are these?
Nitin: These are my ears.
Nitin: What is this?
Neha: This is my mouth.
Neha: What are these?
Nitin: These are my hands.
Nitin: What are these?
Neha: These are my legs.



Note to the teacher

- Teacher demonstrates the actions and says the sentence, and children repeat after her. Then each child says one sentence in sequence, till every child in the class gets a chance to speak.

Mridang 5

4.1.3 Picture reading and picture talk

The whole concept of picture reading is basically an activity in which children are given a picture to observe and present their observations orally or in writing. This activity is important as it includes a number of indicators for the children, such as, observation and recording and analysis of the situation or theme.

Picture reading is one of the activities that support the development of early literacy skills. Apart from developing observation skills, picture reading also helps in developing visual thinking, confidence to communicate, and analysing skills in a fun way. The learning outcome of picture reading has proven to help kids tremendously. Picture comprehension provides children the opportunity to practice describing the image and to choose a sentence that best matches the picture. It is a great starting point to decode and understand stories or situations.

Picture talk

Look at the picture of a bathroom. Label the things in it.



What things do you see in the picture?
Do you remember to close the tap when you are not using it?
Why should we do so?

Mridang 43 

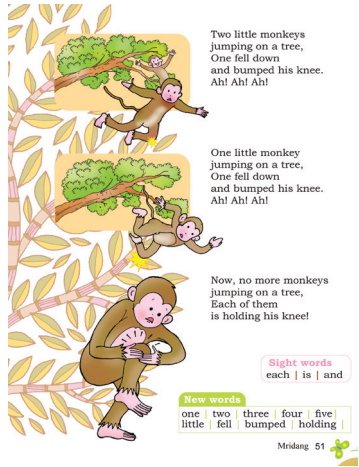


These details allow us to analyse more complex details of character development.

This section also provides important background knowledge and offers contextual cues to relate 'learning in the classroom' to 'real life' of the children.

4.1.4 Sight words and new words

Sight words are common words that kids recognise instantly without sounding them out. Recognising words by sight helps kids become faster, more fluent readers. Few sight words are tricky to read and spell, they are not spelled the way they sound, like 'of' and 'off'. They appear so often that in the beginning, children reach the point where they no longer need to try to sound out these words. They recognise them by sight. When children master a sight word, they no longer have to pause to blend its letter-sounds together. They do not have to think about spelling rules.



New words are the words that need to be added to the child's vocabulary – active or passive. These words are new to the children; hence you may help them with the meaning and usage of such words.

The fly said, "Dear tree, do you know my name?"
The tree said, "I don't know. You may ask the cow sleeping in my shade."

Sight words
his | do you | it | my |
one | when | about |



You may create a Word Corner in the classroom where you write all the sight words and the new words. This will enable the child to remember them and recall them whenever they would need it.

4.1.5 Let us read

Reading is a step-by-step process, beginning with learning phonemic awareness and eventually ending with children being able to not only read words but also comprehend their meaning. A reading skill or ability is, in simple terms, the ability for someone to interact with a text and take in the words.

Reading is the process of looking at written symbols and letters and understanding the meaning of them. It's one of the four main language skills alongside listening, speaking and writing.

When we read, we look at written symbols (letters, punctuation, spaces) and use our brains to convert them into words and sentences that mean sense to us. We can read silently (in our heads) or read aloud; speaking every word that we read.

To be able to read, we need to be able to:

- A. Identify the words we see (word recognition);
- B. Understand what they mean (comprehension);
- C. Connect words and their meaning so that reading is automatic and accurate (fluency).



You may encourage the children to read a variety of materials, irrespective of where they are. You may point to the display board in the school, the boards put up to mark different rooms and so on. You may also encourage the child to read picture books of their choice and slowly move to story books.



You may also create a Reading Corner in the classroom, where the child is free to go, pick up a book of their choice and sit to read.

A. Count the Sounds



The teacher would say, 'how many sounds are there in the word...?' followed by a short and familiar words, like Tea, home..., etc.

The teacher is expected to ask children to raise their hands and count the sounds of each word using their fingers.

Tea: T (first finger) ee (second finger)

This is followed by a clap with all saying the complete word together.

Another variation of the same activity could be done by using feet.

While counting the sounds in the word, the teacher could ask the children to tap their feet on the ground. This is suitable for small groups.

For example: Home

H (tap) o (tap) M (tap)

The teacher could ask children to jump when they combine the sounds and say the word.

B. Colour Matching



This activity will enable children to learn to put important things/items needed in the form of a list.

1. A large piece of strong cloth approximately 2 feet by 2 feet.
2. Small pieces of cloth to make the pockets (at least 4, preferably 6 different colours).
3. You can choose from red, orange, yellow, green, blue, violet, black, white.
4. Pieces of plain white, thick paper, or plain white cards to write on.
5. Black sketch pen to write with.
6. Needle and thread to stitch the bag.

C. How to conduct the activity?

1. Make a cloth bag using the thick strong cloth and the small pieces of different coloured cloths.
2. Make pockets out of the coloured cloths and stitch these or attach these firmly to the bigger piece of thick cloth.
3. Label the pockets by writing the names of the colours on the matching pockets with a marker. (Write YELLOW on the yellow pocket, RED on the red pocket and so on).
4. Draw the outlines of common objects with a black sketch pen on the white paper cards. These objects could include a leaf, a specific flower (such as a rose or lotus), a specific fruit, such as, a banana, apple, orange,

grapes, etc.), a vegetable, or any other commonly recognisable object.

5. Let children take turns to pick one card at a time from the pile of cards. Ask them to look at the card and drop it into the right colour pocket. For example, the 'leaf' card should be put into the 'GREEN' pocket, the 'egg' card in the WHITE pocket, the 'brinjal' card in the PURPLE/VIOLET pocket and so on.

4.1.6 Let us draw

The ability to initially scribble and later to draw is the initial stage of developing the writing skill. This fosters the creativity of the child and helps to convert thoughts to images/pictures. This also helps to develop the fine motor skills in the child in an encouraging way.



You may extend these activities by encouraging the children to draw in open space, closed space, with crayons, on coloured paper, on white paper, using only a specific number of colours, and so on.



A. Draw a picture of your family in the box given.

You may include any interesting thing about your family like pets, your plants, trees in your garden, or any other thing.



Now tell your class about what you have drawn.

Note to the teacher

• Encourage children to speak freely. Help them find words in English if they feel stuck. Guide them to speak good things about their family, the unique members of their family like dogs, cats, cows, goats, and so on. Instill the fact that we love our family.



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4.1.7 Let us write

Writing begins when children scribble, draw and invent spellings to represent the physical and social world around them. This developmental aspect of children's learning to write is emergent writing. Expressing oneself through writing is an important milestone for children to become effective communicators. It is a common misconception that children begin to write only when they have learnt to write and spell accurately. The writing stage for a child begins the moment he holds a writing tool for the first time. An emergent writer talks about their writing by making connections and communicating their experiences with others.

You may support child's emergent writing attempts in the following ways:

1. Ask children about what they have scribbled, drawn or written.
2. Model the process of writing for children by showing them what you think.
3. Encourage children to use appropriate tools, such as, crayons, chalks, pencils, thick markers, etc.
4. Allow children to mix drawing with scribbling and talking.
5. Suggest topics of their interest to write about.

A. What is for lunch today?



You may ask the children to write what they have brought for lunch that day. They may write or draw. They may even scribble. You may then encourage them to talk about what they have drawn/written.

B. Word Antakshari



This activity will make students pay attention to the beginning and final sounds of words. When one person says a word, the next person needs to say a word beginning with the sound that the previous word ends with.

For example: Bat... Tap... pen... nail... lamp...

C. Which letter is it?

Material required: black/green board, chalk



You may would write a few random letters on the board. For example, S, B, Z. Then the child could say the sound associated with one of the letters written on the board. Example: 'Which letter gives us the sound b... b...'

Then you may ask one of the children to step forward and stand in front of that letter/ point towards that letter and repeat the sound three times.

Once your class is aware of all the sounds associated with the letters, you may take it a step further. Instruct children that if the letter is not on the board, they must cross their hands (to touch the opposite elbow). Saying the sound of a letter not written on the board is a trick question.

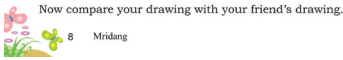
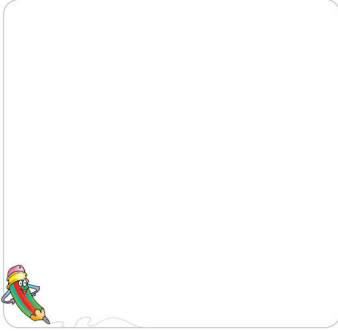
4.1.8 Let us do

This section is aimed at the kinesthetic child. It encourages the child to do some activity in order to pick up a concept, understand a fundamental principal or to gain new



My Hand

Place one palm in the centre of the box given below. With your other hand, draw an outline. Decorate the hand with colours, coloured paper bits, bindis or anything else.



Now compare your drawing with your friend's drawing.

8 Mridang

information. This is the main approach of the project-based model of learning.

It is said that the child remembers better when they do something. Let us look at the illustration to understand better.

This is an activity given on page 8 of *Mridang* 1. In this activity, the child draws the outline of his or her palm and later colours it.

On the outset it seems very simple.

After the child has drawn the outline of his or her palm, they observe the outline. They are thrilled by the size and shape of their palm.

Even before colouring it, they compare their drawing with that of their friends and this triggers discussion with a lot of fun.

Later on, when they colour it, it activates imagination in the young minds. They tend to imagine the palm in various colours, shades and patterns. It may or may not be realistic.



You may extend this activity by asking the children to create various birds and animals using the palm outline as the base.

A. Clap together



This activity is more like a classroom management technique. At times when you feel the need to grab the attention of the children, especially between classes, you could use this activity.

Ask your children to hold their hands such that their palms are one above the other. Then ask them to rub their palms against one another and while doing so, they produce the sound, 'Shhhhhhhh...'

Ask each and every child to check if their friends are doing the same. After doing this for a few seconds, ask the children to raise one hand and make a loud clap.

Repeat the action, until the whole class claps altogether.

B. Origami Plane



This activity will help children to develop the skills of comprehending and following verbal instructions.

1. Take a rectangular sheet of paper in any colour. Fold the two longer edges together, crease and open. This gives us the vertical centre line.
2. Next, fold the top edge to lie along the left edge.
3. Fold the left edge to lie along the horizontal edge.
4. Fold the two sides toward the centre.
5. Fold the top point down.
6. Fold in half behind.
7. Fold the top flap to the left. Fold the rear flap in the same way.
8. Open out the plane.
9. Launch the plane into the air and watch it fly.

C. Number Matching



This simple and engaging activity can be used to teach children the skill of 'sequencing' and 'matching'. By inserting each inside drawer into its correct outer case, they learn matching. You can then ask them to arrange the matchboxes in both ascending and descending order. This activity will teach them how to arrange numbers in the correct sequence, both forward and backward. As the children would have to count the tiny circles to match their number with the figure written on the outer cases, children's counting skills will also improve.

1. Ask children to bring some empty matchboxes from their homes. Paste white paper on the outer cases and inside drawers.
2. Take a matchbox and write the figure 1 on the outer case, and draw a tiny circle on the inside tray. Do this for numbers 1 to 20. The number of circles drawn on the inside drawers should correspond to the numbers 1 to 20.
3. Remove the cases from the matchboxes and make two separate piles of the outer cases and the inside drawers.

4. Ask children to pick one inside drawer at a time and after going through the pile of outer cases, find the right one and insert the drawer into it.
5. Let each child take a turn till all the inside drawers have been inserted into the right cases.

4.1.9 Let us think

This section is aimed at cultivating the ‘creative thinking’ ability in the children. It promotes the skill of reasoning out any action or event. This is the fundamental skill the child would be using for further learning.

As creative thinkers, children are curious, optimistic, and imaginative. They see problems as interesting opportunities, and they challenge assumptions and suspend judgment. They don’t give up easily. They work hard.

This is one of the major highlights in the NEP-2020 as well. Hence, to nurture this value in our young children, this section has been introduced.



You may extend these sorts of activities, tasks and questions for all the topics in your class.

You may do so by asking questions like:

- What would you do if.....?
- If you were the person in the lesson, what would you do?
- Have you seen such things in your life?
- Do you know of.....?
- Do you think.....did the right thing in the story? Why/why not?
- Why do you think this happens?
- Why should we do.....?
- Why should we not do.....?

A. Challenges to English Language Learning

New language acquisition in India is a dynamic process influenced by diverse linguistic and cultural backgrounds. India’s multilingual society presents both opportunities and challenges. Learning a new language often enhances educational and economic prospects. However, varying language proficiency, limited resources, and regional language preferences can impact effective acquisition.

A balanced approach that values local languages while promoting global communication skills is essential for successful new language acquisition. The following table enumerates a few challenges and their respective suggested ways to overcome them.

| Challenge | Suggested ways to overcome it |
|--|---|
| <p>Limited exposure to English English is neither the mother tongue of the child (in most of the cases) nor the regional language in our country. Hence, there may be limited exposure of the young child to the English language, which poses a significant challenge to learning it. Without this, children may struggle to grasp the intricacies of English.</p> | <p>This is a challenge that must be addressed to in order to speed up the process of language learning. Help the children by creating ample opportunities for immersing in the language and its regular usage, thus enabling them to absorb vocabulary, grammar and cultural nuances. Creating a print rich environment for the children, exposing them to various audio and video materials in English, using the language to communicate even off the classroom, such as, during playtime, lunchtime, and so on goes a long way in overcoming this challenge.</p> |
| <p>Limited access to learning materials and other audio-visual aids Without adequate resources, children may struggle to develop language skills effectively. Audio-visual aids help in engaging the children’s interests and indirectly motivates them to faster language acquisition. The lack of these may thus be a challenge.</p> | <p>You may, however, remember here that the learning materials need not be very sophisticated. You may use simple and available materials to create the teaching aids. You may also encourage the class to create learning materials using the locally available resources. These materials may be stored and reused later.</p> |
| <p>Language barrier Students coming from regional language backgrounds may face a language barrier when learning English. They may find it challenging to understand and communicate in English due to differences in grammar, vocabulary, and pronunciation. They may be more fluent with their mother tongue.</p> | <p>To overcome this challenge, you may encourage the child to interact in the class, initially in their mother tongue and gradually shift to English. You may assist the children to find the appropriate vocabulary if they feel lost. Encouraging them to converse in English helps them build the required skills in a gradual manner.</p> |

Lack of Interactive learning opportunities

Not having enough opportunities to interact in the language is one of the major hinderance to learning that language.

The occurrence of this needs to be watched carefully and curtailed in the initial stages itself. To do so, you may motivate the child to speak in English where ever possible. Help the child with the right words, right expressions and right way of interacting. This must be practiced both during the language class as well as outside the class. You may encourage the child to ask questions during the class, communicate in any group/ partner tasks assigned or any activity being done in the class.

Lack of parental awareness

This challenge is faced especially in the case of first-generation learners, or by children whose parents are comfortable and fluent only with their mother tongue.

In such cases, you may have to support the child further with additional interactions in the language. You may also clarify the child's doubts initially if required in the child's mother tongue and assist in the shift to the English language. You may also provide the child with suitable reading materials to bridge the gaps.

5. ASSESSMENT

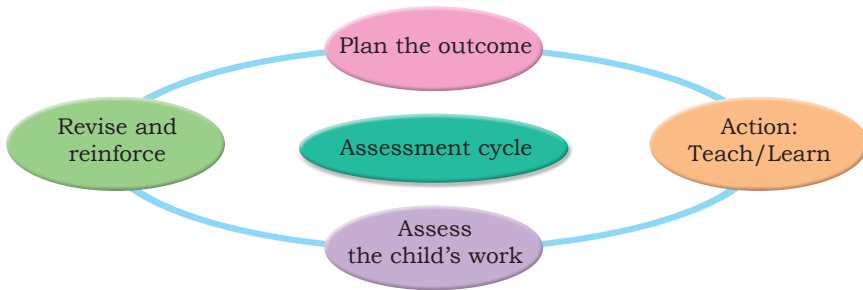
In a competency-based curriculum as proposed by the NCF, assessment is simply ways and means through which evidence of the learning achievements of children is gathered. Children in the Foundational Stage are very young, and any unnecessary emotional strain caused due to the process of assessment is antithetical to any good teaching–learning process.

Assessment in language learning serves important purposes. They assess language development, tracking progress in early listening, speaking, and literacy. Assessment helps educators tailor instruction to individual needs, ensuring effective learning. They provide insight into children's communication skills, guiding targeted interventions when needed. Additionally, assessments foster a collaborative relationship between educators and parents, promoting a holistic understanding of a child's language development during the critical first years of life.

The assessment may be cyclic involving the 4 stages: planning the learning outcome, actual process of learning, evaluation of the actions and finally the follow-up actions, like reinforcements/repetition. This cycle would continue till the planned learning objectives are achieved.

The following considerations need to be kept in mind:

- A. Assessment should not contribute to any additional burden for the child.
- B. Assessment should be a reliable source of information.
- C. Assessment should allow for diversity in children and in their learning.
- D. Assessment should enable recording and documentation.
- E. Assessment should not overly burden you as well.



5.1 METHODS OF ASSESSMENT

5.1.1 Assessments for Learning

Assessment for learning in an English language class shall be designed to support young children's language development and foster a love for English. This type of assessment happens in between a class, during a lesson, or an activity. It involves using playful, interactive, and age-appropriate tasks to gauge children's language skills in a non-threatening environment.

You may engage in constant observation, noting individual strengths and areas for improvement. Informative feedback is given to guide the child's progress, encouraging them to take risks and communicate confidently. Play-based assessments, like storytelling and role-playing, allow children to express

themselves creatively and enhance language fluency. The emphasis remains on nurturing a positive attitude towards learning and building a strong foundation for future language proficiency.

5.1.2 Assessment of Learning

Assessment of learning in an English language class involves age-appropriate methods to evaluate children's progress in language acquisition. Informal assessments, such as, play-based activities, storytelling and interactive games, help gauge their receptive and expressive language skills.

You may observe and document the children's language development, including vocabulary growth, pronunciation, and listening comprehension. Art projects and drawing activities allow children to demonstrate their understanding creatively. While formal assessments may be limited, continuous observation and feedback enable educators like you to identify areas of improvement and customise instruction to suit each child's learning pace and style. The focus remains on nurturing a positive and enjoyable learning experience that lays a strong foundation for language development.



From the reading activity 'The sparrow family' on page 38 of Mridang 1.

You may read the story up to the first paragraph on the page. Stop after, 'Papa sparrow brought food for them.'

You may then ask the following questions to understand if the children have understood till now:

- **Who laid three small eggs?**
- **What came out of the eggs?**
- **Who came after the little heads popped out?**
- **What did he bring?**

If the child is able to answer these questions, it means that the child has understood the story till here.

If the child is not able to answer, you may then repeat the reading of the story, or explain the meaning of the words. Then ask a few questions again, to test their comprehension. Once you are assured that the children are comfortable with the learning so far, you may proceed with the rest of the lesson or activity.



Mama sparrow laid three small eggs. One day the eggs broke open. Three little heads popped out. Papa sparrow brought food for them.

Grandmother and Grandfather sparrow, Aunt and Uncle sparrow, cousins and friends all came to meet the baby sparrows.

The baby sparrows grew bigger and bigger. One day, the baby sparrows hopped out of the nest. They flew up into the big blue sky.



Note to the teacher

- Reinforce the names of family members in English.
- Explain that there can be various kinds of families.



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5.1.3 Observation

Observing the children across time provides you with a comprehensive understanding of their learning. There can be several contexts where children exhibit their behaviour, attitudes and their learnings.

Systematic observation for assessment involves the following steps:

1. Planning
2. Gather evidence
3. Reflect and assess

Some illustrative pointers for observation during a few common pedagogical processes are below:

A. Story Telling

1. Is the child getting involved in the story?
2. Is the child describing the pictures?
3. Is the child asking questions about different characters of the story?
4. Is the child connecting personal experiences with the events of the story?
5. Is the child recalling familiar words from the story?
6. Is the child expressing likes or dislikes about the story?

B. Guided Conversation

1. Is the child listening to others during 'Circle Time'?
2. Is the child waiting for their turn to speak?
3. Is the child expressing their pleasure or displeasure listening to others?
4. Is the child able to predict what is going to happen next?

C. Play: Free, Guided or Structured

1. Is the child solving simple problems?
2. Is the child able to use large and small muscles to engage with play material?
3. Is the child able to express different emotions?
4. Is the child able to respond appropriately to the emotions of others?

5.1.4 Analysing artefacts or the result of activities that the child has produced as part of their learning experience

A. Look at this activity given on page 49 of *Mridang* 1.

After the child has completed the activity, you may observe it carefully. You may check if the child has joined the dots in the proper alphabetical order.

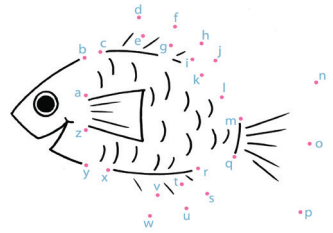
If it is in the proper order, it means that the child has learnt the alphabet. Else, you may take corrective measures, such as, assigning practice tasks repetitive worksheets and so on.

Let us speak

- Have you seen a fish?
- Where did you see it?
- What was its colour?

Let us draw

Join the letters in the correct alphabetical order to complete the picture and then colour it.



Note to the teacher
• Help children follow the correct alphabetical order.

Mridang 49

Let us do

Project work

A. Ask people at home to allow you to touch and feel the following things in the kitchen

| | | |
|--------|-------|------|
| banana | salt | oil |
| flour | sugar | rice |
| wheat | | |

Choose any one that seems 'grainy'. Bring it to the class next day.



Note to the teacher

- Parents/guardians of the children need to be involved in the above activity. Explain to them that the children have to touch and notice the grainy texture of things.

90 Mridang

B. Look at this project work given on page 90 of *Mridang*.

By observing what the child has brought to class the next day, is a clear indication of the understanding of the word 'grainy'. If the meaning of the word 'grainy', is not understood by the children, then they would bring things which do not match the required description.

You may then help the child understand the meaning of the word, by giving various experiences of touch (include a variety of materials).



PART B

The actual transaction in the classroom is immensely important for the learning of the English language in class 1 and 2. These early years are crucial for language development as students are building their foundational language skills. Active classroom transactions, involving discussions, group activities and hands-on learning, provide the necessary exposure to spoken and written English. This interaction fosters phonemic awareness, vocabulary acquisition, pronunciation, comprehension and communication skills. A dynamic learning environment in these formative years sets the tone for a lifelong journey of effective English language proficiency.

6. THE KEY PARADIGM SHIFTS

NEP 2020 visualises three paradigm shifts in School Education, which guide the NCF-FS and ultimately the crafting of the new textbooks of English. They are:

- A. Transitioning to a more multidisciplinary and holistic education.
- B. Transitioning to an emphasis on critical and analytical thinking rather than rote learning.
- C. Transitioning to a new curricular and pedagogical structure.

One of the major shifts that distinguishes the new textbooks is the inclusion of interactive exercises and

activities. As a teacher, you may observe that the activities are child-friendly and successfully create a balance between your instructions and students' participation.

The content of the new textbooks is set in Indian contexts, folktales and narratives. As the content is relatable it gives scope to extend discussion as per the local/regional context of the child.

Furthermore, it prompts children to think enhancing their critical thinking ability. This also helps the child to connect the classroom learnings to real-life situations. The books also help the children to use language to bring their perspectives to life, in a fun way.

The emphasis in classrooms has shifted significantly from being teacher-driven to student-driven. As teachers, you shall be facilitators, guiding the children through interactions, discovery-based approaches, critical thinking and problem-solving. Learning becomes more relevant when child-centric approaches are used, enabling children to become lifelong children who can successfully navigate a dynamic, always-changing world.

6.1 LINK WITH ECCE

NCF-FS 2022 places a strong emphasis on Foundational learning, especially in the early years of education. In a major change, the class 1 and 2 have been linked with *Balvatika* (1, 2 and 3) to form the Foundational stage. The play way method of learning has been recommended at this stage. The framework also recognises that children need to have a strong foundation in basic concepts, like language, numeracy, and social skills to succeed in higher education and in life.

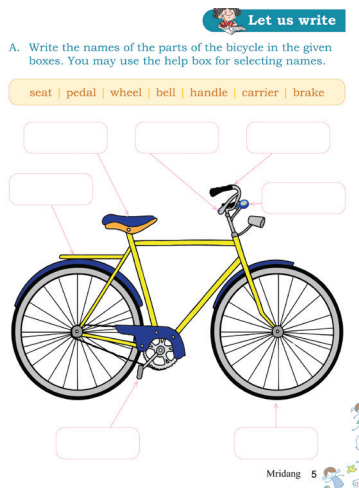
The *Mridang* series textbooks have been created keeping in mind the requirement of a smooth transition from ECCE to primary classes. Young children try out material to explore and to learn and this spirit is extended in class1 and 2 as well.

6.2 LEARNING-TEACHING MATERIAL (*JAADUI PITARA*)

The textbook includes activities in similar lines to the Learning-Teaching material available in '*Jaadui Pitara*'. One of the examples is as follows:

Jaadui Pitara includes a laminated book, 'What's Missing?', consisting of pictures of things that are easily found in a child's environment, with one of its parts missing, such as, a school bus with a tire missing; a bicycle with the chain missing. In the process of identifying the missing part, the child will be introduced to the names of various parts of a bicycle.

This activity finds extension in the first chapter of class 2 textbook, where the child has to label various parts of the bicycle in the space provided.



6.3 PLAY-BASED PEDAGOGY

The classroom environment should cultivate the spirit of exploration through playing with toys and manipulatives. As the child enters the class 1 and 2 of the Foundational Stage, language learning can be made a stress-free process by introducing games. These games can include LTMs, like blocks, dolls, animal toys, balls, mini-cars or pretend toys from the '*Jaadui Pitara*'. Children start creating stories and living out scenarios in their minds. These can help in facilitating pretend play, which further can help in developing oral language skills, creativity, imagination and values, like collaboration, cooperation and the skill to effectively present their own ideas and wishes in a group.

Some examples of traditionally used toys are:

- A. Ring Set Puzzle:** This is a set of seriated colourful rings, made up of wood. Made in Channapatna, Karnataka, it can be used to learn seriation and also helps in development

of fine motor and gross motor skills, understanding of colour and shape.

B. Dhingli (Cotton dolls): Dhingli is one of the traditional toy dolls from Gujarat. It is made of cotton and decorated with embroidered cloth in different, attractive colours, like red, blue, green and yellow. These dolls are available in small and large sizes. They can be used for dramatic play; they are also used by very small children to nap with and to feel secure.

C. Rasoi (Kitchen set): Rasoi is a set of kitchen utensils used for play by children in many parts of India. They are made of wood and painted to look attractive and appealing.

Teachers can use these toys to create a stress-free language learning environment.



Teachers are expected to use the above-mentioned toys to not only facilitate language learning among children, but also to encourage children to identify and question gender roles associated with them.

6.4 MULTILINGUALISM AS A RESOURCE

Due to the country's linguistic diversity, multilingualism is a defining element of Indian classrooms. Children speak a variety of languages at home, and come from diverse linguistic backgrounds. The curriculum takes note of this diversity and frequently incorporates different languages into the teaching and learning process. Children are exposed to several languages through activities, music, stories and interactions, even when the primary language of teaching can be English or the regional language. This multilingual setting fosters language proficiency, cultural awareness and respect for India's diverse linguistic heritage.

A multilingual class, in the truest sense, is one where children of all linguistic backgrounds feel that their language is welcomed and appreciated. As responsible and sensitive teachers, you may and should encourage the children to share their responses (as and when needed) in their home language. You may keep in mind that this is only to encourage the young children to interact in the classroom initially.

You may then encourage the child to gradually shift over to conversing in English by helping them with the required vocabulary and sentence structures. Sharing rhymes that are similar to the content that is being taught in the class will help in breaking the silences and barriers that gradually and eventually sneak into the language classrooms.

Multilingualism is not only significant to inclusive classrooms, but also has cognitive implications. Research has found that multilingualism plays a positive role in developing linguistic competence, as well as in other aspects, which are not directly linked with language development.

7. PEDAGOGY FOR TEACHING ENGLISH (CLASS 1 AND 2)

A comprehensive pedagogical strategy is necessary when teaching English. Given their young age, the methodology emphasises experiential and interactive learning. In order to engage young children and improve vocabulary and pronunciation, the textbook incorporates stories, rhymes and games. Visual aids, like images and videos make it easier to understand.

Communication skills are developed through casual chats and role-playing. Sentence structures are gradually introduced using the scaffolding technique. Building confidence involves encouraging creativity and fostering a positive linguistic environment. Formative evaluations monitor development. The overall goal of the approach is to make learning English interesting and useful while providing a solid basis for linguistic growth over the course of a child's academic career.

Let us look at a few of them:

7.1 POETRY

The textbooks used in the Foundational Stage include simple songs, short rhymes and poems. These cater to children's flight of fancy and enhance imagination. The child may be familiar with rhymes and songs of his or her mother tongue. However, English being L2, children would have varying degrees of exposure.

The rationale for including rhymes, songs and poems is to relate L2, in this case English with L1, or the child's mother tongue. The child's initial exposure to lullabies, followed by rhymes and action songs in the mother tongue.

As Teachers, you are aware that rhymes have a pleasing rhythm and repetitive phrases. This will help the children have an engaging yet relaxed learning experience. Further, the process of hearing, listening to and saying these rhymes and songs follows the same pattern of language learning as that of the mother tongue.

You would also be aware of the importance of holistic learning. Not only do the children come to know about rhymes and songs, they also begin to associate words with actions, as well as words with pictures. They also realise that printed letters carry meaning. Moreover, they can also identify themselves and their experiences through such poems.

7.1.1 Setting the context

You may start by setting the context for the poem. Introduce the topic or theme of the poem, and discuss any relevant background information. You can use real-life examples, pictures or objects to help children understand the context of the poem.

7.1.2 Enjoying the rhythm

Poetry often has a musical quality with its rhythm and rhyme. You may encourage children to listen to the sounds and patterns of the words in the poem. Read the poem aloud, emphasising the natural flow of the words. You may also use gestures or actions to engage children and help them feel the rhythm of the poem.

7.1.3 Meaning-making

You may help students understand the meaning of the poem by discussing its content and message. To do so, you may ask open-ended questions to encourage children to think



Lullabies are very familiar to a child. You may ask them to sing a lullaby that they know. Later you may try the song given below. This is one of the popular lullabies in English. You may enjoy singing it!

critically and express their thoughts. Discuss the emotions or ideas conveyed in the poem and encourage children to relate them to their own experiences.

7.1.4 Word association

Poetry provides an excellent opportunity to explore vocabulary and word associations. You may encourage children to identify interesting or descriptive words in the poem and discuss their meanings. You can also create word banks related to the poem's theme, and ask children to come up with additional words or phrases that relate to those themes.

7.1.5 Rhyming words

Rhyme is a common feature of many poems, especially those written for young children. You may highlight the rhyming words in the poem and discuss their patterns. You may also encourage students to identify and create their own rhyming words. You may play games or engage in activities that involve finding rhyming words, such as, word matching or creating simple rhyming couplets.

7.2 STORIES

A story or narrative is a sequence of events that are communicated through words, whether written or spoken, with the purpose of sharing information, experiences, attitudes or points of view. When teaching English as a second language (L2) to class 1 and 2 students, incorporating stories and narratives into the curriculum can provide an enjoyable and effective way for children to engage with the language.

To effectively teach stories or narratives in L2 to young children, it is important to adopt a pedagogical approach that captures their attention and encourages active participation.

Time to say good night

Now it's time to say good night,
Good night, sleep tight.
Now the sun turns out his light,
Good night, sleep tight.
Dream sweet dreams for me,
Dream sweet dreams for you.
Close your eyes and I'll close mine,
Good night, sleep tight.
Now the moon begins to shine,
Good night, sleep tight.
Now the sun turns out his light,
Good night, sleep tight.
Dream sweet dreams for me,
Dream sweet dreams for you.
Good night,
Good night, everybody,
Everybody, everywhere,
Good night.

The suggested pedagogy outlined below aims to develop language skills while fostering a deep appreciation for storytelling:

7.2.1 Pre-reading activities

A. Introducing the story: The textbook is designed with captivating and visually appealing illustrations in each chapter. As teachers, you are well aware of the significance of illustrations and pictures in engaging and fostering language development among children.

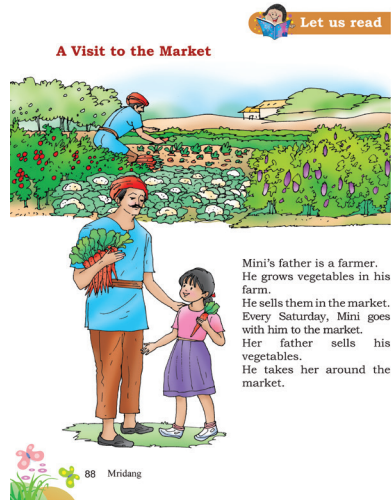
To begin, present the title and illustrations of the story, stimulating children's curiosity and encouraging them to make predictions about the content. Foster discussion and allow the children to share their thoughts and ideas.

B. Building Vocabulary: New words to enhance vocabulary acquisition, you may introduce new words from the story using a variety of strategies, such as, visuals, gestures and real objects.

Additionally, you may engage children by encouraging them to share similar-meaning words in their mother tongue. This not only reinforces the new vocabulary but also encourages multilingualism. It promotes active participation and a deeper understanding of the words and their meanings.

7.2.2 During-reading activities

A. Read Aloud: You may engage children by reading the story aloud with expressive voices and gestures, effectively bringing the characters and events to life. You



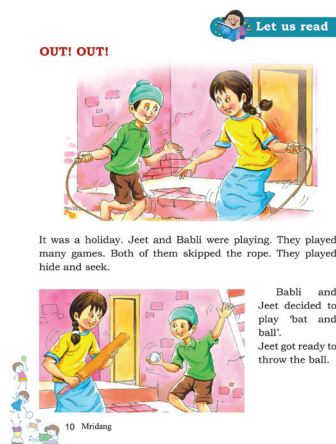
Mini's father is a farmer. He grows vegetables in his farm. He sells them in the market. Every Saturday, Mini goes with him to the market. Her father sells his vegetables. He takes her around the market.

may, however, remember to pause at regular intervals to ask comprehension questions, encouraging children to reflect on and discuss the story.

- B. Visual Aids:** You may enhance children’s comprehension and engagement by incorporating visual aids, such as, storyboards, puppets or props. These visual elements help students visualise the story more vividly, making it easier for them to understand and connect with the narrative. These could be made by you or the children themselves. You may also use the Learning-Teaching Materials (LTMs) available in ‘Jaadui Pitara’.
- C. Prediction:** You could also take a pause in between the narration and ask children to predict the ending of the story. This enhances their thinking ability and creativity. It also cultivates their habit of thinking out of the box.

7.2.3 Post-reading activities

- A. Retelling:** You may retell the story to the children. For L2 especially, you may have to provide scaffolding to the children by asking guiding questions and using visual cues to encourage them to retell the story in their own words. They can work in pairs or small groups to retell the story using puppets, props or storyboards.
- B. Story sequencing:** Have students sequence the events of the story by using picture cards or sentence strips. This activity reinforces comprehension and helps develop narrative skills.
- C. Creative activities:** You may engage students in creative tasks, such as, drawing their favourite part of the story, or tell alternative endings of the story, or acting out scenes from the story. These activities promote critical thinking, imagination and language production.



7.3 LANGUAGE SKILL DEVELOPMENT

7.3.1 Listening


Chapter 2




Let us read

My Name


Once there was a little fly. One day, he could not remember his name! He tried and tried to remember it, but it was no of use.



He had forgotten his name. He asked an ant, "Ant, do you know my name?"



The ant said, "I don't know. You may ask the tree I climb."



The fly said, "Dear tree, do you know my name?" The tree said, "I don't know. You may ask the cow sleeping in my shade."

Sight words
his | do you | it | my |
one | when | about |

Mridang 61

You may enhance listening skills by incorporating various activities, such as, playing audio recordings of the story. These recordings can be easily accessed through the embedded QR code provided at the beginning of each unit.

Additionally, you may include listening comprehension exercises that are directly related to the story's content. These activities effectively improve children's listening comprehension abilities.

7.3.2 Speaking

Foster oral communication skills by providing ample opportunities for children to discuss the story express their opinions and ask questions. You may encourage peer interactions through partner or group activities, enabling students to engage in meaningful conversations and practice their spoken English.

Farida and Anju did not see the monkey. They took out their food from the bag and began to eat. The monkey had a banana. He peeled the banana and ate it. Farida and Anju took out the groundnuts and started eating. They threw the packet down. Then they drank the juice and threw down the bottle.

Just then, the monkey climbed down the tree with the banana peel. There was a dustbin nearby. The monkey threw the banana peel into the dustbin.



7.3.3 Reading

You may develop early reading skills by introducing simple texts that are connected to the story, such as, short sentences or paragraphs. Children can practice reading individually or in pairs, focusing on developing fluency and comprehension abilities. This gradual progression supports the development of reading skills in L2.

7.3.4 Writing


Cultivate writing skills by encouraging children to engage in various writing activities related to the story. These activities may include the children writing summaries of the story, creating their own stories with similar themes, or composing simple sentences that relate to the story's events or characters.

You may begin with giving tasks where the child adds words to complete the story. This may gradually move to writing phrases and then writing sentences. You may also give arranging the sentences in the proper sequence and rewriting it to form a story. These writing exercises promote creativity, language production and reinforce comprehension of the story.

7.3.5 Cross-curricular connections


You may foster interdisciplinary learning by integrating other subjects, such as, art, music or science, with the story. For instance, you may encourage children to create artwork inspired by the story's themes or characters, sing songs that relate to the story's theme or conduct simple science experiments based on elements from the story. These activities promote a holistic understanding of the story while expanding students' knowledge and skills across different subject areas.

Chapter 2




Let us read


We are all Indians




My name is Meenakshi.
I come from Tamil Nadu.
I speak Tamil.
My favourite festival is Pongal.
What is your name?



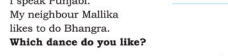
I am Ramu.
I come from Gujarat.
I speak Gujarati.
I like to dance the Garba.
I am seven years old.
How old are you?



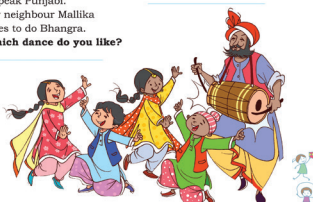
Mridang 91



I am Vibha.
I come from Maharashtra.
I speak Marathi.
Once I visited Ellora and Ajanta caves.
Have you travelled anywhere?



I am Surinder.
I come from Punjab.
I speak Punjabi.
My neighbour Mallika likes to do Bhangra.
Which dance do you like?



Mridang 93

7.3.6 Cultural exploration

The stories in the textbook have been included representing diverse cultures of our country. You may, thus, expose children to different traditions, customs and perspectives embedded within these stories. You may begin by engaging children in discussions about cultural elements presented in the story, such as, clothing, celebrations or daily life. You may help them to appreciate and respect our cultural diversity.

8. THEMES DEALT WITHIN THE TEXTBOOKS

The aim of these textbooks is to enable the children to primarily develop oral language skills and adequate vocabulary for basic literacy. A few themes have been carefully chosen so as to attain the learning objectives. These themes focus on words and expressions for concrete experiences beginning from the five senses (self) of the children and expanding gradually to their environment. These themes relate to the known world of the children and thus enable cross-curricular integration.

8.1 THE THEMES CHOSEN FOR CLASS 1 AND 2

| Class 1 | Class 2 |
|------------------|---------------------|
| My Family and Me | Fun with Friends |
| Life Around Us | Welcome to My World |
| Food | Going Places |
| Seasons | Life Around Us |
| | Harmony |

8.2 PURPOSE AND DESCRIPTION OF THE THEMES

Themes are used as narrative threads in English language textbooks to connect linguistic instruction to practical applications. These topics provide a function and offer a context, which keeps language learning interesting and meaningful for the children. By examining topics, like friendship, nature, food or community, children are able to relate their language abilities

to both intimate and more general cultural contexts. Themes foster a greater understanding of the actual use of the language while improving comprehension, vocabulary development and critical thinking. Children are inspired to communicate honestly through themed content, igniting debates and cultivating a well-rounded command of the language.

8.2.1 My Family and Me

The initial theme ‘My Family and Me’, relates to familiar objects, concept of self and events from day-to-day life of the children. It serves as a bridge between the children’s personal experiences and the broader world around them.

A significant focus of this theme is on the parts of the body and the importance of personal hygiene. Children are introduced to the different parts of their body and learn about maintaining cleanliness and hygiene to promote good health. It also helps the children to associate the actions with words relating to the part of the body.

Further, the theme introduces the child to greetings in various languages. It also helps them to interact with others. This encourages them to foster cultural understanding and appreciation in their peer group. The value of relationships among the members of a family (including extended family) is also brought out. It brings to the forefront the significance of relationships within the family, instilling values of love, support and togetherness among the children.

You may create texts, activities, games and puzzles using this theme, and relate the learning outcomes across domains. The following illustration may give you an idea:

Song given on page 3 of *Mridang* 1.

LO (ENG): Listens to longer (4–8 lines) songs/poems with attention and have conversations about them

LO (ENG): Sings/recites short (4–5 sentences) songs/poems

LO (ENG/EVS): Learns the vocabulary related to parts of the body and the actions associated with it

LO (ARTS): Explores the difference between their singing voice and speaking voice and uses both playfully

LO (PHYSICAL): Uses coordinated movements of gross motor muscles

Note to the teacher

- As children sing, they touch the part of the body referred to.
- This song may be repeated till the child names the part of the body.
- New ways of reciting could be thought of by the teacher.

Mridang 3

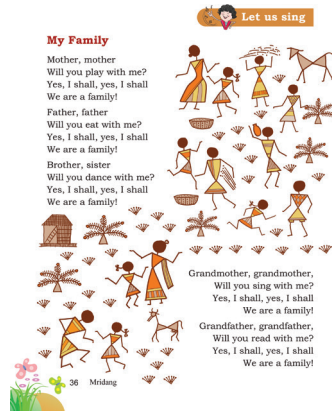
Song given on page 36 of *Mridang* 1.

LO (ENG+MUSIC)- enjoys the rhyme and rhythm of the song.

LO (ENG)- picks up the vocabulary related to family.

LO (VALUES)- understands the value of family and relationship between the members of a family.

LO (ARTS)- Illustrations are in the form of Warli art. This encourages the learners to draw on their own.



You may build more activities around this theme. You may make a birthday chart of the class (and let the children know you consider the class as a family). Display it in the classroom.

You may also ask the children to draw their family.

You may motivate the children to make a family tree of their family with parental assistance. This would instigate parental support and involvement too.

8.2.2 Life Around Us

The next theme, 'Life Around Us', connects the children from 'Self' to their environment: physical, social and natural. It helps to build vocabulary related to animals and birds commonly seen in the child's surroundings, as well as the conservation of the environment.

A familiar folk tale 'The cap seller and the monkeys' makes an appearance in this theme in class 1. In continuation of this theme, the smaller creatures, such as, the ant and the fly have also been included in class 2.

The Indian philosophical concept '*Vasudaiiva kutumbakam*' is central to this theme. Indirectly, this theme also attempts to incorporate discussion particularly aimed at addressing ethical and moral righteous conduct, helpfulness, courtesy and cleanliness.

English:
Vocabulary
development



These are cats.
They jump up and down in
the verandah of my house.



This is a rat.
The rat is very small.
The cat chases the rat.

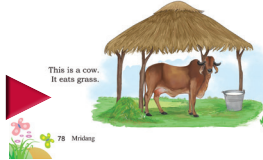
These are monkeys.
They swing and jump in
the trees.



There is a field beside my house.
There are a few snakes in it.
You have to walk
carefully in the field.

English:
concepts,
like
this-that,
far-near,
big-small

EVS:
animals
that live
around us



This is a cow.
It eats grass.



Mindig 78



Mindig 79

EVS:
one
feature
of each
animal

You may motivate the children to look around them, their home and their school. Help them recognise the birds and animals in their area. Motivate them to watch the beautiful butterflies flying around. You may also sensitise them to be kind towards the animals and birds.

‘Let us do’ activity on page 74 and ‘Fun time’ activity on page 83 in *Mridang* 1.

- Vocabulary development – names of animals and their homes
- Counting of numbers
- Understanding the concept of ‘home’
- Observation skill development
- Understanding prepositions
- Fine motor skill development – drawing and connecting the animal to its home in a fun way through puzzles and mazes.

Let us do

A. Help these animals find their homes

B. Ask anyone in your family to tell you a story about animals. Try to share the story in English in the class. Listen to the stories shared by your friends in class.

C. In small groups, choose any story that you heard or shared in the class. Draw pictures for the story. Present the story in class.

Mindig 74

Fun time

Can you see the elephants? Where can you see them?

Help to the teacher

- Help children locate the elephants at different places.
- Help them understand words in ‘I’ and ‘me’ form.
- Help children draw other animals in the picture for alternative and interesting responses.

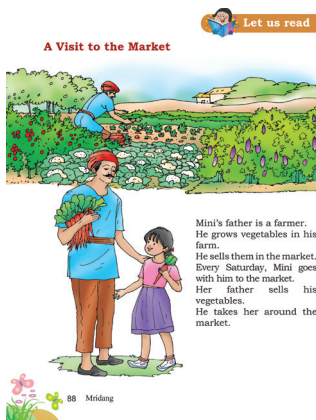
Mindig 83

8.2.3 Food

The theme titled ‘Food’ is designed to introduce young children to the wide array of fruits, flowers and vegetables that are abundant in our country. By exploring this theme,

young children are exposed to the rich diversity of traditional food found in Bharat, which encompasses a multitude of regional culinary traditions.

To foster an appreciation and respect for the food we eat is one of the main objectives of this theme. The wide variety of fruits, flowers and vegetables that are available in our nation helps the young children gain an awareness of the time, effort and resources that go into creating and distributing food. This understanding fosters gratitude, especially towards the farmers and producers, as well as for everyone else involved in the food supply chain. You may also bring in the locally available fruits, vegetables and flowers. You may talk about them in your class and weave activities around them. This will help the children in relating to what they are learning making complete sense of it.



Multitude of regional culinary traditions

Gratitude towards farmers and producers

Mindful attitude towards their meals

Sharing and caring

Avoid food wastage



You may tell the class about the locally available vegetables and fruits.

You may ask every child to bring any one fruit or vegetable to the class the next day. Collect them from all the children and arrange them in a corner. Using these vegetables/fruits you may conduct the following activities:

- You may ask them to list out the vegetables.
- You may ask them to list out the fruits.
- You may ask them to list out the colours they see in the collection.
- You may ask them to count the number of fruits and the number of vegetables.
- You may ask them to sort the collected materials into fruits and vegetables.
- You may further ask them to subgroup them into a particular type, like all the potatoes together, all the bananas together and so on. They may even count the number in each subgroup.

Additionally, by highlighting the value of expressing gratitude for the food they eat, young students are inspired to adopt a mindful attitude towards their meals. They get an understanding of the worth of each meal and the relevance of the people who assist in its preparation, which fosters gratitude and respect for the entire food ecosystem. The idea of sharing food and caring for others is also addressed to here.

An additional aspect that the theme ‘Food’ addresses indirectly is the issue of food wastage. Through the exploration of different foods and their origins, children gain a deeper understanding of the resources and efforts required to produce food. This understanding promotes a reliable mindset, making children more aware of the need to avoid wasteful practices and to value the food that is provided to them.

8.2.4 Seasons

The theme ‘Seasons’ talks about the cycle of seasons in our country and related changes they bring about in our lifestyle. It shows the beauty of every season and guides in finding shades of happiness in all of them.

You may understand how learning outcomes can be related to this theme by looking at the illustration shown below:

The central image is a page from a textbook titled 'Unit 4 Seasons' and 'Chapter 1 The Four Seasons'. It features a 'Let us sing' section with four seasonal illustrations and their corresponding poems:

- Spring:** Spring is a time, when children play. Flowers bloom, every day.
- Summer:** Summer is hot. To stay cool, everyone wants a dip in the pool.
- Autumn:** Autumn is a time, when children play. Leaves fall, every day.
- Winter:** Winter is cold. On sunny days, people enjoy the sun's rays.

Additional text on the page includes 'Monsoon clouds are filled with rain. Make you feel Cool again.' and a 'Let us speak' section with questions: '1. (a) What do you wear in summer? (b) What do you wear in winter? (c) Which season do you like the most? Why?'. A 'Note to the teacher' suggests: '• Help children answer in full sentences. • Explain the cycle of seasons.' The page number '107' is visible at the bottom right.

Surrounding the central page are six purple rounded rectangles with the following text:

- Joy of reciting with rhythm
- Vocabulary development
- Learn the rhyming words
- Joy of different seasons in India
- Understanding the local variations in seasons
- Knowing what to do in different seasons

The text in the centre is taken from Unit 4, page 106 of *Mridang 1*. It refers to the section ‘Let us sing’. The circles around the centre picture shows us all the options that can

be used to achieve learning objectives within the domain of language and literacy and also across other domains.

By exploring this theme, children develop a profound connection with nature and recognise the joy that comes from immersing themselves in its ever-changing landscapes. Whether it's the vibrant blooms of spring, the warmth of summer, the breathtaking colours of autumn or the cozy charm of winter, the theme 'Seasons' enables children to appreciate the wonders of nature and find happiness in every season. The joy of being with nature is highlighted in this theme.



2. Look at the pictures and tell the story in your own words.



You may use simple poems between classes. This would not only help in a smooth transition from one subject to the next, it would but also help children identify rhyming words in a fun way.

Here is an example of a poem on rain. You may encourage the children to recite rhymes related to seasons even in their mother tongue.

A Rainfall

I hear the rain go
Drip Drip Drip
I put on my raincoat
And Zip Zip Zip

With action accompanying the repetitive words in the poem, this will be a fun activity as well as add a few new words to children's vocabulary.

You may use this theme to create innovative activities and tasks, which serve multiple purposes. The picture shown above relates to the theme and also aids in creating empathy towards birds. It encourages the child to think out of the box uses for our daily-use objects.

8.2.5 Fun with Friends

Children can easily connect with the theme 'Fun with Friends'. It deals with a wide variety of Indian games, like hopscotch, bat and ball, kite flying, hide and seek, etc., as

well as the ultimate joy of playing them with friends. Through participation in these games, children not only experience the thrill of healthy competition and teamwork but also develop a sense of companionship and social bonding with their friends.

The idea of recycling and reuse is another crucial aspect of the theme. Children are urged to investigate the creative repurposing of everyday goods, including waste products to create novel and useful objects. It also gives them ideas to create new toys and gain happiness from them. This feature encourages children to be inventive and environmentally sensitive, hence fostering sustainability and minimising waste.



It was a holiday. Jeet and Babli were playing. They played many games. Both of them skipped the rope. They played hide and seek.



Babli and Jeet decided to play 'bat and ball'. Jeet got ready to throw the ball.

10 Mridang



You may extend this activity for creating something useful out of waste materials, playing a game with available resources, like playing tennis with a cardboard piece, playing run-around with an old tyre, and so on. The main focus of your activities may be the joy of playing with friends using the easily available materials.

- Indian games
- Healthy competition and teamwork
- The idea of recycling and reuse
- Be inventive and environmentally sensitive
- Joy of playing with friends
- Physical wellbeing of children
- A sense of companionship and social bonding

This concept has been presented in the reading activity 'Out! Out!' on page 10–12 of *Mridang 2*.

The whole theme centres around such processes, which lead to the manifestation of *Anandamaya Kosha*. A sense of satisfaction, fulfilment and contentment is experienced by children when they participate in enjoyable activities with others. The theme fosters the entire well-being of the children by

emphasising not only the emotional and social aspects of play, but also its physical and intellectual components.

8.2.6 Welcome to My World

Imagination and sensitisation are the twin topics woven into the next theme, 'Welcome to my world'. The child's flights of fancy are given wings through rich content and varied activities under this theme. This not only helps the children get a better understanding about what the other creatures around them do, but also tells them that they are different and unique.

In the 'Let us recite' section of Unit 2 of *Mridang 2*, (page 18 and 19), you may encourage the children to do the corresponding action as they recite the rhyme. This not only helps them to understand the action word, it also gives them immense pleasure to enact more words beyond the rhyme. You may encourage them in this direction.

Unit 2
Welcome to My World

Chapter 1
It is Fun

Let us recite

It's fun to be this,
It's fun to be that,
To leap like a lamb,
To climb like a cat.

Sight words
this | that | like | to |
them | all | none

18 Mridang

To hop like a frog,
To swim like a fish,
To trot like a horse,
To fly like a bird.

I can act
Just like them all,
It's fun to be this,
It's fun to be that.

New words
fun | climb | leap | swim | trot | fly |

Mridang 19

It also triggers their imagination and helps them visualise the actions of various animals and birds. You may further create activities that enhances the communication skills of the children through repetitive practice of common sentence structures. One such activity has been given on page 27 of *Mridang 2*.



Seeing without Seeing



Little Onahangla returned from the school. She opened the door quietly. She kept her bag on the table quietly.

Her mother looked at her. "Onahangla you are very quiet today," said Ava.

"Did anything happen in the school?"

"Yes Ava," said Onahangla. "A new boy came to our school. He sits in our class."

"Yes?" said Ava, listening to Onahangla, and placing biscuits and milk on the table.

"The teacher helped him sit in the front desk," said Onahangla. "He wears black glasses. He cannot see. He will come every day. How will he do things?"

"Finish your biscuits and milk," said Ava. "Then we will play a new game."

Mindig 27



Imagination and sensitisation

Everybody is different and unique

Be aware of the challenges faced by differently abled people

Logical framework for making ethical decisions

Being aware of the challenges faced by differently abled people will help create empathy. Children, in this theme, are encouraged to think at a young age about the importance of 'doing what is right' and should be given a logical framework for making ethical decisions. For example, 'Will my actions hurt somebody? Is that a good thing to do?' These are questions children should be encouraged to ask themselves when they encounter differently-abled people.



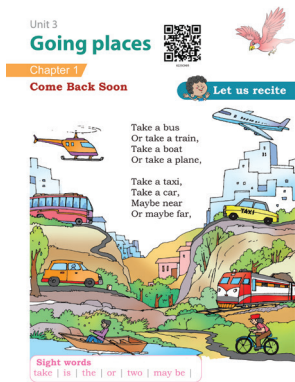
You may play this game in the class:

Put 20 random things (things which are known to the child like a pencil, chalk piece, a sharpener, an eraser, a banana, etc.) into a cloth bag. Close the mouth of the bag with a string leaving enough space for a child to put his or her hand through. Now call the children one by one. Tie a blindfold on the child's eyes and ask them to put their hand inside the bag. They have to take out one object and name the object they have taken out. They may feel it and smell it but cannot see it. You may increase the complexity of this game by including some new objects in the bag.

8.2.7 Going Places

The theme 'Going places' helps the children to know about the places around them. It helps to familiarise the children about their homes, schools and their town. It encourages the child to visualise the places (actual and imaginary). This theme contributes to an understanding of diversity of languages and cultures of India.

The theme 'Going places' encompasses a wide range of learning opportunities that allow children to explore and discover the various places that surround them. By focusing



Places around them

Diversity of languages and cultures of India

Develop a sense of curiosity and exploration

Modes of transport, distance between places and maps

on this theme, children are encouraged to develop a deeper understanding of their immediate environment, including their homes, schools and towns.

You may integrate science, social and environmental topics, like modes of transport, distance between places, maps (or even directions at a very basic level), concept of a house to street to town and maybe even to nation and so on into this theme.

One of the key objectives of this theme is to familiarise children with their surroundings. By delving into the details of their homes, schools and their town, they can gain a greater appreciation for the unique features and characteristics that make each place special.

Furthermore, the theme ‘Going places’ extends beyond the physical locations and also encourages children to engage with their imagination. By prompting children to visualise and imagine different places, both real and imaginary, they can expand their creative thinking and develop their cognitive abilities. This imaginative aspect of the theme stimulates children to think beyond their immediate surroundings and explore new possibilities.

By integrating the theme ‘Going places’ into the curriculum, you can create a comprehensive learning experience that not only enhances children’s knowledge of their immediate surroundings but also broadens their horizons. Through this theme, children develop a sense of curiosity, exploration and appreciation for the diversity of places, languages, and


cultures in India, fostering a well-rounded understanding of the world around them.



You may have special days preplanned for this activity. Ask the children to bring any one toy of a vehicle. Help the children arrange them in the class. You may even create roads, tracks, lakes and rivers in the display. Later the arrangement may be viewed by the children of other classes.


8.2.8 Harmony

Chapter 2




Let us read

We are all Indians



My name is Meenakshi.
I come from Tamil Nadu.
I speak Tamil.
My favourite festival is Pongal.
What is your name?



I am Ramu.
I come from Gujarat.
I speak Gujarati.
I like to dance the Garba.
I am seven years old.
How old are you?

Mridang 91

Cultivating an identity – regional and national

Unity in Diversity

Feeling of oneness and patriotism

Develop certain Constitutional values

The theme ‘Harmony’ stresses on cultivating an identity: regional and national. It resonates with the Indian ethos of ‘Unity in Diversity’. It exposes the child to the variety of languages spoken across India and the diverse cultural aspects of our nation.

The Chapter 2 of Unit 5 in *Mridang 2* (page 91) has been uniquely designed. It is an interactive reading task, where small intermittent tasks are given to the children after a few lines of reading.

This gives you ample opportunities to extend each of these sets of lines to incorporate additional questions to involve them.

The association of charkha with khadi and Mahatma Gandhi has been brought out in this theme. It instils the feeling of oneness and patriotism in the children. The process and the content of this theme also aim to develop in all young minds our Constitutional values, such as, embracing

diversity, plurality and inclusion, unity and integrity of the nation, and a true rootedness and pride in India.



You may arrange for a fancy dress display of different traditional dresses. The children may come dressed up in the traditional dress of the region to which they belong. You may also initiate a discussion in the class regarding those dresses where they share information about them.

You may also help the children learn few patriotic songs, like ‘*Saare jahan se achhcha...*’ or ‘We shall overcome...’ or any other regional song and sing it in the school assembly.

9. PROGRESSION IN LANGUAGE SKILLS

The progression in teaching of language and literacy through the *Mridang* (English) textbooks of class 1 and 2 are planned in such a way that children acquire skills related to two broad categories:

9.1 WORD RECOGNITION AND ACCURACY IN WRITING WORDS

Phonological awareness is the ability to distinguish between similar sounding words. In class 1, attention of the children is drawn to the sounds of the letters of the alphabet. This ‘letter-sound association’ is done through different kinds of engaging songs and activities spread across the book. Letters and words are introduced simultaneously so that meaning making remains at the centre of language acquisition.

The progression is seen as we move to class 2. The initial units introduce the young children to the vowel sounds. The later units deal with diagraphs and blends. The colourful illustrations aid the learning process.

The process of hearing a sound and being able to write a symbol to represent that sound begins in the first unit of class 1 and runs through all the units of class 2 as well. Reinforcement of this is given in all the units in a phased manner. Decoding is also dealt with simultaneously. There are plenty of exercises in all units for the child to see a written symbol and being able to say what sound it represents.

9.2 LANGUAGE COMPREHENSION AND EXPRESSION

9.2.1 Oral Language Development

The sections ‘Picture reading’, ‘Picture time’ and ‘Picture talk’ help the child to observe a given picture/poster, comprehend it and converse about it. A few questions are also suggested to guide the child to initiate the conversation. You may extend this activity and add questions you think are appropriate for the level of children in your class.

Care is taken to include pictures of situations familiar to the young minds. Picture-based tasks, such as, arranging the pictures in a sequence, and story-narration based on a set of pictures provide plenty of opportunities for children to talk and share their experiences through free and guided conversations or role play activities. These are progressively placed throughout the two books.

Oral language development also happens progressively through engaging conversations. Tasks have been given to enable the children to engage in conversations individually and as a group. The sentence structures have been made repetitive to enable easy learning of commonly used sentences.

9.2.2 Vocabulary Development

The children are introduced to a wide range of words and concepts through the units that expand their understanding of the world. The Sight words and New words are listed out at the end of each lesson. Interactive activities, such as, word games, storytelling and role-playing provide opportunities for active participation and contextual learning in a graded manner.

You may extend this in your classroom and prepare word charts and word lists to be displayed in your class.

9.2.3 Reading with Comprehension

The class 1 and 2 *Mridang* textbooks exhibit a well-structured progression for reading with comprehension. The progression

from read aloud, to guided reading, to shared reading and finally to independent reading may be kept in mind while transacting in the classroom. The content starts with phonetic words in *Mridang 1* emphasising on the initial and ending sounds. It gradually advances to more complex vocabulary and then to simple repetitive sentences by the end of *Mridang 1*. You may also see the progression in the rhymes. The book employs vibrant illustrations and relatable themes to engage young children and encouraging active participation.

As the units progress in *Mridang 2*, the rhymes and reading passages become longer, enhancing the child's fluency and comprehension skills. Thought-provoking questions after each passage challenge children to think critically and connect with the text. Furthermore, interactive activities and exercises foster a deeper understanding of the content. This thoughtful progression ensures that children develop strong reading and comprehension abilities from the start of their academic journey.

You may also add to this and adapt to suit the needs of the children in your classroom. You may develop more challenging texts for children who have achieved the prescribed learning outcomes. Similarly, you may also develop repetitive and guided texts for children who are facing difficulties in reading.

9.2.4 Writing or Composition Skills

The English textbooks for class 1 and 2 demonstrate a properly thought-out process for enhancing composition and writing abilities. Children are initially introduced to fundamental writing ideas, such as, how to create letters and then words, to help them communicate successfully. Creating/writing basic sentences become more important as the chapters go on.

Engaging prompts and picture-based exercises inspire children to think critically and organise their thoughts coherently. Furthermore, the textbooks incorporate peer work and pair work, encouraging collaborative learning and fostering a sense of responsibility towards their writing. As

children progress, they tackle more challenging topics and learn to structure longer compositions logically.

10. CROSS-CURRICULAR INTEGRATION

Cross-curricular integration promotes a multifaceted learning environment in education. Children develop a thorough awareness of the world around them by making connections between many subjects, such as, language, arts, mathematics, science, and physical education. This integrated approach fosters creativity, critical thinking, and problem-solving while boosting students' capacity to integrate knowledge from several fields. Cross-curricular integration fosters well-rounded pupils who can find connections and succeed in a complex and linked environment by fusing together many topics.

The purpose of cross-curricular integration in the Foundational Stage is to provide students with meaningful and holistic learning experiences that go beyond the boundaries of individual subjects.

10.1 PURPOSES AND BENEFITS OF CROSS-CURRICULAR INTEGRATION

Here are some key purposes and benefits of cross-curricular integration in primary education:

- A. Enhanced Learning:** Integrating different subjects allows children to see the interconnectedness of knowledge. It helps them understand how different concepts and skills relate to real-world situations, making learning more meaningful and engaging.
- B. Improved Problem Solving and Critical Thinking Skills:** Cross-curricular integration encourages children to think critically, analyse information and solve problems in a multidisciplinary context. It helps them develop a broader perspective and apply knowledge from various subjects to address complex challenges.
- C. Development of Transferable Skills:** By integrating different subject areas, children can develop transferable skills, such as, communication, collaboration, creativity,

and information literacy. These skills are essential for success in the twenty first century, where multidisciplinary approaches are increasingly important.

- D. Contextualised Learning:** Integrating subjects provides a context for learning, allowing children to explore topics from different angles and develop a deeper understanding. For example, children can learn about history, geography, and culture, while studying a specific literary work.
- E. Increased Engagement and Motivation:** Integrating subjects promotes active learning and student engagement. It helps break down the artificial boundaries between subjects and allows students to explore topics in a more holistic and meaningful way, which can increase their motivation and interest in learning.
- F. Authentic Assessment:** Cross-curricular integration supports authentic assessment practices that go beyond traditional tests and exams. It enables you to assess child's understanding and application of knowledge in real-life contexts, through projects, presentations, performances and other forms of demonstration.

Look at the following picture from page 22 and 23 of *Mridang* 1. This picture is given under the header 'Picture Talk'. The main focus of this activity is to encourage the children to speak based on their observation of the picture and their experiences. It helps to develop the communication skills. Along with this objective, this activity may also be extended to achieve other objectives, as well as indicated in the illustration below:

This is a reading activity from page 92 and 93 of *Mridang* 2.

Mathematics: In the process of counting the number of children in the picture, the child develops the counting ability also.

Develops critical thinking as the child relates the picture to real life.

Mathematics: In the process of counting the number of children in the picture, the child also develops the counting ability.



Picture Talk

Note to the teacher
 • Give children enough time to observe the picture. Encourage the child to speak and answer the questions, even if they speak in their home language. Help them find English words.

1. How many children are there in the picture?
2. What games are they playing?
3. Which is your favourite game?
4. Some children in the picture are not playing games. What are they doing?



Sports: It also helps the children to know the different Indian games that they can play.

EVS: You as a facilitator, may draw attention of the children towards maintenance of cleanliness in places like parks.

Art: You may also integrate it with craft. You may encourage them to make paper boats.

The objective of this task is to help the children in building their reading skills along with vocabulary building. It may be connected to other domains as shown in the figure below:

This activity, from page 86 of *Mridang 2*, is woven to enhance the listening skill of the children.



My name is Gulabha.
 I come from Rajasthan.
 I like wearing colourful clothes.
 I enjoy seeing puppet shows.
 I travel by camel.
How do you travel?

I am Badal.
 I come from Bengal.
 I speak Bengali.
 I like painting and music.
 I study at Santiniketan.
Where do you study?



I am Vibha.
 I come from Maharashtra.
 I speak Marathi.
 Once I visited Ellora and Ajanta caves.
Have you travelled anywhere?

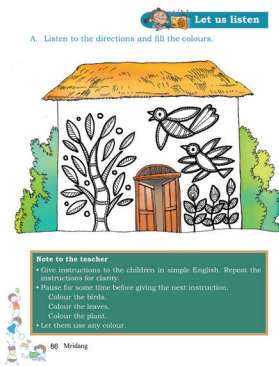
I am Surinder.
 I come from Punjab.
 I speak Punjabi.
 My neighbour Mallika likes to do Bhangra.
Which dance do you like?



EVS: While reading, the child knows more about the states of India.

Art: The child is exposed to many dance and music forms.

Culture: This reading activity tells more about our culture.



EVS: The children relate the plants and birds in the picture to the real ones around them.

Art: The child is able to experience the joy of colours by doing this activity.

Fine motor development: This activity aids in fine motor development as the child colours in the given space.

In this way, you may connect many of the activities given in the textbook for the development of English language skills to achieve the curricular goals across other domains as well.

Overall, cross-curricular integration in primary sections aims to provide a well-rounded education that prepares students for the challenges and opportunities of the modern world. It fosters deep learning, critical thinking and creativity while promoting the development of essential skills for lifelong success.

11. USE AND CREATION OF LEARNING-TEACHING MATERIALS

Learning-Teaching Materials for learning English in class 1 and 2 should be engaging, interactive and age-appropriate. They can be bought, created by you or created by the children. Here are some ideas for creating or using few commonly used materials:

11.1 PICTURE BOOKS

Colourful picture books with simple illustrations (both for nouns and verbs) and vocabulary are ideal for young children. The illustrations help them understand the meaning of words and phrases, relating them to objects in their immediate surrounding. You may also create Big Books for the same.

11.2 WORDLESS BOOKS

These books have a storyline, expressed through pictures, but without any word. The stories enhance their reading comprehension and language skills. You may gather such books and retain them in the class for the use of children. Thus, children from any linguistic background may use these books to understand the story. They may then narrate it, beginning perhaps in the mother tongue, but gradually moving to English language.

11.3 POSTERS

You may use posters for enhancing observation and speaking skills. Posters that are age appropriate and relatable to the young children may be preferred. You may create a poster that depicts your region or area or something your children may relate to. You may alternatively use the posters from the *Jaadui Pitara*, DIKSHA portal, NCERT website, etc.

11.4 FLASHCARDS

Flashcards featuring the English alphabet, relevant words and corresponding pictures are useful for introducing new vocabulary. You may develop flash cards in the class or off the class or word charts based on the sight words and the new words given at the end of each unit. You may also use flashcards to teach words as you practice pronunciation. Plenty of flash cards are provided in the *Jaadui Pitara* for your ready reference and use.

11.5 LANGUAGE GAMES

Games and fun activities that contribute to improving the language skills of the child may be used in the classroom. You may create word grids, crossword puzzles, anagrams, rebus and so on. The materials available in the *Jaadui Pitara* may be used innovatively to create new letter-based games.




Based on Mridang 1 - Unit 3 - FOOD
Find out 5 fruits from the grid below:



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| B | A | D | O | N | I | K | N | G | E |
| A | V | X | R | A | O | I | D | R | Z |
| N | W | Z | A | G | Z | I | Q | A | P |
| A | M | A | N | G | O | Y | U | P | R |
| N | I | F | G | K | A | Y | A | E | T |
| A | O | P | E | J | S | B | N | S | A |
| G | Z | Q | T | P | H | Y | N | U | E |
| P | I | N | E | A | P | P | L | E | O |
| O | B | F | I | N | H | A | L | E | T |






Example of a Rebus





A playful  saw the sleeping  under a .

The  jumped on the  to play with his mane.

The  woke up and caught the .

He was about to crush the  to death.

The  apologised for disturbing him and promised he would help the  in the future if he spared his life.

You may ask the children to replace the picture with the corresponding word and read.

11.6 PRINT-RICH CLASSROOM

As children get ready for formal instruction in literacy, they need to develop basic understanding of the concepts associated with print to help them to start reading eventually. It is important to make sturdy and easy-to-handle books available to children.

Print awareness can only take place when the child's environment is print rich, i.e., the child can see print around easily. This can be done by the following:


- Labeling various objects in the room, such as, 'door', 'window' and 'almirah'.
- Keep letter magnets, foam letters and letter block available in the language area.
- Using big books (storybooks with repeated phrases and big print).
- Word wall with new words added regularly.
- Displaying theme related labelled charts and posters at children's eye level.
- Asking children to engage with functional print, like attendance charts, calendars, etc., and changing the displays often.

11.7 WORKSHEETS AND ACTIVITY SHEETS

Worksheets and activity sheets provide practice opportunities for children to reinforce their understanding of English concepts. These materials can include exercises for letter recognition, word formation, sentence building or basic grammar.


Let us do

The word 'father' begins with 'f' sound. Read the following words that begin with 'f' sound.



fox feather food fan fish flag

The word 'brother' begins with 'b' sound. Read the following words that begin with 'b' sound.




boy book bear ball bus bird

Mishra 41


Let us speak

A. Do you know that some animals live in the jungle? Look at the pictures and say the names.



Tiger Lion Elephant

B. Say the word 'rat'. Say it again. Notice that the last sound of the word 'rat' is 't'. Now say the words given below.



cap jam pen bell

What is the last sound that you hear in each word given above?


Note to the teacher

- Help children understand the concept of domain and wild animals.
- Help children notice the final sounds of the words given above.

Mishra 41

Let us write

A. Encircle the words that have 'y' in them.



put mat sat
cap top cat
pat fan apple
pink tan tap

B. Encircle the matching letters in each row.

| | | | | | |
|---|---|---|---|---|---|
| y | T | F | p | F | r |
| b | b | C | d | b | q |
| o | q | n | o | r | |
| W | x | M | W | V | |

Mishra 41

The activity on page 41 of *Mridang 1* focuses on the recognition of initial sounds of the words by the children.

The activity on page 81 of *Mridang 1* focuses on the recognition of last sound of the words.






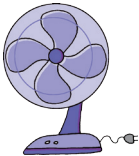

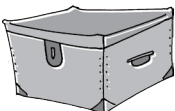
Page 66 of *Mridang 1* – Let us write – a) – recognising the ‘p’ sound in a mix of words ensures that the child looks out for the specific sound in the initial, middle and at end of the word.

You may extend these activities to address the ending sounds of words. Activities related to the middle sound of words in different ways may be taken up once the child is familiar with the initial and ending sounds of the words. Worksheets and activity sheets can be creatively prepared to equip the children with all the sounds of the words.

You may also note that such activities and worksheets may be interspersed frequently in the classroom process. Let it not be an isolated activity as this may become burdensome for the child.

Example for creating a worksheet

Match the words with similar ending sounds:

| | | | |
|---|-----|-----|---|
|  | Man | Bun |  |
|  | Fox | Tap |  |
|  | Cap | Fan |  |
|  | Sun | Box |  |

11.8 PHONICS MATERIALS

Phonics is an essential component of early English language learning. Phonics materials, such as alphabet charts, phonics cards, and phonics games, help children to recognise letter sounds and develop their reading and pronunciation skills.

The phonics song mentioned on page 11 of *Mridang 1* is one such example. You may expose the children to many more such songs in a creative way.

11.9 AUDIO-VISUAL RESOURCES

Audio-visual materials, including videos, songs, and rhymes, are effective in improving listening and speaking skills. Educational videos featuring animated characters, songs with catchy tunes, and rhymes with repetitive patterns engage young children and facilitate language acquisition.

11.10 INTERACTIVE SOFTWARE AND APPS

Educational software and apps designed for young children can provide interactive and engaging English language activities. These programs often include games, quizzes, and exercises that promote vocabulary building, sentence formation, and basic grammar skills.

11.11 CLASSROOM PROPS

Props such as puppets, toys, and real objects can be used to create a hands-on learning environment. You may either create it based on the stories in the units of the textbook or you may encourage the children to make them. You may use these props initially to enhance the read-out stories and later to act out dialogues, engage children in role-plays, and facilitate language practice and communication.

It is important to select materials that align with the learning objectives, cater to the student's developmental stage, and provide ample opportunities for active participation and practice. Additionally, you could adapt and supplement these materials based on the specific needs and interests of their children.

11.12 JAADUI PITARA

A ‘wonder box’ of play materials and learning-teaching resources to help you teach English (and Hindi) in a fun way, to the young children at the foundational stage. The alphabet board and the tracing cards are a simple and easy way to teach the alphabet to very young children (5–7 years), including those who may not have gone through kindergarten. The picture posters and poem charts improve children’s language skills through interesting and interactive means.

11.13 LOCALISATION

The NEP 2020 lays heavy emphasis on localisation i.e., making use of locally available materials as much as possible. Educators, in any part of the country, should look around and see how this can be done.

For example, creating Learning-Teaching Materials from local resources is a low-cost and easy way to enhance the learning experience of children. Children also find such material relatable. Also, you may feel free to use local stories, folk tales or songs to bring alive the teaching of language (in this case English) in any classroom.

11.14 DIKSHA PORTAL

The educational portal of the Ministry of Education, DIKSHA is a repository of e-resources from all over India for teaching any subject. The portal is easily accessible to all, and its e-resources are available for free to any interested educator.

11.15 DIGITAL RESOURCES

Harness the power of technology by incorporating interactive online resources, educational apps, or digital storytelling platforms into the learning process. These resources can provide additional engagement and practice opportunities

for children. Utilise digital platforms that offer interactive elements, such as animations, games, or quizzes, to enhance the children's engagement and reinforce their understanding of the story and its language components.



Chapter 1

TEACHING-LEARNING OF MATHEMATICS

1.1 HOW DO YOUNG CHILDREN LEARN MATHEMATICS?

Children at the foundational stage learn mathematics by engaging meaningfully with their immediate environment, concrete materials, toys or manipulatives and connecting their daily life experiences with the classroom learning. Children learn most effectively by actively engaging with the physical and social world around them. Children enjoy learning in many ways: playing with toys, running and jumping, handling materials, talking, listening, painting and drawing, singing, dancing and acting, etc. A good way to teach mathematics to children is to first give them relevant experiences followed by talks or discussion.

We are well aware of all these things, yet most of our classes start with simply speaking the numbers and writing their symbols. These mathematics books will be used better only when we include the above mentioned ideas in our mathematics teaching. They should be engaged in activities which are age appropriate, play-based, interdisciplinary and involve physical, socio-emotional, cognitive development.

Many great Indian educationists like Gurudev Rabindranath Tagore, Mahatma Gandhi, J. Krishnamurti



Children learn Mathematics by engaging with their surrounding



emphasise that education brings in overall and holistic development of the child. The nature and physical environment plays a very significant role in child development. They emphasised further that socio-emotional development and nation building are equally important. Shri Aurobindo gave the idea of integral education and mentioned that the development of the child is not only the cognitive, but also it is the physical, the vital, the mental, the psychic, and the spiritual.

Many eminent psychologists, like Jean Piaget, Jerome Bruner and Vygotsky too gave theories in the context of how children learn. The implications of these theories for a teacher are the following mentioned below:

- A. Children are curious, want to explore the world and are naturally motivated to learn what they find interesting.
- B. Practice is a natural part of the development. Practice does not mean repetition of the same thing over and over again, therefore the tasks should make her think from different perspectives and should not be mechanical.
- C. Learning involves dealing with challenges. To learn, we also need to accommodate and extend or modify what we already know. Children can be provided with several opportunities to keep them interested, alert, thinking and challenged by adults or more knowledgeable peers.
- D. Games are part of children's learning process. Many games that children invent consist of experimenting with things around them, and learning about the world in the process.
- E. Child is part of a social environment and has interactions with the physical world around her/him. This shapes the mind of the child. Any classroom contains children from various backgrounds and with a variety of abilities. Therefore, the kind of interaction in the classroom varies from child-to-child and is not predictable. They can do a lot more by working with supportive adults.

F. Children need scaffolding (support) of various kinds to develop deeper understanding of mathematical concepts. Providing experiences using concrete materials and then moving on to pictures or visuals and finally to representing the objects and actions performed using symbols rather than starting with symbols.



G. Mathematics teachers should actively create conditions in teaching, and guide students to discover and learn through hands-on activities, thinking and representation. From passive acquisition of knowledge to active discovery and independent inquiry.

1.2 APPROACHES AND METHODS OF DEVELOPING COMPETENCIES

The following approaches can be integrated into mathematical teaching-learning processes to give children comprehensive mathematics experiences considering the nature and cognitive demand of the tasks and skills.

A. Developing abstract ideas (concepts) through concrete experience (ELPS)

When children engage with concrete material, they can understand the meaning of mathematical concepts easily. Mathematical concepts are abstract, it is important that children learn these abstract concepts through concrete experience and gradually move from the concrete to the pictorial to abstract notions. The following sequence can be followed to teach the abstract mathematical concept.

An example of learning addition through ELPS:

| | | |
|--------------------------------|--|--|
| E – Experience Learning | The mathematical concept of concrete objects | Combining two groups of objects and recounting |
| L – Spoken Language | Describing the experience in language | will the resulting group is bigger than the two groups, 3 balls and 5 balls together makes 8 balls |
| P – Pictures | Representing mathematical concepts in a pictorial form | drawing 3 balls and 5 balls and 8 balls |
| S – Written Symbol | Mathematical concept that has been learned through concrete experience and pictorial can be generalised in written symbol form | such as, writing $3 + 5 = 8$ |

It is important that teachers recognise connections between all these different types of representations and need to be established in the classroom.

B. Connecting mathematics learning with children’s real-life and prior knowledge

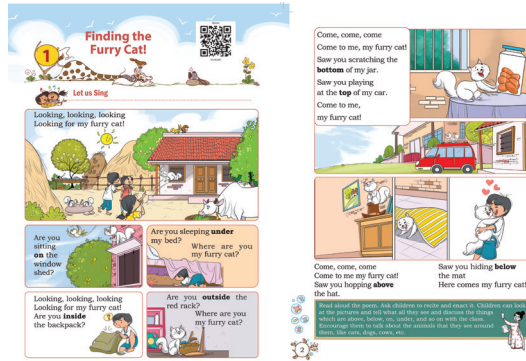
Learning mathematics must relate to children’s real life and their prior knowledge. Real life examples also help children to understand a mathematical concept, develop the ability to apply mathematical skills in real life, and more importantly, see mathematics as worth learning and doable. So, while teaching mathematical skills, teachers should use real life examples to build conceptual and problem-solving abilities.



C. Mathematics as a problem-solving tool

Encouraging flexible thinking and use of multiple strategies for problem-solving. Children should learn more than one way

of problem-solving. For example, what would be different strategies to find $8+7$? Children can count on 7 more from 8 or some children can count on 7 more from 8 or some children can split 7 into $5+2$ and add 2 in 8 to make it 10 and then add both 10 and 5



to arrive at 15. Hence, teaching-learning must be focused on helping children to invent multiple strategies to solve the problem with multiple ways of problem-solving.

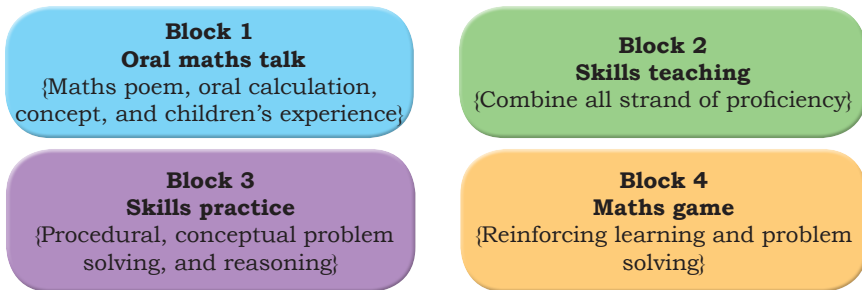
D. Using mathematical talk, communication, and reasoning

There is a need for rich conversation between teachers and children around mathematical concepts, processes, applications, and reasoning. This discussion must also focus on mathematics that children encounter in their real life and provide an opportunity for children to explain and justify reasoning. So, an oral math talk must be encouraged in the classroom rather than engaging in written tasks silently. Suggestive examples are given in the textbook at various places, which provide a lot of opportunities for oral math talk in the process of learning.

E. Developing a positive attitude towards learning mathematics

There is vast research on the strong dislike and negative attitudes children may develop towards mathematics even as early as Grade 3. Early learning should not only focus on developing mathematical competencies but also on supporting children to develop a positive relationship with mathematics as a domain. Children should learn to enjoy mathematics. Many activities, games and puzzles have been included in the book for developing a positive relationship with the subject.

F. Four blocks approach for teaching of mathematics



“The Joyful Mathematics for Class 1 and 2” are based on the four blocks mentioned in the NCF-FS 2022. They have been included in all the chapters. Most of them have been presented in an integrated manner. However, one can find the following chapters not only aligned to the curricular goal (CG-8)* of developing mathematical understanding and abilities to recognise the world through quantities, shapes and measures but also to all other curricular goals as given in the NCF-FS 2022 and syllabus leading to holistic development.

Four-Blocks Approach

| S.No. | Blocks | Meaning | Reference from the textbook |
|-------|-----------------|--|--|
| 1. | Oral Maths Talk | Share oral calculation, concept, strategies, and reasoning. Warm-up activity before going into the formal teaching process. | Poems like ‘Finding the Furry Cat!’ and ‘Chhuk Chhuk Goes Our Train’ (Chapter 1) and ‘Five Little Children’ (Chapter 5). Picture stories and stories, like ‘Wise Grandmother’ (Chapter 2), ‘Eating Mango’ (Chapter 3), ‘Vanishing Buttons’ (Chapter 4), and ‘Going out with Grandfather’. Sections like think and tell, let us talk, etc. |
| 2. | Skill Teaching | Giving them opportunities for problem solving. For this, teachers need to present children with situations and help them explore the solutions on their own by hands on experiences. | All chapters have activities that can be done by the child all alone, in groups, or with the help of some elders (parents, teachers, and siblings). This helps the child in the development of various skills with the guided support of others. |

*Children develop mathematical understanding and abilities to recognise the world through quantities, shapes and measures.

| | | | |
|----|------------------|---|--|
| 3. | Skill Practice | Active participation of children with various kinds of mathematical tasks based on concepts, processes, problem-solving, reasoning, and communication for practising mathematical skills. | Opportunities for skill practice have been included in all the chapters in the form of Let us Do, Projects, and Practice Questions. |
| 4. | Thematical Games | Children learn better when they have fun and also get opportunities to practise new skills repeatedly. These games must provide opportunities to do problem-solving and understanding of concepts along with reasoning. | Maths games and activities have been interwoven in all the chapters throughout the book like ludo, snake and ladder, patterns on number grid, solving puzzles and riddles. |

1.3 ASSESSMENT IN MATHEMATICS CLASSROOM

Assessment at this stage is mainly for the teachers to understand how children are learning and how the teaching strategies and pedagogies used by the teacher is helping the child. Assessment must help teachers to identify children who need additional support and attention. It tells us what input is exactly required.

Every learner progresses at his or her own pace. Every child is unique so to assess a child, the teacher needs to understand the child first. Unless you know what the child already knows, you cannot say what new or different knowledge or skills he or she has gained, and how much he or she has progressed on the path of learning. The first step towards assessing and understanding progress is to observe the child at the individual level, and capture the uniqueness of the child. Assessment should be designed to accommodate the uniqueness of every child and the different ways and pace of their learning.

Assessment should be an integral part of the day-to-day teaching process and not a report that appears

after three or four months. Children's progress should be described and analysed through systematic collection of evidence or record keeping of children's work. This way of assessment helps to know children's progress, their efforts, strengths and weaknesses. It also helps to plan what to do next to help an individual child. Even in this process children can also be involved. Children can self assess their work. This continuous assessment of children's work not only facilitates learning of mathematics but also enhances their confidence in what they understand and communicate. Though it is not always easy to make observations during activities, especially in the high teacher-pupil ratio. A teacher can develop a continuous framework for assessment and can conduct small inquiries or assessment tasks periodically. You might consider the following strategies to assess children:

- A. Observational Assessment:** Observe children's active participation, collaboration, and understanding.
- B. Oral Presentations:** Verbal responses, written tasks, visual representations, performance tasks, projects and group work etc. Allow children to present their data and findings, assessing their ability to communicate effectively and respond to questions.
- C. Peer or Self Assessment:** Encourage children to provide constructive feedback to their peers' work, fostering critical thinking and self-assessment skills.

A record of such assessment data must be kept with qualitative remarks corresponding to each child's work. Avoid using the words good, excellent, bad, etc. You must record the strengths and the learning gaps shown by the child corresponding to the learning outcomes and competencies.

Error analysis is a very important tool to understand what is happening in the child's mind. Instead of marking children's responses correct or incorrect or labelling children smart or dumb. Assessment needs to give detailed feedback supporting learning. Error analysis helps in getting insights into where the child is getting stuck and a follow-up interaction with the learner can help in challenging the child's thinking process and help them move to the next higher stage or level of learning.

For instance, children use different strategies for solving problems, like adding concrete objects, or counting pictures or fingers, tally marks, or by recalling from memory. So, if a teacher is assessing children for, say, addition or subtraction, she/he should look for strategies a child is applying and the child's progress toward higher level strategies. And the questions or examples the teacher uses for the purpose of assessment must be chosen carefully. It should be different from the examples used in the classroom or examples that the children are familiar with. The format and context should be familiar to children. The languages used in the questions must be simple and direct.

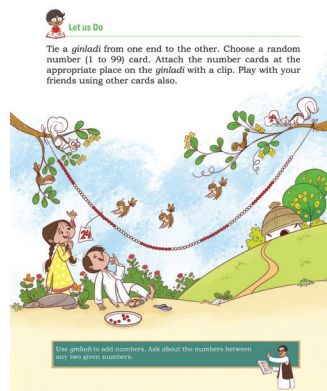
Assessment is a critical part of the teacher's work and responsibility. It helps show how effective the teacher's own work in the classroom and at the same time provides inputs for planning further teaching. It also helps to give feedback to parents on the progress their child is making.

1.4 DIFFERENTIATED AND INCLUSIVE MATHEMATICS TEACHING

All children have the ability to do mathematics though not all children in the class learn in a similar way. Every child comes from a different environment, has unique experiences and has distinct learning styles. Some take more time to learn while others take less time. Some children learn better by doing while some understand by mere listening. Each child in a classroom is unique and may have unique needs. For mathematics classrooms to be truly inclusive, a teacher at first needs to believe that all children are capable of learning mathematics and should mould her lesson catering the needs of each and every child.

How can you make a mathematics classroom inclusive?

A. Incorporate multi-sensory elements: Visual, auditory, and kinesthetic ones, like movement, re-enacting, video,



manipulatives, etc. Sometimes one needs to explore a different representation like modeling through the materials instead of focusing on calculation with materials or using a familiar situation to explain what action is being performed and relate it to the appropriate operation.

- B. Using adaptive assessment while teaching-learning mathematics:** Children have different learning styles according to their special abilities, therefore, the assessment must also be adapted according to their learning styles. When children make errors or mistakes teachers tend to explain to the child the procedure of solving the problem with different examples and strategies again and again till they feel that the child is following the procedure correctly. However, it is important for the teacher to understand the nature of difficulties faced through diagnostic questions and assessment.
- C. Pace of learning:** Some children who are able to grasp concepts easily may become restless while the teacher is trying to help the other learners or may even start finding the maths lessons boring as they are familiar with the concepts. Whereas there may be many children who lack the prior experiences required to learn something, therefore, they may take more time to learn. Teachers, therefore, need to use differentiated instruction to acknowledge the diverse learning needs of the children. For example, while some children are struggling to learn counting, children already familiar with it, can be given the task of colouring the cells by skipping counting in a hundred square chart and identifying the patterns.
- D.** There are children who may suffer from learning disabilities, like Dyscalculia and Dysgraphia or children with special needs (CWSN) may struggle with calculations and writing but they are also capable of learning mathematics provided the right tool and support is used by the teacher. The teacher may need to take extra effort to understand what kind of challenge the child is facing and identify the appropriate resource that can help the children.

- E.** Children tend to have very different ways of looking at things and sometimes the teacher can also learn a lot by trying to understand their perspective. For example, the group of stars given below can be interpreted in different ways by children and teachers.



Teachers may see it as 8 immediately while some children may see it as a pattern of 3, 3 and 2, while another child may add it as 2,1, 2,1 and 2 and yet another child may see it as 5 and 3 added together. Opportunity to share these multiple perspectives supports development of mathematical thinking.

- F. Contextualisation of the content:** Rural, local puzzles, local language, appropriate examples according to the diversity of learners, helps them in relating the learning with their life.

1.5 SPIRAL CONNECTIONS IN PRESENTATION OF CONTENT

The idea of spiral curriculum, introduced by Jerome Bruner, suggests that learning should be organised in a way that revisits key concepts, building upon previous knowledge in a gradual and progressive manner. The goal is to deepen understanding and promote long-term retention. In the context of mathematics, the spiral curriculum approach allows children to develop a solid foundation while continually revisiting and expanding their mathematical skills.

- A. Key principles of the spiral curriculum:** The three key principles of the spiral curriculum are:
- 1. Cyclical:** Learners must return to the same topic many times all through their school years.
 - 2. Increasing Depth:** Every time a child returns to the concept it must explore more complexity and be learned at a deeper level.
 - 3. Prior knowledge:** A child's previous knowledge must be used when the learner comes back to the same

concept so that child builds from the foundation instead of starting from the beginning.

It is also important that we revisit what we have learned. While learning mathematics, it does not happen that we become proficient in one concept, only then go to the second concept. For example, while working on the understanding of numbers, working on the understanding of the concept of place value, the understanding of numbers becomes stronger. When the same concept is worked on again and again in different situations, it helps to deepen the understanding. For example, the concept of addition to work on a joint with different numbers becomes deeper due to different contexts.

B. Content structure of the textbooks: The “Joyful Mathematics, Class 1 and 2” textbook is structured with a deliberate focus on the spiral curriculum. Joyful Mathematics for class 1 consists of 13 chapters, and Joyful Mathematics for class 2 consists of 11 chapters, each dedicated to a specific mathematical concept or skill. The chapters are carefully sequenced to ensure a logical progression from basic to more complex topics. This sequential arrangement enables children to build upon their prior knowledge, while continuously exploring new mathematical ideas. The content is presented in a playful and interactive manner to captivate the interest of young learners. The chapters are followed by a collection of puzzles at the end.

C. Revisiting core concepts: A prominent feature of including the spiral curriculum in the “Joyful Mathematics, Class 1 and 2” textbook is the intentional revisiting of core mathematical concepts throughout the chapters. For example, the concept of counting and number recognition is introduced early on and revisited in subsequent chapters, allowing children to reinforce and strengthen their understanding. This repetition ensures that children consistently engage with foundational concepts, preventing them from becoming isolated or forgotten over time.

For example, in Chapter 3 Mango Treat, children learn to count from 1 to 9. They practise counting objects, recognising numerals, and understanding the concept of one-to-one correspondence. Later, in Chapter 5 How Many?, when they encounter addition, they revisit counting to perform simple addition by combining sets of objects. This revisiting reinforces their counting skills and deepens their understanding of addition.

D. Expanding knowledge and skills: In addition to revisiting core concepts, the textbook introduces new topics and gradually expands children's knowledge and skills. For instance, after mastering the basics of counting, the textbook introduces addition and subtraction, providing opportunities for children to build upon and apply their counting skills in practical problem-solving situations. By building upon previously learned concepts, the textbook ensures a seamless progression of skills and knowledge, fostering a deep and interconnected understanding of mathematics.

For example, in Chapter 2 Shapes Around Us, children learn about 3D shapes and their properties. They identify and describe basic shapes, like the cube, cuboid, sphere, and cone. In Chapter 4 Shadow Story (Togalu), children learn about 2D shapes like circles, rectangles, squares, and triangles and their properties using shadows and tracing of 3D shapes. In subsequent chapters, they encounter topics such as measurement and patterns, where they use their understanding of shapes to identify attributes and create patterns using shapes. This expansion of knowledge allows children to see the relationships between different mathematical concepts.

E. Interconnecting topics: The “Joyful Mathematics, Class 1 and 2” textbook emphasises the interconnections between different mathematical topics to promote a holistic understanding. It highlights how concepts relate to and depend on one another. For example, the concept of addition is connected to counting, while subtraction is linked to addition. By explicitly showing these connections, the textbook helps children develop

a broader perspective of mathematics and recognise how individual topics contribute to the larger mathematical framework.

For example, in Chapter 5 ‘How Many?’, children explore the concept of subtraction. They learn to subtract by taking out objects or counting/hopping backwards. The textbook then revisits addition in Chapter 6 Vegetable Farm, demonstrating the relationship between addition and subtraction. Children discover that subtraction is the inverse operation of addition, and they use their understanding of addition to solve subtraction problems.

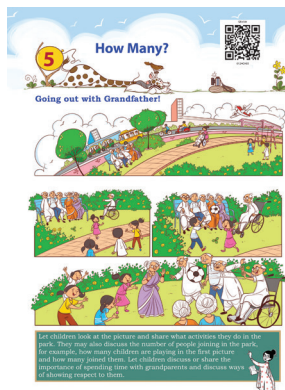
1.6 INTERDISCIPLINARY CONNECTIONS



Mathematics has generally been seen as having something to do with numbers and shapes. If we look carefully, we will find that mathematics has a very deep connection with the functioning of our daily life. To work on different concepts of mathematics at the level of class 1 and 2, we can choose such contexts from our surroundings and daily life. We should include issues related to language (also local

language), environment, science and social sciences, art, sports and value education. An attempt has been made to incorporate this idea in these books.

In the poem “Finding the Furry Cat!” of class 1 textbook, pictures show that the cat is sometimes going above the window, sometimes under the bed. It provides opportunities to work on pre-number concepts and spatial understanding with the help of interesting pictures and experiences of daily life situations. A discussion with the children on the places they hide while playing hide and seek and the places different animals



live. With such activities, children will be able to learn about mathematics, language, environment, sports etc., together.

In class 1, Chapter 5, the children are playing with grandparents. This picture inspires to think beyond gender discrimination, playing and spending time with grandparents and advocates inclusion of differently abled people in sports and activities.

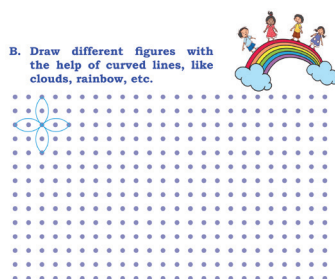
These books provide many opportunities to work on the integration of other subjects, values as well as the objectives of teaching mathematics in and outside the classroom. The World Around Us deals with the physical, emotional and cognitive environment that children see around them. For example, the chapter on patterns dives into the festival of *Uttarayan*, highlighting *Makar Sankranti*, *Pongal*, *Bihu*, and *Lohri*. The chapter prompts children to observe the patterns and shapes in the main elements of each celebration. The chapter beautifully integrates the festive elements with the concept of patterns, making it culturally relevant and mathematically insightful.

As you proceed with these lessons, remember that each child's connection with a subject will be unique. Celebrate those unique connections and always look for opportunities to show how the tapestry of knowledge is interwoven across subjects.

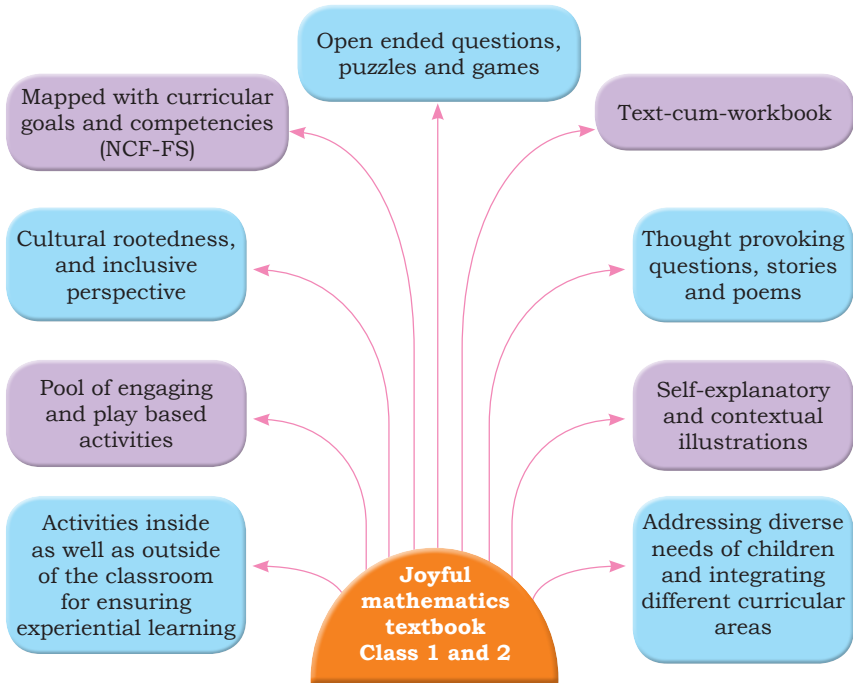
1.7 OVERVIEW OF THE TEXTBOOK

The present textbooks of Mathematics for class 1 and 2, "Joyful Mathematics" have been designed keeping in view the recommendations of NEP 2020, NCF-FS and syllabus for the Foundational Stage. The textbook is conceptualised and written in a way where it brings joy in mathematics learning for children. It follows text-cum-workbook design to strengthen the learning of children through various activities and games.

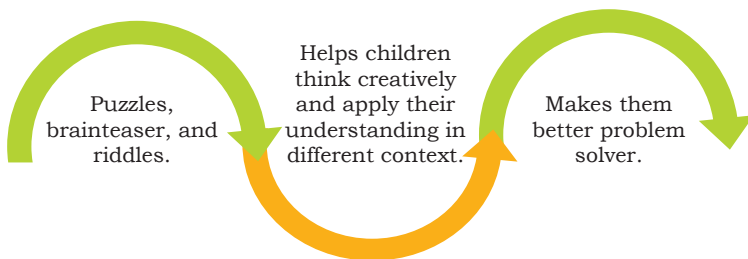
Some of the salient features of the textbook are shown as follow:



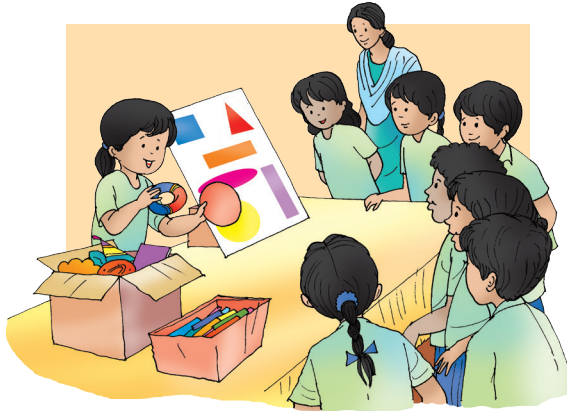
Salient Features of the Textbook



- A. Activities and tasks in the textbook are open ended and promote mathematical thinking in an integrated way. The activities given in the textbook are suggestive and you are free to develop your own activities or supplement them with the local toys, games available at your place or with toys or manipulatives used by children or any other materials available in the child’s immediate environment for hands-on learning with concrete material. You are free to adopt, adapt, and modify the activities keeping in view the developmental goals, competencies and learning outcomes at the Foundational Stage.



- B. The textbook has many activities, which emphasises on thought provoking tasks like puzzles, dice games, questions which emphasises on multiple strategies to solve. These tasks lead to better understanding of mathematical concepts and analytical thinking among children.



- C. The textbook holds a section on project work in every chapter and it includes suggestive tasks, which children might do at home or out of the classroom with their parents, grandparents, siblings, friends, etc. It's an extension of learning from the classroom to a home set up. Every child must be given the opportunity to share their project work with their friends and you can encourage them to display their work in the classroom.
- D. The Illustration of the textbook is designed carefully so that the concepts and ideas are presented through self explanatory and contextual illustrations keeping in view the differential abilities among children to read words at this stage. Moreover, such pictures or illustrations also help the children in enhancing their visual and reading comprehension.

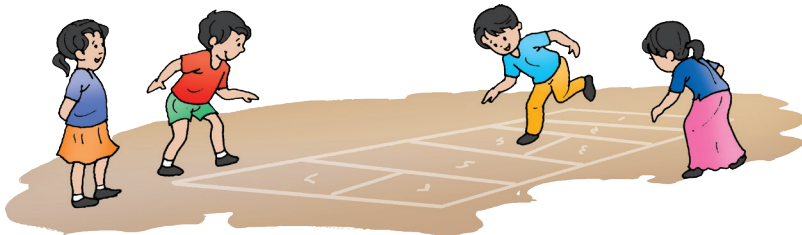
This textbook is not the only source of learning. Children learn much more while observing the environment, talking to their peers and elders including grandparents, making things of their interest, playing with toys and games, listening to stories, poems, doing projects, visiting different places. Therefore, we as teachers or parents need to go beyond the textbook and try to map it with the competencies and curricular goals identified for this stage.



Chapter 2

UNDERSTANDING NUMBERS

Children see numbers being used in their daily life. Children have some understanding of numbers before they enter a formal set up of schooling, but they may or may not be able to associate understanding of numbers with the numerals. Being able to recite the number sequence is only a small part of understanding numbers. In order to function in everyday life children must develop “Number Sense”. Number sense means being able to identify and use numbers meaningfully in different situations. Children may see numbers denoting magnitude, measures of different quantities, indicating the order in a line, being used as a label as in the case of the car’s number plate and as a result of calculation using other numbers. Having a number sense helps in making decisions about the numbers in different situations. For example, numbers are used to know the size of a group of objects called *cardinality*, used to denote position called *ordinality* and used as names called *nominal* use of numbers.

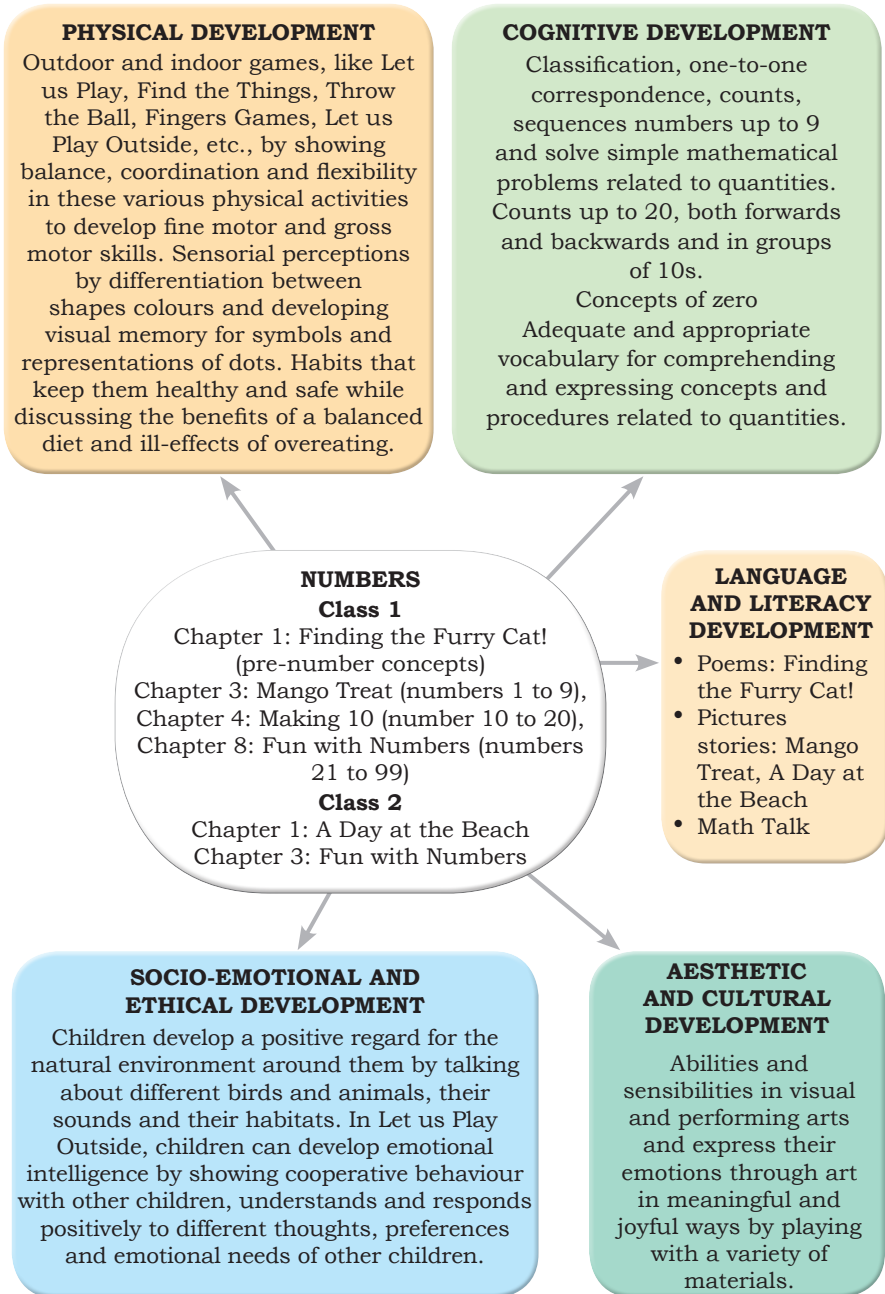


What is in the book?

Overview of concepts and sub-concepts covered for numbers in textbook Class 1 and 2

| Concepts | Chapter name (chapter no.) | Class | Sub-concepts |
|--------------------------------------|----------------------------|-------|---|
| Pre-number concepts | Finding the Furry Cat! (1) | 1 | Sorting and classification, sequencing and seriation, matching and one-to-one correspondence, recognition of colours and manipulation with concrete objects. |
| Numbers: 1 to 9 | Mango Treat (3) | 1 | Numbers up to 9, Numberness (1–9): One more, and comparing numbers, forward and backward counting from 1 to 9, identify and write numerals up to 9 |
| Numbers: 10 to 20 | Making 10 (4) | 1 | <ol style="list-style-type: none"> 1. Subitisation, 2. Zero as absence of something, 3. Concept of ten through bundling, 4. Number bonds of 5 and 10 5. Counting up to 20 <ol style="list-style-type: none"> a. Associating numbers with corresponding objects and vice versa b. Number names and numerals c. Comparison of numbers d. Arranging numbers in ascending or descending order |
| Numbers: 21 to 99 | Fun with Numbers (8) | 1 | Counts objects in groups of ten, read and write numbers from 21 to 100, numbers 1–100 in a sequence |
| Place value (Number sense 21 to 100) | A Day at the Beach (2) | 2 | Counting in tens and ones, introduction to hundred, reading and writing numbers using tens and ones up to 100, comparison of numbers up to 100, ordinal and nominal numbers, calendar reading |
| Number sense (1 to 100) | Fun with Numbers (3) | 2 | <p><i>Ginladi</i> as a representation of number-line</p> <p>Estimation of a number on a number-line</p> <p>Number patterns on number-line and square grid</p> <p>Skip counting, backward counting</p> <p>Relationships between numbers in a number grid</p> <p>Number patterns by various arrangement of blocks</p> |

Curricular Connections



2.1 PRE-NUMBER SKILLS

Class 1, Chapter 1: Finding the Furry Cat!

Sub-concepts covered and curricular connections in the chapter:

- Sorting and classification
- Sequencing and seriation
- Matching and one-to-one correspondence
- Recognition of colours
- Manipulation with concrete objects

2.1.1 Common errors while learning numbers

You must have observed common errors children make, while counting. Let us see some of these errors.

Some common errors children make while counting

Different situations depicting common errors children make while counting:

1. A child keeping 6 counters in a circle, and saying in a dialogue box 9, as the child has counted some of the counters again.
2. A child touched the same counter twice while counting .
3. A child recited wrong number names although touched all the counters once.
4. A child counted till 10 but could not say how many? Child knows counting in sequence, but couldn't tell the size of the group.

Why do they make such errors and how can we help them? To answer such questions, we must first understand the process of counting.

Suppose you have to count the number of red balls from a heap of red and blue balls. The process of counting involves the following steps:

- 1. Sequencing or Ordering** the red balls in line and knowing number names in a sequence or order.
- 2. Sorting** objects for a common property like putting all red balls together to be counting.
- 3. Mentally making two groups** of objects one, that are counted and others which are yet to be counted (classification).

4. Pairing or Matching each red ball with number names (one-to-one correspondence).

5. Associating the last number name to describe the total number of red balls (cardinality).

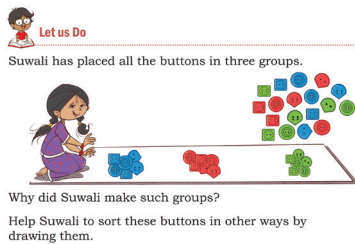
So, if the child is making an error in counting she/he would probably need to strengthen their pre-number skills. For example, if the child is leaving objects uncounted or counting the same object again and again, he or she is not able to classify objects as counted and uncounted. Similarly, if he/she is counting two objects, but saying only one number name, the child needs practice with one-to-one correspondence activities.

So, the children need to acquire certain skills like classification, seriation, and one-to-one correspondence to be able to count. Since these skills are preliminary to the understanding of numbers, they are called pre-number skills.

1. Classification, seriation and one-to-one correspondence (Extension of *Balvatika*): Activities relating to classification are given to recapitulate the pre-number concepts that children learnt in *Balvatika*. Other pre-number concepts, seriation, one-to-one correspondence can also be revised at this stage though are not mentioned in the chapter. On page 8, two children are classifying the heap of objects kept in the middle.



2. Sorting: Different types of concrete objects can be provided to the children and can be asked to sort on the basis of some criteria like size, shape, colour, etc., as given on page 9. Alternatively, it can be left open ended for children to make different groups and they may be asked to share the criteria based on the classified different objects. For example, the buttons



shown are classified based on colour and the child has to classify them using some other criterion, like the shape of the buttons or the number of holes in the buttons.

You can also make two heaps of objects like seeds, beads, blocks, etc., and the number of the objects in the two heaps must be distinctly different. Let children identify the heap containing more or less objects. This way you can see if the children have an intuitive understanding of numbers.

Extension Activities

- a. Classification:** The children may classify leaves of different colours, shapes, sizes, etc. Let children collect materials like beads, buttons, bottle caps, etc., and share the criteria of their classification.
- b. Seriation:** The children may collect material like twigs, leaves, etc. Let children arrange them on the basis of size. Make colour seriation cards. For each colour, five cards can be made having five different shades of the colour. Let children arrange these cards from light to dark.
- c. One-to-one correspondence:** Distribute one plate or spoon or toffee to each child during snack-time. Make cards with different pictures or dots on them and let children place some beads or clay balls on each picture or dots on the cards.

2.2 TEACHING OF NUMBERS

Most of the time children memorise and recite number names in a sequence and we think that children know numbers. We need to find out whether they have understood the concept of numbers or not. If the children can count the set of given objects and associate each object with the corresponding number name, and when given a number can give those many objects, they can count. It is important to develop a sense of numberness in children that the numbers when associated with a group gives additional information about the group like 5 bananas and the number 5 can be associated with any group of objects which have the same number of objects as there were bananas.

Class 1, Chapter 3: Mango Treat

Concepts covered:

- Numbers up to 9
- Numberness (1–9): one more, and comparing numbers
- Number comparison more than or less than
- Identify and write numerals up to 9

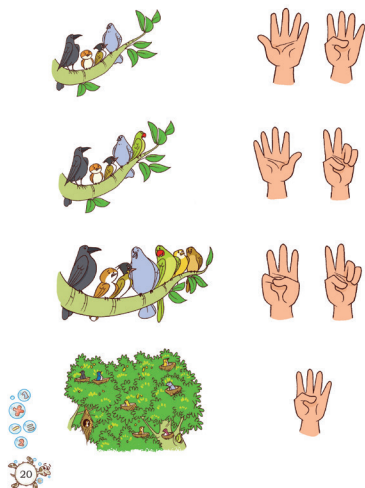
A. Numbers up to 9

The chapter begins with a picture story (pages 18–19) on counting where a squirrel is trying to eat a mango and other birds come (total 9) one after the other. It introduces numbers 1 to 9 by concept of one more. There is a scope of discussion on the concept of numbers, one more, and counting forward and backward, more than and less than, etc. This picture story also provides an opportunity for children to integrate and extend their understanding with other subject areas like language and environmental studies, for example, they can identify different birds in the picture and learn a few things about them like, the food they eat, the sound they make, nests they make, etc., and can also observe and find out different birds they commonly see around them. Children can also make their stories by reading pictures.

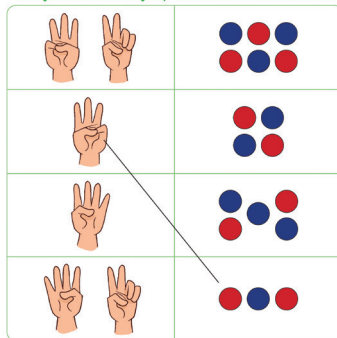
Animal cut outs can be used to role-play the story. Emphasise on the number of birds or animals added every time like: now '2' are eating, now '3' are eating, and so on. You can simultaneously write the number as a tally or dots and numerals up to 9 on the board when the numbers are increasing, you can ask the question "How many are there?", when one more bird joined the group. You may ask children the following questions along with the questions provided in the textbook: How many birds or animals were there before the bulbul-4; How many were before the parrot-3; How many were before the crow-2, etc. Such discussions are important as it helps children to communicate their understanding of numbers. You must ensure the participation of all children in a non-threatening environment where the focus is not on the correct answer but on the thinking process of arriving at that answer.

B. Numberness 1 to 9

Match the number of birds with the number of fingers.



Match the fingers with correct number of dots (one has already been done for you).



Let us Play – Mime with Fingers



As the children are learning to count, it is equally important that they develop numberness, i.e., showing the same number in different ways, i.e., by showing different objects, fingers, etc. The activity on page 20 and 21 involves matching the number of birds with the same number of fingers of the hand and matching the number of fingers with the correct number of dots. Children can also look for objects or things around them, which are equal in number of fingers or dots. They can also play the ‘mime with fingers’ game given in the textbook to help develop numberness in a fun way. The outdoor game in the textbook on page 22 ‘Let us Play Outside’, where children not only develop an understanding of numbers as they will group themselves but also develop emotional intelligence by showing cooperative behaviour with other children. They will understand, adjust, and respond positively to different thoughts, preferences, and emotional needs of other children.

These worksheets can be used for practice as well as for assessment purposes. While assessing you must observe whether the child is able to understand the concept of numberness, and ensure whether the child can associate two equal numbers of quantities together, i.e., three buttons with three pebbles or three pencils, etc.

C. Number Comparison: More than – Less than

The worksheet on page 23 and 24 focuses on the concepts of one-to-one correspondence for finding out if the given objects are more than or less than or equal to the given other set. The worksheet depicts a drawing competition on 'Ekta Diwas'. You can talk about the event, when it is celebrated and discuss with them about the importance of the event. The children are expected to assign different objects to each child in the drawing and find out whether the objects given in the table are enough for the group of children in the picture by matching and one-to-one correspondence. You can discuss with the children how they find out which items are more or less or equal. You can also discuss the habit of sharing objects among the group when children are more than the items or objects. Worksheets and a finger game are given on the same concept where children compare two sets of objects to find out which one is less than or more than or equal and show fingers more than or less than the shown fingers. Some children may compare the numbers by one-to-one correspondence initially, then compare the numbers directly.

My Drawing Day
 A drawing event held for children on 'Ekta Diwas' (31st October). Assign different objects to each child by drawing a line as shown in the picture.

Help them to know if they have enough material.
 Tick more or less or equal.

| Objects | More than the number of children | Less than the number of children | Same as the number of children |
|---------|----------------------------------|----------------------------------|--------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Discuss with children how did they find out which items are more or less or equal. Also discuss the habit of sharing objects among the group when children are more than the items or objects. Also discuss the importance of Ekta Diwas.

D. Identify and write numerals up to 9

Children see numerals in their surroundings, for example, on currency notes, bus/car numbers, etc. And there might be some children who are familiar with other numerals in their mother tongue. You must encourage such children to share the numerals in their mother tongue in the class, let other children also use this opportunity to know how numerals are said and written differently in different languages.

32 where opportunities are provided for counting, sequential order of numbers, comparison of numbers in various fun and challenging problem situations to develop number sense in children.

Extension Activities

You can have a 'number celebration' for different numbers in the class, if it is the day for the number 3, children will observe and talk about all the things, which are 3, they can do actions like clapping, stamping 3 times, and can collect or bring any 3 things, etc.

1. Provide children enough experience in counting with concrete objects, like bottle caps, blocks, beads, straws, sticks, pebbles, buttons, shells, leaves, flowers, etc.
2. Ask them to do any action like clapping, hopping or skipping for the number said or shown. For example, for number 5, children have to jump or clap five times.
3. You can give children picture cards or flash cards. Ask children to count the objects in the picture cards and match them with the number cards to strengthen their counting skills.
4. Engaging practice tasks and activities, like making numerals on sand or flour with fingers, with clay or match sticks, blocks, etc.
5. Children can also play a game in pairs where one child will trace the numeral on the back or hand of another child and that child will guess the number written on his/her hand or back.
6. **Number book:** Take five coloured A4 sheets and fold them to make a small booklet of 10 pages. Let children make their own number book by drawing, fingerprinting, or pasting their favourite things on each page. Encourage children to write for each number like; 6 fish swimming, 2 wheels of my cycle, 5 fingers of my hand, etc.



2.2.1 Numbers 10 to 20

Class 1, Chapter 4: Making 10

Concepts covered:

Subitisation

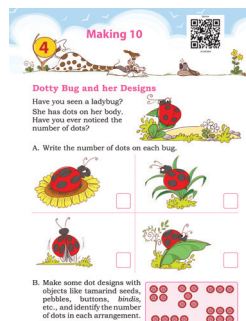
- Zero as absence of something
- Concept of ten through bundling
- Number bonds of 5 and 10
- Counting up to 20
 - a. Associating numbers with corresponding objects and vice versa
 - b. Number names and numerals
 - c. Comparison of numbers
 - d. Arranging numbers in ascending or descending order

A. Subitisation

As adults, do we really count small numbers? Say, you enter a room and three persons are sitting in that room, do you consciously count the number of persons or you just perceive it as three? Or while playing ludo do you actually count the number of dots that you get, or you just know the number by looking at its pattern. This skill of instantly recognising numbers without actually counting them is called *subitisation*. When children start to see patterns in numbers, they develop number fluency, which is crucial for later mathematical tasks.

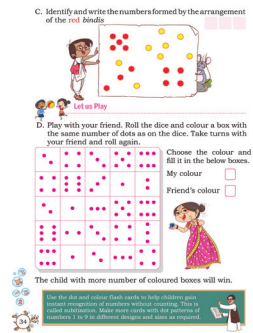
Subitisation can happen in two forms, one a child recognises a small group of objects (up to 5) instantly say four dots arranged in a pattern and the other child splits a bigger number (up to 9) into two smaller groups and then identifies the number at a glance.

Here in dotty bugs (page 33) children are expected to subitise small numbers. Initially, a child may count and write the number of dots. Ample opportunities should be given in the form of showing flash cards or by playing with dice or arranging different objects, like buttons, *bindi*, etc., to gain instant recognition of numbers without counting.



Similar practice for subitisation is given in the next activity (page 34) for identifying numbers in different *bindi* arrangements along with a dice game on page 34 to develop the skill of subitisation.

It should be kept in mind that a child may take time to develop this skill in her/him process of learning about numbers, so you can take up similar activities related to subitising at regular intervals as a quick class activity or a puzzle or game.

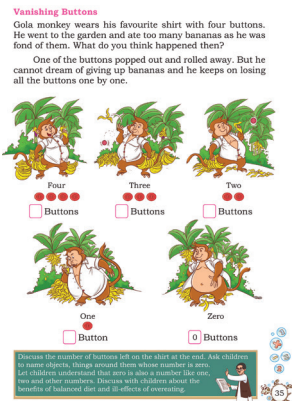


B. Concept of Zero

Vanishing Buttons (Page 35–36)

When asked ‘What is zero?’, we usually say ‘Zero is nothing’. This notion of zero represents inadequate understanding of zero since zero as a number indicates absence of a particular thing. For example, zero children mean no children, zero red flowers mean no red flowers. The initial introduction of ‘zero’ as a number, can be done by taking away a certain quantity from a set of objects till there are none left. You should let children experience zero using a variety of concrete objects. Begin by using concrete objects that children are familiar with, such as, toys, pencils, or flowers. Gather a few of these objects and place them in front of the children. Take out objects one-by-one and ask the children to count the number of objects left. When the last one object is taken out, ask the children what is left now. The children might say ‘nothing’. Here you can explain that when there are no objects, we use the number zero, like ‘No pencils are left’ or ‘Zero pencils are left’.

A picture story ‘vanishing buttons’ is given on page 35 where children have to tell the number of buttons left after each step. The symbol of zero is introduced side-by-side by counting in reverse order. Once the child has developed the



understanding of zero, make them practise the usage of zero in a variety of contexts. Use manipulatives like counting blocks or buttons and ask questions like, “How many yellow blocks are there?” when there are none and encourage them to respond with ‘zero’. Use everyday opportunities to remind children of the absence of objects and relate it to the number zero like there is zero sun at night, there are zero cows in our house, etc., as given on page 36. Proceed with introducing the symbol for number ‘zero’ and make children practise its writing.

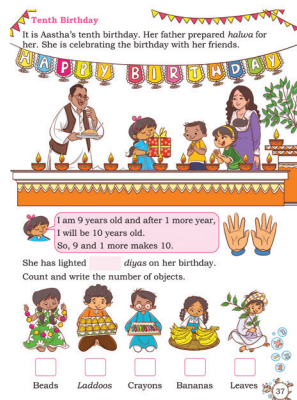
This understanding of zero as denoting quantity is different from 0 being a placeholder in numbers, like 20, 301 and 1053. These aspects will be focused when children have developed an understanding of double digit numbers.

C. Introduction to Grouping in Tens

Tenth Birthday (Page 37–38)

The transition from one-digit numbers to two-digit numbers is a crucial point in learning above numbers. We usually struggle in how to introduce the number ten to children, whether to mention place value or not, should they take 1 to 9 or 1 to 10, etc. The introduction of 10 can be as one more to nine as done for numbers 1 to 9. Like on page 37 the number ‘10’ is introduced by adding 1 more to 9 using the context of a birthday party, like 10 years, 10 *diya*, a collection of a variety of ten objects, showing ten fingers, etc. The children should be encouraged to count all objects and then write 10. Counting ten objects and writing ten would go hand-in-hand.

Later grouping of ten should be introduced to the children where we say when we have 10 objects, we group it together to make one bundle of ten. The activities on page 38 focuses on making 10 when some beads or buttons are given. The child has to count the given objects, draw more objects to make them a group of 10. This activity is for developing the sense of group of ten, which would be useful in developing



the concept of place value in two-digit numbers. Similar activities can also be done in the form of hands-on activities like providing beads or buttons and threads to children to make bundles of ten.

The representation of ten in a group as well as in the form of serial arrangement is important. This serial arrangement helps build understanding of the number line and helps children to understand how to count systematically. You can also develop an understanding of 5 as a landmark number. Children can learn that numbers like 2, 3, etc., are less than 5, 4 is closer to 5 than 3, 8 is closer to 10 rather than 5. Children can also understand comparing the magnitude of numbers through this serial arrangement.

The groups of ten can be shown to children to learn counting in tens as in ten, twenty, thirty. You can ask how many groups of ten there are in 20, 30, 40 and so on.

The exercise of grouping could start with grouping objects in 2's first since it is easier for children to handle small groups. It also gives them an idea that a group of two beads is different from loose single bead. So, if I have 2 groups of two beads each and 1 loose bead then, it does not mean that I have 3 beads but 5 beads.

D. Number Bonds of 5 and 10

The Handy Five and Ten (Page 39–40)

Learning number bonds helps children to develop fluency in basic addition and subtraction facts. By understanding that 5 can be split into different combinations, like 2 and 3, 4 and 1, or 5 and 0, children can quickly tell these facts without needing to count each time. On page 39, the child has to write number bonds of 5 by following the pattern where a group of five objects is separated into two groups of various sizes. This activity can be supported by using fingers of one hand, like if one finger is folded how many are open, two are folded, etc. Similarly, with number bonds of 10, children can see that 10 can be

The Handy Five and Ten
Follow the pattern and write the number pairs separated by the stick.

| | |
|--|-----------|
| | 1 and 4 |
| | __ and __ |
| | __ and __ |
| | __ and __ |
| | __ and __ |

Let us Play
Show 3 fingers. Your friend has to show some fingers to make it 5.



composed of pairs like 6 and 4, 7 and 3, or 8 and 2 as given on page 40. Fluency in these combinations enhances their overall mathematical proficiency and helps in the development of number sense. A game with play cards has also been given on page 41 to practise number bonds of number 10.

E. Number Sense 1 to 20

1. Identifies numbers with corresponding objects
2. Identifies objects with corresponding numbers
3. Knows number names in order
4. Identifies smallest/biggest number
5. Arranges numbers in ascending or descending order (Pages 41–47)

Number sense is the fluency with which children deal with numbers. The development of number sense in young children refers to their ability to understand and work with numbers in a meaningful way. This involves counting, cardinality, comparing and ordering, estimation, basic operations, identifying relationships and patterns in numbers. Estimation is an important skill to develop mathematical thinking so children should be asked to estimate the number and then actually count it. Also, numbers beyond number 10 should be introduced using groups of tens and ones and asked to count in the similar way before making them write the numerals. On pages 41 and 42, counting from numbers 11 to 20 has been introduced by the concept of one more using in groups of tens and ones followed by practice writing numbers 11–20 on page 43. Provide children with objects up to 20 and ask them to estimate first and then count in groups of tens and ones.




Let us Play a Card Game

Number Cards (Sets of 0 to 10)

Keep all cards face down. One child picks up a card and keeps it face up. The other child picks up another card and keeps it face up. If the pair of cards make 10 then the second student takes both the cards. And the turn goes back to the first student who will pick up another card.

Counting up to 20

Sinman lives in Nagpur. She is helping her father in packing oranges. A box can hold 10 oranges. Let us count the number of oranges.

| | | |
|---|----------|-----------|
|  | 10 | 10 Ten |
|  | 10 and 1 | 11 Eleven |
|  | 10 and 2 | 12 Twelve |

Here is a diagram to help children to understand and remember the number patterns of 5 and 10. For example, if the teacher says 2, the child should respond 5, when asked partition of 5. Similarly, if the teacher says 8, the child should respond 10, when doing partition of 10. Draw the first row using red and green. Repeat 10. Draw arrows towards the fact that there is always a difference of one between the adjacent numbers.

| | | |
|---|-----------|--------------|
|  | 10 and 3 | 13 Thirteen |
|  | 10 and 4 | 14 Fourteen |
|  | 10 and 5 | 15 Fifteen |
|  | 10 and 6 | 16 Sixteen |
|  | 10 and 7 | 17 Seventeen |
|  | 10 and 8 | 18 Eighteen |
|  | 10 and 9 | 19 Nineteen |
|  | 10 and 10 | 20 Twenty |

Pages 44–47 have exercises like count and write, draw as many as the number, numbers in sequence, comparison of numbers, etc., to develop the sense of numbers up to 20.

Children’s misconceptions

- Children tend to confuse between similar sounding numbers, like 13 and 30.
- Children find it difficult to learn number name of teen numbers as the order of the number name requires them to focus on saying the unit place digit first while from 20 onwards the tens place is said first in number name “twenty three”.
- Children tend to focus only on digits and often we too tend to reinforce the focus on digits by saying, “one and one is eleven”. It is important to focus on ten and one together with eleven and it is completely alright if initially children say ten and one-eleven, ten and two-twelve for the first few weeks.

Extension Activities

Children can be asked to prepare number cards (up to 9) by pasting *bindis* or drawing circles using different arrangements in different sizes. These cards can then be used to play ‘Look and Tell’ games between children.

- Playing ludo would provide a good opportunity to practise and develop the skill of subitising by recognising the different faces of dice for numbers without having to count the dots every time. This would also provide an opportunity of peer learning in the classroom.
- Showing different numbers of fingers to the children and asking them to tell the number quickly.
- Show different organisation of objects/dots found in everyday life and ask children how they identify the number. For example, 5 dots on ludo dice can be perceived as 3 dots in the centre line and one dot above and one below. Similarly, 6 on dice can be interpreted as two lines of 3 dots each.

- **Zero in Nature:** Take the children on a nature walk or have them observe their surroundings in the classroom. Ask them to identify objects or elements in the environment that represent zero. For instance, they might notice zero birds in a nest or zero leaves on a branch.
- Ask children to make a *mala* of 10 beads. These 10 beads mala can be joined together to form ‘*Ginladi*’, which would be used in learning about numbers beyond 10.
- Provide children some play money of ₹1 and 10. Ask them to count ten one-rupee coins and exchange it with one ten-rupee note or coin.
- Provide children with some loose flowers and thread. Ask children to make a *mala* of ten flowers each and decorate their classroom
- Ask children to make 10 frames using an egg tray and ask children to fill with pebbles to represent a number.
- Provide children with play money of ₹1, 5 and 10. Ask children to make ₹5 and ₹10 using different combinations of ₹1 coins.
- Provide children with some flowers in the *mala*, the children have to complete the *mala* of ten flowers.
- Create Bingo cards with numbers up to 20 and use counters or small objects as markers. Call out a number, and children can mark it on their cards if they have it. This game reinforces number recognition and counting skills.
- Hide numbers from 1 to 20 around a room or outdoor area. Children can search for the numbers and then put them in the correct order. This activity combines number recognition, counting, and ordering skills.
- Involve children in real-life situations where they have to count, such as setting the table, counting the number of steps, or counting items in a shopping cart.

The above activities would also provide an opportunity to observe children and see if the children have developed the skill or not.

2.2.2 Numbers 21 to 100

Class 1, Chapter 8: Fun with Numbers

Concepts covered and curricular connections:

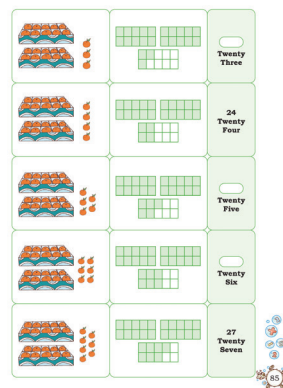
- Counts objects in groups of ten
- Read and write numbers from 21 to 100.
- Numbers 1–100 in a sequence

A. Numbers 21 to 100

1. Count objects in groups of 10s up to hundred.
2. Identify and recognise numbers up to 100.
3. To read and write numbers from 21 to 100 (in sequence as well)

Teaching numbers requires a combination of visual, auditory, and hands-on grouping activities to engage children and reinforce their understanding. Do grouping activities with children with the things available around them, like stones, and marbles, and help children to count the things by making groups of 10s. Then associating the groups of tens with names twenty, thirty, forty,..., etc. Make children use and observe the ten frames given to read and write the numbers as given in the book on pages 84–88 and 91–93. The counting till 100 should not be done in one go. Do counting till 50, revisit, practise, assess and move on further.

In class 1, the children are expected to count the given number of objects and write the number associated with it. Also, given a number, they should be able to give those many objects. Exercises on this two way association of numbers are given on pages 89–90 and 95. Encourage children to do backward counting (page 90), once they have gained confidence in forward counting. The exercises given in the book can be used during whole-class instruction, small-group work, or as individual practice. Encourage

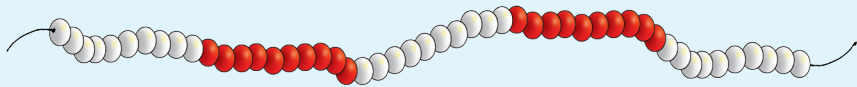


children to explain their answers and provide opportunities for discussion and collaboration.

B. Use of *Ginladi* in understanding numbers upto 100

Ginladi (page 88 and 94) is a powerful tool to develop number sense. It models a number line and facilitates exploration with numbers. It provides a tangible representation of quantity.

How to make a *Ginladi*?



Ginladi can be easily made by threading two alternate colours of beads in groups of 10, i.e., 10 red, 10 white, 10 red, 10 white, etc. It is proportional manipulative since 10 beads represent a ‘ten’, while a single bead represents a ‘one’. Each bead can be part of a ‘ten’ or be considered a ‘one’ depending on the number. Since it models the number line, the zero should be on the left. So, both you and the children should be on the same side of the *mala* to avoid left-right confusion. Also, each number is placed in between beads and it indicates how many beads are on the left.

Activities like locating a number on *Ginladi*, counting in tens (directly counting a set of ten) and one to identify the place of the number on the *mala* will help children develop a number sense. Children should be encouraged to discover patterns of ten for structured counting up to 100, for understanding grouping into tens and ones. More activities for *Ginladi* are given in Class 2, Chapter 2.

C. Real Life Connections with Numbers

Real-life connections make numbers tangible and relatable, fostering a deeper understanding of numerical relationships, problem-solving skills, and critical thinking. This practical application of numbers also enhances children’s ability to make connections between abstract mathematical concepts and the world around them, preparing them for future mathematical learning and real-world problem-solving.

Such activities or project works are given in the textbook so that children build a relationship with numbers. For packing things in a matchbox (page 90), children would try to fit in a maximum number of items. This would provide opportunities for counting, comparison of numbers contributing in developing number sense. It would also provide opportunities for spatial understanding in children as they would continuously strive to fit in small items to put in the matchbox.

A famous art form *Warli Art* (pages 96 and 97) is given to provide a scope for art-integrated learning in the classroom. It provides a scope for counting small numbers like people, houses, etc., and extends counting to large numbers like the number of lines used to draw certain objects. It also provides scope for estimation of numbers and verifying by actual counting.

Snake and Ladder (page 95) provides an engaging and interactive way for children to practise counting, number recognition, number sequencing, making the learning process enjoyable and memorable. Playing such number games teaches children turn-taking, social skills, problem-solving, decision-making, rule-following, critical thinking, and emotional regulation. It provides a holistic learning experience that extends beyond number sense.

Extension Activities

You can engage children in the following activities to strengthen and assess their number sense:

- 1. Number Hunt:** Hide number cards or written numbers around the room or outdoor area. Encourage children to find the numbers from 30–50 and arrange them in order. This activity promotes number recognition and reinforces number sequencing.
- 2. Number Stories:** Create or provide number storybooks that focus on numbers from 30–50. Read the stories aloud, and engage children in discussions about the numbers and their relevance in the story. This activity enhances number comprehension and builds connections between numbers and real-life contexts.

- 3. Missing Numbers:** Create a number line or chart with missing numbers from 30–50. Ask children to fill in the missing numbers, promoting number sequence recognition and understanding of numerical order.
4. Play number recognition games, such as, “Number Bingo” or “Number Memory Match.”
5. Incorporate movement activities like “Number Hopscotch”, where children jump on the correct numbers in sequence.
6. You can encourage children to read the questions loudly and give the answers, this will help them overcome their hesitation and will boost their confidence.
7. You can divide your class into groups of 2 each and ask children to draw a similar picture and frame a set of questions to ask from their partner.

2.2.3 Place Value (Number Sense 21 to 100)

Class 2, Chapter 2: A Day at the Beach

Concepts covered and curricular connections:

- Counting using tens and ones
- Introduction to 100
- Reading and writing numbers using tens and ones up to 100 understanding place value
- Comparison of numbers up to 100
- Ordinal and nominal numbers
- Calendar reading

A. Counting using tens and ones: Place value

The chapter aims at reading and writing numbers using place values of tens and ones. It begins with counting in groups of tens with the help of picture reading of a sea-shore scene (page 1). Children are expected to talk about what they see in the picture, like, if they have seen a sea shore? What food do they eat there? What different animals did they see? Do they wear something different than usual clothing? etc., relating it to their environment. Children who have been to a sea shore can share their experiences. Later they can be asked to count

the different objects shown in the picture. While counting our focus should be on counting of groups and how many objects are there in each group, like in the given picture, counting in tens is done (page 2). This lays the foundation on counting in groups of 10, and also counting groups of 10. This is essential for laying down the foundation of place value (tens). Page 3 focuses on counting groups of tens and loose, i.e., a child has to identify how many groups of tens and how many loose objects are given. This should build upon concrete material like beads, sticks, twigs, etc., should be given to the child so that the child can bundle and count the objects as tens and ones to get a hands-on experience of tens and ones. Pages 4 and 5, a shift from concrete to pictorial representation is done from groups of tens and loose to tens and ones where tens blocks are joined to make a bundle of tens and this bundle is replaced by a tens strip.

B. Introduction to 100: Understanding place value

Just like focus was given when introducing 10, emphasis is given on introduction of 100. Like tens unit blocks are joined to make a concrete representation of a tens. Tens strips of 10 blocks are joined to give an idea of 100 to the children. Different combinations of tens of strips are given to make 100 (page 6). Similar activity using bundling with concrete objects should be done in the classroom. One such activity has been suggested on page 7 where children make groups of ones to make tens and then make groups of tens to make hundreds. Similar activity can be done using play money. Further, different symbols (say, triangle for tens and circles for ones) are used to denote groups of tens and ones (page 7), so 3 triangles means 30 and not 3. Follows with reading and writing of numbers using place value. It is moving towards abstract understanding of place value or how we write numbers using place value. From using different shapes we would move to using different alphabets (symbols) for introducing place value as O, T, H, etc. The focus to be given as 75 is not 7 and 5, it is seventy and five.

This can further be strengthened using place value cards where you can ask the children to make various 2-digit

numbers using the place value cards (page 9). Say if the child wants to make 45, he or she has to make the cards for 40 and 5, if child takes the cards 4 and 5, the 5 cards would hide behind 4. Ask children how many trays would be required if we want to put 45 *laddoos*, if each can hold only 10 *laddoos*. How can we write any number using the digits 0–9 by using place value? It originated in India.

C. Comparison of numbers

Comparison of numbers is crucial for children’s number sense as it helps them understand quantity, number relationships, estimation, ordering, and problem-solving. It fosters pattern recognition, promotes the concept of equality, and develops flexibility in working with numbers. Comparing numbers means understanding numbers as tens and ones. Children can give their own understanding why a number is more or less than the other number. Different number games using number cards like giving instructions and children making different numbers. Making largest or smallest digit numbers using the given digits, swapping the digits to form new numbers. Tracing the path from smallest to largest and vice versa. Provide opportunities for children to give their own explanations and create their own such questions.

D. Ordinal and nominal numbers

Numbers are used in a variety of contexts. Children use numbers in majorly three contexts: cardinal, ordinal, and nominal. Cardinal numbers are used for counting and telling “how many” of something there are. They represent quantity. For example, 3 pencils, 6 books, etc. Ordinal numbers are used to describe the order or position of something in a list or a sequence. They tell us “which one” something is. For example, the red car is first, the blue car is second, and the green car is third. Nominal numbers are used to give names or labels to things. They do not show quantity or order, only identification. For example, bus no. 611 or room no. 301, etc. We have been talking about cardinal numbers on page 14 a scene about *Vallam Kali*, also called *Snake boat race*, is given. It is a traditional boat race in Kerala, India.

It is a form of canoe racing, and uses paddled war canoes. It is mainly conducted during the season of the harvest festival 'Onam' in spring. Here, different positions of the boat are given and the child is expected to tell the position of different boats in the race. The children should be exposed to various contexts of ordinal numbers, most naturally involving them in some competition and discussing who came first, second, etc. Similar context of nominal numbers is given on page 15, where nominal numbers are introduced as Jersey numbers. Other contexts of nominal numbers should also be given to be children like flat number, room numbers, bus numbers, train numbers, pillar number, roll number, etc.

E. Calendar reading

An introduction to the calendar is given at page 14. You are expected to talk about having seen their parents using a calendar? What is a calendar? Why is it used? You should bring a real calendar to the classroom and discuss the months, days in the calendar. You should encourage the children in reading a calendar, finding the corresponding day of the given date, and identifying what is special about highlighted days, reading holidays, knowing special days in a particular month, etc.

Extension Activities

- 1. Place Value Riddles:** Present riddles where the children need to guess the number based on place value clues. For example, "I am a two-digit number. My tens digit is 4, and my ones digit is 2. What number am I?"
- 2. Place Value Puzzles:** Create puzzles with two-digit numbers (e.g., 25, 43, 72) and ask the children to match them with their corresponding place value cards (e.g., "2 tens" and "5 ones" for 25).
- 3. Classroom Lineup:** Have children lineup in different orders (e.g., by height, age, or birthday). Ask questions like, "Who is the fifth person in line?" or "Who is standing in the third position from the back?" This reinforces understanding of ordinal numbers in context.

- 4. Story Sequencing:** Provide pictures or cards with sequential events from a story. Ask children to arrange them in the correct order and use ordinal numbers to describe each event (e.g., “First, the boy found a castle. Then, he rescued his friend. Finally, they celebrated their victory”).

2.2.4 Number Sense 1 to 100

Class 2, Chapter 3: Fun with Numbers

Concepts covered and curricular connections:

- *Ginladi* as a representation of number line
- Estimation of a number on a number line
- Number patterns on number line and square grid
- Skip counting, backward counting
- Relationships between numbers in a number grid
- Number patterns by various arrangement of blocks

A. *Ginladi* as a representation of number line

The significance and usage of *Ginladi* has been explained in the class 1, Chapter 8, Fun with Numbers. As already discussed, *Ginladi* is a powerful tool to develop number sense as it models a number line and facilitates exploration with numbers. It provides a tangible representation of quantity. A transition from *Ginladi* to the number line in the chapter. A revision exercise of counting beads in tens and ones to locate a number has been given on page 23. A parallel connection has been built by introducing a number line and locating different numbers on the number line. Forward counting, backward counting on the number line builds confidence with numbers in children as children start to see relationships between numbers. On page 24, a game of guessing a number has been given where children ask questions among themselves in order to guess the number. This promotes peer-learning and mathematical communication in the classroom along with development of number sense. This number guessing game has been

extended to guessing the number on the number line where only some numbers are mentioned and markings are given on the number line. This will help children in developing abstract thinking about numbers.



B. Number patterns using number line

Number patterns are introduced on page 25 using skip counting on a number line by counting forward and counting backward. Given a pattern, the children are encouraged to extend the pattern using the number line. A similar number line can be made on the floor where children physically jump on the number line to make patterns. This can be converted into a class activity where children are engaged in asking questions and following instructions like if you jump 5 steps, on which number would you land up? A gradual shift from giving all numbers on a number line to giving numbers at equal intervals of 5 and 10 is given so that children develop an abstract understanding about the number line (page 27). Further number patterns are given without a number line also. The children have to recognise a pattern and then extend it. Provide opportunities to children to explain the pattern using their own words. The children may use different strategies to explain patterns.

C. Number patterns on number line and square grid

Number grid of 1 to 100 has been introduced to the child and they are expected to find patterns and number relationships in the number grid. Encourage children to find number patterns in the grid, such as, counting by twos, fives, or tens. Ask them to identify and explain the patterns they discover. Children can find number patterns using skip counting (page 26) and can be asked to find out common numbers between different patterns. This will further enhance a child's understanding of common multiples. Ask children to observe how numbers change

when we move horizontally or vertically. Also, bring the child's attention towards numbers around a particular number, i.e., which number is above it, below it, on its left, on its right, etc. This can be done by creating a number window (page 29). Once a child has developed an understanding of number relationships (the number above is 10 more, below is 10 less, left is 1 less, right is 1 more) using square grid they may be asked to tell numbers around the given number as given on page 30. Different number patterns are also given based on arrangement of square blocks (page 31). Children can be provided cube blocks to create similar patterns and create number patterns on their own.

A very interesting game 'Bingo' has been given on page 31 where children have to fill numbers from 2 to 12 and cut out the numbers from their grid as per the sum of two dice. Since the children can fill the numbers as per their choice, the children would eventually after playing a lot of times might get a feel that some numbers would have a higher chance of coming in comparison to some other numbers. Say for number 7 we can have (1,6), (2,5), (3,4), (4,3), (5,2), (6,1), but for number 12 we have only (6,6). As a teacher we don't have to tell all this to the children but ask children why they have chosen the particular numbers.

Extension Activities

- 1. Missing Numbers:** Create a number line with some numbers missing. Provide the children with number cards with the missing numbers written on them. They must place the missing numbers in the correct positions on the number line. Partially completed number grid with some numbers missing may also be prepared. Provide number cards with the missing numbers written on them. Children must place the missing numbers in the correct positions on the grid.
- 2. Number Line Jump:** Stick numbers at different intervals on the floor. Call out a number, and the children

must jump to that number. For added challenge, call out mathematical expressions (e.g., “Jump to 5 more than 15”).

- 3. Number Grid Puzzles:** Create puzzles by cutting the number grid into smaller sections.
- 4.** Children must arrange the sections in the correct order to complete the entire number grid.



Chapter 3

NUMBER OPERATIONS: ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION

Problems involving operations, such as, addition and subtraction allow children to move beyond counting concrete objects to more abstract use of numbers. Number operations are not simply to develop calculation abilities in children. One of the major aims to include number operations is to help children use them as a tool to solve real life problem situations. This would feed into the higher aim of mathematics as problem solving.

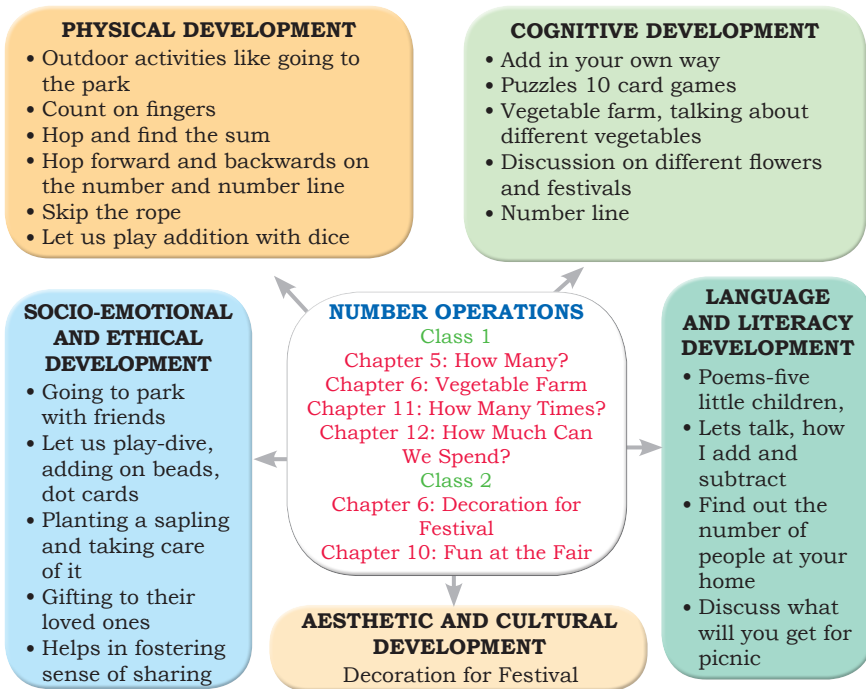
What is in the book?

Overview of concepts and sub-concepts covered for numbers in textbook Class 1 and 2.

| Concepts | Chapter Name and Chapter No. | Class | Sub-concepts |
|--|------------------------------|-------|--|
| Addition and Subtraction of single digit | How Many? (5) | 1 | Addition and subtraction of single digit numbers, counting strategies including counting on, counting all, counting up to and commutative law of addition. |

| | | | |
|-------------------------------------|-----------------------------|---|---|
| Addition and Subtraction (up to 20) | Vegetable Farm (6) | 1 | Alternate strategies of addition and subtraction, application of commutative law of addition, developing open-ended questions for situations involving both addition and subtraction. Application of concept in real life situations, identifying situations when to add or subtract, problem-solving skills, reasoning, strengthened maths vocabulary, interpersonal skills, socio-emotional skills, skills of leadership and teamwork, values and rootedness in Indian culture. |
| Multiplication | How Many Times? (11) | 1 | Multiplication as repeated addition |
| Addition and Subtraction | Decoration for Festival (6) | 2 | Regrouping |
| Multiplication and Division | Grouping and Sharing (8) | 2 | |
| Rupees and Paise | Fun at the Fair (10) | 2 | |

Curricular Connections



3.1 ADDITION AND SUBTRACTION OF SINGLE DIGIT NUMBERS

Class 1, Chapter 5: How Many?

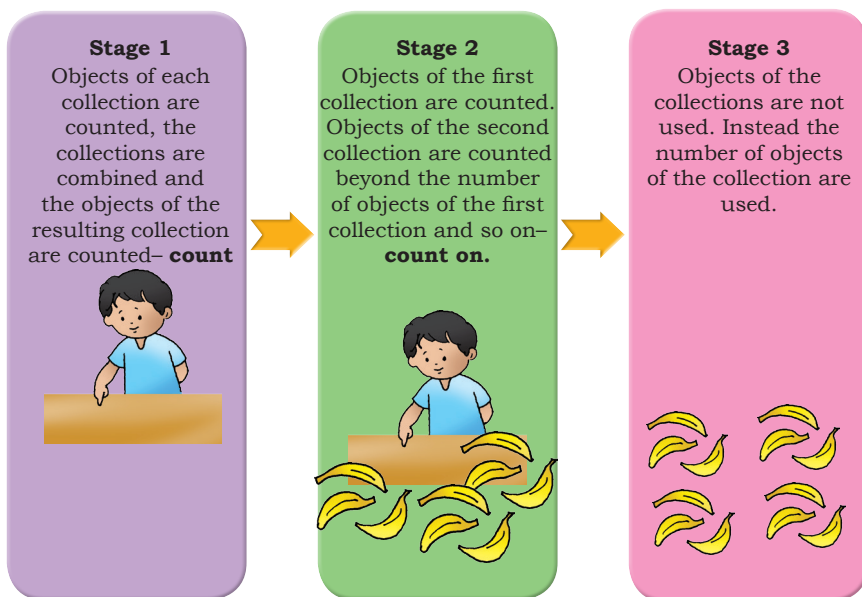
Concept, sub-concepts and competencies covered:

Addition and subtraction of single digit numbers, counting strategies including counting on, counting all, counting up to and commutative law of addition.

3.1.1 Addition

Addition is essentially the concept of combining collection of objects together where attention is focused on the number of objects in the collection. Before we take up the concept, let children get sufficient exposure and experience of combining collections and concrete materials. The idea of 'One more' may be initially introduced and then often recalled.

For the development of the concept, there are three stages 1, 2 and 3:



A. Addition of Numbers

The chapter (page 48) begins with a picture of a park where many children and adults are playing. The picture can be used differently as shown in the flowchart:

| Aspects of Picture Reading | Suggestive Questions | Objectives |
|------------------------------|---|--|
| Familiarity with the picture | What do you see in the picture? Do you play with your grandparents? Which games do you play with them? | Socio-emotional skills <i>Literacy skills:</i> Picture reading Indian values |
| Counting different objects | How many children are there? How many of them are sitting? How many more children have joined? How many...? etc. | Check whether child knows how to count Connecting with previous concept |
| Concept of addition | How many total people (children, elders, etc.) are there? | Setting the context of the new concept: Addition |

You can provide opportunities to the children where there is a need to combine two groups and recount them. Encourage children to find the total number of objects by combining two groups (aggregation) and also by adding more objects to an existing group of objects (augmentation). A lot of experiential learning to be done with the children using concrete objects before going to the pictorial and symbolic aspect of the concept given in the textbook. Some of the activities can be:



Collect pebbles or any other countable concrete objects from the surroundings or *Jaadui Pitara* available in the school.

Make different sets of pebbles and ask the children to count them to find out how many pebbles are there altogether. (Aggregation)



Make a set of, say, 5 pebbles. Ask one of the children to add 2 more pebbles to this set. Ask another child, how many there are now? (Augmentation)



Encourage children to count numerous objects from their surroundings using both the structures. Encourage the use of fingers of hands to add different objects.

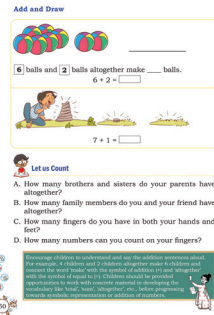
After providing enough concrete experience of combining groups and recounting and discussing various situations where we need to add numbers, you can move towards pictorial representation of addition. On page 49, picture problems are given where children would explain by picture reading in their own language. Much focus on mathematical language or vocabulary need not be emphasised here. Focus should be on recognising an ‘Addition’ problem and verbalising it.

Eventually, the word problems should be slowly converted into symbolic form by introducing one symbol at a time. Like,

1. Four children and two children altogether make six children
2. Four children and two children altogether make six children
3. 4 and 2 altogether make 6
4. $4 + 2$ make 6
5. $4 + 2 = 6$

The activity “Add and Draw” on page 50 is an extension of the previous activity where children have to find the total number by combining two groups. The activity “Let Us Count” also provides an opportunity to teachers to connect real life situations with the concept of addition, integrating the theme of family and relationships, the parts of a body and making connections with other subjects. You can encourage children to create such problems in the classroom.

As the children are learning to add, there would arise where children don’t have concrete material or presentation to regroup and recount. As children are already familiar with counting using fingers, an opportunity is provided to add two groups in terms of fingers of hands and recount on page 51. Children should be encouraged to use and show fingers while counting in the classroom. Dice games on pages 51 and 52 are also suggested as a part of ‘Math Game’ where children



practise addition mentally. This can be used as an assessment activity also or a game to reinforce or strengthen the concepts learnt. Before introducing the worksheet based on dots on dice, you should ask children to actually play the game.

The activities on pages 53 and 54, where representations like number beads, number lines are introduced for addition actually focuses on the 'count on' strategy of addition where the child counts further from the first group. This will further build on the symbolic representation of an 'addition' problem given on page 55. Through this activity you have the opportunity to introduce the two ways of writing the 'addition' problems, horizontally and vertically (column method). Here children can use both the strategies of 'Count all' and 'Count on'.

The activity on page 56 focuses on development of 'addition' facts (or number bonds as mentioned in the chapter: Numbers). This provides an opportunity for multiple answers in the classroom. This can be played as a number card activity in the classroom where children create various number bonds using number cards.

1. Commutativity in addition

Help children to learn the commutative aspect of addition using concrete objects and then with the help of dominoes (Picture of domino cards). Ask questions like 4 pencils and 2 pencils are, how many pencils altogether? 2 pencils and 4 pencils are, how many pencils in all?, etc. Give many such examples, so that the child can appreciate the commutativity of addition. No need to introduce the term and ask abstract questions about commutativity. Just an understanding that whether one takes 2 first and adds 4 or the other way round, the answer will remain the same.

2. Zero in addition

Take a container and put some objects in it. Ask the children to count the objects. Now put three objects more and ask the children to say three more objects have been added. Ask them to count the objects now. Take another container and put, say five objects in it. Do not put any more objects. Ask children to say zero objects have been added. Ask them to

count the objects in the container. Help children to realise that “five and zero make five only”.

Verbal problems: An important goal of addition is to use it in solving problems of practical utility. Help children to read problems on page 57 orally to a child and ask her/him to answer. The child should use the earlier experience and maturity gained in solving the problem orally. You may ask children to work out on problems mentally. Children should be encouraged to create their own word problems and ask each other in groups.

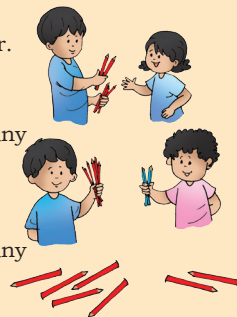
| Aggregation Structure | Augmentation Structure |
|---|---|
| Adding two groups to form one group. | An existing group is increased by adding more objects to it. |
| For example, in a class there are 5 red balls and 4 blue balls. How many balls are there in the class altogether? | Shantanu had four chocolates. Chaman gave him three more chocolates. How many chocolates Shantanu has altogether? |

At the end, the children must learn adding two numbers, without using concrete objects. Speak out slowly any two numbers, say 2 and 4. Ask a child what do 2 and 4 make? The child should say 6. If the answer is wrong, help her/him to get the right answer, using concrete objects and counting beyond one number. Continue this process with several pairs of numbers.

B. Subtraction of Numbers

There are three aspects of the concept of subtraction, all three being closely related. However, children will get this close relationship only after a lot of practical experience. The three aspects are:

- Taking away**
 Gaurav has 5 pencils. He gave 2 pencils to his sister. How many pencils are left with him? i.e. $5 - 2 = ?$
- Comparison**
 Gaurav has 5 pencils. Akbar has 2 pencils. How many more pencils does Gaurav have than Akbar? i.e. $5 - 2 = ?$
- Complementary addition**
 Gaurav has 5 pencils. Akbar has 2 pencils. How many more must Akbar take to have the same number of pencils as Gaurav?



The idea of subtraction is essentially an idea of taking away from a collection, and the other two are interpretations of this for the purpose of problem solving. In class 1, we shall restrict to only the first aspect, i.e. taking away. This concept of subtraction is encountered whenever we start with a given number of things in a collection and a part of it is taken away (removed, destroyed, eaten, blown up, lost, etc.). In each case, the question being asked is, “How many are left?”.

To introduce subtraction the teacher may take up activities as suggested:

1. Collect some objects, like leaves, pebbles, seeds etc. Ask the children, how many are there? Take out some of the objects from the collection and tell the children how many you took away. Now ask them, how many are left?
2. Collect balls or pencils of 2 different colours. Ask the children, how many are there? How many are red? How many are not red?

The poem ‘Five Little Children’ on pages 58 and 59, aims to introduce the concept of taking out and knowing ‘How many are left?’ Discussions can be initiated on how children come to school, what things do they see on their way to school or back home, at what time do they leave for school, safety measures to be taken while boarding a bus or walking on road, how do they feel if they have to come to school without friends etc. This poem also gives opportunities for reinforcing the concept of zero by taking out objects one-by-one.

After providing enough concrete experience of taking away and recounting and discussing various situations where we need to subtract numbers, you can move towards pictorial representation of subtraction. On pages 60 and 61, picture problems are given where children would explain by picture reading in their own language. Focus should be on recognising a ‘subtraction’ problem and verbalising it.

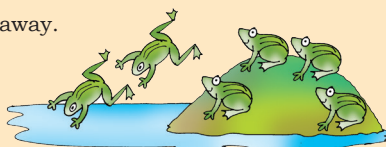
Eventually, the word problems should be slowly converted into symbolic form by introducing one symbol at a time. Like,

There were six frogs, two of them jumped away.
Four frogs left.

6 frogs, 2 jumped away, 4 left

6-2, 4 left

6-2 = 4



Verbal problems: Children need to learn how to connect the operation of subtraction with a range of problems using the idea of taking away (or partitioning). Develop a large number of simple word problems based on taking away (or partitioning) and present them orally one by one to the children. Children may be encouraged to answer the problems on page 61.

The Dot Card activity given on the same page 62 has been extended in the project work. Take a ten dot card. Ask the children to count all the holes on the card. Hide one of the two parts. Ask the children how many holes are there in the hidden part. Children may use different strategies like counting further, adding, etc., to get the answer. You can make a table using 10 dots, 8 dots and 5 dots. Let children explore the patterns in numbers. Scaffold them to make connections using addition and subtraction.

Observe the hidden dots

How many dots are hidden and how many dots are visible?

| Total Dots 10 | Hidden Dots | Visible Dots |
|---------------|-------------|--------------|
| | 0 | 10 |
| | | |
| | | |
| | | |

Let children explore these patterns with 9 dots or 6 dots or 7 dots table. You can give an incomplete table with few blanks and ask them to complete the table. Further you can make connections between addition and subtraction by letting children observe that adding the two columns gives a total number of dots (8 or 10).

Counting backwards by hopping backwards on the number strip (page 63), this activity must be done by drawing number boxes on the floor. You can make some paper chits with instructions written on it. Children can be divided into groups and one of the members of the group would take out the chit. You can read the instructions

written on that chit like jump 5 steps back from 7, jump 2 steps back from 9, etc.

After the children have got sufficient experience in subtraction with concrete objects and pictures, ask them to subtract one number from the other. The next stage would be solving the problems like $4-2 = ?$ (page 63). This stage takes children to the abstract representation of subtraction.

3.2 ADDITION AND SUBTRACTION OF NUMBERS UP TO 20

Class 1, Chapter 6: Vegetable Farm

Concepts and sub-concepts and competencies covered: Different strategies of addition and subtraction, developing open-ended questions for situations involving both addition and subtraction.

3.2.1 Addition up to 20

The chapter starts with a picture of a vegetable farm with Rumi and Shami taking out vegetables from the field. You can have a picture talk discussing various aspects like which vegetables do they see, how do we grow them, which vegetables grow underground, the hard work of farmers in growing food, keeping a kitchen garden, etc. This is followed by an exercise on page 65, based on the aggregation (count all) structure of addition (discussed earlier). The exercise is based on the P and S of ELPS approach.

Ginladi can be tied in the classroom and be used for exploring different strategies of addition as shown on page 66. For example, give the following problem to children to solve, “Sheena has 12 bangles, she got 6 more from her sister. How many bangles does she have now?”

Here, instead of adding 12 and 6 you can ask children to use *Ginladi* to find out how many ways they can do the addition. Scaffold children by giving situations like:

How can we show 12 on *Ginladi*? (10+2)

How many bangles Sheena got from her sister? (6)

Use *Ginladi* to add $10+2+6 = 10+8 = 18$. Let them verify the answer in both the cases (12+6) and (10+2+8).

Encourage questioning and reasoning in situations where more than one answer is correct or where there is more than one way to solve a problem.

Later problems given on page 67 can be done where children add on '*Ginladi*' and put number cards on appropriate places. Similarly, hopping on a physical number line for adding can be done as an activity before doing problems given on page 67. Various word problems are provided on page 68 for problem solving using addition. Children are expected to add using their own strategies, which would help them strengthen number sense like adding two numbers by making 10 as mentioned in the book. You should not stress on teaching the standard algorithm using the vertical column method.

3.2.2 Subtraction from 1 to 20

The activities given here are extensions to what children have learnt in the previous chapter and are designed to strengthen the learning of the concept of take away in subtraction. You can start with some concrete examples of take away approach. For example, "From a set of 15 pebbles, 3 were lost. How many pebbles are left?"

Now, you can use the pictures (P of ELPS approach) given on page 69 to solve the problems, by using lines as representation for concrete objects and crossing the number of lines being taken away from the set of given objects. Eventually, you can encourage children to start subtracting using fingers and calculating mentally.

The activity on page 70 allows children to work with numbers in a fun manner involving the physical domain on development. Draw number boxes from 1 to 20 on the floor. Two children will play the game at a given time. Ask the children to hop on the numbers by listening to the instruction. For example, "Child 1:2 steps back from 7 and child 2:2 steps forward from 3." Both the children will be on number 5. Create more situations, like 4 steps forward from 5, and 9 steps backward from 16. You can also create situations when both the children reach different numbers.

For example: “6 steps forward from 2 and 4 steps backward from 15”; “2 steps forward from 14 and 3 steps backward from 10”. Let them compare and tell who is on a greater number.

It is important to convert models of concrete objects and pictures to symbolic forms like $8 + 6$, $15 - 4$, etc. The emphasis here is on strengthening conceptual understanding. Hence, it is important to move to symbolic form as the concepts in mathematics are abstract in nature and can not always be explained through concrete or pictorial representation. Keeping this in mind, the exercise ‘Let Us Do’ on page 70 allows children to mentally calculate strengthening their number sense.

The problem stories given on page 71 are given to develop problem solving skills in children. Here stories depict the situations in which addition and subtraction are to be used simultaneously. Scaffold children to draw pictures of the number of objects mentioned in the problem. Let them pictorially solve these problems through tally marks or crossing out the objects, using *Ginladi* or any other method. Simultaneously, help them write all these in symbolic forms. It is important to link the concepts of addition or subtraction with problem stories.

Teacher reflections: Help children to develop the situations to add or subtract numbers using maths vocabulary. Encourage the use of alternate strategies of addition and subtraction. Help children in understanding addition and subtraction as inverse of each other.

3.3 ADDITION AND SUBTRACTION WITH REGROUPING

A. Class 2, Chapter 6: Decoration for Festival

Concepts: Addition and subtraction with regrouping, word problems based on various structures of addition and subtraction.

Addition and subtraction are not meant to only develop numeracy abilities in children but to experience it as a tool to solve daily life problems. The emphasis must be on the learning experiences, which shall help children to understand

different strategies to solve problems instead of focusing on mere algorithms (step by step method). You must encourage children to solve problems in different ways .

The activity on pages 50 and 51 allows children to explore addition in a meaningful situation. The page also shows how groups of flowers (*malas*) and loose flowers can be represented as tens and ones. Many similar activities with concrete objects can be conducted to consolidate the understanding of numbers in terms of groups of ones and tens.

Pages 52–60 comprise learning experiences with different concrete materials, like flowers, *Ginladi* and blocks to do addition and subtraction. This helps to make a simultaneous transition to the standard algorithm of addition.

The activity on pages 58–62 primarily focuses on strengthening to take away approach and reducing the structure of subtraction (without regrouping) using *Ginladi* and number line (counting backwards). It is important here to use concrete material, i.e., beads and thread for making *Ginladi* and let children have hands-on experience using it. Later, they can use the number line in place of *Ginladi*.

The activity on page 63 provides an opportunity to the children to play with blocks and understand subtraction of numbers through it. The activity on pages 64–66 can start by using concrete material like stick-bundles, *mala* with ten beads. Children at this stage must be able to understand the regrouping of numbers from ones to tens and vice versa which helps in adding and subtracting the numbers in a more structured manner.

Subtraction as inverse of addition or complementary addition has been taken up on page 67. There are many contexts in a child's life where subtraction has to be seen as complementary addition, for example, what is added to 7 to get 12? Represent the numbers used in the story on a number line, like how many jumps do we require to reach 12 from 7. This can also be presented as finding the number of steps required to move backward from 12 to reach 7 on the number line.



You can also compare the situation with cricket matches, for example, team made 50 runs and another team is batting on 30 runs. How many more runs are required so that the score of the two teams would be equal. Show 50 and 30 on a number line and explain as done above.

Activities in pages 69 and 70 basically help children to do problem solving and mathematical reasoning. These activities should be used to enhance their understanding about addition and subtraction facts. You can recreate these activities on flash cards. Use these as fillers to break the monotony of your class or use them in circle time to play some mathematical games orally through discussion.

The project work on page 70 is an opportunity for children to find out the errors in the questions which will help them to reflect how addition and subtraction is done.

1. Multiplication of Single Digit Numbers

The idea of multiplication as repeated addition has been developed in these classes. Activities, such as grouping objects into sets of equal size and to count them, help children in finding the total number of objects by using repeated addition. Additionally, incorporating storytelling and interactive games that involve finding the total number of objects in a number of equal sized groups can make children understand multiplication of numbers. This will also make the learning process enjoyable and relate the idea of multiplication to their daily life problem solving.

B. Class 1, Chapter 11: How Many Times?

The chapter has a lot of situations to talk about multiplication as repeated addition. Begin by discussion on multiplication as a way of adding the same numbers repeatedly. Like on page 111, you can ask children that the same number saying '2' is added four times. Eventually, introduce the concept of 'times' to children by counting the number of groups and number

of objects in each group as done on pages 112–114. Do not stress on cramming multiplication tables/facts at this stage and not to rush on introducing the symbolic representation of multiplication at this stage.

C. Class 2, Chapter 8: Grouping and Sharing

1. Sharing

Multiplication involves the concept of repeated addition. Sharing in multiplication refers to distributing a set of objects equally among a given number of groups. This fundamental concept lays the groundwork for students to grasp the principles of multiplication and understand its practical applications in real world scenarios.

Through interactive exercises (page 84 and 85) and manipulatives, teachers can demonstrate the concept of sharing in multiplication, allowing students to visualise the process and develop a deeper understanding of mathematical operations. By engaging in collaborative activities, students not only enhance their mathematical skills but also cultivate teamwork and communication abilities. Ask them to complete the multiplication tables (pages 86–88).

2. Grouping

Grouping in multiplication involves organising sets of objects into equal groups to facilitate counting and multiplication. By employing various grouping strategies, you can cater to diverse learning styles and provide differentiated instruction to meet the needs of all children.

Utilising visual aids, such as, arrays, diagrams, and grouping cards, you can effectively demonstrate the concept of grouping in multiplication, making abstract mathematical concepts more tangible and accessible to young children. Ask them to solve questions given on pages 95–97. Moreover, incorporating hands-on activities and group projects encourages active participation and reinforces understanding through experiential learning.

Encourage the child to participate actively in learning multiplication. Let them write or draw their own multiplication facts, use objects to demonstrate multiplication, or act out

multiplication scenarios with blocks or toys. Ask them to construct their multiplication table using tables given on page 91 and 92.

Extension Activities

- a. Use Real Life Problems and Visual Aids:** You can demonstrate multiplication using groups of objects. For instance, show a group of three apples and say, “If we have 3 apples and we want to know how many apples we have in total, and then we add 3 apples again, we use multiplication. So, 3 times 2 equals 6.”
- b. Storytelling:** Use stories or real-life scenarios that involve multiplication. For instance, you can say, “Imagine you have 2 boxes of chocolates, and each box has 4 chocolates. How many chocolates do you have in total?”
- c. Practice with Counting:** Encourage the child to count in multiples. For instance, count by twos, threes, or fours.
- d. Repeat and Reinforce:** Repetition is the key for young learners. Continue to reinforce the concept through various activities and practice exercises.



Chapter 4

SHAPES AND SPATIAL UNDERSTANDING

In the classroom, sometimes children's previous experiences and intuitive understanding of space, objects and their shapes is often neglected and there is an emphasis on the introduction of the formal names of the shapes, like square, circle, triangle, etc.

Do you think children will understand the shapes better by knowing the formal names of the shapes only?

Think how you would carry discussion on shapes with children?

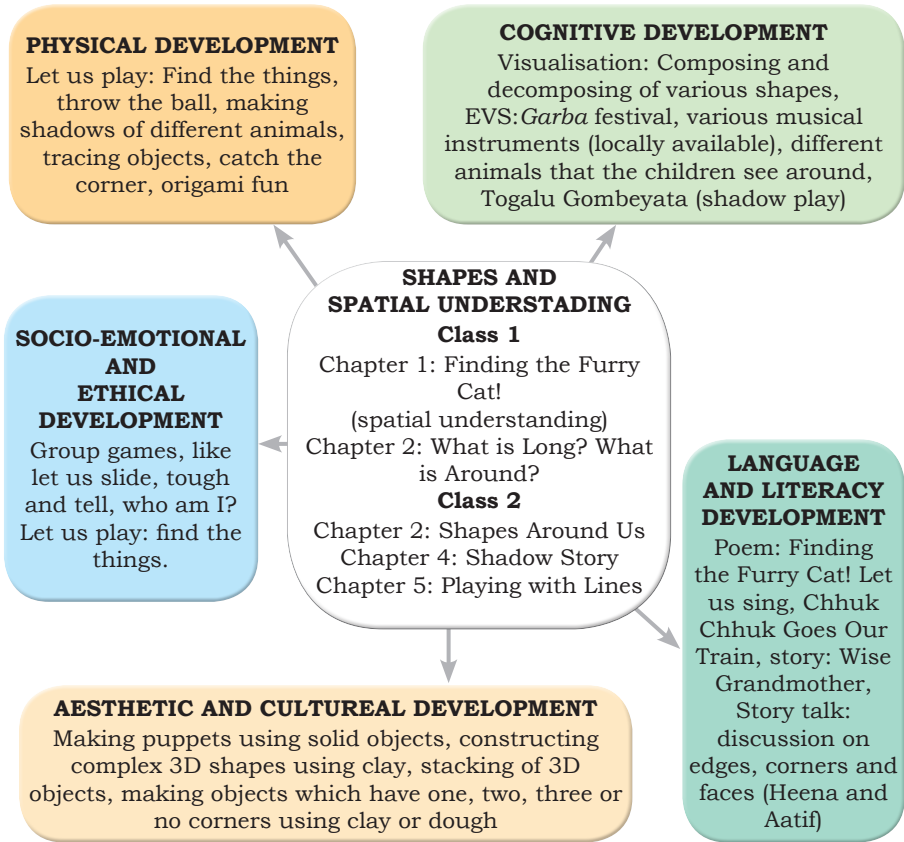
The idea of shape and space is not new to children. From everyday experiences, they already have some understanding of shapes. They must have seen different objects, observed their different movements and position in space, and also experienced some of their properties. For example, they may have observed that a ball can roll in all the directions, but a box can only slide. Children may use their own vocabulary to describe the shape or its relation with other shapes or in space, e.g., for 'Bindi' or 'Coin', or they may say, it looks like *Chapati*. They may also use words, such as, round, thin, pointed, up, etc. As teachers, it is important that we should build children's experiences that they bring into the classroom. It is better to explain the differences between the shapes by making a connection with other objects, such as,

this is round like a ball, it is round like a bangle or *Bindi* or *Chapati*. It is also to be kept in mind that children will have a lot of opportunities in higher classes to understand space and shapes.

Overview of concepts and sub-concepts covered for shapes and spatial understanding in textbook Class 1 and 2

| Concept | Chapter name (chapter no.) | Class | Sub-concepts |
|--|--|-------|--|
| Spatial Understanding | Finding the Furry Cat! (1) | 1 | Spatial Vocabulary: up, down... (Directional words) above, below, under... (Positional words); Near, Far (Distance and Proximity words) |
| 3D Shapes | What is Long? What is round? (2) | 1 | Classification of 3D objects Identifying and describing objects using observable attributes (properties) of 3D objects: Long, round, rolling and sliding; corner, edges and faces |
| | Shapes Around Us (2) | 2 | |
| Shapes – connecting 3 Dimensional shapes to 2 Dimensional shapes; composing 2D shapes Patterns | Shadow Story (4) | 2 | 3D shapes to 2D shapes using shadows and tracing; Identifying 2D faces of 3D objects found in the surrounding; creating designs using 2D shapes; Exploration of edges and corners of 3D and 2D objects; Patterns |
| Shapes – connecting 3D shapes to 2D shapes to 1 Dimensional (Line); Composing and decomposing shapes | Playing with lines (5) | 2 | Standing/Sleeping and Slanting lines; drawing shapes on dot grid; Drawing shapes on Isometric sheet; composing shapes/ design freehand |

Curricular Connections



What is in the book?

Class 1, Chapter 1: Finding the Furry Cat!

4.1 SPATIAL UNDERSTANDING

Children may have already developed an informal understanding about the shapes and their positions, directions and movement in their environment. Pre-number skills related to Spatial understanding have been introduced to consolidate the informal learnings. 'Finding the Furry Cat!' provides opportunities to children to describe

Overall, research on the teaching and learning of geometry indicates that physical experience, especially the physical manipulation of shapes, is important at all ages, that a wide variety of geometrical experiences are necessary in order for pupils to gain a firm understanding of geometrical relationships (Thompson 2001)

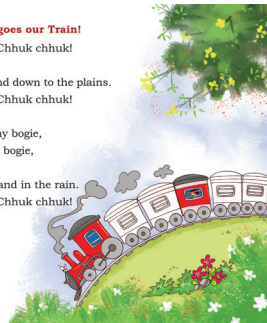
the positions (locations), directions of the objects they see around using precise spatial vocabulary, such as, bottom, top, above, under, below, etc. The chapter includes a poem, games and activities to help children understand the spatial vocabulary. These types of spatial vocabulary help children to describe what is around them and also to see the relation that the objects have among them or in space. For example, 'chalk is under the table or below the table?'. This would further lead to the development of the spatial sense, i.e., to mentally visualise shapes in the mind, as well as to turn things around in the mind (spatial relationships). Those who have developed better spatial sense can appreciate art, architecture and can also describe and analyse the world using geometric ideas and understand spatial relationships. Apart from the opportunities provided in the textbooks, you can provide ample opportunities to them to look around to describe the positions and its observable properties.

A. Observing various positions/direction/proximity in the space using spatial vocabulary

The chapter begins with a poem 'Let us sing' (page 1 and 2) that describes the different positions of a furry cat: on, under, inside, etc. One way to introduce this topic is to let children observe the pictures first and verbalise their observations. They may use some of the spatial words spontaneously. After discussing with them, you may read aloud the poem and ask children to recite and enact it. The other poem 'Chhuk Chhuk Goes Our Train' given on page 7 followed by the play focuses on the relative position words, before and after.

Chhuk Chhuk goes our Train!

Chhuk chhuk! Chhuk chhuk!
Goes our train.
Over the hills and down to the plains.
Chhuk chhuk! Chhuk chhuk!
Goes our train.
Bogies **before** my bogie,
Bogies **after** my bogie,
Make a chain,
Over the rivers and in the rain.
Chhuk chhuk! Chhuk chhuk!
Goes our train.



- How many bogies are there **after** engine?
- How many bogies are there **before** the red bogie?
- Fill the **orange** colour in the bogies **after** the red bogie.
- Fill the **blue** colour in the bogies **before** the red bogie.

Ask children to share experiences of their train journey. Children who have never travelled by train may ask questions about the journey. Let there be a discussion on 'what a train is'. Ask them to draw a train on the paper or they can make a train by using waste materials like used boxes or cans.



B. Locating objects using precise spatial vocabulary that children see around them

In the textbook, there are activities 'Let us play, finding the things' on page 3 and 'Let us Play – Throw the Ball' on page 4 on finding and locating the things using spatial vocabulary, like top, bottom, besides, near, far, etc. While conducting this activity you can encourage children to play games and activities by making their own set of classroom rules (norms), so that they can play or do group work smoothly.

Clear instructions should be provided before dividing the teams or groups. It would be good if you ask them to bring one commonly available item (small ball, spoon, pebble, bead) from their home before. On the day of play, class may be divided in two groups and material can be distributed. You may toss the coin to decide which team would hide the item first? While the team who would be hiding the items, other teams may keep their head down while reciting a poem. Now the team that has hidden the items would sit and other teams would stand to look for the item. Each child of the first team would give instructions related to spatial words as mentioned in the textbook. This way the play would continue. Note that it can be played again after some days.

The questions asked in 'Let us do' on pages 4, 5 and 6 have mainly to do with 'Check for Understanding' and on more careful observations on the previous activities done using physical and pictorial manipulatives. Further, activities, such as, 'Finding Things' also work as assessment activity as it indirectly provides opportunities to the teacher to observe and note whether children are using the precise language for locating things. It would help teachers to modify or reconsider his or her instructions and teaching plans.



Let us Play – Find the Things

Children can divide themselves into 2 teams. One team will hide a few things like white chalk, red ball and other items and ask the other team to find them. Children can give verbal instructions to find the things using positional words like inside/outside, far/near, above/below, etc.

For example:

- Look for a white thing which is hidden **near** the board and **under** the table.
- Look for a red thing which is **outside** the classroom and **under** the tree.



Socio-mathematical norms help children to develop a community of math's learners and a sense of autonomy specifically to exploration based or problem-solving based classrooms. Some examples of the norms are:



Mistakes are good for learning.



We would explain what we are thinking.



We would check each other's solution to see the difference.



We will ask questions in the class.



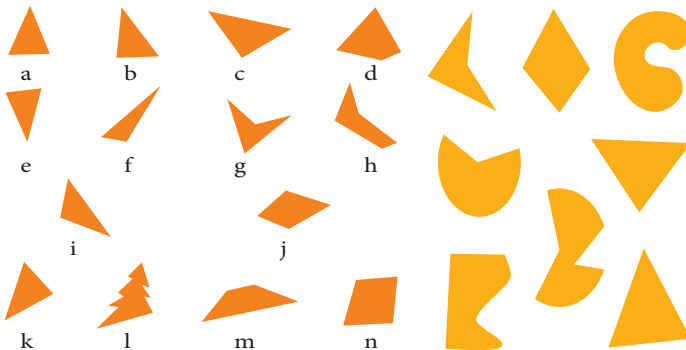
I will try to make drawing of my solution or questions.

Extension Activities

- 1. Sorting challenge:** Create different cutouts or worksheets on 2D/3D shapes (regular/irregular) focusing on different orientation or different properties and encourage children to sort in groups followed by maths talk on why they have done that way.

Think and Reflect

Suppose children say the  shape as a diamond, how would you deal with this conception?



Classroom scenario: A teacher is introducing shapes (Geometry) first time to class 1 children. She distributes origami papers to the children and asked them to draw a circle on it using a round object, (bangle, etc.) then she asked the children to draw a triangle, square and rectangle as she was drawing on the board. After that she named all the shapes as circle, triangle, square and rectangle.

4.2 THREE DIMENSIONAL SHAPES (3D SHAPES)

In class 1 and 2, teaching and learning mainly focus on exploring 3D and 2D shapes found in the environment. Initially, children recognise objects by looking at the global visual characteristics, for example, the blackboard looks like the door of the classroom. Gradually, when they play, manipulate and observe the objects, they start experiencing its properties, for example, ‘Smart phone can not roll because it is flat, and ball can roll because it is round (curved) or not flat.

At this stage, it is also important that children begin to understand the difference and connections between 3-dimensional shapes and 2-dimensional shapes. There has been well-known research on how geometric thought develops by Pierre Van Hiele and his wife, Dina Van Hiele-Geldof.

Their research revealed that children should be provided ample opportunities to move from one level to another. By class 2, children should be able to see and classify the objects and shapes based on their properties (Van Hiele, stage 2).

Van Hiele Levels and Learning of Geometry

The Netherlands published a brief paper in 1959 titled ‘The Child’s Thought and Geometry’. It contained a summary of the joint research that Pierre Van Hiele and his wife, Dina Van Hiele-Geldof, had conducted on describing student’s struggles with acquiring geometry ideas. Level 0, at this lowest level reason is visual or holistic and features of shapes are only given general meaning. You must have seen children who speak like, ‘my book looks like the door of my house.’ In the visual level, children identify any shape, which looks similar to other shapes perceptually or visually. Hand on resources are crucial to completing level 0 learning.

Stage 1– This is a development of level 0’s holistic thinking in that shape attributes are given explicit importance. When considering a shape analytically at level 1 a child can identify several of its pertinent qualities and contrast them with those of another shape.

At level 1 sorting and drawing exercise, as well as the usage of manipulative like geoboards are helpful. Level 2, at this level, properties and relationships turn as the study’s main focus. For children who are moving from level 1 to level 2, environments like grids and dot arrays are particularly beneficial. Level 3 and 4 are more rigour in nature that focus on deductive proofs and modern mathematics rigour. However, these levels are not age dependent and are more restricted to the tasks and contexts.

A. Class 1, Chapter 2: What is Long? What is Round?

1. Classification of 3D objects and observing connections among different properties of shapes

Sub-concepts covered: Long and round objects that roll and slide.

In the chapter, there are various opportunities provided to classify the 3D objects by observing similar features. There is an activity on page 10 of class 1, where children would play to observe their surroundings and name the objects that are round or long or both. After the play, it is important to discuss that some objects may have both the features of round and long, for example, bottle. Children can further draw or paste various pictures of objects on page 11 and match similar objects on page 12 and 13. Children should be given opportunities to give reasons for their answers for choosing a particular object.



To focus on properties of shapes, such as, rolling and sliding a story on page 14 and 15, and exploration of task on page 16 is provided. You may narrate the story to the children and in between you may ask questions, such as, what would happen next? Why would grandmother choose *dholak* for her grandson to go? Children must be provided ample opportunities to manipulate with the objects so that they may internalise that some objects may roll and slide both and so why? Both the tasks provide lots of scope for 'maths talk' in the class.

It's really important to give young learners lots of chances to create (compose) and take apart (decompose) shapes in both two-dimensional and three-dimensional forms. This means letting them draw, build, and put shapes together, as well as breaking them into smaller parts. These activities should focus on specific traits or features of shapes. This way, children can start to understand what makes shapes unique

and naturally begin to use these properties as they learn: interlocking cubes, different 3D objects, like pencil, eraser, water bottle, tiffin box, etc., may be used to create different animals. Apart from fostering creativity, this exploration would help in thinking which shapes can be fitted together to form a new object.

In the chapter, project work given on page 17 focuses on the tasks of composing and decomposing shapes.

In the first task of the project, children are expected to create a puppet using different objects. The second task of the project is exploratory in nature, where children need to explore which objects can be joined to make the tallest tower. This exploration provides ample opportunities to observe the attributes of the objects that are found in their environment.



Project Work

- A. Collect cardboard boxes like shoe boxes, empty food boxes, fruit boxes, etc. Make a slit on front of the box and draw eyes, mouth and nose, make a puppet with help of your parent or teacher and play with it. Make puppets from your favourite stories and do a puppet show in your classroom.
- B. Make towers with different objects. Find which shape of objects make taller and stable towers.
- C. Create different shapes and objects by using clay.



Think and Reflect

Some children call a ball as a circle or a shape that is similar to *Chapati*. How would you deal with the situation?

Extension Activity

Children should also be given opportunities to sort and classify 2D shapes. You may create the cut-outs and give children in the groups to sort the similar shapes and later on, it is to be discussed how the groups of shapes they have made are alike or different.

B. Class 2, Chapter 2: Shapes Around Us

1. Classification of 3D objects and observing connections among different properties of shapes

In Class 2, such opportunities are provided on pages 16–17, *Garba* festival. The chapter begins with a familiar context of the Indian festival ‘Garba’ (if children are not aware



of it, a discussion of the festivals can be held first). In this activity, children are encouraged to classify similar shaped instruments. This classification is usually done by looking at the objects in a holistic manner. To extend this task, teachers should provoke children to think about any similarities they observe in the shape of the object and how they are played.

There can be a connection between an instrument's design and how it is used to make music. The shape of an instrument can have a significant impact on the kind of sound it produces. For instance, the design of a wind instrument, such as, a flute or trumpet, affects how the musician blows air into it and manipulates sound. The instrument's pitch, timbre, and range are influenced by the length, diameter and shape of the tubing, as well as the existence of keys and valves.

To explore more, you may do the following activity: On page 18, shapes that are found in the real world are connected with the mathematical standard shapes.

As children at this stage may focus on the holistic visual characteristics (described above), it is very much important to provide most of the opportunities to sort and classify shapes. Seeing how shapes are alike and different must be the primary focus.

2. Exploration of edges and corners of 3D objects

The focus of Heena and Atif's discussion page 19 and 20 is to observe the attributes of solid objects (i.e., faces, corners and edges) followed by observing these attributes in different 3D shapes that we see around us. One way to introduce this talk is to divide the children in the group (4–4), encourage them to read the discussion of Heena and Atif in groups and after a few minutes, ask each group about what the discussion was about. You may summarise the discussion by building on what children comprehended from that talk. Next, you may ask children to bring various solid objects from their home. To observe the specific features (faces, corners, and edges) thought provoking questions, such as, how many pompoms or stars or ribbons are required to wrap that object, can be asked. Later on, they can fill the worksheet

given in the textbook on page 21. This worksheet focuses on the visualisation skill as children are provided with the pictures of the 3D objects rather than providing the objects physically.

Encourage the children to think, visualise the shape to find the number of corners, edges and faces. You may need to go back and forth between physical objects and their pictures depending upon the responses of children. The next task 'Let us Play' on page 22 provides ample opportunities to children to describe the shape using the sense of touch. To play, the teacher may place different objects (with variation in faces, edges and corners) on a table. Divide the class into two teams. One child from each team would come near the table. One would blind fold and the other child would tell the features (corner, edges and faces) of the object that he or she wants the other child to pick. Teacher may write the score of the teams. This activity is also suitable for CWSN (children with special needs referring low vision, blindness, learning difficulties, etc.), and provides many opportunities to verbalise their thoughts, use the touch sense to feel other attributes, such as, texture (soft or hard), surface (curved or flat) etc.

4.3 TWO DIMENSIONAL SHAPES (2D SHAPES)

Connecting Three Dimensional Shapes with Two Dimensional Shapes

The exploration of geometric ideas and shapes can be done through shadow play. Children may observe and recognise geometric shapes including squares, triangles, circles, and more by manipulating various shadow puppets or items with distinctive shapes. They can investigate the differences in the shadows that various shapes throw and relate those shadows to the original objects.

Shadow play provides a visual representation of objects and shapes in a 2D form. By using puppets or cut-out shapes, children can observe how the three-dimensional objects are represented as two-dimensional shadows. This visual representation helps bridge the understanding of the transition from 3D to 2D.

Children are encouraged to think about how items are positioned, moved, and oriented in relation to light sources and screens through the use of shadow play. Children can investigate how the position and distance between the puppet and the light source affect the size and shape of the shadow. This fosters spatial awareness and an awareness of how light interacts with various objects.

A. Class 2, Chapter 4: Shadow Story

1. Connecting 3D shapes to 2D shapes using shadows and tracing

Sub-concepts covered: Shadow of 3D objects; tracing of 3D objects.

The chapter begins with a context of shadow play (Togalu) in a village fair on page 32. You may first tell about Togalu (Shadow Puppetry). It would provide the setting for making shadows using body parts (mainly hands). Encourage them to do role play by making animals' shadows. Discuss with them where they observe shadows and how the size of shadow

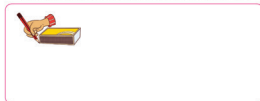
Togalu gombeyaata is a traditional form of shadow puppetry that originates from the state of Karnataka in India. Togalu gombeyaata literally translates to “the play of leather dolls” in the kannada language. This ancient art form involves the use of intricately crafted leather puppets to enact stories, myths and folktales. In the shadow puppetry, puppets are placed in front of a source of light, such as an oil lamp. The light casts the shadows of the puppets onto a screen, creating a visual spectacle for the audience. A storyteller or narrator accompanies the puppetry performance.

changes during the day. Further, to do the activity, ‘Fun with

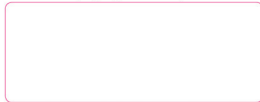
Shadows’ on page 33, you may bring a torch (or use mobile phone torch) and show the shadows of different 3-dimensional objects. Discuss with them different shadows that are formed and how their size or shape changes when torch light is moved. For example, ask children to sit in a circle; keep a duster and make a shadow using a torch; move the torch



A. Trace the shape of the objects around you. For example, eraser, leaf, matchbox, sharpener, pencil colour, etc.



B. Draw the shapes you get after tracing.



Write the names of objects that have the same trace as:

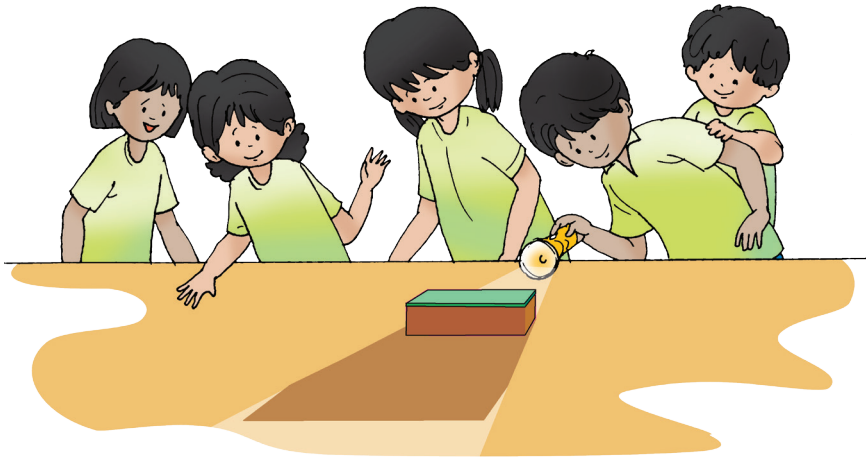
A. Bottle cap

B. Eraser



and discuss, ‘what shapes are being formed?’, ‘what does it look like?’, ‘how many corners does it have?’, and ‘does the number of corners remain the same when shape changes?’

In the next task, ‘Let us Trace’ on page 34, encourage children to trace different objects by positioning it differently. Discuss with them: are the shapes traced by changing the position of the same objects ‘alike’ or ‘different’? Why do they think so? Which object tracing is the same?



Extension Activity

Playing with body shadows

Play with body shadows outside, using the sun as our light source. Children can be engaged and enthusiastic about learning by investigating the ways that shadows vary as we move our bodies. Children can also explore various sizes and shapes by shifting shadows. They also develop basic understanding of cause and effect of shadow formation with the direction of the light to cast the shadow.

2. Identifying 2D faces of 3D objects found in the surrounding

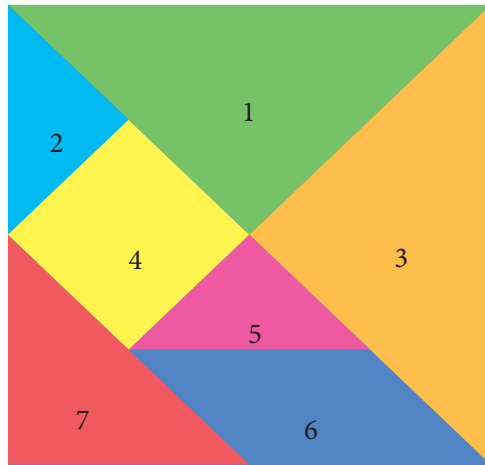
Sub concepts: Circle, triangle, square and rectangle

Let the children observe the pictures given on page 35 and 36. Encourage them to read the text in groups. Discuss with

them thought provoking questions, such as, where did the rectangle hide? And why? You may ask them to observe around the classroom and find the objects where a rectangle, triangle, square or circle can hide. Why do they think so? The task of colour the carpet, page 37 encourages children to appreciate the designs made up from different 2D shapes and further creating more shapes using basic shapes.

Extension Activities

Tangram Puzzles: A Tangram Puzzle set is made up of seven square-derived pieces. Tangram puzzles were created for the first time in China thousands of years ago. Along with improving logical reasoning, systematic thinking, and problem-solving abilities,



tangram puzzles are a great way to learn about geometric relationships. It provides ample opportunities for composing and decomposing shapes. Tangram pieces can be arranged to create thousands of various shapes.

Children who attempt this task will not only develop their understanding of analysing shapes, but also practise their visualising abilities. Children get a chance to manipulate the pieces, play with the shapes, and obtain a sense of the challenging situation. Teachers may get print out and cut off the seven pieces may be provided to all the children in the class.

3. Exploration of edges and corners of 3D and 2D objects

The chapters enhance the children's understanding of 3D objects/shapes as a visual or holistic view to observing and analysing its properties, such as, faces, corners and surfaces. This is an important transition from Van Hiele level zero to Van Hiele Level 1, where children start looking at the specific

features of the objects/shapes. To make this transition smoother, it is important that children should be provided opportunities to manipulate the shapes by physically touching the objects and observing them carefully.

The game 'Catch the corner!', on page 38 provides opportunities to touch and feel the corners of 3-dimensional objects (Table). Children would intuitively develop an understanding that there are turns at the corners. It is important to hold a rich discussion with the children after the game is played. Home task, to observe the corners and edges of different vegetables, fruits and other items available at home, may be given to enrich and for the assessment of the concept.

This understanding of corners and edges is further developed by the activity 'Origami Fun!' on page 39.

Origami is the Japanese art of paper folding. It involves creating intricate and often complex designs by folding a single sheet of paper without cutting, glueing, or using any additional materials. Origami encourages hands-on exploration of geometric shapes. By folding paper, children manipulate and transform shapes, gaining a tangible understanding of how shapes can change. You can see that initially, there were four corners and four edges of the square paper that changed to a dog with ten corners and ten edges. Encourage them to create more shapes, such as, paper boat, letter box, paper cap, and explore and compare its similarities and dissimilarities with the original piece.

4.4 CONNECTING 3D SHAPES TO 2D SHAPES TO 1D (LINE)

In geometry, lines are considered 1-dimensional objects. This means that they have only one dimension, which is length. Lines are fundamental elements in geometry and are used to create and define geometric shapes, such as, triangles, rectangles (formed by connecting line segments), circles (formed by curved lines), and more complex shapes. Lines are also used in drawing the 3D representation on a paper. Children can embark on a fascinating journey of discovering lines in various aspects of their world,

including everyday objects, yoga asana, and different forms of art. This multidisciplinary approach not only enhances their understanding of lines, but also nurtures creativity, mindfulness and holistic learning.

A. Class 2, Chapter 5: Playing with lines

This chapter mainly deals with using different kinds of lines straight lines (slanting, vertical, horizontal) and curved lines to draw shapes both 2D and 3D. In the chapter, there is space for children's work, to use their creativity in drawing shapes on dot grid, isometric sheet, blank space and paper folding. There are also opportunities provided to look for the connections in the Indian famous art forms, yoga asana with the lines.

1. Observing and visualising different kinds of lines

Sub-concepts covered: Observing lines (curved, horizontal, vertical, slanting) in body postures, objects and artforms.

The chapter begins with observing different yoga asana given in the picture on page 44. Before doing the 'Let us Do' activity, it is important that you provide opportunities for experiential learning by taking them to the ground and doing different yoga asana. Children may also observe others while doing asana. Questions, such as, who is sitting straight, or with a curved (bent) back would encourage them to connect lines with the postures later on. Follow up with the activities on page 45.

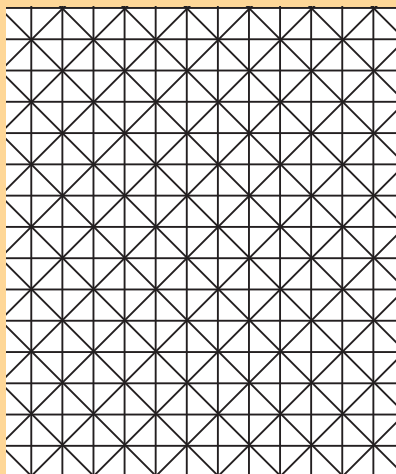
Freehand drawing encourages creativity and artistic expression, allowing students to experiment with different shapes and styles. An opportunity of the same is given as 'Let us play with dots' on page 46 and 47. The activities provide opportunities to draw shapes on dot grid, isometric grid and free hand.

4.4.1 Connecting lines with making designs and local art forms

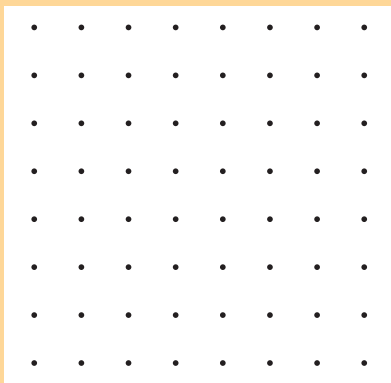
Sub-concepts covered: Connecting lines with numbers, artforms (*Madhubani, Warli, and Kalamkari*)

Freehand drawing encourages creativity and artistic expression allowing students to experiment with different shapes and styles.

Isometric grids consist of a series of equilateral triangles arranged in a grid pattern. They provide unique advantages for understanding 3-dimensional space and objects. It helps in visualising and reprinting 3-dimensional shapes in 2-dimensional surface.



Dot Grid: Dot grids consist of a series of evenly spaced dots arranged in a grid pattern. Dot grids assist in creating accurate shapes by guiding where each point should be placed, ensuring consistency. Students unconsciously learn about coordinate systems as they connect dots on the grid to form shapes. Dot grid helps students practice symmetry by ensuring equal spacing on both sides of a shape.



Various tasks of drawing pictures/designs have been given on page 48 and 49, where children can show their creativity using different types of lines.

A project work on page 49 on creating lines by making creases on a paper is given. By folding a paper in half and then folding it again and again, each fold creates a new crease. As you continue folding, the number of creases increases rapidly. This demonstrates the idea of exponential growth, where the quantity (in this case, the number of creases) increases at an increasingly faster rate. Further, you can encourage



children to make greeting cards by using shapes made up from lines. Demonstrate them the *Madhubani* and *Warli* art.

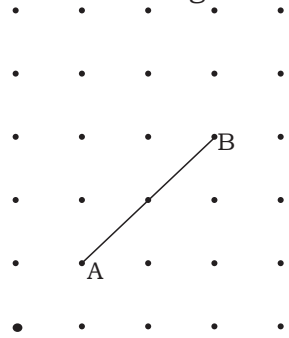


Extension Activity

A. Observing patterns: What kind of designs do you see on your bed sheets or dresses? Children can be given tasks to replicate the designs they see around themselves.

B. Creating triangles on dot grid: Give a dot grid to children and ask them to make a line segment as shown in the figure given. Ask them to create as many triangles keeping the side fixed.

How many triangles can be drawn keeping one side fixed? What are the expected responses of children?





Chapter 5

MEASUREMENT

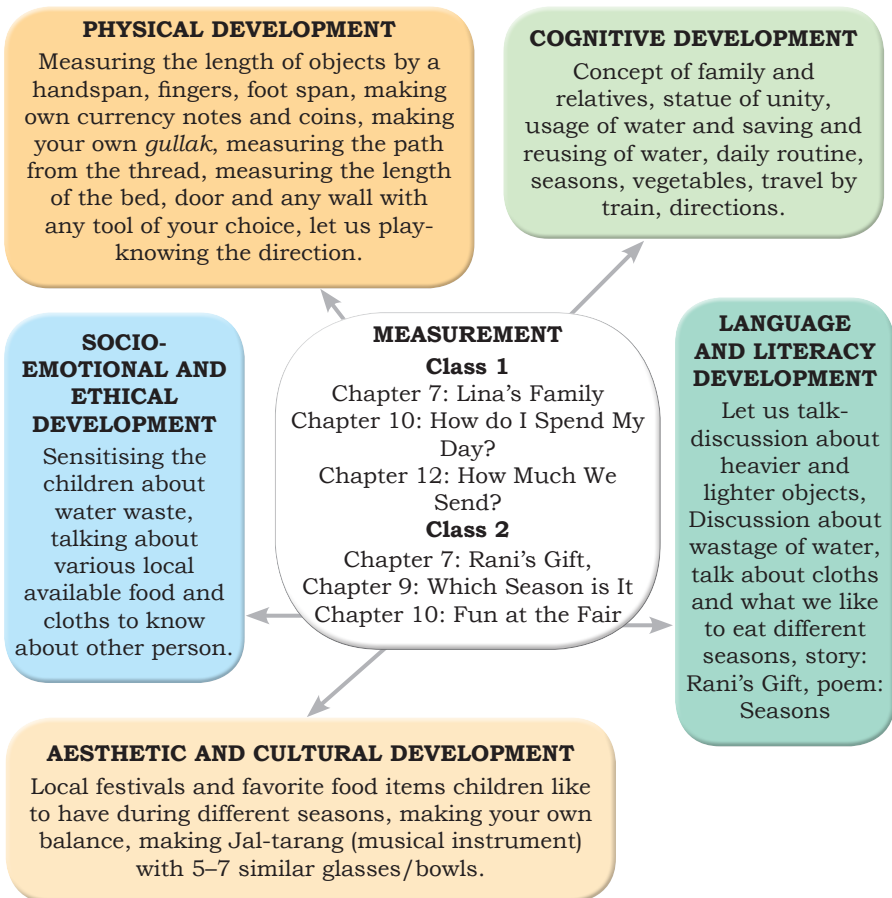
Children are often involved in activities, like dressing dolls, comparing whose pencil is longer or whose shorts have more pockets, building towers and comparing their heights, checking whether there are enough sips/gulps of water left in their water bottles, how much time is left for the lunch break and so on. In this way children acquire an informal understanding of several physical attributes, such as, length, weight, volume and time. We can use this experiential learning of children and these natural contexts as a basis to develop and plan learning activities. It is preferable that the activities have an inbuilt challenge in the form of a problem, which children can easily relate to and find interesting. We should encourage children to explore and reflect on the given problem's situation, and provide enough opportunities to develop the natural understanding related to the concept of measurement. They learn first to clearly recognise the attribute that needs to be measured and distinguish it from other attributes. For example, they need to distinguish weight from volume, although there is a relation between weight and volume. They also need to understand that the same attribute may take different forms.

Overview of concepts and sub-concepts covered for numbers in textbook of Class 1 and 2

| Concept | Chapter name (chapter no.) | Class | Sub-concepts | Chapter name (chapter no.) | Class | Sub-concepts |
|--------------------|----------------------------|-------|--|----------------------------|-------|---|
| Length | Lina's Family | 1 | <ul style="list-style-type: none"> • Comparison using appropriate words, e.g., tall-short, long-short, far-near, thick-thin. • Non-standard units (Non-uniform), such as, hand span • Estimation and Verification | Rani's Gift | 2 | Measuring using Non-standard Units (Uniform), such as, stick |
| Weight/ Mass | Lina's Family | 1 | comparison using appropriate words e.g. heavier and lighter | Rani's Gift | 2 | Comparison of weights using direct measurement (just by seeing or holding things); Introducing measuring tools (Balances) for measuring weights |
| Capacity or Volume | Lina's Family | 1 | comparison and measurement of capacity | Rani's Gift | 2 | Using different units in different contexts |
| Time | How do I spend My day? | 1 | Sequencing of daily routine, Duration of time, Estimating time taken in different activities | Which Season is it? | 2 | Sequencing of events (seasons, festivals), reading a calendar, comparing events or days on a calendar, long and short durations |

| | | | | | | |
|-------|-----------------------|---|---|-----------------|---|---|
| Money | How much do we spend? | 1 | Identifying and using the value of notes and coins. Familiarity with coins and currency note; Compose and decompose different denominations (values) up to Rs. 20 in real life situations | Fun at the Fair | 2 | Identifying and using value of notes and coins. Relating Rupees with paise; Compose and decompose different denominations up to ₹ 100 in real life situations |
|-------|-----------------------|---|---|-----------------|---|---|

Curricular Connections



What is in the book?

5.1 MEASUREMENT OF LENGTH

Class 1, Chapter 7: Lina's Family

5.1.1 Comparing lengths of objects and distances and developing vocabulary

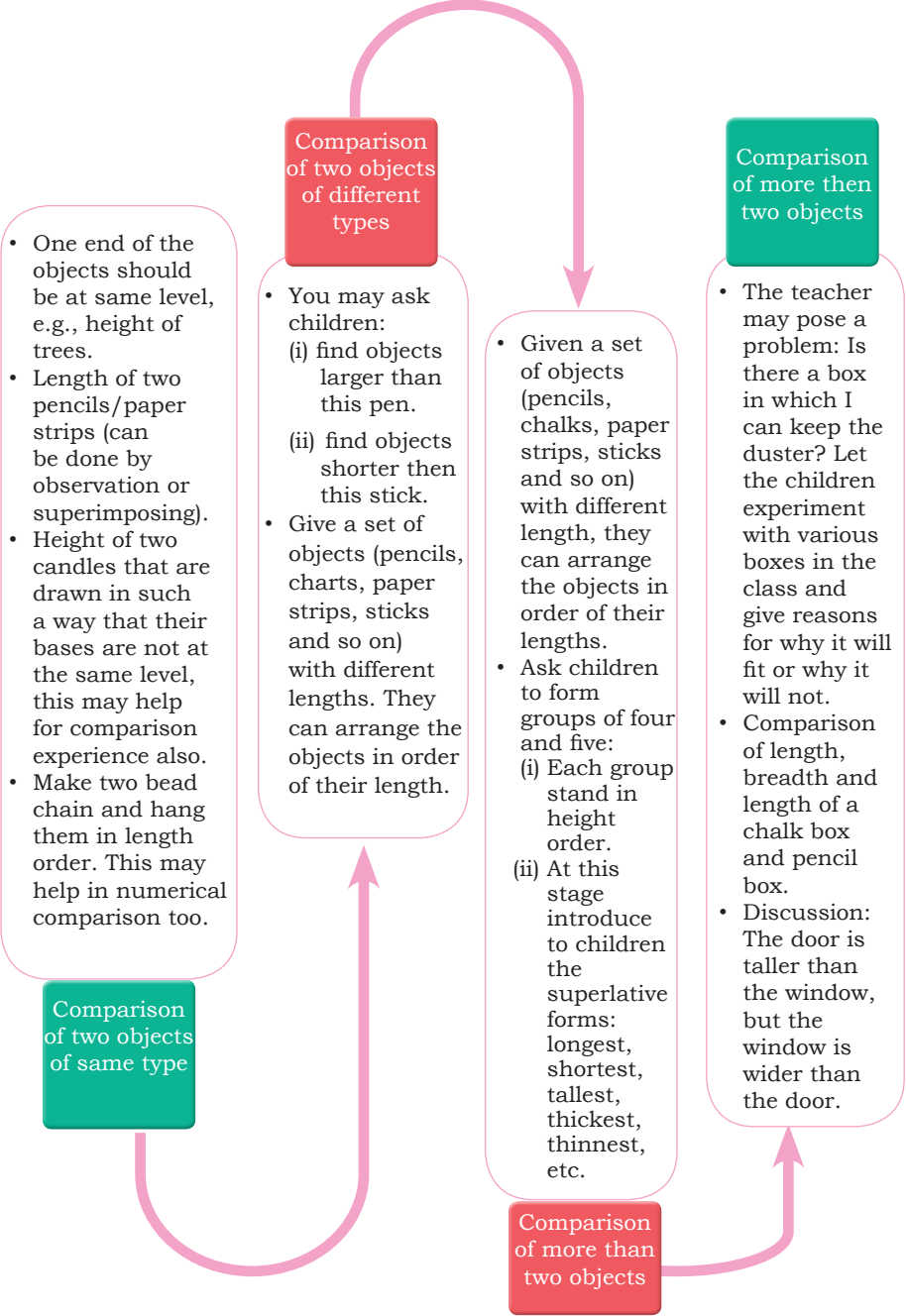
Measuring height, breadth and distance are all actually the measurement of only one physical quantity, namely, length. But when the length is associated with different orientations, or different scales, then different words are used making it difficult for children to perceive that the same attribute is being measured.

The initial activities centred on the attribute of length involve comparison and ordering. Different situations and problems lead the children to using different strategies of comparison. Comparison of length without measurement may be done by the following:

- A. Observation:** Intuitive sense of comparison and knowledge of comparative words, give the child two pencils, and ask, which one is longer and which one is shorter?
- B. Superimposition:** Comparing nearly same objects.
- C. Using an intermediary object:** Draw two candles whose bases are not on the same line and ask them to identify the longer one. They might need an intermediary object to carry out the comparison.

For example, to compare the heights of two children, one can observe directly. If the heights are nearly equal, one can refine the observation by using a large hardcover book which can be placed on the heads of the two children standing back to back or facing each other and see which side of the book is higher.

Therefore, the teachers are suggested to do following activities with concrete material (in small groups/large group) followed by discussions in the class:



You may do few games/activities with concrete objects in comparison of length and familiarise them with the concepts, like long-short, far-near, ordering objects till comparison with more than one object. Activities for developing the concept of comparison of lengths and developing vocabulary has been given on pages 73–75.

The chapter begins with a story of Lina’s Family on page 72. The picture reading helps the children to have a sense of togetherness, inclusion and sensitivity for differently abled people. You may discuss with children about their family that may lead to developing competencies of language and environment. A rich discussion in the class through questions under ‘Let us talk’ on page 73 help them to observe, compare heights of two and more members. Similar questions may be asked about a child’s family where the child is able to relate the learning with their home.

Problem Stories
Write your answers in the boxes.

A. A potter had 9 *diyas*. He sold 5 *diyas*. Then he made 7 more *diyas*. How many *diyas* does he have now?



B. 6 children sit in the bus at the first stop. At the second stop, 8 more children board the bus. 7 children get down at the third bus stop. How many children are there in the bus at the third stop?



C. There are 18 seats in a bus. If 9 children are already sitting in it, how many more children can sit inside the bus?

D. Kuljeet got 14 toffees in her box. She shared few toffees with her friends. She was left with 6 toffees. How many toffees did she share with her friends?

E. Raman got 12 bananas and ate a few of them. He is left with 5 bananas. How many bananas did he eat?

A. Comparison and Ordering

Give the children a set of pencils of different lengths and ask them to arrange these pencils from longest to shortest on the table/ground. Observe how the child arranges these. Does the child complete these by trial and error? Does the child has a method in place to pick out and place the next one? Give them another pencil, and now ask them to put it into the set. Observe how they identify where the pencil should go in the series. The teacher may take help of objects (more than 2 pencils, strips, etc.), and work on ordering and introducing superlative words, like longest, shortest, etc. This can further lead to doing a worksheet given on page 75. The discussion on the pictures by asking, ‘How do you find it?’ help children to logically think and verbalise it. As per NCF-FS, we need to focus on ‘Rootedness in India’, we may tell the children about the “Statue of Unity”. Ask children to find other tall buildings of the world.

B. Measurement using Non-Uniform, Non-Standard units

Measurement is the quantification of an attribute of an object or region. We assign a number to specify the size-length, area or volume of an object, where qualitative description alone may not suffice.

Provide the opportunities where children can measure short lengths in terms of non-uniform units, like handspans, footspans, fingers, etc., in the context of games for example, *Gilli Danda* and ‘marble games’. Let children experience and discuss the use of big and small units, as Chitra’s Dadi (page 76) suggests in the activity. Provide certain small objects (smaller than a hand) and ask why handspans do not work for measuring smaller objects. This will eventually create a need for different measuring units.

Estimation and verification are very important skills to be developed while working on measurement, this exercise/ activity provides opportunity for the same on pages 77, 78 and 79. Let the children do this with different objects and discuss their logic about their estimation. More activities shall be planned for skill practice.

C. Measurement using Uniform, Non-Standard units

1. Class 2, Chapter 7: Rani’s Gift

The story on pages 71 and 72 provide opportunities for developing the need for uniform units for measurement. It should be discussed with children the problems of using handspans and footspans (each individual has its own measurement). Provide opportunities for demonstration or role play to children to understand the situation. Let them tell their views and discuss on, “what would be the solution given by the Mantri?” directing to think about the use of uniform units (like a textbook, pen, stick, something whose length is fixed and does not vary person to person).

Provide children with uniform objects and measure various objects around them. The activity page 72 may help to develop the skills, estimation, approximation and then verification. The teacher may help them to take other objects too. Let them discuss the process and their logic for

the estimation. The children can be encouraged to do the same activity with the objects/things available at home and discuss with their friends. The activity “Let’s Do” on page 73 provides opportunities for problem solving. Let them devise their strategies (maybe in small groups) to solve these. Provide them with thread/thin ribbon/straight edge if needed.

The activity of counting blocks on page 74 may help to make numerical comparisons of height. The teacher may make few bead chains of different length and hang them in length order and let the children compare their lengths.

When children come with project work given on page 75, a few simple questions may help to enrich their skills, like mathematical communication and presentation, for example, what was the object you chose to measure the length of the wall/bed/door? How did you do this? What were the challenges? Did you need help from another family member or friend?

Extension Activities

Game: Who is the nearest?

A simple but interesting game can be played by marking an ‘X’ on the ground with chalk. A line is drawn about 10 feet away from the ‘X’ mark. Children take turns to throw a piece of chalk as close as possible to the ‘X’. Each child’s throw is marked with a dot and by writing the child’s initials next to the dot. At the end, to find the winner children compare to see whose throw is nearest to ‘X’. When two children’s throws are almost equally close, one may use the string to decide. Another idea is to use ‘footsteps’ or ‘handspans’ to compare the distances.



(Source: Handbook for teachers, Class 1 and 2, NCERT)

Exemplar activities for assessing the child's understanding of comparing different lengths. In the class, ask the children to find:

1. Who all are taller than you?
2. Who all are shorter than you?
3. Give the child a set of pencils of different lengths. Pick one up from the set and ask:
 - a. Find me a pencil longer than this one
 - b. Find me a pencil shorter than this one
 - c. Find me a pencil as long as this one.

Through this item, by observing the child's actions and answer one can tell if the child has an intuitive understanding of the concept. Observe if the child superimposes one over the other to compare nearly the same lengths. The technique of comparison is in place or not, i.e., does the child align the ends of the pencils? Is the child using the same unit to measure an object?

5.2 MEASUREMENT OF WEIGHT/MASS

Weight is also an attribute that can be perceived directly by experiencing. A heavy object is more difficult to lift. When we lift it, we can feel the downward pull on our hand. An even heavier object may be difficult to move even if we push it with our whole body. By looking at an object we can make a guess about how heavy it is, but often we can go quite wrong in this judgment.

With regard to weight, the aim in class 1 and 2 is to give children experiences that will help them focus on this attribute. For instance, children may have played see-saw. A discussion can take place when it goes up? What can be done to bring the other side down? They also learn the connection between weight and the instrument used to measure weights, namely, the balance.

What children may think alternatively and what teachers need to take care

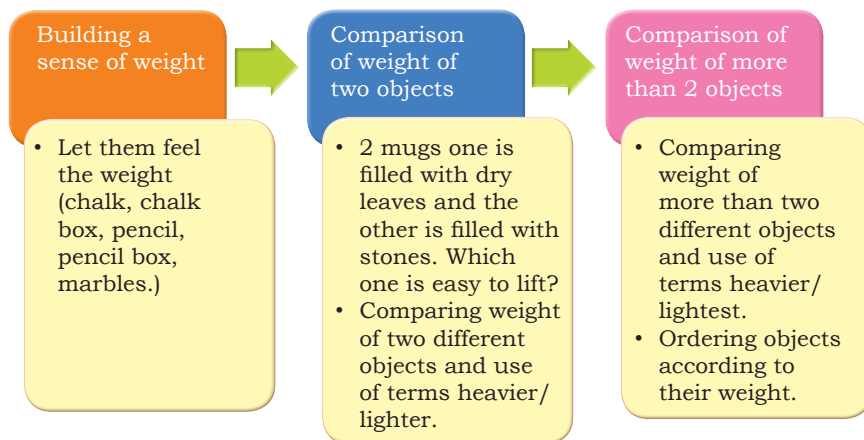
Children may have few notions about weight which are incorrect. Give simultaneously opposite examples as given below to prevent and clear any misconceptions that may arise with regard to weight. The teachers are suggested to do following activities with concrete material (in small groups/ large group) followed by discussions in the class:

1. A larger object does not always weigh more.
2. A larger quantity does not always weigh more.
3. Objects of the same length may have different weights.
4. Weight of a larger number of one type of object is not always more than the weight of a smaller number of some other type of object.



A. Comparing weight of objects and developing vocabulary: Heavy/Heavier/Heaviest

Prior to working on this chapter, the teacher may plan a few games or activities with concrete objects on comparison of weight and revisit them with the concepts, like heavy, light and ordering objects as given in figure.



1. Class 1, Chapter 7: Lina's Family

Let children work with two objects (book and pen, chalk box and pencil, etc.), feel and tell the heavier/lighter object. They should be familiar with words heavier and lighter. Ask them about the pictures given on page 79 and 80 to guess which one would be easy for them to lift/carry. Give opportunities to give the logic for their answers. Comparing pictures will not give a complete understanding of weight. Bring the objects shown in the pictures in the class. For objects you cannot bring in the class ask them to try lifting them at home. The activity "Let us talk", on page 80, provides an opportunity for discussion about how we measure weight.

2. Class 2, Chapter 7: Rani's Gift

As suggested earlier, prior to working on this chapter, the teacher may plan a few games/activities with concrete objects in comparison of weight and revisiting the concepts, like light-heavy, lighter-heavier and ordering objects.

"*Pumpkin's Chaupal*", on page 76, shall help the teacher to compare the weight of various vegetables. Initiate a discussion about the vegetables children see in the picture? The vegetables they like or dislike, the colours of various vegetables, etc. The children do a role play around the story. Let the children share their reasoning about their answers.

B. Introduction to a measuring Instrument: Weighing scale

1. Class 2, Chapter 7: Rani's Gift

The teacher and children may collect and bring bottle caps, paper glass/cups/bowls/*diya*, thread, sticks (old cloth hangers), seeds of tamarind/custard apple, etc. The activity of making a balance, on page 77, can be done in the class in small groups. Let them work in small groups and compare any two objects, for example, a rubber and a sharpener. Let them guess, which one is lighter, a marble or a rubber, and then verify. In this, let the children observe and share which side of the balance goes up and down. They can consolidate their learning by completing the worksheet given on page 78.

Children may have seen it in the market or in a shop. Discuss the different types of balance used by people in the pictures on page 79. Let them share their experience on different types of balances they have seen.

C. Non-uniform, non-standard units of measuring weight

Before the activity given in the book, work with the balance can be done, how many tamarind seeds can balance a sharpener? An eraser, chalk, etc. Ask them to estimate first and then verify by actually doing it. Ask them to relate the weights of various objects like those given on page 80 about watermelon, mangoes and coconuts. Let them share their reasoning about the answers.

- Ask them about their weight. If most of the children do not know their weight, arrange a weighing machine and measure the weight of the children of your class.

Extension Activities

Divide the children into two groups. Give picture cards of different vegetables, fruits, animals, vehicles, such cards are there in *Jadui Pitara* or you can arrange these. First group will give cards of 4 vegetables, e.g., Pumpkin, potato, onion and chilli, and ask the other group to arrange these from lighter to heavier or heavier to lighter. Ask them to justify their response, if there is any doubt. For example, they may ask onion to be placed before the potato or vice versa. Now the second group will discuss in the group and think about 4 fruits and will give cards of these fruits and ask the other group to arrange these from lighter to heavier or heavier to lighter.

This game can be played with available objects in the class too.

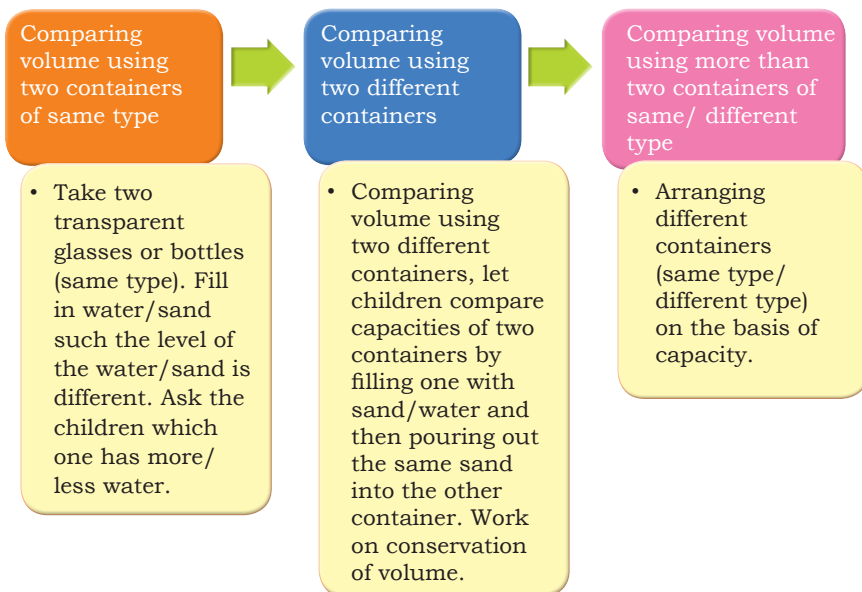
(Source: Khel-Khel me Ganit, Handbook for teachers, Jaadui Pitara, NCERT)

5.3 MEASUREMENT OF CAPACITY

Like length, capacity can also be directly perceived. But unlike length, it is usually not easy to compare capacities of two vessels by direct observation. Capacity refers to the amount of material a vessel can hold. Children need to

experience activities involving filling, pouring, packing, fitting and emptying to understand the principles involving capacity. With younger children we do not use the words volume or capacity. Instead we pose questions, such as, does this hold more than that?

Young children can easily make mistakes about which container has more water. The well-known psychologist Jean Piaget conducted a famous experiment, where children observed that the water contained in two identical glasses were equal. Then he poured the water from the first glass into a thin, tall beaker, and the water from the second glass into a wide beaker. Then he asked the children if the two beakers contained equal amount of water. Young children usually said no, and said that thin, tall beaker contained more water. This was surprising because the same children had said earlier that the two glasses contained equal amount of water. Piaget concluded that young children do not ‘conserve’ volume.



As they gain more experience in working with liquids and comparing and estimating quantity, they grow more confident in their understanding of capacity. So, in class 1 and 2 we focus only on comparing volumes by visual estimating, by pouring out and estimating how many of one container (full of water) is needed to fill another container.

Some of the activities that can be done with children are:

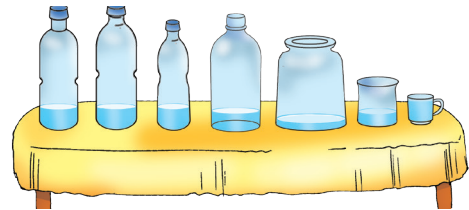
- We take identical glasses and ask children to pour an equal amount of water in each glass. Let them ask other children if each glass contains the same amount of water. We can then introduce them to the use of the phrase, 'equal amount of water'.



- We take two identical glasses with equal amounts of water. We now pour the water of each glass into a different bottle. Make sure that the shapes of the two bottles are very different. Ask the children to discuss what happened?



- Does the water in the two bottles look equal?
- Why does the water in the two bottles look unequal?



- What happens if they pour it back into the glasses?
- We get bottles and containers of different shapes and pour some water in each of them. Ask the children to guess which has the most water, which has the least. How will they check if they are correct?
- We can use bottles of different shapes in activity 3. We ask the children to make a guess about which bottle will hold the most water and which bottle will hold the least water. Ask them to write down their guesses. Now take a small cup and pour one cupful of water in each bottle. Now, we let them make a second guess about which bottle will hold the most and which the least amount of water. They can fill up 2 more cups of water in each bottle and make a third guess. We observe when are they confident?

- As one can see, the main aim of the activities dealing with volume is to give children an experiential base, which will be helpful in building their understanding of measuring volume. We can also focus on the language of comparing volume and on learning to use words and phrases, such as, more water, less water, one cupful, two cupful, can contain or hold more, etc. Most of these activities can be done in a small or a large group guided by the teacher.

A. Class 1, Chapter 7: Lina’s Family (Measurement)

Prior to working on this chapter, you may plan few games or activities with concrete objects on comparison of weight and familiarise them with the concepts and language of comparing volume and on learning to use words and phrases such as, more water, less water, one cupful, two cupful, can contain or hold more, etc.

Arrange required material and bottles, cups, mugs, bucket (page 81). Let each child have a chance of filling and measuring capacity of different containers. Provide material and help the children to compare the capacity of their water bottle with that of their friends. Ask them which one would be easy to lift carry.

Let them discuss their observations on misuse of water. One of the objectives of the activity (page 82) is to make them aware of this issue and what we can all do to save water.

B. Class 2, Chapter 7: Rani’s Gift (Measurement)

Concepts and language of comparing volume and on learning to use words and phrases, such as, more water, less water, one cupful, two cupful, can contain or hold more, etc. There may be recapitulation and practice work related to the length of what the children have done in class 1, this may help them to connect and move forward.

The activity “Let us make Nimbu Pani”, on page 81, can be done in the class with all the required material. You can plan to carry out the activity in the following steps:

1. Planing: their experiences, quantity, process and required material.

2. Let children prepare Nimbu pani and enjoy it. While preparing, ask a few questions, for example, how much water is taken, how much sugar is taken.
3. Ask a few questions, like: how much sugar will be needed if I want to make 3 glasses of Nimbu Pani? How much lemon juice will be needed if I want to make 3 glasses of Nimbu Pani?

This activity can be further extended to preparing their favourite drink at home. Ask children to note the ingredients and its quantities and share the process in the class next day.

The task, on page 82, has to be done with actual objects/containers. Let them do the task, discuss and decide before writing in the textbook. Encourage them to do such tasks with different containers at home.

In the project work, the teacher may work with children and demonstrate the working of a Jal Tarang. Let them make their own Jal Tarang using locally available material. Children can make different sounds by changing the position of the containers. Discussion and work on importance, proper use and no wastage of water in our life. Setting examples for the same in school and encouraging them to do the same at home and share experiences in the class.

Extension Activities

Game: Guess the capacity? Collect different containers with the help of children. Divide the children into two groups. This game can be played with available objects in the class too. Ask any group to choose any two containers (e.g. a glass and a jug) and ask the other group to guess “how many such glasses of water can fill the jug?” Let the other group guess/estimate and note their guess. They will



also verify it by filling water and note the actual number of glasses filled in the jug. Now the second group will choose any 2 containers and ask the first group to guess and verify. As the game goes on, ask their logic for their guess and let them understand the relation among capacities of different containers.

5.4 TIME

Time is a measure of duration and a different kind of attribute that children measure, such as length, volume, weight, etc., as time can be seen or felt, it becomes difficult to understand its units. To make sense of the attribute of time, children should be given opportunities to compare events having different durations, for example, who would take minimum time to run from one place to other place. Children would also need to have a grasp upon time-related vocabulary, such as, “before,” “after,” “next,” “now,” and “later,” as understanding time also involves recognising the sequence of events. It helps children understand the order of their daily activities, which is crucial for organising their day. Children should be given opportunities to relate time to significant events, like birthdays, holidays and seasons. This fosters a sense of time’s cyclical nature. To know the duration more accurately, clocks are the common instruments to measure the time. Children should be provided with ample opportunities to read the time from the clock using different activities.

Sub-concepts covered: *Curricular connections in the chapter*

| Chapter name (chapter no.) | Class | Sub-concepts |
|-----------------------------|-------|--|
| How do I spend my Day? (10) | 1 | Sequencing of daily routine, comparing duration of different events, sequencing of seasons. |
| Which Season is it? (9) | 2 | Sequencing of seasons, comparing duration of different events, finding simple calendar patterns, comparing events of different durations, duration in terms of days and hours; locating different places, using direction compass. |

A. Class 1, Chapter 10: How do I spend my day?

Allow discussion with children about their daily routine. You may encourage children to sit in pairs and observe the pictures and try to read. Encourage picture reading if the children are unable to read. Discuss the daily routine of Pihu with them (page 105 and 106). Also, focus on inculcating good habits in children, like brushing their teeth at night, doing yoga exercise, etc. This activity of the child's routine is extended on page 107. Help build vocabulary morning, afternoon, evening and night in children using various other tasks and discussions. Ask children to observe the position of the sun at different intervals of time. Emphasise on the position of the sun in determining the time of the day. Follow up with picture reading given on page 108.

Ask children to write various tasks from their daily routine like eating food, reciting a poem, cooking food, etc., on different cards. Call two children to pick up two cards and tell which task takes longer. Ask children the reasoning of their answers. Encourage children to create more situations of such kind and as their friends. Follow up with exercises in the book.

You may do some role play or create some riddles related to seasons. You may also ask children to bring one object related to one season. Child would show the object and others would guess the season in which the object is used. Discuss with them more about the things they do in different seasons. Develop vocabulary of summer, spring, monsoon and winter using various activities. Follow up with exercises given on page 109 and 110.

B. Class 2 Chapter 9: Which Season is it?

Enact the poem, on page 98 and 99, with children and discuss in the class various aspects related to seasons. Focus on the other events and relate the sequence of other events with seasons, e.g., birthday and seasons; festivals and seasons. The task is a revision task done in the previous class. Initiate discussion about different festivals in the class. How do they celebrate these festivals at home? In school? Ask what

specific things they do on a particular festival, what they eat, the clothes they wear, the seasons in which these festivals come? Relate seasons with festivals on page 100. Ask children to find out the dates of various festivals in the current year. This will push them towards reading a calendar.

1. Calendar

You may use old calendars and give it to children in groups. Ask them to observe the calendar carefully. Encourage them to share their 2–3 observations about the calendar with the whole class. Discuss with them about the simple pattern in the calendar, such as 31 days comes alternatively (except one exception). Follow up with exercises given on page 101 and 102.

2. Duration of time

Initiate a discussion in the class by giving them various tasks and asking them to think whether it will take hours or days or months. You can also ask children to think of various activities that would take days/hours or months to complete. This task can also be done by distributing children into groups where one group asks the other group. Give a sense of the duration of time required to complete a work. Encourage them to share their observations about the duration of time that the activities given on page 103 requires to get completed.

3. Clock Reading

The story about ‘Trip to Vijayawada’, on page 104 and 105, gives sequencing of events and compares it with time durations in hours and minutes. Encourage children to read the story in smaller groups and discuss with them the follow up questions on page 106 based on the story line. Children may also develop their own questions.

You can begin by introducing the clock to the children. Show the child the different parts of the clock: the face, the hour hand, and the minute hand. Ask them to observe the hour and minute hand. Start with simple “o’clock” times, such as, 1 o’clock, 2 o’clock, etc., and ask what they do at

this time. Use the clock to demonstrate each hour by moving the hour hand to the corresponding number. You can create a learning material for the clock. Follow up with Gargi's Day on page 107 showing the events with the clock. Ask them to write the time by reading the clock and answer the follow-up question at the end. Encourage the child to show time by moving the clock hands to match different times given on page 108 and 109 and then draw hands in the textbook.

4. Directions and Map Reading

You can play some game with children to revisit the vocabulary 'left, right and straight' with children. For example, when you say left/right/straight all children will turn towards left/right/straight. You can play the game given on page 110 in the classroom or playground. Encourage children to use words, like left, right, forward, and backward. Ask them to draw your route from home to school/market, etc. Discuss the map given on the page and ask them to draw a path for Aastha and Nia from their home to the school. Ask them how your parents find routes from one place to another and discuss the use of mobile apps for navigation, i.e., for locating different places.

Enact the poem on page 111 with children outside of the classroom/playground and help children to identify the directions with reference to the sun. Emphasise the directions East, West, North and South by giving examples to the children from their immediate surroundings.

Initiate a discussion in the class about how to find directions in closed rooms where we can not see the sun and introduce the compass by showing and discussing its usage. Ask them to use a compass to find out the directions of objects from different points of reference. Also, answer the questions given on page 112 by using a compass. Encourage children to frame more such questions.

5.5 MONEY

Money is a fundamental aspect of daily life. Teaching children about money at an early age helps them understand

the practical and real-world applications of mathematics. Money involves basic arithmetic operations, like addition, subtraction, multiplication and division. Teaching money concepts reinforces mathematical skills and makes learning math more meaningful. Money is a standardised unit of measurement used to represent the value of goods and services. Just as inches or centimetres are used to measure length, money measures the value of items. Money allows us to quantify the value of different items. For example, we can determine that a candy bar costs 10 rupees, a toy costs 200 rupees and so on. Money can be converted between different units (e.g., rupees to paisa) just like other forms of measurement can be converted (e.g., metres to feet). Money enables us to make comparisons of value. We can compare the cost of two items and determine which one is more expensive or less expensive. Children at primary grades may require money related ideas and skills, such as, recognising currency (notes, coins), identifying and using value of currency, count and compare sets of currency and make the same amount using different notes and coins.

The value of each note and coin is a convention that children learn from their social system. However, to make sense of these values, children must understand that 5, 10, etc., refers to a single item rather than the objects equal to the given number. Therefore, it is important to focus on activities that are related to buying so that children understand that a 10 rupees coin can buy the same thing as 10 coins of one rupees or 2 coins of 5 rupees.

| Chapter name (chapter no.) | Class | Sub-concepts |
|---------------------------------------|--------------|--|
| How Much Can We Spend? (12) | 1 | Recognising notes and coins, identifying and using value of notes and coins, making same amount using different notes and coins. |
| Fun at the Fair (9) | 2 | Identifying and using value of notes and coins; using number operations in different contexts of money related situations; observing features of currencies; relating Rupees with Paise; count and compare sets of currency. Make the same amount using different notes and coins. |

A. Class 1 Chapter 12: How much can we spend

Prior to working on this chapter, you may plan a few games/activities to play currency with a focus on recognising notes and currencies of different values. You may discuss with them about the items and their values that are purchased at their homes. Bring real/fake currency notes and give them to children. Ask them to identify various notes and coins and then write on page 115.

The story of Rahim Kaka would require some preparation beforehand. You may as children bring empty wrappers of different items, such as, fruity, candy and chocolates. You or children may also bring some items, such as, toys, vegetables, etc., from home that can be tagged with its value. A role play on shopping would give them ample opportunities to understand the value of the currency, making different combinations of the amount, and applying their understanding of number operations to buy things. A few real life situations that children may encounter in handling money are given on page 116 and 117. Encourage children to work on these situations in smaller groups. After working for some time independently, you may call each group in front and ask them to discuss their thinking.

The problems on page 118 and 119 provide opportunities to think of more than one combination for a given amount. After working in groups, you may ask some key questions, such as, do we have more combinations for the given amount say, ₹10/-; how can we say all the combinations are done and no one is left (though this is higher order thinking question, children may not answer it accurately but it gives scope to think deeply).

Before solving questions in the textbook, divide children in small groups and give play money to them. You may ask them the following questions: use only five rupees note to make ₹15, use notes of your choice to make ₹30, and use minimum number of notes to make ₹25.

This chapter has simultaneous application of concepts of addition and subtraction. Initiate the discussion, like how

children can save money, importance of saving money, how to use money carefully, when to help the needy with money (page 119).

B. Class 2, Chapter 10: Fun at the fair

Prior to working on the chapter, you may plan a few games/ activities to play money. Children may develop their own set of play money and keep it with them. In the problems given on page 113 and 114, children may use their play money to make sense of the questions asked. While discussing with them encourage children to create more questions to ask their friends, e.g., I want to buy a toy car for 60 rupees, I had 100 rupees with me. How much is left with me?

Children may observe the specimen copies/ play currency notes on page 116 to observe the features. Encourage group work for the same. Discuss their observations with the whole class.

The problems on page 117 provide opportunities to think of more than one combination for a given amount. After working in groups, you may ask some key questions, such as, do we have more combinations for the given amount say ₹66.

This chapter has simultaneous application of concepts of addition, subtraction and multiplication. Encourage children to work on these situations (page 118–119) in smaller groups. After working for some time independently, you may call each group in front and ask them to discuss their thinking.

Extension Activity

To encourage the mental counting of different sets of money, children may be divided in groups and give each group a set of notes and coins. Each group has to count their set of money fast. Each group would also explain how they would count their set.



Chapter 6

DATA HANDLING AND PATTERNS

6.1 DATA HANDLING

In our day-to-day activities, we come across various pieces of information, e.g., the number of children present in the class, the marks of children in tests, the age of children in the class, the height of children in the class, etc. to come to various generalised results and to make decisions. Like adults, children also generalise and interpret information in everyday situations; who is the tallest in the class, who makes the longest jump, which is the most liked game, etc. It is important that in the school and the classroom we provide opportunities for children to answer questions that they find interesting and to check or verify their answers by collecting data systematically, presenting the data and interpreting it. Children of class 1 and 2 would like to collect information which is related to them or their immediate surroundings such as their likes and dislikes.

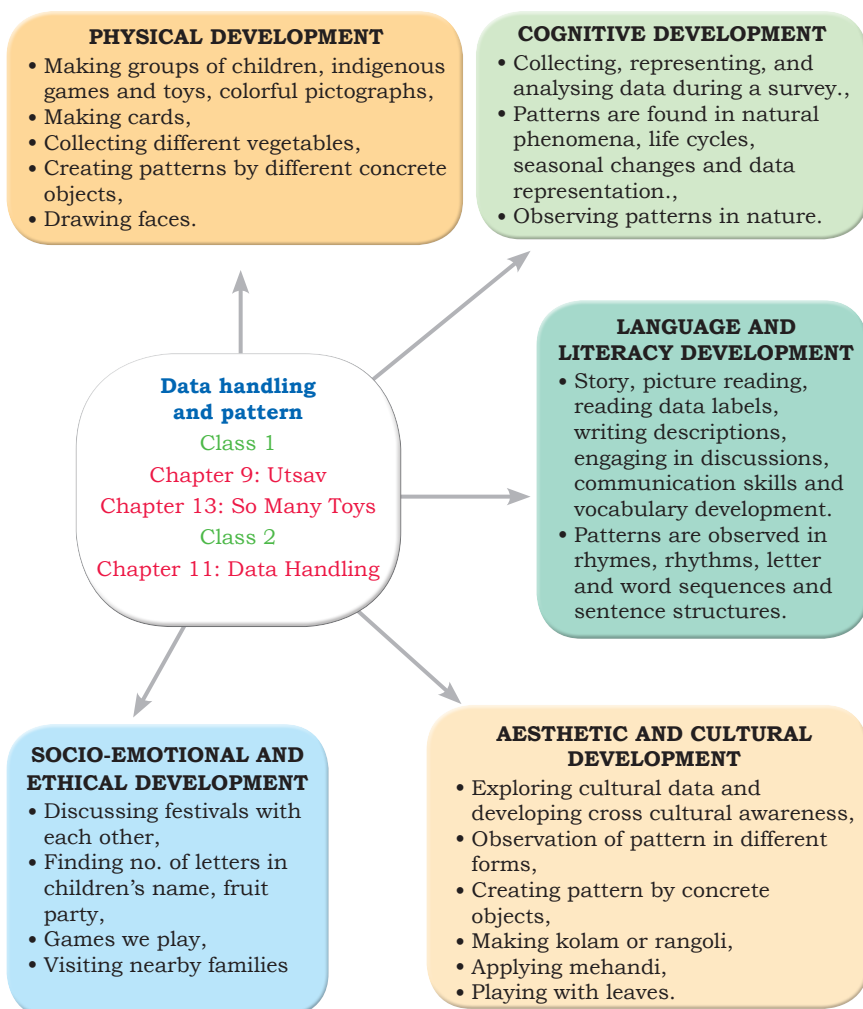
A. Steps in data handling

1. Identifying the problem and framing question(s)
2. Seeking, collecting and recording the data
3. Organising and displaying the data
4. Interpreting the data or making sense of the data

Overview of concepts and sub-concepts covered for Data Handling in textbook Class 1 and 2

| Concept | Chapter Name & Chapter No. | Class | Sub-concepts |
|----------------------------|----------------------------|-------|--|
| Making sense of data | So Many Toys (13) | 1 | Picture reading, classification, counting and comparing numbers. |
| Representation of the data | Data Handling (11) | 2 | Representation in the form of tables and pictures. |

Curricular Connections



What is in the Book?

6.1.1 Sorting and collecting and interpreting data

A. Class 1, Chapter 13: So Many Toys

Children like to talk and share about their toys. The toys can be sorted into groups and then counted. You may ask children to choose a toy and ask them to find out which toy is the most favourite toy of the class. Similar activity is given on page 120. As a follow up of this activity, encourage children to find a number of different objects at their home and help them to decide which objects are in excess and can be shared.

The next activity, on page 121, involves a similar task of comparing the number of different flowers. You may take up a similar activity on collecting various flowers, fruit, story book, colour, place, etc., in the class and discuss who collected more and who collected less. The card making activity in the textbook, page 121, provides an opportunity to show creativity and develop aesthetic appreciation in children. The cards should be displayed in the classroom so they learn from each other.

It should be kept in mind that the exercises given in the book have only some aspects of data handling. Activities related to collection of data, representation of data should be done in the class in order to find answers to the problem statements. A few examples of such activities are given below:

6.1.2 Representation and interpretation of the data

A. Class 2, Chapter 11: Data Handling

Opportunities have been provided to explore and represent the data around them. They can record data through different ways like by putting numbers in the table or drawing tally marks or through smiley stickers, etc.

The activities have been designed to connect children's interests and their everyday life experiences. On page numbers 123, 124, 125 and 127 children will do picture reading and record data by counting and writing on a table.

He further draws inferences about various aspects like more/less or most/least by comparing different numbers. Children can be asked to collect data like colour, favourite fruits, favourite dress, hairstyle, vegetable, TV show, games, etc., in the class. Encourage children to draw inferences on other aspects of the data like why some colours are liked or unliked by most of the children. Alternatively, other pictures can also be provided to children where children talk about the picture first and then record the data from it and then draw inferences by linking the data with their daily life experiences. For example, the banana is liked by most of the children, if any child has to bring fruits for the class, he/she may buy more bananas than any other fruit. Children should be encouraged to frame further questions to investigate the data given in these pictures. For example, why is a particular fruit liked by the child?

While talking about various pictures, discussion on various other aspects should be done like:

1. Various local games: Gilli danda, Pithu, etc.
2. Joint Families
3. Various modes of transport
4. Benefits of eating fruits and vegetables

The activities on data collection and its representation has been continued on page 126 and 128. Here the data is collected in numbers presented as pictures or icons. The child is expected to make the graph by pasting or drawing pictures and drawing inferences on the basis of the lengths or heights of the bars. Such presentations allow the children to get the most or least liked items on the basis of the visual perception of the lengths or heights of the bars. The activities given on page 128 and 129 as 'Let us do', intended to engage children in collecting the data from their friends and families which may be different for different children. These activities will help children in having personalised data. Children can observe or ask questions for collecting data and then discuss their observations in the class. This helps in developing communication skills and building confidence in children.

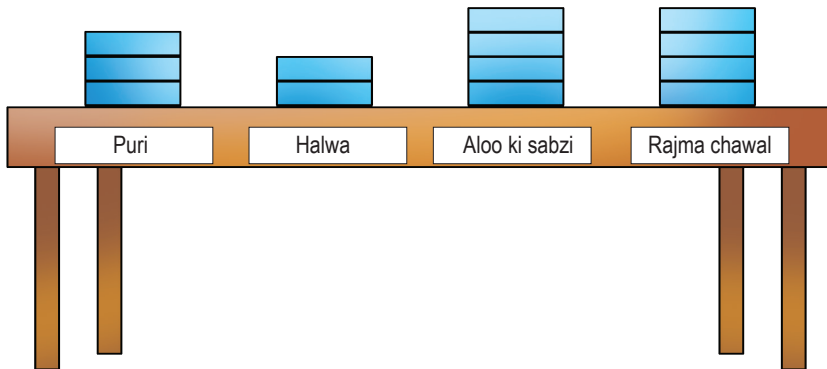
Extension Activities

1. Class 1 and 2




































For this activity, children will be asked to bring the objects representing their favourite shape. They are placed in corresponding shape categories on a large floor space. Ask questions like: Which shape has more number of objects?, least objects, etc. This will also enhance their understanding about various shapes around them.



2. Favourite food: Paste the slips of different food on the table and children have to put the matchbox on that food item which they like to eat during the mid-day meal. Ask various questions, like *Aloo ki sabzi* is liked by more/less children than *Puri*, how many children like *Puri*?



3. Birthday month: Ask children about their birthday months and help them prepare a birthday chart. Children can paste their photographs. Encourage children to answer the questions, like which month has the most birthdays, no birthdays, etc.

| Months | Number of children |
|-----------|---|
| January |    |
| February |     |
| March |     |
| April |      |
| May |    |
| June |  |
| July |    |
| August |      |
| September |  |
| October |  |
| November |     |
| December |  |

4. Favourite fruit: Put the picture of a basket on board and keep pictures of different fruits on the table, like mango, banana, orange and grapes. Children come one by one and paste the picture of their favourite fruit on the basket. Ask the various questions, like how many children like mangoes, apples, least liked fruit, etc.

6.2 PATTERN

Patterns exist all around us. We can find a pattern in the trees, in the window frames, on the floor, on our clothes, etc. By encouraging children to observe and identify patterns in their surroundings and in mathematical concepts, they develop critical thinking skills and enhance their ability to recognise and analyse patterns in different domains.

The study of patterns supports children in:

- Learning to observe relationships,
- Making connections,
- Making deductions, generalisations,
- Predicting (anticipating what comes next),
- Problem solving,
- Developing cognitive skills to think critically and creatively,
- Understanding the world they live in.

Children can see patterns around them in various aspects of their daily lives. Patterns can be observed in nature, objects and routines. They participate in clapping, listening to rhythmic beat music, patterns through shapes, number charts and finding colour patterns found in nature. Through pattern exploration, children develop critical thinking, problem-solving skills and mathematical fluency, building a strong foundation for future math concepts.

Many such activities have already been included in the first three years of the foundational stage interventions.

What is in the Book?

Overview of concepts and sub-concepts covered for Patterns in Textbook Class 1 and 2

| Concept | Chapter Name & Chapter No. | Class | Sub-concepts |
|--|------------------------------|-------|--|
| Recognising pattern Extending pattern Creating pattern | Utsav (9) | 1 | Pattern in nature, Shape pattern, Number pattern, Repeating pattern—Recognising, extending and creating patterns using colours, shapes, objects and numbers. |
| Extending pattern Creating pattern | Shadow Story (4) (page40–43) | 2 | Shape pattern, Number pattern, Repeating pattern— Extending and creating patterns using objects, shapes and numbers. |

6.2.1 Identification of patterns

A. Class 1, Chapter 9: Utsav

The chapter (page 98 and 99) provides an opportunity to do math talk or discussion on various local festivals celebrated by children with their friends and families. The focus of the discussion should be to explore different shapes and patterns associated with these festivals. Children can also identify shapes or patterns that are commonly seen or used in relation to their local festivals.

Additionally, provide a follow-up activity where children identify and draw specific shapes or patterns linked to the festivals discussed.

6.2.2 Describing and extending a pattern

A. Patterns with concrete objects

Opportunities have been provided on page 100 on identification and extending different patterns which they see around them. Provide

Encourage children to verbally describe the patterns in their own words.

concrete objects to children to create patterns, provide them with a variety of manipulatives, such as, blocks, buttons, or coloured tiles, flowers to make garlands, *toran*, ribbon, *rangolis*, arranging salads on a plate, etc. Encourage them to explore different arrangements and sequences with these objects, fostering hands-on learning and critical thinking skills. It should be kept in mind that children should first make different patterns using concrete objects and then proceed to complete patterns drawing pictures. On page 101, children can print using their thumbprints and fingerprints using different colours, sizes and arrangements to form unique patterns, considering colours, shapes, sizes and arrangements to create appealing patterns.

B. Shapes patterns

Various patterns involving shapes are given on page 102. Various other patterns can be created by children by changing the colour, shape, size and orientation of various shapes. The patterns can be repeating patterns where a unit of the pattern repeats or as growing or decaying patterns. Recognising and analysing patterns in shapes can help children develop their spatial awareness and geometric reasoning skills. You can also provide cut out of various shapes to make patterns.

C. Number patterns

Various number patterns are given on page 103. By observing patterns, children can identify and extend number sequences, aiding in the development of number sense and mathematical reasoning. Recognising patterns in increasing number sequences helps children understand addition and the relationship between consecutive numbers. You can provide various number cards to make various other patterns as per the number sense developed by the child.

6.2.3 Creating new patterns

Teachers can involve the class in *rangoli* making activities by motivating the children to complete the *rangoli* on the floor. Creating or completing *rangoli* develops creativity, fine motor skills, spatial awareness, attention to detail, cultural awareness and collaboration in children. A similar *Kollam rangoli* completing task is given on page 104.

The 'Project work', on page 104, allows children to collect various objects, like pebbles, flowers, leaves and more, and arrange them in patterns to create jewellery, floral pot arrangements, art showpieces, and more. They will engage in hands-on activities, developing their creativity and pattern recognition skills.

Also, children will observe and identify patterns in nature, such as, in leaves, butterfly wings, animal skins, curtains, *sarees*, *dupattas*, tiles and beehives. They will develop their observational skills and deepen their understanding of patterns in the natural world. The children will collect various objects where they see a pattern and create a collage by pasting pictures or pieces of it.

Children will create patterns using actions like clapping, snapping fingers and stamping feet. The outcome will be a rhythmic and coordinated pattern of actions. Assessment can be done through observation, evaluating children's ability to maintain the pattern and their coordination with the group.

Incorporating games and activities, and connecting patterns to real-life situations are important strategies which enhance a child's understanding of patterns. Encouraging collaboration and discussion among children, as well as celebrating and displaying patterns, further enhance the learning experience.

A. Class 2, Chapter 4: Shadow Story (Pages 40–43)

Similar opportunities involving identification, describing, extending and creating various objects, shapes and number patterns are given on pages 40–43. The concept of shapes has been integrated with the chapter where children extend their learning about shapes and numbers to creating patterns. The same sequence should be followed in developing the concept of patterns:

Identifying → Describing → Extending
→ Creating a new pattern

1. **Patterns with Objects:** Making different leaves and flower patterns for preparing *toran* and for drawing various *mehndi* designs.
2. **Shape Patterns:** Various shape patterns by printing 3D shapes, Various shape patterns (both repeating and growing) by changing shape, colour, size and orientation of shapes.
3. **Number Patterns:** Number patterns using skip counting.

Extension Activities

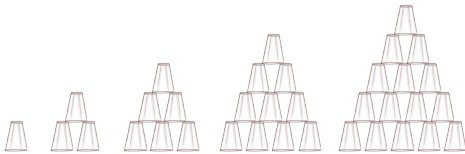
- a. **Pattern with blocks or shapes:** Provide children with blocks of different shapes and colours. Ask them to create and extend patterns using the blocks. They can arrange the blocks in different sequences, such as, AB, AAB or ABC, and continue the pattern.
- b. **Pattern walk:** Take children on a pattern walk around the school or classroom. Ask them to observe and identify different patterns they see, such as, floor tiles, wallpaper designs, or bookshelf arrangements. Have them discuss and describe the patterns they find.
- c. **Pattern with Rangoli:** *Rangoli* is a traditional Indian art form where patterns are created using coloured powders or flower petals. Children can create simple rangoli patterns by arranging shapes, lines or colours in a symmetrical or repetitive manner. This activity enhances children's creativity, fine motor skills and understanding of symmetry and patterns. It also introduces them to cultural diversity and encourages artistic expression. Children can be motivated to create patterns on the floor with concrete objects.
- d. **Number patterns:** Give children number charts up to hundred and let them identify number patterns and discuss in the class, such as, 2, 4, 6, 8, __, __. Ask them to identify the pattern and complete the sequence by adding the missing numbers. They can also create their own number patterns for classmates to solve.



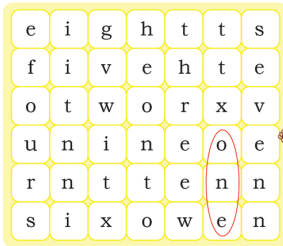
ANSWERS TO THE PUZZLES OF MATHS TEXTBOOK

CLASS 1

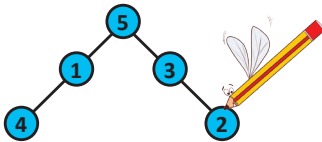
- A. 2, 3, 8, 9, 0, 5 and 4
 B. This is an illusionis.
 C.



D.



E.

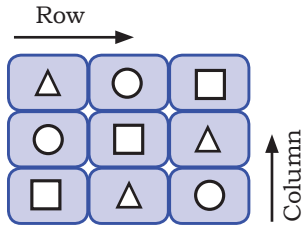


F. Here are some questions for Gillu:

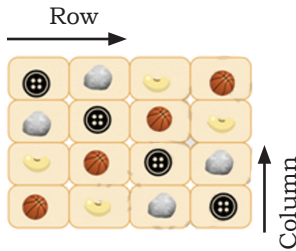
- What number can you add to 4 to get 12?
- If you subtract 2 from 10, what number do you get?
- If you divide 16 by 2, what is the result?
- What number can you multiply by 2 to get 16?
- If you add 5 to 6 and then subtract 3, what number do you end up with?

All of these questions have an answer of 8 only,
 which would make Gillu happy.
 Encourage children to make more such questions.

G.

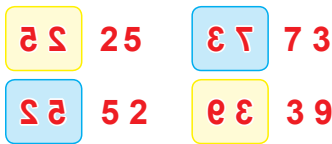


H.



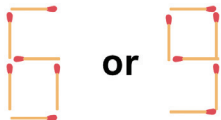
There are many other ways
 to fill. Encourage students to
 try and fill in different ways.

I.



- J. (i) 6 (ii) 11 (iii) 52 (iv) 39
 (v) 19 (vi) 36 (vii) 22

K.



L.



M. One time, when you subtract 5 from 25, you will be
 left with 20.

N.

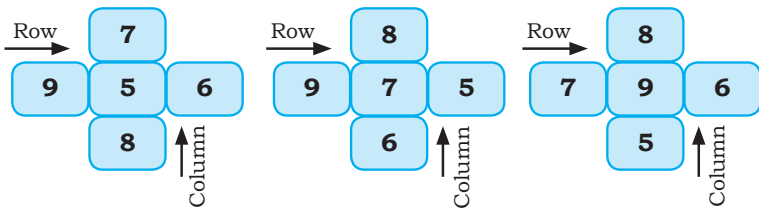
| | | | |
|----|----|---|----|
| 4 | 9 | 6 | 7 |
| 16 | 0 | 8 | 5 |
| 15 | 13 | 1 | 2 |
| 17 | 10 | 3 | 12 |

There are multiple ways to make 17. Encourage children to find different solutions.

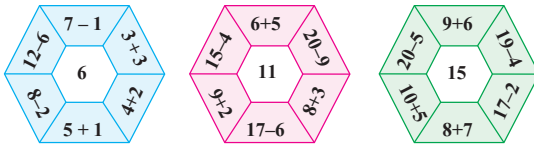
If there are only 2 seeds, place one seed on 15 and the other on 2. It will make the sum 17.

O. (iv)

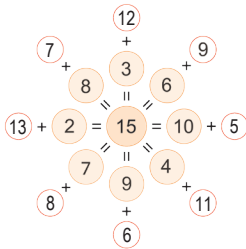
P. There are multiple solutions. Some of them are shown below. Encourage children to find other solutions.



Q. There are multiple solutions. Some of them are shown below. Encourage children to find other solutions.



R.



S. 7 coins



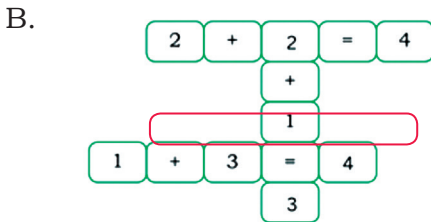
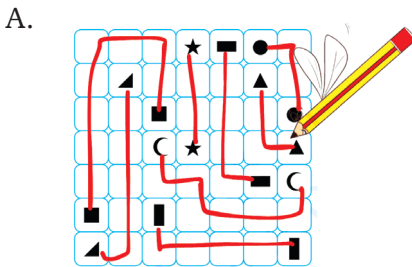
T.  = 6

U. (i)  +  +  = 15

(ii)  +  +  = 21

(iii)  +  +  = 12

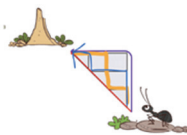
CLASS 2



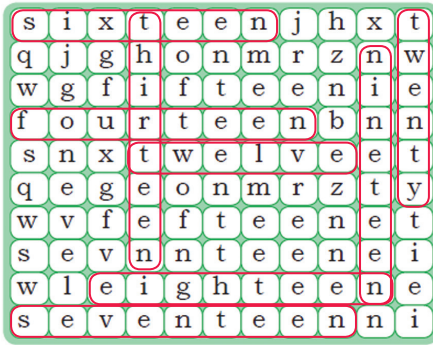
C. (i) C (ii) 5, 9, 7

D. This question is open-ended and does not have a single specific answer.

E. There are many ways on the triangle for an ant to return to its home. Encourage children to find other ways.

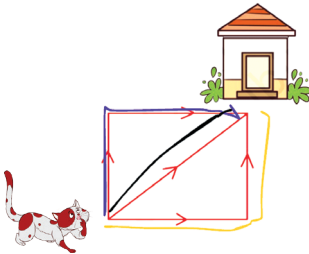


F.

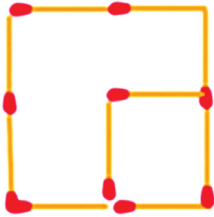


G. 3

H.



I.

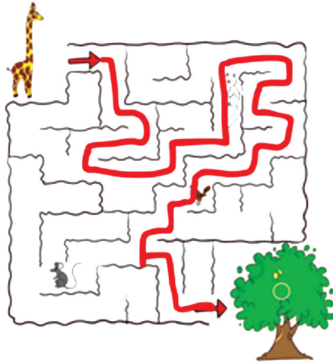


J. Circle (Wheel)

K. $15+11+4=30$

L. 69
66

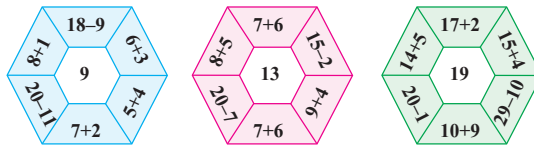
M.



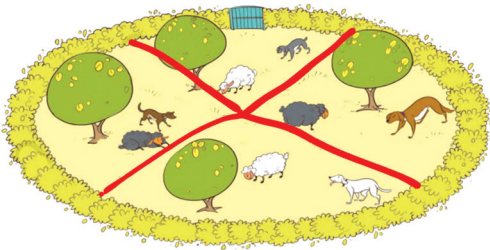
N. (i) Cat (ii) Bird

O. 9

P. There are multiple solutions. Some of them are shown below. Encourage children to find other solutions.

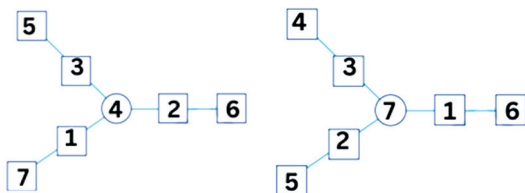


Q.



R. (i) 54 (ii) 83 (iii) 69 (iv) 71

- S. There are multiple solutions. Some of them are shown below. Encourage children to find other solutions.



T. 5 times

U. 9

- V. There are several solutions using exactly 10 key presses to reach 28 on a calculator. Here are some:

1. $10 + 10 + 10 - 2 - 2 = 28$
2. $5 + 5 + 5 + 5 + 4 - 1 = 28$
3. $9 + 9 + 5 + 3 + 2 = 28$
4. $8 + 8 + 7 + 3 + 2 = 28$
5. $7 + 7 + 7 + 5 + 2 = 28$

And there are more combinations possible.
Encourage children to find other combinations.

REFERENCES

1. Joyful Mathematics, Class 1 and 2 (Textbooks) NCERT
2. *Khel-Khel me Ganit*, Handbook for teachers, *Jaadui Pitara*, NCERT
3. Mathematics, Teachers' Resource Book for Class 1 and 2, NCERT
4. Source book on assessment, Primary, NCERT
5. Teaching Measurement, Pull out, At Right Angles, Azim Premji University



1. परिचय

बच्चे के व्यक्तित्व निर्माण में भाषा की महत्वपूर्ण भूमिका है। सामान्यतः भाषा को संप्रेषण या अभिव्यक्ति के साधन के रूप में देखा जाता है परंतु भाषा संप्रेषण से कहीं आगे जाकर अपने आस-पास के परिवेश को देखने, महसूस करने, जानने-समझने और जानी-समझी गई बातों को अर्थ देने का महत्वपूर्ण कार्य करती है। भाषा का जटिल तंत्र बच्चे के दृष्टिकोण, उसकी रुचियों, क्षमताओं, यहाँ तक कि मूल्यों और मनोवृत्तियों को भी आकार देता है। भाषा के माध्यम से ही अपने अनुभवों को व्यवस्थित करने, समझने और उनकी व्याख्या करने का कार्य किया जाता है। भाषा केवल ध्वनि, शब्द, वाक्यों के स्तर पर नियंत्रित एक तंत्र मात्र ही नहीं है, अपितु यह बोली, संकेत, हाव-भाव, भंगिमाओं, पठन-लेखन और संज्ञान का एक जटिल संरचनात्मक तंत्र है। यह बात ध्यान रखने योग्य है कि औपचारिक विद्यालयी शिक्षा के बुनियादी चरण में प्रवेश करने से पहले ही बच्चों के पास यह भाषायी तंत्र स्वाभाविक रूप से मौजूद होता है। बच्चे औपचारिक रूप से पढ़ना-लिखना सीखने से पहले ही भाषा की अद्भुत क्षमताओं को आत्मसात कर लेने की प्रक्रिया से गुजर रहे होते हैं। वे अपनी दिनभर की अनेक गतिविधियों में उठना-बैठना, चलना-फिरना, खाना-पीना, छूना-सूँघना, देखना-सुनना, खेलना-कूदना और अन्य गतिविधियों को करने में भाषा का रोमांचकारी प्रयोग कर रहे होते हैं। बच्चे अपने आस-पास के परिवेश से लेकर कहीं दूर तक की दुनिया के बारे में रोमांच से भरे होते हैं। वे अपने आस-पास की दुनिया जैसे— परिवार, पास-पड़ोस, वनस्पति, पशु-पक्षी और बहुत-सी वस्तुएँ जिन्हें वे समझना चाहते हैं, इसके लिए वे अपनी सहजात भाषिक क्षमता का भरपूर प्रयोग करते हैं। वे परिवेश के साथ अंतःक्रिया कर अपनी भाषिक क्षमताओं को विकसित एवं समृद्ध करते हैं।

बुनियादी चरण की हिंदी की पाठ्यपुस्तक *सारंगी* बच्चों द्वारा भाषा सीखने एवं प्रभावशाली तरीके से व्यवहार करने के लिए बच्चों की इसी स्वाभाविक वृत्ति का अनुपालन करती है। बच्चों के चारों ओर भाषा का समृद्ध संसार बिखरा हुआ है, जिसमें उनके परिजनों व मित्रों की भाषा, तरह-तरह की वनस्पति, रंग, परिधान, चित्र, कशीदाकारी, खेलगीत, लोरियाँ आदि सम्मिलित हैं। यह पूरा परिवेश बच्चों को सामाजिक-सांस्कृतिक दर्शन करवाता है। *सारंगी* बच्चों को इस विविध सांस्कृतिक दर्शन में विद्यमान सामग्री द्वारा भाषा (हिंदी) सीखने-सिखाने के तथ्य में विश्वास करती है और विद्यालय आने से पहले बच्चों के पास मौजूद भाषा के अद्भुत भंडार का भरपूर प्रयोग करती है।

1.1 भाषायी दृष्टिकोण

बच्चे अपने घर में और आस-पड़ोस में भाषा-बोलियों का तरह-तरह से प्रयोग होते हुए देखते हैं और वे अपनी दिन-प्रतिदिन की जरूरतों को पूरा करने के लिए न केवल उपयुक्त शब्दावली ग्रहण करते हैं अपितु बहुत आसानी से व्याकरणिक संरचनाओं को भी ग्रहण कर लेते हैं। कहने का तात्पर्य है कि वयस्कों एवं साथियों के साथ वे अंतःक्रिया करते हुए भाषा की विभिन्न प्रकार की बारीकियों के प्रति समझ बनाते चलते हैं। यही कारण है कि बिना किसी औपचारिक भाषा शिक्षण के बच्चे यह समझ बना लेते हैं कि जब दादी, नानी, माँ और बुआ आदि के बारे में कुछ कहना है तो वाक्य इकारान्त में होगा, जैसे— “मां! कब आओगी?” जब दादा, नाना, पिता और भाई आदि का प्रसंग हो तो वाक्य की संरचना को उसी के अनुसार बदल देते हैं, जैसे— “बाबा! भाई खौना (खिलौना) नहीं दे रहा।” वे भाषा की बारीकियों को कुछ इस प्रकार से आत्मसात कर लेते हैं कि वयस्कों द्वारा पूछे गए प्रश्नों के प्रत्युत्तर में संकेतों का भी बखूबी प्रयोग कर लेते हैं। उदाहरण के रूप में पड़ोसी महिला द्वारा माँ के बारे में पूछे जाने पर बच्चे का उत्तर होता है (हाथ से संकेत करते हुए)— “चाची! अम्मा उताई, इहाँ नाहीं।” सार रूप में कहा जा सकता है कि बच्चे के मस्तिष्क में भाषा को लेकर एक संरचना विद्यमान तो होती ही है साथ ही साथ सही या गलत, अपना एक लघु व्याकरण भी मौजूद रहता है।

1.2 शिक्षक संदर्शिका (हिंदी) के बारे में

बुनियादी स्तर पर बच्चों के भाषा शिक्षण को लेकर चली आ रही कई पारंपरिक मान्यताएँ हैं। उन मान्यताओं को कक्षाओं में व्यवहार रूप देती हुई शिक्षण-पद्धतियों के स्थान पर बच्चों के स्वाभाविक भाषा अर्जन के अनुरूप सरस एवं रोचक तरीकों का परिचय देने

के लिए इस शिक्षक संदर्शिका (हिंदी अनुभाग का) निर्माण किया गया है। यह संदर्शिका बच्चों की रंग-बिरंगी एवं अनोखी दुनिया में भाषा की भूमिका को समझने में आपकी सहायता करेगी। यह संदर्शिका एक ओर भाषा सीखने-सिखाने संबंधी विचारधाराओं में बदलावों की स्पष्ट व्याख्या करती है तो दूसरी ओर पहले से चली आ रही शिक्षण पद्धतियों की समालोचनात्मक नजरिए से समीक्षा करने के भी अवसर देती है। बुनियादी स्तर की कक्षाओं में भाषा, विशेषकर हिंदी सीखने-सिखाने के संदर्भ में यह संदर्शिका सुनियोजित एवं सुविचारित रूपरेखा, अनुभव देने की पद्धतियों और तरह-तरह की रोचक सामग्री प्रस्तुत करती है। इस संदर्शिका के माध्यम से आप पाठ्यचर्यक उद्देश्य, निर्देशन युक्तियों, आकलन की सहयोगात्मक विधियों और भाँति-भाँति की अधिगम-शिक्षण सामग्री का भी परिचय प्राप्त करेंगे। यह संदर्शिका निश्चित रूप से आपको ऐसे कक्षायी परिवेश को अभिकल्पित करने में दिशा देगी जिससे आप बच्चों के घर की भाषा और हिंदी भाषा में आपसी तालमेल बनाते हुए उसको विस्तार दे सकेंगे। बच्चों के लिए एक ऐसा परिवेश सृजित कर सकेंगे जिससे वे अपनी दुनिया और अपने पूर्वज्ञान की मदद से पाठ-सामग्री से अर्थग्रहण कर पाएँगे।

शिक्षक संदर्शिका आपका ध्यान इस ओर ले जाने का प्रयास करती है जहाँ आप हिंदी सीखने-सिखाने के दायरे की व्यापकता पर समालोचनात्मक रूप से विचार कर सकें। आप अपनी इस समझ को आगे बढ़ा पाएँ कि बच्चों को औपचारिक व अनौपचारिक विषय क्षेत्रों में प्रयुक्त होने वाली हिंदी के विविध रूपों से परिचित करवाने के लिए क्या-क्या तरीके अपनाए जा सकते हैं। इसमें हिंदी भाषा के सीखने के प्रतिफलों का उल्लेख किया गया है। इन तथ्यों पर भी प्रकाश डाला गया है कि किस प्रकार से संज्ञानात्मक विकास के महत्वपूर्ण अंग के रूप में भाषा अर्जन, संप्रेषण कौशल और पढ़ना-लिखना आकार लेता है।

कक्षा 1 एवं 2 के लिए सृजित हिंदी की पाठ्यपुस्तक सारंगी शृंखला की बुनावट भाषा-अधिगम के चार खंडीय उपागम और संतुलित साक्षरता दृष्टिकोण के ताने-बाने में बुनी गई है। अतः संदर्शिका में प्रथम भाषा के रूप में हिंदी शिक्षण के चार खंडीय उपागम और संतुलित साक्षरता दृष्टिकोण पर प्रकाश डाला गया है। कक्षा में बच्चे अलग-अलग भाषायी और सांस्कृतिक पृष्ठभूमि से आते हैं। कक्षा में इनकी भाषाओं का स्वागत करते हुए कैसे हिंदी की ओर बढ़ा जा सकता है और कैसे बच्चों की सांस्कृतिक व भाषिक विविधता के प्रति संवेदनशील बना जा सकता है, इस कारण से इस संदर्शिका में बहुभाषिकता पर विस्तार से चर्चा की गई है। संदर्शिका में बच्चों की प्रगति, उनके

सीखने-सिखाने के तरीकों का आकलन करने के लिए मानवीय, विद्यार्थी केंद्रित, उत्तरदायीपूर्ण, पारदर्शिता व सतत रूप से जारी रहने वाली आकलन की प्रक्रिया पर भी उदाहरणों के साथ चर्चा की गई है।

बच्चों की मौलिकता एवं सहज रचना शक्ति को सामने लाने का शिक्षक का प्रयास हिंदी शिक्षण की अनिवार्य प्राथमिकता है। *सारंगी* के माध्यम से हिंदी की दुनिया में प्रवेश करने एवं आगे बढ़ने के लिए बच्चों को किस-किस तरह के अनुभव दिए जाएँ, इसके लिए संदर्शिका सहयोगात्मक, सृजनात्मक और अनुभवजन्य शिक्षण पद्धतियों की विस्तार से चर्चा करती है। इस संदर्शिका में आप उस महत्वपूर्ण बिंदु को भी चिह्नित कर पाएँगे जिसके माध्यम से पूर्व बाल्यावस्था देखभाल, शिक्षा के सोपान एवं कक्षा 1 और 2 के बीच एक सहज संबंध बनाने की बात को उभारा गया है। कक्षा में उचित वातावरण निर्माण, विभिन्न भाषायी परिवेश से आए बच्चों से सहज संबंध, हिंदी भाषा कौशलों का विकास और विशेष आवश्यकता वाले बच्चों के लिए विशेष प्रावधानों एवं अनुकूलन हेतु तरह-तरह की शिक्षण युक्तियों व सामग्री को इस संदर्शिका में शामिल किया गया है। यह चर्चा विस्तार से की गई है कि शिक्षण प्रक्रिया को रुचिकर एवं वैविध्यपूर्ण बनाने के लिए किस-किस तरह की गतिविधियाँ समग्रतावादी दृष्टिकोण के साथ अपनायी जा सकें। जैसे— चित्र-पठन, कथावाचन, अभिनय, चित्रांकन, प्रश्नोत्तर, संवाद, अनुभव प्रस्तुतीकरण, खेलगीत प्रस्तुतियाँ आदि।

राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) बच्चों के पंचकोशीय विकास की अनुशांसा करती है जिसमें सभी कोशीय विकास एक-दूसरे से संबंधित हैं और किसी न किसी रूप में एक-दूसरे पर निर्भरता प्रकट करते हैं। प्रत्येक कोश के विकास की पारस्परिक निर्भरता थीम विषयक अधिगम की आवश्यकता को जन्म देती है। संदर्शिका में थीम-विषय अधिगम योजना की अवधारणा को विस्तृत रूप से स्पष्ट किया गया है। सारंगी शृंखला में कितनी थीम, किस उद्देश्य और किस क्रम के अंतर्गत ली गई हैं, इन थीम के इर्द-गिर्द कैसे तरह-तरह की गतिविधियाँ बुनी जा सकती है, यह चर्चा भी विस्तार से आप देख पाएँगे। यह एक शोध आधारित सर्वविदित सत्य है कि किसी भी विषय का शिक्षण एकांगी नहीं होता। भाषा सभी विषयों में विचरण करती है। भाषा के समूचे पाठ्यक्रम में इस तथ्य को आधार बनाते हुए यह स्पष्ट किया गया है कि सारंगी शृंखला में हिंदी किस प्रकार से गणित, पर्यावरण अध्ययन, कला, खेल आदि पाठ्यचर्यक क्षेत्रों में आकार लेती है। संदर्शिका में पाठ्यपुस्तक से इतर अनेक ऐसी गतिविधियाँ दी गई हैं जो आपकी सृजनात्मकता का संवर्द्धन करते हुए आपके दृष्टिकोण में निखार लाएँगी।

1.3 बुनियादी स्तर पर राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 के अनुसार पाठ्यचर्या लक्ष्य

पाठ्यपुस्तकों में यह प्रयास किया गया है कि बच्चों के जीवन से जुड़े हर पहलू जैसे कला, संगीत, भाषा, दैनिक क्रियाकलाप, नैसर्गिक वातावरण एवं सामाजिक पृष्ठभूमि को ध्यान में रखते हुए विषय सामग्री शामिल हो। महत्वपूर्ण बात यह है कि सारंगी शृंखला के हर पाठ में लगभग सभी दक्षताओं का ध्यान रखा गया है। राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) में भारतीय ज्ञान परंपरा के अनुसार ही पंचकोशीय अवधारणाओं को ध्यान में रखते हुए हिंदी भाषा के लिए लक्ष्य एवं दक्षताएँ निर्धारित की गई हैं। नीचे मुख्यतः भाषा से जुड़े पाठ्यचर्या के लक्ष्य (Curricular Goal-CG) एवं दक्षताओं (Competency-C) को इंगित किया गया है।

2. भाषा-अधिगम

पाठ्यचर्या लक्ष्य (CG)

CG- 9 बच्चे दैनिक जीवन के लिए प्रभावी संप्रेषण की कुशलता विकसित करते हैं।
दक्षताएँ:

- C- 9.1 सरल गीतों, तुकबंदी और कविताओं को सुनते हैं और उनकी सराहना करते हैं।
- C- 9.2 स्वयं से सरल गीत और कविताएँ बनाते हैं।
- C- 9.3 धारा प्रवाह के साथ बातचीत करते हैं और सार्थक बातचीत में शामिल रहते हैं।
- C- 9.4 एक जटिल कार्य के लिए मौखिक निर्देशों को समझते हैं और उसी कार्य के लिए दूसरों को स्पष्ट मौखिक निर्देश देते हैं।
- C- 9.5 सुनाई गई/पढ़ने वाली कहानियों को समझते हैं और पात्रों, कथावस्तु एवं लेखक के आशय की पहचान करते हैं।
- C- 9.6 कथावस्तु और पात्रों को ध्यान में रखते हुए स्पष्टता के साथ लघु कथाएँ सुनाते हैं।
- C- 9.7 दिन-प्रतिदिन की बातचीत को प्रभावी ढंग से करने के लिए पर्याप्त शब्दों को जानते हैं और उपयोग करते हैं तथा मौजूदा शब्दावली का उपयोग करके नए शब्दों के अर्थ का अनुमान लगा सकते हैं।

CG- 10 बच्चे पहली भाषा (L1) में पढ़ने और लिखने में निपुणता विकसित करते हैं।

- C-10.1 ध्वन्यात्मक जागरूकता विकसित करते हैं और ध्वनियों, अक्षरों को शब्दों में मिश्रित करते हैं तथा शब्दों को ध्वनियों/अक्षरों में बाँटते हैं।

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| C-10.2 | किताब की आधारभूत संरचना/रूपरेखा, प्रिंट में शब्दों के विचार और दिशा को समझते हैं जिसमें वे प्रिंट होते हैं एवं आधारभूत विराम-चिह्नों की पहचान करते हैं। |
| C-10.3 | लिपि में वर्णमाला के सभी अक्षरों की पहचान करते हैं और पढ़ने-लिखने में इस ज्ञान का प्रयोग करते हैं। |
| C-10.4 | उचित अनुतान और यति-गति के साथ परिशुद्ध एवं प्रवाहपूर्ण रूप से अनुच्छेद व कहानियाँ पढ़ते हैं। |
| C-10.5 | कथानक, पात्रों और लेखक क्या कहना चाहता है— इनकी पहचान करते हुए स्वयं लघु कहानियों को समझ के साथ पढ़ते हैं। |
| C-10.6 | छोटी कविताएँ पढ़ते हैं और शब्दों के चयन एवं कल्पना के लिए कविता की सराहना की शुरुआत करते हैं। |
| C-10.7 | छोटे समाचार, निर्देश और व्यंजन बनाने की विधि एवं प्रचार सामग्री को पढ़कर अर्थ समझते हैं। |
| C-10.8 | अपनी समझ और अनुभवों को अभिव्यक्त करने के लिए लिखते हैं। |
| C-10.9 | विभिन्न प्रकार के बाल साहित्य को चुनने और पढ़ने में रुचि व्यक्त करते हैं। |

जैसा कि अनुसंधान स्पष्ट रूप से दिखाते हैं कि बच्चे 0 से 8 वर्ष की आयु के बीच भाषा त्वरित गति से सीखते हैं और भाषा के साथ तरह-तरह के खेल भी खेलते हैं इसलिए यह महत्वपूर्ण रूप से आवश्यक है कि उन्हें प्रारंभिक अवस्था से ही भाषा के साथ तरह-तरह के कार्य व्यवहार करने के अवसर दिए जाएँ। राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) रेखांकित करती है कि छोटे बच्चों के अधिगम के लिए एक ऐसा सकारात्मक एवं सहयोगात्मक संबंध आधारित सीखने का परिवेश सृजित किया जाए जो उन्हें निर्देशन की भाषा के रूप में परिचित भाषा के माध्यम से भावात्मक सुरक्षा प्रदान कर सके। ऐसा करना इसलिए आवश्यक है, क्योंकि यदि बच्चों को निर्देशन की भाषा के रूप में नई या अपरिचित भाषा में पढ़ाया-सिखाया जाता है तो उसके पूर्व अर्जित अनुभवों का लाभ नहीं उठाया जा सकेगा। नई अथवा अपरिचित भाषा का उपयोग जिससे बच्चों के विद्यालय आने से पहले के अनुभवों और उनकी निजभाषा की अनदेखी होती है, इससे दोतरफा क्षति होती है। पहली क्षति, यह कि इससे बच्चों का सहज संप्रेषण बाधित होता है और वे संकल्पनाओं को समझने में जटिलता का अनुभव करते हैं। दूसरी क्षति यह कि उनके व्यक्तित्व में आत्मविश्वास, सकारात्मकता, स्व-छवि, स्वायत्तता आदि के बोध विकास को भी बाधित करता है। भाषा अधिगम के मुख्य सिद्धांतों को दिए गए अवधारणात्मक चित्रण द्वारा भी समझा जा सकता है।

2.1 भाषा-अधिगम के मुख्य सिद्धांत



भाषा अधिगम शिक्षण के संदर्भ में राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022
(बुनियादी चरण) में प्रयुक्त शब्दावली।

2.2 L1, L2 और R1, R2

- L1**— सभी बच्चों में अपने परिवेश के माध्यम से वयस्कों के साथ अंतःक्रिया कर प्रथम भाषा (मातृभाषा/घर की भाषा/परिचित भाषा) को सृजित करने और दिन-प्रतिदिन की जरूरतों के लिए उसका प्रयोग करने की स्वाभाविक क्षमता होती है।
- L2**— यह भाषा का वह स्वरूप है जो बच्चों के लिए अपेक्षाकृत सायास या अपरिचित हो। सामान्यतः इसका अधिगम-शिक्षण इसलिए होना जरूरी है ताकि बच्चे भिन्न-भिन्न सामाजिक-सांस्कृतिक परिस्थितियों में अंतःक्रिया करने के लिए भाषायी रूप से सक्षम हो सकें और विविध भाषाओं में मौखिक रूप से व्यवहार कर सकें।
- R1**— यह वह भाषा है जिसके माध्यम से बच्चे भाषा के लिखित या मुद्रित स्वरूप को समझते हुए परिचित होते हैं अर्थात पठन और लेखन की अवधारणा से परिचित

होते हैं। सामान्यतः अधिकतर स्थितियों में R1, L1 के रूप में स्वीकृत की जाती है, पर कुछ स्थितियों में L2 भी हो सकती है।

R2— इस भाषा से तात्पर्य भाषा के उस स्वरूप से है जिसमें बच्चे पठन और लेखन करते हैं। आमतौर पर बच्चों को R2 से तब परिचित करवाया जाता है जब बच्चे R1 के माध्यम से पढ़ने और लिखने की संकल्पना से परिचित हो जाते हैं।

2.3 प्रथम भाषा के रूप में हिंदी

राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) बच्चों के भाषा सीखने-सिखाने और उसमें बुनियादी साक्षरता विकास करने के संदर्भ में समग्रतावादी तथा बालकेंद्रित उपागमों की अनुशंसा करती है। कक्षा 1 और 2 की प्रस्तुत पाठ्यपुस्तकें सारंगी तकनीकी ज्ञान-विज्ञान वाली 21वीं सदी के बच्चों के लिए है। भाषा अधिगम के उपागम, प्रविधियाँ एवं तरीके इस प्रकार के हों कि बच्चे स्वतः खोजबीन कर विषयवस्तु तक पहुँचें साथ ही यह भी ध्यान रखने की जरूरत है कि विषयवस्तु उनके आस-पास के परिवेश को संबोधित करने वाली हो। सारंगी शृंखला सुनिश्चित करती है कि बच्चे बुनियादी साक्षरता के समस्त सोपानों तक पहुँचने के लिए अध्यापक की मदद से तरह-तरह की गतिविधियों यथा अनुभवों को सुनना-सुनाना, अवलोकन कर अपनी टिप्पणी दे पाना, साथियों के साथ संवाद करना, गीत-संगीत, चित्रों के माध्यम से अक्षरों की बनावट सीखना, अभिनय आदि का भरपूर आनंद उठाएँगे। पाठ्यचर्या द्वारा अनुशंसित उपागमों को क्रमानुसार इस तरह से समझा जा सकता है—

निर्देशन/शिक्षण का माध्यम L1— बच्चे कक्षा में सहजता का अनुभव करें, गतिविधियों में बेझिझक भाग ले सकें और किसी भी तरह का संवाद करने में संकोच न करें, इसके लिए जरूरी है कि उनकी निजभाषा (मातृभाषा/घर की भाषा/सर्वाधिक रूप से परिचित भाषा) में अंतःक्रियाएँ की जाएँ। अपरिचित भाषा में निर्देशन भयभीत करने वाला माहौल बनाता है। अतः उनकी भाषा का प्रयोग करते हुए सहजता से दूसरी भाषा को परिचित करवाया जाए।

बच्चों को बहुविध भाषाओं के वाचिक स्वरूप से परिचित करवाना और उन्हें अंतःक्रिया/संवाद करने के अवसर देना— भारत बहुभाषिक और बहुसांस्कृतिक देश है। यह हमारे देश की अनुपम विशेषता है। बच्चे इस विशेषता की पहचान कर पाएँ, इस विशेषता से अभिभूत हो पाएँ और एक-दूसरे की भाषा व संस्कृति का सम्मान कर पाएँ, इसके लिए उन्हें कक्षा में ही अपनी-अपनी मातृभाषाओं में अभिव्यक्ति के अवसर देने

होंगे। सारंगी शृंखला के पाठ, अभ्यास एवं गतिविधियाँ पाठ्यचर्या की इस अनुशंसा का सम्मान करते हुए बच्चों के लिए भयमुक्त और तनावमुक्त परिवेश सृजित करती हैं।

R1 में पठन और लेखन कौशलों का विकास— बच्चे के मानस में भाषा की एक संरचना होती है। बच्चे के आस-पास के परिवेश में बोली जा रही सभी भाषाओं की कुछ सामान्य बातें व नियम होते हैं। इन्हीं संरचनाओं के संपर्क में आने से बच्चे कई भाषाओं में मौखिक व्यवहार करना सीख लेते हैं और जब वे विद्यालय आते हैं तो उनके पास अपनी भाषा का एक विपुल शब्द भंडार होता है। पढ़ना-लिखना, सीखने व सिखाने में उनकी भाषा के इस अमूल्य भंडार का समुचित उपयोग उन्हें आनंद तो देगा ही साथ ही साथ उनकी संज्ञानात्मक क्षमताओं का भी विकास करेगा। सारंगी शृंखला, पढ़ना-लिखना, सीखने और सिखाने के संदर्भ में R1 को साथ लेकर चलती है। यह पढ़ना सीखने की उस स्वाभाविक प्रक्रिया को आधार बनाती है जिसमें यह माना गया है कि बच्चे पढ़ना सीखने की शुरुआत अपनी भाषाओं में स्मृति चित्र बनाकर करते हैं। सारंगी शृंखला इस तथ्य पर भी जोर देती है कि ‘पढ़ना’ और ‘लिखना’ दो भिन्न-भिन्न कौशल नहीं हैं। पढ़ना और लिखना अपने आप में कोई एकाकी प्रक्रिया नहीं है बल्कि यह दोनों अभ्यास एक-दूसरे के साथ-साथ चलते हैं।

अर्थ निर्माण—किसी भी भाषा के सुनने-बोलने और पढ़ने-लिखने के मूल में ‘समझ’ है अर्थात् जो सुना गया अथवा जो पढ़ा गया है, उसके प्रति समझ बनी है या नहीं। सुने गए शब्दों को बिना समझ के बोलकर या लिखकर मात्र दोहरा देना और लिखित अथवा मुद्रित सामग्री को बिना समझ के उच्चारित कर देना ‘पढ़ना’ नहीं है। सापेक्ष तरीके से कहा जाए तो ‘पठन’ का अर्थ वर्ण और शब्द की पहचान व उनको बोल देना नहीं बल्कि उनमें निहित अर्थ को समझना है। अर्थ समझने की प्रक्रिया में अनुमान एवं अनुभव दोनों की ही भूमिका होती है। पढ़ना सीखने के इस सिद्धांत को आधार बनाते हुए सारंगी शृंखला में ऐसी गतिविधियाँ दी गई हैं जो बच्चों की ‘समझ’ बनाते हुए पठन एवं लेखन सीखने के मौके देती हैं, जैसे— सुनी अथवा पढ़ी हुई कहानी को अपने शब्दों में कहना, कविता को आगे बढ़ाना, तुकबंदियां करना, देखे गए चित्रों से संवाद करना और उनमें अपनी कल्पनाओं के रंग भरना आदि।

2.4 बहुभाषिकता

भारत में जब कोई बच्चा विद्यालय जाता है, उसके पहले से ही वह सामान्यतः एक से अधिक भाषाओं का जानकार होता है। कई बार वह उस भाषा के भी गीत गुनगुनाता है और उसका आनंद लेता है जो उसकी मातृभाषा से भिन्न होती है। कहने का तात्पर्य है कि हर बच्चा अनायास या स्वाभाविक रूप से बहुभाषिक होता है। इसका मुख्य कारण

उसके आस-पास बोली जाने वाली भाषाएँ एवं बोलियाँ हैं, जिन्हें वह अलग-अलग परिस्थितियों में सुनता-समझता है और उपयोग करता है। बहुभाषिकता के संदर्भ में हुए अध्ययनों ने यह साबित किया है कि जो बच्चे सीखने के दौरान एक से अधिक भाषाओं में कुशलता का विस्तार करते हैं, उनमें सीखने की प्रक्रिया के साथ-साथ रचनात्मकता और सामाजिक सहिष्णुता जैसे गुणों का भी बेहतरीन विकास होता है।

सारंगी (भाग-1 एवं भाग-2) के निर्माण के क्रम में बहुभाषिकता की इस विशिष्टता को ध्यान में रखा गया है। दोनों पुस्तकों में पाठों के चयन के क्रम में इस बात का ध्यान रखा गया है कि कक्षा में इस तरह के बहुभाषिक माहौल का सृजन हो सके जो बच्चों के भाषा सीखने के साथ-साथ उनकी भाषायी अस्मिता के प्रति संवेदनशीलता बरत सके और उनका सम्मान कर सके। *सारंगी* (भाग-1) पाठ्यपुस्तक में परिवार थीम के अंतर्गत परिवार से संबंधित पोस्टर के साथ 'मीना का परिवार', 'दादा-दादी' आदि ऐसे पाठ दिए गए हैं जिनके आभासी आँगन में हर बच्चे की गूँज उसकी भाषा में सुनाई पड़ती है। कोई अपने दादा जी को दादू बोलता है तो कोई थाथा या थाथू। ऐसे ही माँ को कोई माई बोलता है तो कोई मम्मी या आई। ऐसी स्थिति बच्चे की मौखिक भाषा-विकास एवं उसकी शब्दावली को समृद्ध तो करती ही है साथ ही साथ बच्चों में एक-दूसरे की सांस्कृतिक विविधता के प्रति भी सम्मान का भाव भी विकसित करती है।

2.4.1 बहुभाषिकता – संसाधन के रूप में

कक्षा 1 और 2 की हिंदी पाठ्यपुस्तक *सारंगी* में संसाधन के रूप में बहुभाषिकता का बेहतरीन उपयोग किया गया है। *सारंगी* में परिवार से संबंधित पोस्टर के शिक्षण-संकेत में स्पष्ट लिखा गया है कि यह (शिक्षक) सुनिश्चित करें कि कक्षा के सभी बच्चों को अपने घर-परिवार के विषय में अपनी भाषा में कहने की स्वतंत्रता और अवसर मिले। इसी

3. नीचे दिए गए शब्दों को पढ़िए। अब इनमें 'उ' (उ) या 'ऊ' (ऊ) की मात्रा लगाकर नए शब्द बनाइए और लिखिए –



फल – पल – परी – सराही –

शिक्षण-संकेत – 'झूला', 'छुप्पम', 'खेल', 'झंडा', 'खेत', 'छतरी' आदि एवं अन्य शब्दों की सहायता से बच्चों को 'झ', 'छ', 'ख' की ध्वनियों एवं आकृतियों (अक्षरों) से परिचित कराएँ तथा इनसे बनने वाले अन्य शब्द भी पूछें। बच्चों से पूछें कि उनकी भाषा में इन्हें क्या कहते हैं।

स्रोत— *सारंगी* (भाग-1) (इकाई-3) पृष्ठ संख्या 61

तरह 'गिलहरी' शीर्षक चित्रकथा के शिक्षण-संकेत में भी स्पष्ट लिखा गया है, बच्चों को अपनी भाषा में कहानी सुनाने के लिए प्रोत्साहित करें। ठीक इसी तरह ऐसे अवसर पर आनंदमयी कविता 'झूलम-झूली' पाठ्यपुस्तक के पाठांत अभ्यास प्रश्नों में भी दी गई है।

इस तरह के अभ्यास से बच्चों की शब्दावली समृद्ध होती है। बहुभाषिकता से संबंधित कुछ भाषा संबंधी गतिविधियाँ भी करवाई जा सकती हैं। *सारंगी* (भाग-1) में खेलगीत दिया गया है— 'पोषम पा भई पोषम पा।' बच्चों को यह कविता बहुत पसंद आती है। जब इसका गायन करवाया जाए तब यह प्रयास किया जा सकता है कि एक पंक्ति के बाद दूसरी पंक्ति बच्चों की मातृभाषा में हो। ऐसी गतिविधि करने से बच्चों को अपनी मौलिक सहभागिता का अनुभव होगा। आंचलिक खेलगीत सहित अन्य क्षेत्रीय गीतों का सम्मान कक्षा में होना चाहिए। दिए गए संदर्भ में बाल साहित्य सहित अन्य संसाधनों के चयन एवं उपयोग की आजादी बच्चों को होनी चाहिए जो उनके परिवेश में हैं। उनका संसाधन के रूप में उपयोग, कक्षा की कार्यनीति का हिस्सा बनाना तथा उसे लक्ष्य के रूप में रखना, रचनात्मक भाषा शिक्षक का कार्य है। निःसंदेह यह उपलब्ध संसाधनों का बेहतर उपयोग है।

2.5 मातृभाषा से हिंदी भाषा की ओर



शिक्षक के द्वारा बच्चों को उनकी स्वभाषा में अभिव्यक्ति के अवसर प्रदान कर उन्हें मातृभाषा से हिंदी की ओर ले जाया जा सकता है। राष्ट्रीय शिक्षा नीति-2020 और राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) बच्चों की अपनी भाषा (मातृभाषा) से हिंदी की ओर प्रगति करने की अनुशंसा करती है। बच्चों में, शिक्षक इस प्रकार की प्रगति

को विभिन्न तरीकों से सुनिश्चित कर सकते हैं। उदाहरण के लिए बच्चों की त्योहार, मेलों व उत्सवों की शब्दावली को बच्चों की भाषा से हिंदी भाषा में परिचित करवाना, आस-पास के परिवेश की खोजबीन कर उसके बारे में संवाद करवाना, बच्चों की दिनचर्या से जुड़ी बातचीत को सुनने-सुनाने के अवसर प्रदान करने के साथ-साथ हिंदी भाषा में भी कहने व सुनने के मौके देना आदि।

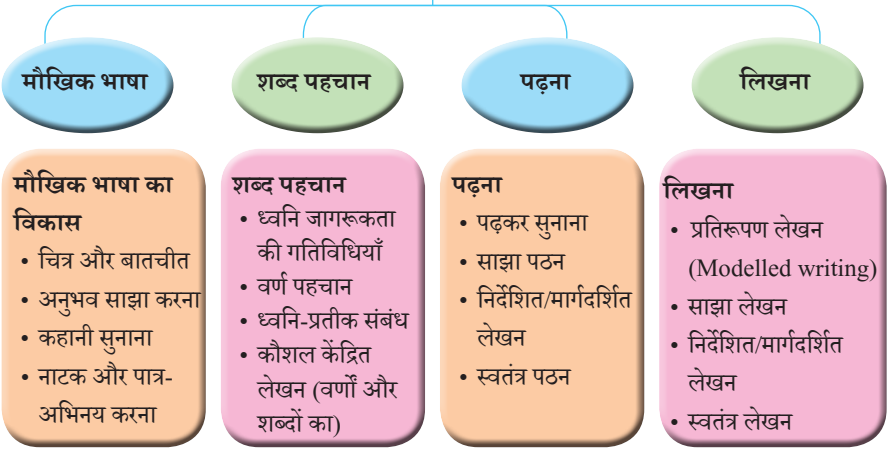
2.6 संतुलित साक्षरता

शोध ने यह दर्शाया है कि भाषा और साक्षरता के घटकों को विकसित करने के लिए एक व्यापक और व्यवस्थित दृष्टिकोण की आवश्यकता होती है जिसे संतुलित साक्षरता दृष्टिकोण के रूप में जाना जाता है। संतुलित साक्षरता दृष्टिकोण, शब्द पहचान कौशल विकसित करने के साथ-साथ अर्थ-ग्रहण पर भी बल देता है। यह भाषा (वाक्यों) के संपूर्ण प्रयोग के साथ-साथ मौखिक भाषा और पढ़ने-लिखने के मध्य संतुलन बनाने और अर्थ-ग्रहण करने का कार्य भी करता है। हिंदी की पाठ्यपुस्तक *सारंगी* में संतुलित साक्षरता दृष्टिकोण एवं भाषा साक्षरता के चार खंडीय उपागमों को अत्यंत ही रोचक एवं आनंदमयी तरीके से शामिल किया गया है। राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) के अनुसार भाषा सीखने-सिखाने के लिए भाषा शिक्षण के चारों स्तंभों पर कार्य करना महत्वपूर्ण है।

2.7 भाषा साक्षरता के लिए चार खंडीय उपागम

भाषा और साक्षरता निर्देशन के चार प्रमुख उपागम, मौखिक भाषा, शब्द-पहचान, पढ़ना और लिखना है। हालाँकि चार-खंडीय गतिविधियों को एकीकृत तरीके से कार्यान्वित किया जा सकता है, किंतु यह भी महत्वपूर्ण है कि बच्चे नियमित आधार पर प्रत्येक खंड को जानने और समझने के लिए उस पर अभ्यास कर समय व्यतीत करें। जब बच्चे अर्थ-ग्रहण करना सीख रहे हों, तो उन्हें कहानी की किताबों से जोड़े रखना चाहिए, जैसे कहानी की किताबों को जोर-जोर से पढ़ने के दौरान सुनना और प्रतिक्रिया देना। उन्हें पढ़ाए जा रहे पाठ के जवाब में लिखना या चित्र बनाना। इसके अलावा, अक्षरों और स्वरों या वर्णों और अक्षरों के शिक्षण को समग्र रूप से व्यवस्थित किया जा सकता है ताकि बच्चे सभी वर्णों और मात्राओं को एक साथ सीखने की प्रतीक्षा करने के बजाय, कुछ प्रतीकों को सीखने के बाद सरल शब्दों और सार्थक वाक्यों को पढ़ना और लिखना शुरू कर सकें, ये सभी चार-खंडीय प्रारूप में सम्मिलित हैं—

भाषा-अधिगम के चार खंडीय उपागम



1. मौखिक भाषा विकास

बच्चे पढ़ना-लिखना सीखने से पहले सुनकर और बोलकर भाषा सीखते हैं। विद्यालय में प्रवेश करने से पहले ही वे अपने आस-पास के वातावरण से शब्दावली सीख लेते हैं। कक्षा में बच्चों को सुनने और बोलने के माध्यम से भाषा से अवगत करवाना महत्वपूर्ण है। प्रारंभिक वर्षों में बच्चों के मौखिक भाषा विकास पर ध्यान केंद्रित करने के कुछ तरीके हैं—

- बच्चों को उनकी स्वभाषा में बात करने के अवसर प्रदान करें।
- बच्चे अपनी घर की भाषा (मातृभाषा) में सोचते हैं और अपनी स्वभाषा में विचारों की अभिव्यक्ति करते हैं। स्वयं को अभिव्यक्त करते समय अपनी भाषा के शब्दों का प्रयोग करते हैं। शब्दों के प्रयोग की यह स्वतंत्रता उन्हें मिले, यह सुनिश्चित किया जाए।
- भाषा सिखाने के लिए बच्चे की मातृभाषा को एक सेतु के रूप में उपयोग करना महत्वपूर्ण है।
- शिक्षक यह भी ध्यान में रखें कि किसी भी बच्चे के घर की भाषा या बोली का तिरस्कार न हो।
- बातचीत (चित्रों के साथ या चित्रों के बिना) चर्चाएँ, अनुभवों, भावनाओं और विचारों को साझा करना, प्रश्न पूछना और उत्तर देना, सरल निर्देशों का उपयोग करना आदि जैसी गतिविधियों का उपयोग करें।

- कविताएँ स्वरबद्ध करें और गीत गाएँ, बच्चों को ऊँची आवाज में पढ़ने को कहें, खेल खेलें, बच्चों को नाटक या रोल प्ले और संवाद में शामिल करें।
- शिक्षक बच्चों से उनके परिवार के बारे में खान-पान तथा उनके घर में खेले जाने वाले खेलों के बारे में अपने अनुभव साझा करने के लिए कह सकते हैं।
- नए शब्द और अभिव्यक्ति के तरीके सिखाकर बच्चों की शब्दावली बढ़ाएँ।

2. शब्द पहचान

- बच्चे कहानी में ध्वनि जागरूकता व ध्वनि पहचान करते हुए शब्दों को पढ़ पाएँगे तथा शब्द निर्माण कर पाएँगे।
- कहानी 'मीना का परिवार' (सारंगी, भाग 1, इकाई 1, पाठ 1) में प्रमुख रूप से आए वर्ण 'द' की पहचान करते हुए उससे शुरू होने वाले कुछ और शब्द बता पाएँगे तथा शब्दों के खेल को आसानी से हल कर पाएँगे।

शब्द पहचान करने की दक्षता तथा लेखन का विकास

'द' से शुरू होने वाले चित्रों को पहचानें और दिए गए स्थान में रंग भरें।



- ध्वनि पहचान व जागरूकता हेतु गतिविधियाँ करवाकर शिक्षक बच्चों में शब्द पहचान की दक्षता विकसित कर सकते हैं।
- शब्द की ध्वनियों को तोड़कर पहली और अंतिम ध्वनि की पहचान करवाएँ, जैसे— माला में पहली ध्वनि 'मा' तथा अंतिम ध्वनि 'ला' है। इसी प्रकार शिक्षक बच्चों के साथ गतिविधियाँ आयोजित कर उनमें वर्णों की ध्वनि को सहज सिखा सकते हैं। यहाँ बच्चे रुचि के साथ खेल-खेल में सीख जाएँगे।

वर्ण/अक्षर से शब्द बनाएँ

| | | | |
|----|----|----|----|
| दा | मा | ला | दी |
| मी | ध | ल | मि |
| ना | चा | का | ची |
| मा | मी | फ | ता |
| पि | स | ब | सा |

आइए नया शब्द खोजें

| | | | |
|----|----|----|----|
| नी | मा | ल | दी |
| मी | प | ला | पि |
| ना | का | चा | ची |
| मा | मी | फ | ता |
| मि | सा | ब | स |

- ध्वनि पहचान के लिए अक्षर पट्टी एवं अक्षर वर्ण के खेल के माध्यम से बच्चों को ध्वनि जागरूकता संबंधित गतिविधियाँ करवाई जा सकती हैं।

| | | | |
|----|----|----|----|
| दा | मा | ला | दी |
| मी | ध | ल | मि |
| ना | चा | का | ची |
| मा | मी | फ | ता |
| पि | स | ब | सा |

शिक्षक बच्चों को ग्रिड दिखाते हुए ध्वनि पहचान व जागरूकता की गतिविधि करवा सकता है तथा शब्द बनाने के लिए कह सकता है।

बच्चे निम्न प्रकार की ध्वनियों को जोड़ते हुए शब्द बना सकते हैं।

दा+दा = दादा
दा+दी = दादी

चा+चा = चाचा
मी+ना = मीना

- बच्चों से पूछें कि 'दादा' शब्द में कितनी ध्वनियाँ हैं? पहली और अंतिम ध्वनि कौन-कौन सी है?
- बच्चों को समूह में बैठाएँ और उनके साथ भाषा संबंधी खेल-खेलें। 'शब्द चकरी' जैसी सामग्री एवं खेल बनाकर वर्ण पहचान और शब्द बनाना जैसे कार्य करवाएँ।



3. पढ़ना

पढ़कर सुनाना (Read Aloud)— पढ़कर सुनाने से तात्पर्य है, अध्यापक/अभिभावक या किसी भी वयस्क द्वारा रुचिकर पठन सामग्री, हाव-भाव और तान-अनुतान के साथ बच्चों को पढ़कर सुनाना। यहाँ पर यह अपेक्षा नहीं की जाती कि बच्चे शिक्षक द्वारा पढ़े गए को दोहराएँ। बच्चों को रुचिकर एवं अच्छे साहित्य से परिचित करवाना और शब्दावली का संवर्द्धन होने के मौके देना, इसका उद्देश्य है।

साझा पठन (Shared Reading)— शिक्षक दूर से दिखाई देने वाली बड़ी छपाई वाली पठन-सामग्री चुनते हैं और जब बच्चे पठन-सामग्री से जुड़ते हैं तब उनके साथ बीच-बीच में चर्चा भी की जाती है। शिक्षक बच्चों को अपने साथ-साथ पढ़ने के लिए प्रोत्साहित करते हैं। जैसे-जैसे बच्चे ऊँची आवाज में कहानियाँ पढ़ते हैं और साथ-साथ पढ़ने में भाग लेने लगते हैं, वैसे-वैसे वे अपने वर्तमान स्तर से आगे बढ़ सकते हैं और पढ़ने की अपनी क्षमताओं के बारे में आत्मविश्वास हासिल कर सकते हैं।

निर्देशित/मार्गदर्शित पठन (Guided Reading)— पठन का यह तरीका सामूहिक पठन से भिन्न है। इसमें पठन का कार्य एवं उत्तरदायित्व अध्यापक पर न होकर बच्चों पर है। यद्यपि पठन सामग्री को पढ़ने की पहल शिक्षक द्वारा की जाती है। आप पठन सामग्री पढ़ना शुरू करेंगे और आगे के कुछ वाक्य छोड़ देंगे, इसके बाद बच्चे आपके द्वारा छोड़े गए भाग को समझ बनाते हुए पढ़ेंगे। साथ ही साथ निर्देशित पठन में आप बच्चों को आवश्यकतानुसार पठन में सहायता करें। आपके द्वारा दी जाने वाली सहायता से बच्चों को यह नहीं प्रतीत होना चाहिए कि उनके द्वारा किया गया पठन गलत है। उनके आत्मसम्मान को किसी भी प्रकार से ठेस न पहुँचे।

स्वतंत्र पठन (Independent Reading)— पठन सीखने की प्रक्रिया में स्वतंत्र पठन करना, पठन कार्यों में रुचि लेना और पठन के प्रति उत्साह दिखाना, पठन सीखने का मुख्य उद्देश्य है, इसलिए बच्चों को उनके स्तर की रुचिकर पठन सामग्री को स्वतंत्र रूप से पढ़ने के अवसर दें। आरंभ में आप उनके साथी के साथ पढ़ने के लिए कहें, क्योंकि जो बच्चे अभी स्वतः पठन करने में संकोच का अनुभव कर रहे हैं, वे अपने साथी के साथ पठन करते हुए आत्मविश्वास का अनुभव करेंगे और धीरे-धीरे स्वतंत्र रूप से पठन करने लगेंगे। स्वतंत्र पठन के अंतर्गत बच्चों को अपनी रुचि की पुस्तकें चुनने और पढ़ने के अवसर दें।

4. लिखना

प्रतिरूपण लेखन (Modelled Writing)— जो छोटे बच्चे लिखना सीख रहे हैं, उनके लिए शिक्षक को लिखने की प्रक्रिया का मॉडल बनाना होगा। यदि हम अर्थ को भाषा शिक्षण के केंद्र में रखना चाहते हैं तो देखकर लिखना बच्चों के लिए बहुत सार्थक गतिविधि नहीं है, भले ही यह लेखन प्रवाह को विकसित करने में मदद करती हो। लेखन प्रक्रिया की मॉडलिंग करके इससे छोटे बच्चे बोलने के साथ-साथ लेखन को अभिव्यक्ति की एक गतिविधि के रूप में देखना शुरू करें।

साझा लेखन (Shared Writing)— साझा लेखन एक सहयोगी प्रक्रिया है जिसमें शिक्षक और बच्चे साथ मिलकर लेखन कार्य करते हैं। उदाहरण के लिए, शिक्षक बोर्ड पर 'मैंने नाश्ते में खाया' वाक्य लिखकर शुरू कर सकते हैं और एक बच्चे को आकर वाक्य पूरा करने के लिए कह सकते हैं। चर्चा करना, बातचीत करना व लिखना साथ-साथ चलते हैं और शिक्षक लगातार बच्चों को लेखन प्रक्रिया में मॉडलिंग, प्रोत्साहित एवं मार्गदर्शित करते हैं।

निर्देशित/मार्गदर्शित लेखन (Guided Writing)— बच्चों द्वारा स्वतंत्र लेखन वांछित होने पर भी बच्चों को केवल लेखन कार्य दे देने से यह अपने आप उभरकर नहीं आता। साझा लेखन से जिम्मेदारी आंशिक रूप से बच्चे पर स्थानांतरित कर दी जाती है। अतः शिक्षक को लेखन को आगे बढ़ाने के लिए लगातार प्रतिक्रिया, सुझाव और संकेत देना चाहिए। लेखन के लिए सोद्देश्यता, क्रियाशीलता और कल्पनाशीलता के तत्वों को जोड़ने वाले उपयुक्त कार्य निर्धारण करने से छोटे बच्चों की लिखने की रुचि बनी रहती है। निर्देशित अथवा मार्गदर्शित लेखन में बच्चों द्वारा मिलजुल कर लिखना (Peer Writing) और शिक्षक के फीडबैक के साथ लेखन के कई प्रारूप शामिल किए जा सकते हैं।

स्वतंत्र लेखन (Independent Writing)— बच्चों को खुद से लिखने का समय दिया जाना चाहिए। कहानियों, कविताओं, संदेश, निर्देश एवं तरह-तरह की सामग्री स्वतंत्र रूप से लिखने के लिए उन्हें प्रोत्साहित करें। इससे उन्हें अपनी रचनात्मकता और कल्पना का उपयोग करने के साथ-साथ साक्षरता के व्यावहारिक पहलुओं से जुड़ने का मौका भी मिलता है। बुनियादी चरण में संतुलित भाषा और साक्षरता शिक्षण का एक अन्य आयाम यह है कि मौखिक भाषा का विकास, डिकोडिंग संबंधी कार्य, पढ़ने और लिखने की गतिविधियाँ एक साथ और प्रतिदिन होनी चाहिए।

5. पढ़ने और लिखने से संबंधित महत्वपूर्ण बिंदु

शिक्षक विभिन्न गतिविधियों के माध्यम से बच्चों में पढ़ने और लिखने के प्रति न केवल रुचि एवं उत्सुकता जागृत कर सकते हैं बल्कि बच्चों में स्वयं के प्रति आत्मविश्वास, कल्पनाशीलता, संवेदना के भाव और रचनात्मकता का सृजन भी कर सकते हैं।

- बच्चों द्वारा पढ़ी और सुनी गई कहानी/कविता में अपने अनुभव के आधार पर अंत में बदलाव करना जैसे— कछुए और खरगोश की कहानी में यदि दौड़ में कछुए की जगह खरगोश जीत जाता तो क्या होता?
- कहानी अथवा लिखित सामग्री में अपनी सूझबूझ से एक नए पात्र को जोड़ना।
- कहानी/कविता में आए शब्दों के पहले, मध्यम और अंतिम वर्णों/ध्वनियों को खोजकर पढ़ते हुए लिखना।
- शिक्षक द्वारा प्रस्तुत कहानी, चित्र-पठन (पिक्चर रीडिंग) में अपनी सूझबूझ से जोड़ना और कक्षा में अपनी बात लिखित व मौखिक रूप से प्रस्तुत करना।
- अपनी कल्पना से रेखाचित्र (ड्रॉइंग) बनाकर नई कहानी, कविता, पहेली को बनाना।
- कहानी, कविता और पहेलियों से जुड़े अपने अनुभवों को कक्षा में शिक्षक और अपने साथियों के साथ बाँटना और पढ़कर सुनाना।
- अपनी लिखी गई कहानी, कविता और पहेलियों को कक्षा में विभिन्न पात्रों से जोड़ते हुए सुनाना।
- अपनी एक नई काल्पनिक कहानी/कविता बनाना और उसे शीर्षक प्रदान करना।
- शिक्षक द्वारा सुनाई गई कहानी को दुबारा अपनी कल्पना से एक समान अंत के साथ बनाना।
- कहानी/नाटक/एकांकी पर पात्र-अभिनय करना।
- कहानी में आए अनुक्रम को उलट-पलट कर वाक्य निर्मित करना।
- कहानी को अपनी बुद्धिमत्ता से नए विचार और नई कल्पना देकर भिन्न-भिन्न तरीके से सोचकर लिखना।
- कहानी में आए पात्रों में से अपने पसंदीदा पात्र को चुनकर उसे अपनी कल्पना के कोरे कागज पर रंग भरते हुए उतारना।
- कहानी में आए पात्रों के संवाद को पढ़ना और लिखना।

2.8 शिक्षण-शास्त्रीय पद्धतियाँ

2.8.1 चित्र पठन

चित्र हमेशा बच्चों को अपनी तरफ आकर्षित करते हैं। यदि वे चित्र उनके परिवेश से संबंधित एवं समझ के दायरे में हैं तो बच्चे अकेले में भी पृष्ठों को पलटते हुए चित्रों को देखकर मुस्कराते हैं, बुदबुदाते हैं, यह चित्रों से उनका सहज संवाद है। चित्र बच्चों को न सिर्फ गुदगुदाते और हँसाते हैं, बल्कि पाठ्य सामग्री को समझाने में भी मददगार होते हैं। चित्र, पठन सीखने और पठन के प्रति समझ बनाने के आसान माध्यम हैं। फलतः सारंगी शृंखला की हर इकाई के साथ दो पृष्ठों का बड़ा पोस्टर (चित्र) है। प्रत्येक पाठ और पाठ के अंत में दिए गए अभ्यास प्रश्नों में भी चित्र हैं ताकि पाठ और पाठान्त प्रश्न रोचक, आकर्षक और समझने में सहायक हों। सारंगी (भाग-1 एवं 2) का आवरण पृष्ठ भी कुछ इसी तरह रंगीन, आकर्षक और बालमन के करीब है। पाठों पर बातचीत करने से पहले इन आवरण पृष्ठों पर बच्चों से बातचीत करने की जरूरत है। इन चित्रों को गौर से देखने और चर्चा करने से बच्चों में भाषायी कौशलों के साथ-साथ अवलोकन का कौशल भी विकसित होगा।

पोस्टर में एक संयुक्त परिवार को

दिखाया गया है। पशु-पक्षी भी इस परिवार के प्रमुख सदस्य हैं। हर बच्चे के लिए यह परिचित संदर्भ है जिस पर हम उनसे खूब बातचीत कर सकते हैं। दिए गए चित्र में बच्चों से बातचीत के बिंदु शिक्षण-संकेत में भी लिखे गए हैं। लेकिन इन प्रश्नों के अतिरिक्त हम अन्य प्रश्नों को भी पूछ सकते हैं। बच्चे बोलते समय अपने पूर्वज्ञान, कल्पना, अनुमान, चिंतन आदि का सहारा लेते हुए अपनी बात बोलते हैं और अपनी प्रतिक्रिया भी देते हैं। चित्रों पर बातचीत करते समय बच्चे की शब्दावली, बोलने के तरीके, पूर्वज्ञान, समझ



स्रोत— सारंगी (भाग-1) (इकाई-1) पाठ-1 'मीना का परिवार' में 'परिवार' से जुड़ा एक चित्र (पोस्टर) दिया गया है।

आदि कक्षा के शेष बच्चों को भी एक-दूसरे से सीखने में सुविधा प्रदान करती है। बच्चों से बातचीत उनके जीवन से जुड़े विविध पहलुओं को ध्यान में रखकर की जा सकती है। बातचीत के बिंदु हो सकते हैं—

नाते-रिश्ते— चित्र के आधार पर हम बच्चों से नाते-रिश्तों पर बातचीत कर सकते हैं। जैसे— आपके घर में आपके साथ कौन-कौन रहते हैं, आपके मामा-मामी का क्या नाम है, मौसी या बुआ के घर कब गए थे आदि।

खान-पान— आपको क्या-क्या खाना पसंद है, माता-पिता, बहन-भाई को खाने में क्या पसंद है, स्वस्थ रहने के लिए क्या खाना चाहिए या नहीं खाना चाहिए आदि।

पर्व-त्योहार— कुछ पर्व-त्योहारों के नाम बताइए। आपको सबसे अधिक कौन-सा त्योहार पसंद है, त्योहार वाले दिन आप क्या-क्या करते हैं, पर्व-त्योहार पर बनाए जाने वाले पकवानों के बारे में कुछ बताइए आदि।

साफ-सफाई और स्वच्छता— हम अपने घर और आस-पास को कैसे साफ-सुथरा रख सकते हैं, अपने शरीर की सफाई के लिए क्या करना चाहिए और यह क्यों आवश्यक है, घर या विद्यालय के शौचालय को कैसे साफ रखा जा सकता है आदि।

लेखन कौशल या कला समेकित अधिगम

- अपनी कॉपी में मनपसंद रंगों से रंगोली बनाएँ।
- बड़ों या साथियों के साथ मिलकर रंगोली बनाएँ।
- आप अपनी पसंद का कोई चित्र बनाएँ।

कल्पना और अनुमान

- आपके घर से मामा जी का घर कितनी दूर है?
- मौसी के घर जाने में कितना समय लगता है?
- दादा जी कहाँ से आ रहे होंगे?
- चित्र में दिख रहे बच्चों को यदि नाम देना हो तो आप क्या-क्या नाम रखेंगे?
- आप अपने घर की सजावट कैसे करते हैं?

संवेदनशीलता

- आप अपने से बड़ों का आदर कैसे करते हैं?

- पक्षियों के लिए घरों की छत पर, विद्यालयों में, उनके घोसलों के करीब दाना और पानी रखना चाहिए। ऐसा क्यों करना चाहिए?
- आपके दोस्त जब रोते हैं या आपसे रूठ जाते हैं तब आप उन्हें कैसे मनाते हैं?
- आप नाना और नानी के साथ कैसे समय बिताते हैं?
- क्या आपने कभी किसी को सड़क पार करवाई है?
- क्या आपने कभी कोई जानवर पाला है? जब वह आपसे बिछड़ गया तब आपको कैसा महसूस हुआ?

खोजबीन

- घर के बड़ों से पता करें कि पौधों में पानी कब-कब देना चाहिए?
- गाय, बकरी, कुत्ते और तोते को क्या-क्या खाना पसंद है?
- रंगोली को और किन-किन नामों से जाना जाता है?

अंतर्विषयक-संबंध

- चित्र में दिख रही सीढ़ी में कुल कितने डंडे लगे हुए हैं?
- चित्र में कितने बच्चे, जानवर और पक्षी दिख रहे हैं?
- आपके परिवेश में कौन-कौन से पशु-पक्षी दिखाई देते हैं?

सावधानियाँ

- पालतू कुत्ते घर में होते हैं। बाहर गली में भी कुत्ते भटकते हैं। वे कभी-कभी हम पर हमला भी करते हैं। हमें इनसे बचने के लिए क्या-क्या करना चाहिए?
- बाँस या लोहे की सीढ़ियों पर चढ़ते समय किस तरह की सावधानी बरतनी चाहिए?
- सड़क पार करते समय क्या-क्या ध्यान रखना चाहिए?

बच्चों से बातचीत करते समय निम्नांकित सावधानियाँ अपेक्षित हैं—

- बच्चों की भाषा और उनके पूर्वज्ञान का सम्मान हो।
- बच्चों के जवाब की स्वीकार्यता सुनिश्चित हो। यदि बच्चे किसी सवाल का गलत जवाब दे रहे हैं तो उसके जवाब को सीधे नकारने से बचते हुए सही जवाब की तरफ उन्मुख करना चाहिए।

- रोक-टोक से बचना चाहिए।
- बच्चों के चित्रांकन को उनकी नजर से ही देखे जाने की जरूरत है न कि किसी निपुण चित्रकार की नजर से।
- यह सुनिश्चित किया जाना चाहिए कि बातचीत में सभी बच्चे शामिल हों।
- बातचीत स्थानीय परिवेश और बच्चों की भाषा को ध्यान में रखकर की जानी चाहिए।

सारंगी में बच्चों को चित्र बनाने और चित्रों में रंग भरने के काफी अवसर दिए गए हैं। यह कार्य बच्चों को कला की तरफ उन्मुख तो करता ही है साथ ही कला के साथ सीखना रोचक और आनंदमयी भी बनाता है। सभी पाठों में चित्रों को शामिल किया गया है। पाठ के अंत में पूछे गए अभ्यास प्रश्नों में भी चित्र हैं। पुस्तक के अभ्यासों के साथ शब्द चित्र गतिविधि दी गई है। बच्चों को इस

गतिविधि के द्वारा छोटी-छोटी कहानियों को रचने के अवसर मिलेंगे।

चित्र बनाना लेखन कौशल के विकास का प्रथम सोपान है। चित्र बनाने से उनके लेखन और चित्रकारी में सुंदरता आती है और उनमें रचनात्मकता और सौंदर्य बोध का विकास होता है। कविताओं में भी पर्याप्त चित्र दिए गए हैं। कविता के साथ दिए गए चित्र कल्पना को और विस्तार देने के उद्देश्य से दिए गए हैं। इसी प्रकार कहानियों में दिए गए चित्र बच्चों की संवेदनशीलता, रचनात्मकता, कल्पनाशीलता, चिंतन-विश्लेषण आदि की क्षमता को बढ़ाने वाले हैं।

सारंगी (भाग-1) के आवरण पृष्ठ पर लोकनृत्य तथा परिवार के पोस्टर में रंगोली बनाते हुए चित्र दिखाई दे रहे हैं। इसी प्रकार सारंगी (भाग-2) के आवरण पृष्ठ पर महाराष्ट्र की वर्ली शैली में कुछ चित्र बने हुए हैं। निश्चित रूप से यह प्रयास बच्चों के मन में लोककला एवं शैली के प्रति आकर्षण का भाव पैदा करेगा। बच्चों से कला शैली के बारे में बातचीत करने की आवश्यकता नहीं है बल्कि क्षेत्र विशेष की लोक शैली को बच्चों के बीच कक्षा तक लाने की जरूरत है।



चित्रकारी और लेखन

कप्पू एक भूरे रंग का कुत्ता है जो एक खेत में रहता है। चित्र पूरा कीजिए और कप्पू की दिनचर्या के बारे में लिखिए—



स्रोत— सारंगी (भाग-2) (इकाई-3), पृष्ठ संख्या-66 'चित्रकारी और लेखन'

2.8.2 चित्रकथा

चित्र-कथाएँ बच्चों को आनंद के साथ अनुमान लगाने के रोचक सृजनात्मक अवसर प्रदान करती हैं। बच्चे अनुमान लगाकर जब अपनी कहानी गढ़ लेते हैं तो उन्हें बहुत खुशी होती है। कभी-कभी तो ऐसा भी होता है कि एक ही चित्र-कथा से बच्चे कई कहानियाँ बना देते हैं। अपने इन्हीं गुणों के चलते भाषा अधिगम में चित्र-कथाओं को विशेष स्थान प्राप्त है। बच्चे, चित्रों से कथाओं के सूत्र ढूँढ़ने में, घटनाओं, घटनाक्रमों आदि को जोड़ने के साथ-साथ उसे सुनाने के लिए संदर्भ के अनुसार सटीक शब्दावली और वाक्य विन्यास पर भी काम करते हैं। *सारंगी* (भाग-1) में 'गिलहरी की कहानी' और 'कौए की कहानी' में कुछ चित्र दिए गए हैं। दोनों के शिक्षण-संकेत में लिखा है कि बच्चों को चित्र देखकर कहानी बनाने के लिए कहें। *सारंगी*, भाग-2 में भी पाठ-21 के पाठान्त प्रश्न में चार चित्रों के आधार पर कहानी बनाने का प्रश्न दिया गया है।



ऊपर दिए गए चित्रों में एक कहानी छुपी है। छुपी कहानी को अपने शब्दों में लिखिए।

स्रोत— *सारंगी* (भाग-2) (इकाई-4) पृष्ठ संख्या 105

इन चित्र-कथाओं के अतिरिक्त उपलब्ध अन्य चित्र-कथाओं पर भी कक्षा में बातचीत की जा सकती है अथवा कहानियाँ बनाई जा सकती हैं। चित्रों के क्रम को बदलकर एक नई कहानी रचने के लिए बच्चों को प्रेरित किया जा सकता है। बच्चों के मानसिक स्तर को देखते हुए इस प्रकार की गतिविधियों के कठिनाई का स्तर थोड़ा ऊँचा किया जा सकता है। चित्र-कथाओं के चयन के समय चित्रों के संदर्भ, चित्र, पात्र आदि परिवेशीय हों, इसका ध्यान रखा जाना चाहिए। चित्रों पर बच्चों से बातचीत करते समय दिव्यांग बच्चों, विशेष कर दृष्टि बाधितों की क्षमताओं और कठिनाइयों पर ध्यान देने की जरूरत होगी। ऐसे बच्चों के प्रति स्नेह, सम्मान और समानता की भावना बच्चों में जगानी होगी। यदि कक्षा में ऐसे बच्चे हैं तो उनमें निहित क्षमताओं को परस्पर सहयोग से उभारने तथा उनकी सराहना करने की आवश्यकता है।

2.8.3 कविताएँ

छोटे बच्चों की कविताएँ शब्दों के सम्मोहन, लय और खनकती ध्वनि के चलते उनके मन के बहुत होती हैं। बच्चों के लिए कविता का गायन उसके भाव और अर्थ से ज्यादा

महत्वपूर्ण होता है। जहाँ तक कविता के भाव या अर्थ का प्रश्न है, उसका कोई एक अर्थ नहीं होता है। कविता हमारे अनुभवों से जुड़कर हमें नए-नए अर्थ देती है। कविता को खंडों में न तो समझा जा सकता है न समझाया जा सकता है। इसलिए हमेशा कविता के भाव या अर्थ को समग्रता में समझाए जाने की जरूरत है। हर कविता संदर्भ के साथ होती है। बच्चों की कविताओं के साथ कुछ चित्र भी बने होते हैं। अर्थ निर्माण की प्रक्रिया में संदर्भ और चित्र बच्चों के लिए सहायक होते हैं। अतः बच्चों को अर्थ निर्माण हेतु अवसर दिए जाएँ। इस कार्य में हम आवश्यकता अनुसार बच्चों की मदद करें।

सारंगी (भाग-1 और 2) में कविताओं को पाँच चिह्नित संदर्भों में रखा गया है। पाठ्यपुस्तकों में दी गई कविताएँ संदर्भ आधारित हैं। उदाहरण के रूप में भाग-2 के 'आकाश' संदर्भ में चार कविताएँ हैं— 'चार दिशाएँ', 'चंदा मामा इकाई', 'गिरे ताल में चंदा मामा' और 'बादल'। बच्चों के परिवेश में भी 'आकाश' से जुड़ी बहुत सारी कविताएँ उनकी भाषा में हो सकती हैं। कक्षा में बच्चों की कविताओं को जगह और सम्मान देना चाहिए।

बच्चे तुकांत शब्दों से खूब खेलते हैं। *सारंगी* में लगभग सभी कविताएँ तुकांत हैं, जैसे— 'चंदा मामा दूर के', 'वाह! मेरे घोड़े' आदि। पाठ्यपुस्तकों के पाठों प्रश्नों में भी इससे संबंधित सवाल दिए गए हैं, उदाहरण के लिए 'मेला-ठेला' जैसे और शब्दों की जोड़ी बताइए और लिखिए। समान लय वाले शब्द खोजकर लिखिए- फल, फूल, माता आदि। बच्चों के शब्द भंडार में वृद्धि के लिए कुछ खेल गतिविधियाँ इस तरह की भी हो सकती हैं— 'देखो-देखो चल दी रेल, शुरू हुआ अब अपना...' खाली जगह को बच्चे बोलकर या लिखकर भरेंगे। यह संदर्भ के साथ अर्थ ग्रहण की क्षमता का विकास होगा।

सारंगी भाग-1 में 'दादा-दादी' और भाग-2 में 'टिल्लू जी', 'हाथी साइकिल चला रहा था', 'गिरे ताल में चंदा मामा' जैसी कविताओं को बच्चों से कहानी के रूप में लिखने या सुनाने के लिए कहा जा सकता है। ऐसा करते हुए बच्चों के शब्द भंडार में वृद्धि होगी तथा वाक्य विन्यास भी बेहतर होगा। *सारंगी* पुस्तक में कविताओं पर चर्चा करना, नई कविताएँ गढ़ना, कविताओं में आए शब्दों का सृजनात्मक उपयोग और कविता की पंक्तियों को आगे बढ़ाना आदि के पर्याप्त अवसर दिए गए हैं। कविताओं को चार्ट पेपर पर बड़े अक्षरों में लिखकर, शब्दों पर उँगली रखकर गाने का अभ्यास पढ़ने-लिखने में काफी मददगार सिद्ध हो सकता है। हाव-भाव के साथ एकल या समूह में कविताओं को झूम-झूम कर गाने की लंबी परंपरा रही है। बच्चों की अभिरुचि को देखते हुए गायन के पर्याप्त अवसर दिए जाने की जरूरत होगी।

2.8.4 बालगीत

‘अक्कड़-बक्कड़ बम्बे बो’,
‘हरा समंदर गोपी चंद्र, बोल
मेरी मछली कितना पानी’,
‘अटकन मटकन दही चटोकन’
‘लउहा लाठी वन में काँटा’ और
‘धम चिक धपाक धम चिक,
धूम धू बंद हुई अब चलती
लू’ जैसे बालगीत बच्चों में
काफी लोकप्रिय रहे हैं। इनकी
लोकप्रियता का कारण बच्चों
में गीतों के प्रति आकर्षण का
भाव होना है। इसी कारण आरंभिक कक्षाओं में कविताओं के वाचन से ज्यादा गायन
को प्रमुखता दी गई है। *सारंगी* भाग-1 में एक लोकप्रिय बालगीत ‘चंदा मामा दूर के’
दिया गया है।

देश के अलग-अलग हिस्सों में बच्चे आज भी आंचलिक खेलगीतों को गा-गाकर
खेलते हैं जो हमारी लोक शैली से जुड़े हैं। आज भी ‘अजला रे अजला बावन बजला
तीन के तेला चार करेला’, ‘ओका बोका तिन तड़ोका’, ‘अटकन चटकन दही चटोकन’
जैसे खेल गीत अपने अंचल विशेष में प्रसिद्धि लिए हुए हैं। अंचल विशेष के क्षेत्रीय बाल
या खेल गीतों को विद्यालयों में स्थान देने की जरूरत है क्योंकि बच्चे इनसे सहज एवं
भावनात्मक रूप से जुड़े होते हैं।

2.8.5 कहानियाँ

कविताओं की तरह कहानियाँ भी बच्चों को काफी पसंद हैं। बच्चों का कहानियों से
ज्यादा लगाव, भाषा सीखने में कहानी की महत्ता को और बढ़ा देता है। *सारंगी* के दोनों
भागों में बच्चों की पसंद की बहुत कहानियाँ ‘सुनें कहानी’ शीर्षक से दी गई हैं। *सारंगी*
पुस्तक में दी गई ये कहानियाँ गद्य, पद्य और चित्रकथा के रूप में भी हैं। कहानियाँ, बच्चों
को कई बार मौखिक और पढ़कर सुनाने की आवश्यकता होती है। कहानियों में दिए गए
चित्रों को देखकर कहानी का अनुमान लगाने के लिए भी बच्चों को प्रोत्साहित करने की
जरूरत है। कहानियाँ बच्चों की संवेदना से जुड़ी होती हैं। अतः कहानी सुनने या सुनाने



चंदा मामा दूर के

चंदा मामा दूर के,
पुए पकाएँ बूर के;
आप खाएँ थाली में,
मुन्ने को दें प्याली में।
प्याली गई टूट,
मुन्ना गया रूठा
लाएँगे नई प्यालियाँ,
बजा-बजा के तालियाँ,
मुन्ने को मनाएँगे,
हम दूध-मलाई खाएँगे।

साभार – एकलव्य



स्रोत— *सारंगी* (भाग-1), (इकाई-1) पृष्ठ संख्या 7

के बाद उसके कथानक, पात्रों और घटनाओं आदि पर बात किए जाने की आवश्यकता है। कहानी में कल्पना, अनुमान और संवेदना आदि से संबंधित खुले प्रश्न भी पूछे जाने चाहिए। ऐसा करने से उत्तर के गलत होने का भय बच्चों में से गायब तो होता ही है साथ ही साथ चिंतन-विश्लेषण सहित कल्पना, अनुमान और संवेदना का स्तर भी बढ़ता दिखाई देता है।

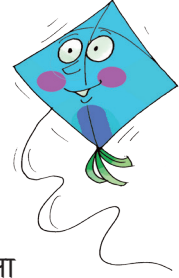
बहुत सारी कहानियाँ बच्चों के खजाने में भी होती हैं। कक्षा में 'बच्चों की कहानी, बच्चों की जुबानी' उनकी अपनी भाषा में सुनने के अवसर दिए जाने चाहिए। यह गतिविधि बच्चे में आत्मविश्वास, भाषा सीखने में अनुराग और कक्षा में उनका ठहराव सुनिश्चित करेगा। किताबों में दी गई कहानियों को भी उनकी भाषा में सुनी जाए। 'हाथी साइकिल चला रहा था', 'गिरे ताल में चंदा मामा' जैसी कहानियाँ जो *सारंगी* (भाग-2) में कविता की रूप में दी गई हैं, को गद्य रूप में लिखने या कक्षा में उनकी मातृभाषा या हिंदी में सुनाने के लिए प्रोत्साहित किया जा सकता है। बातचीत में जो शब्द बार-बार आ रहे हैं, इन्हें बोर्ड पर लिखने की जरूरत है। लिखे हुए शब्दों को उंगलियाँ रखकर पढ़ा जाए। कक्षा दो के बच्चे इन शब्दों से वाक्य बना लें, इसकी कोशिश होनी चाहिए। पाठ्यपुस्तक में कुछ कहानियाँ ऐसी भी हैं जिनमें वाक्यों या कहानी के कथानक के स्तर पर दोहराव है। ऐसे वाक्यों को अनुमान से पढ़ने के लिए बच्चों को प्रोत्साहित किया जाना चाहिए। विद्यालय के पुस्तकालय में भी बाल साहित्य होना आवश्यक है। बच्चों में इन्हें पढ़ने की ललक पैदा करने के प्रयास होने चाहिए। पढ़ने और लिखने के अधिकाधिक अवसर देकर पढ़ना और लिखना आसान बनाया जा सकता है।

2.8.6 संवाद और पहेलियाँ

यहाँ संवाद का तात्पर्य एक-दूसरे से बातचीत को लेकर है। उदाहरण के लिए *सारंगी* भाग-2 में 'बैंगनी जोजो' एक पाठ है, जो संवाद के रूप में है। जोजो एक सफेद कुत्ता था। वह अचानक बैंगनी हो जाता है। वह बादल, सूरज, कौए, गुब्बारे और घास से संवाद करता है। ऐसी गतिविधि कक्षा में करवाने की आवश्यकता है। इससे बच्चे संदर्भ विशेष में बातचीत करेंगे, प्रश्न पूछेंगे और प्रश्नों आदि के जवाब देंगे। इस तरह की गतिविधियाँ बच्चों के शब्द भंडार को बढ़ाते हुए विविध संदर्भों में उनके भाषा उपयोग की क्षमता में वृद्धि करेंगी।

पहेलियाँ न सिर्फ बड़े-बुजुर्गों में प्रसिद्ध हैं बल्कि इसके प्रति बच्चों में भी बहुत रुचि होती है। पाठ्यपुस्तकों में जगह-जगह पहेलियाँ दी गई हैं, जैसे— सारंगी (भाग-2) की पृष्ठ संख्या 82 पर दी गई है।

“बिना पंख ही उड़ जाती
बाँध गले में डोर
खींचो तो ऊपर चढ़ जाती
रहे हाथ में छोर”



अंचल विशेष में भी क्षेत्रीय पहेलियाँ भरी पड़ी हैं। इन्हें भी भाषा की कक्षा में स्थान दिए जाने की जरूरत है। पहेलियाँ बच्चों में चिंतन-विश्लेषण सहित समस्या समाधान के कौशल विकास में सहायक होती हैं। पाठ्यपुस्तक में शब्द पहेलियाँ, चित्र और पहेलियाँ भी दी गई हैं, इनका भी उपयोग अपेक्षित है।

सारंगी में विषयवस्तु को रोचक और ज्ञानवर्धक बनाने के लिए जगह-जगह पर ‘खोजें-जानें’ कॉलम रखे गए हैं। इन कार्यों में बच्चों को विशेष मार्गदर्शन की आवश्यकता होगी। ऐसी गतिविधियाँ बच्चों में खोजी प्रवृत्ति का विकास करती हैं। सारंगी (भाग-1 और 2) में दी गई पठन-लेखन सामग्री और भाषायी गतिविधियाँ बच्चों की रुचि के अनुसार भाषायी कौशल के विकास हेतु उपयुक्त हैं। भाषा शिक्षण के क्रम में प्रायः स्थानीयता और बच्चों की मातृभाषा को प्राथमिकता दिए जाने की जरूरत होगी।

3. हिंदी भाषा में अधिगम की चुनौतियाँ

प्रत्येक बच्चे में भाषा सीखने की असीम क्षमता होती है। विद्यालय आने से पहले उनके पास अपनी भाषा और उस भाषा की जटिल ध्वनि संरचना व व्याकरण की समझ होती है। फिर भी औपचारिक शिक्षा व्यवस्था में भाषा की कक्षा सीखने-सिखाने से जुड़ी कुछ चुनौतियाँ प्रस्तुत करती है। अपनी भाषा के अतिरिक्त किसी भी दूसरी नई भाषा को सीखना एक बहुत ही गतिशील प्रक्रिया है जो भाषिक व सांस्कृतिक विविधताओं से प्रभावित होती चलती है। यद्यपि अपनी भाषा से इतर अन्य भाषाओं को सीखना एवं समझना संज्ञानात्मक एवं भावात्मक रूप से सदैव हितकारी ही होता है। यहाँ हम हिंदी शिक्षण की कुछ चुनौतियों का उल्लेख कर रहे हैं। कुछ चुनौतियाँ ऐसी हैं जो बच्चे के सामाजिक और पारिवारिक परिवेश से जुड़ी हैं तो कुछ चुनौतियाँ विद्यालयी प्रशासनिक व्यवस्था की उपज हैं।

| चुनौतियाँ | संभावित समाधान |
|---|--|
| <ul style="list-style-type: none"> • बच्चे की पारिवारिक पृष्ठभूमि में हिंदी में सीमित व्यवहार: माता-पिता एवं घर के सभी सदस्य हिंदी से इतर किसी अन्य भाषा में संवाद एवं अंतः क्रिया करते हैं। यह भी हो सकता है कि उनकी हिंदी की शब्दावली विद्यालय में सीखी-सिखाई जा रही हिंदी से भिन्न हो। | <ul style="list-style-type: none"> • बहुभाषिक पृष्ठभूमि वाले समाज में इसे एक चुनौती या समस्या के रूप में न लिया जाए। सबसे पहला प्रयास यह हो कि बच्चों को अपने घर की भाषा में बोलने के पर्याप्त अवसर दिए जाएँ और यदि संभव हो तो अध्यापक स्वयं भी बच्चे की भाषा के कुछ शब्द या वाक्य उन्हीं से सीखकर कक्षा में प्रयोग करें। अध्यापक की यह क्रिया बच्चों में अपनी भाषा के प्रति सम्मान व विश्वास की भावना जागृत करेगी और उसके सहारे वे हिंदी सीखने की ओर बढ़ेंगे। |
| <ul style="list-style-type: none"> • घर में लिखित एवं मुद्रित समृद्ध परिवेश का अभाव: बहुत से बच्चे ऐसी पारिवारिक पृष्ठभूमि से आते हैं जिनके घर व आस-पड़ोस में लिखित एवं मुद्रित सामग्री का न तो चलन है और न ही उससे किसी प्रकार का सरोकार। यह अभावजन्य स्थिति हिंदी शिक्षण में बहुत बड़ी बाधा बनकर उभरती है। महानगरों/शहरों में तो बच्चों को होर्डिंग, विज्ञापन भित्ति, लेखन के रूप में जगह-जगह हिंदी का लिखित स्वरूप देखने के लिए मिलता है, पर ग्रामीण परिवेश में बच्चों का लिखित स्वरूप से परिचय कम ही हो पाता है। | <ul style="list-style-type: none"> • शिक्षक एक और कार्य कर सकते हैं। आप दिन-प्रतिदिन के जीवन में बहुतायत रूप से बोले जाने वाले वाक्यों और शब्दों की एक सूची बना सकते हैं और जब बच्चे अपनी भाषा में कुछ बोलें, जैसे— ‘क्या मैं पेंसिल ले लूँ?’ या ‘फिर मुझे शौच के लिए जाना है’, इन वाक्यों का हिंदी रूप भी बोलकर दिखाएँ परंतु यहाँ पर यह सावधानी अवश्य बरतें कि उन्हें अपने ये वाक्य बोलने के लिए बाध्य नहीं किया जाए। ऐसा करने से वे स्वयं को अभिव्यक्त करना छोड़ देंगे। |
| <ul style="list-style-type: none"> • पाठ्यपुस्तक से इतर अन्य प्रकार की पठन सामग्री और बाल साहित्य संबंधी सामग्री का अभाव एवं उनके प्रति अभिभावकों का नकारात्मक दृष्टिकोण। | <ul style="list-style-type: none"> • प्रारंभिक बाल्यावस्था चरण एवं उसके बाद के स्कूली सोपानों में बहुत से ऐसे अवसर आते हैं जब अध्यापक बच्चों के माता-पिता से मिलते हैं। अभिभावकों व पालकों के साथ औपचारिक बैठकों में आप अध्यापक होने के नाते उन्हें मुद्रित समृद्ध परिवेश के लाभ उसे सृजित करने के तरीके सुझा सकते हैं, जैसे घर में ऐसे चित्र, कैलेंडर टांगें जाएँ जिनमें चित्र के साथ-साथ लिखित सामग्री भी हो। रसोईघर में रखे मसालों आदि खाद्य पदार्थों पर बच्चों की मदद से लेबल लगाए जा सकते हैं। स्थानीय परिवेश को ध्यान में रखते हुए और भी तरीके सुझाए जा सकते हैं, जैसे भोजन, इबादत करने संबंधी सामग्री, पारिवारिक सदस्यों के जन्मदिन आदि। |

| | |
|--|--|
| | <ul style="list-style-type: none"> • यह एक विदित सत्य है कि बोलना, सुनना, स्वाभाविक रूप से हो जाता है। क्योंकि बच्चों के आस-पास के परिवेश में भाषाओं का बोलना और सुनना हो रहा है, पर हिंदी के लिखित स्वरूप को जानने या समझने के लिए अर्थात् पढ़ना-लिखना सीखने के लिए बच्चों के पास एकमात्र बहुमूल्य संसाधन पाठ्यपुस्तक ही है। शोध एवं अनुभव सिद्ध कर चुके हैं कि पढ़ना-लिखना सीखने को गति प्रदान करने के लिए बच्चों को पाठ्यपुस्तक से इतर पूरक पुस्तकें, अभ्यास कार्य पुस्तिकाएँ, तरह-तरह के भाषायी खेल (लिखित) देने चाहिए। अधिकांश अभिभावकों की इसके प्रति जागरूकता की कमी दृष्टिगत होती है। इसके लिए भी अभिभावकों को परामर्श देना होगा। विद्यालय की ओर से भी पुस्तकालय या अन्य किसी प्रकार से पठन सामग्री की व्यवस्था की जा सकती है। |
| <ul style="list-style-type: none"> • कक्षा एवं विद्यालय में उत्साही और उत्प्रेरित करने वाले परिवेश का अभाव। | <ul style="list-style-type: none"> • सभी जानते हैं बच्चे स्वाभाविक रूप से जिज्ञासु होते हैं। उनकी आँखें हर समय उत्सुकता से भरी चमकती रहती हैं और आस-पास की दुनिया को स्वतः जानने-समझने के लिए सजग रहती हैं। उनके इस चौकन्नेपन और जाँच-पड़ताल करने की प्रवृत्ति को बनाए रखने के लिए जरूरी है कि कक्षा में तरह-तरह की गतिविधियाँ करवाई जाएँ। अनेक स्थितियों में हम शिक्षक साथियों को लगता है कि हिंदी पढ़ना-लिखना सिखाने के लिए गतिविधियों की क्या जरूरत है, इसमें तो पाठ को पढ़ा, प्रश्न पूछा और श्यामपट्ट पर लिखे हुए का अनुकरण करवा दिया। यह स्थिति केवल हिंदी शिक्षण की नहीं अपितु किसी भी भाषा किसी भी विषय के शिक्षण के लिए बहुत ही भयानक है। • हिंदी की कक्षा में तरह-तरह की कहानियाँ, गीत, कविताएँ, चुटकुले, पहेलियाँ, चित्र पठन, रंग भरना, चित्रकारी करना, सामूहिक खेल करते हुए खेलगीत, गीत गाना, अभिनय करना ये सब करवाते हुए रोचक परिवेश सृजित होगा। |

- हिंदी को केवल हिंदी भाषा विषय के रूप में देखने और इसकी अन्य विषयों से संबद्धता को शिक्षण में स्थान न देने का त्रुटिपूर्ण दृष्टिकोण।
- यह बात केवल हिंदी ही नहीं बल्कि किसी भी भाषा शिक्षण के विषय में तर्क संगत रूप से अनिवार्य है कि उसके लिए बच्चे के जीवन के इर्द-गिर्द मौजूद परिवेश से विषयवस्तु चाहिए। किसी भी भाषा का शिक्षण शून्य में नहीं हो सकता। किसी न किसी प्रकार की विषयवस्तु होनी चाहिए। यह विषयवस्तु (भिन्न-भिन्न) पाठ्यचर्यक विषयों से उपजती है, जैसे— त्योहार-उत्सव, घर-परिवार, पशु-पक्षी, वनस्पति, खेल-कूद, चित्रकारी, शिल्प आदि।
- हिंदी शिक्षण को इन सबसे जोड़कर ही समृद्ध किया जा सकता है। सारंगी श्रृंखला भाषा शिक्षण की इस अनिवार्य शर्त का प्रभावशाली तरीके से अनुपालन करती है।

3.1 थीम

3.1.1 थीम का उद्देश्य

‘प्रारंभिक बाल्यावस्था देखभाल एवं शिक्षा’ की ‘राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) बच्चों के ‘पंचकोशीय विकास’ की संस्तुति करती है और महत्वपूर्ण रूप से इस तथ्य पर बल देती है कि एक कोश के विकास के लिए किए जा रहे प्रयास, दूसरे कोश के विकास को स्वाभाविक रूप से प्रभावित करते हैं। बच्चों के विकास की वृद्धि एवं विकास के सभी आयाम एक-दूसरे से जुड़े हुए हैं और विकास की प्रक्रिया में साथ-साथ चलते हैं। वृद्धि एवं विकास के इस सिद्धांत को ध्यान में रखते हुए *सारंगी* (भाग-1 और 2) विविध थीम को आधार बनाकर सृजित किया गया है। बच्चों के आस-पास का परिवेश उन्हें सीखने का स्वाभाविक परिवेश प्रदान करता है जिसमें बच्चों की जिज्ञासा, कौतूहल, अवलोकन, परिवेश के बारे में समझ बनाने की चेष्टाएँ सम्मिलित हैं। ये सभी किसी एक बिंदु पर केंद्रित नहीं होतीं अपितु परिवेश में मौजूद किसी एक बिंदु के माध्यम से अन्य संबंधित घटकों/तथ्यों को जानने व समझने का प्रयास होता है। थीम आधारित शिक्षण अधिगम, इस नैसर्गिक सिद्धांत का अनुपालन करता है जिसमें बच्चों के सीखने के अनुभवों को धागे में पिरोते हुए थीम विशेष से जुड़े भिन्न-भिन्न आयामों तक सहज व सरल रूप से पहुँचाया जाता है। इस तरह बच्चे विषय विशेष की खंडित समझ न लेकर एकीकृत समझ बनाने के अवसर प्राप्त करते हैं।

सारंगी में थीम आधारित विषयवस्तु ली गई हैं। ये संदर्भ स्वतंत्र रूप से बच्चों के इर्द-गिर्द के परिवेश में मौजूद हैं, जैसे— वातावरण, प्रकृति, घर, परिवार, समाज, संस्कृति,

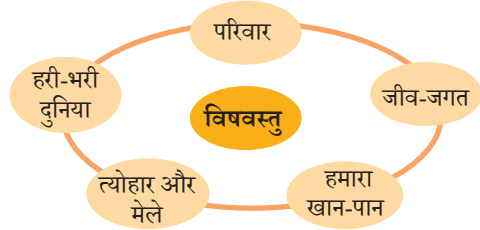
पंचकोशीय विकास



परंपरा-धरोहर, त्योहार, मेले, उत्सव, खान-पान की झांकी को उनके स्वयं के अनुभवों को धागे में पिरोने का प्रयास किया गया है। ये सभी संदर्भ सहजता एवं सरलता से जानने-समझने के व्यवहार को विकसित कर गहरा करते हैं।

प्रस्तुत पाठ्यपुस्तक *सारंगी* (भाग-1) में मुख्यतः शामिल पाँच थीम को वृत्त आरेख में इंगित किया गया है—

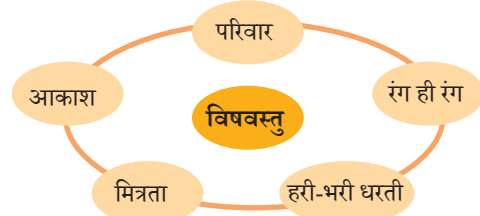
- परिवार
- जीव-जगत
- हमारा खान-पान
- त्योहार और मेले
- हरी-भरी दुनिया



कक्षा 1 — 5 इकाइयाँ

सारंगी (भाग-2) में भी मुख्यतः पाँच थीम हैं जिन्हें नीचे वृत्त आरेख में इंगित किया गया है—

- परिवार
- रंग ही रंग
- हरी-भरी धरती
- मित्रता
- आकाश



कक्षा 2 — 5 इकाइयाँ

बच्चों की समूची बाल्यावस्था इन पाँच थीम की परिधि में घूमती है और जीवन के वास्तविक संदर्भों से अंतःक्रिया कर नाना प्रकार के अनुभव अर्जित करती है।

3.1.2 थीम का विवरण

इकाई-1 'परिवार'



स्रोत— सारंगी (भाग-1), (इकाई-1), पृष्ठ संख्या 2

परिवार मानवीय समाज की सबसे छोटी परंतु सबसे महत्वपूर्ण इकाई है। यह वह संस्था है जो न केवल बच्चे को जीवन देती है अपितु बच्चे की वृद्धि एवं विकास के हर संभव अवसर जुटाती है। भारतीय शिक्षा पद्धति परंपरागत रूप से परिवार-आधारित ही थी। यह वह प्रारंभिक बिंदु है जिसमें बच्चे शारीरिक वृद्धि व विकास के लिए पोषण के साथ-साथ भावात्मक एवं सभी प्रकार का संबल प्राप्त करते हैं और भाषा संस्कृति और सामाजिकता के पहले पाठ से परिचित होते हैं। एक-दूसरे की आवश्यकताओं की पहचान एवं सम्मान करते हैं। इसमें सभी के प्रति आत्मीयता का भाव है। पारस्परिक संबंधों की समझ होती है। परिवार में हम आचार-व्यवहार, शिष्टाचार, सामाजिक रूप से वांछनीय मूल्यों, जैसे— स्नेह, प्रेम, करुणा, दया और संयम आदि को कुदरती तरीके से आत्मसात करते हैं। परिवार सहजीविता का एक अद्भुत उदाहरण है। इसमें बच्चे के इर्द-गिर्द उसके माता-पिता, दादा-दादी, भाई-बहन के साथ-साथ कुछ और प्राणी (पशु-पक्षी, कीट-पतंगे आदि) भी हैं। प्रस्तुत पाठ्यपुस्तक सारंगी (भाग-1) में 'मीना का परिवार' इस ओर संकेत करता है—

- आप सबके परिवार में कौन-कौन हैं?
- आप सब कैसे मिल-जुलकर एक-दूसरे की जरूरतों का ध्यान रखते हैं?

बच्चे अपने बड़ों द्वारा प्रदत्त स्नेहमय वातावरण में स्वास्थ्य एवं स्वच्छता से जुड़ी बातों को समझते हैं। वे लोरी, कविता तथा कहानी सुनकर अपनी कल्पनाओं को विस्तार

देते हैं। 'मीना का परिवार' पाठ के माध्यम से बच्चों को इन सब बातों तक सहज तरीके से पहुँचाने के मौके देने हैं। उदाहरण के तौर पर—

1. मीना के घर में कौन-कौन क्या-क्या कर रहा है? (उत्तरदायित्व का बंटवारा)
2. मीना सुबह उठकर क्या-क्या काम करती है? (नियमित दिनचर्या)
3. मीना अपने स्कूल की सभी बातें अपने परिवार को बताती है। (दूसरे के प्रति विश्वास सद्भाव एवं जुड़ाव)
4. दादी, प्यार से मीना को शुभरात्रि कहकर सुला देती हैं। (शिष्टाचार)

उपर्युक्त उदाहरण स्पष्ट करते हैं कि 'परिवार' बच्चों के सम्मुख सहयोग, सहजीविता, सामाजिक और सांस्कृतिक मूल्यों का सुंदर ताना-बाना रचता है। इस पाठ के शिक्षण अधिगम के समय इन सभी बारीकियों को उभारना होगा। इस इकाई में दी गई 'दादा-दादी' कविता को हाव-भाव, तान-अनुतान के साथ गाया जाए और कविता के बाद बच्चों से पूछा जाए कि वे अपने घर में बड़ों के साथ क्या-क्या बातें करते हैं, उनकी किस तरह से मदद करते हैं? इसी इकाई में दिया गया वृत्तांत 'रीना का दिन' बच्चों को स्वच्छता एवं सफाई के साथ-साथ नियमित दिनचर्या का अनुसरण करने के लिए अभिप्रेरित करता है और परिवार में किस तरह से पारस्परिक संवाद महत्वपूर्ण है, इस पर भी ध्यान केंद्रित करता है। ऐसे वृत्तांत के माध्यम से शिक्षक बच्चों से उनकी दिनचर्या के बारे में वार्तालाप करें। इस प्रकार चित्र पठन, पारस्परिक संवाद, कविता, प्रश्नोत्तर व कहानी के माध्यम से यह थीम भाषायी कौशलों को विकसित एवं सशक्त करती है।

इकाई-2 'जीव-जगत'



स्रोत— सारंगी (भाग-1), (इकाई-2), पृष्ठ संख्या 48-49

बच्चे परिवार के माध्यम से यह समझ बना लेते हैं कि उनकी दुनिया में मानवीय संबंधों के साथ-साथ छोटे-बड़े जीव-जंतु भी हैं और उनकी जरूरतें पूरी करने में इन जीव-जंतुओं की महत्वपूर्ण भूमिका है। वे परिवार के माध्यम से यह समझ भी बनाने लगते हैं कि जिस तरह से वे अपनी दिनचर्या की बहुत-सी आवश्यकताओं के लिए अपने घर-परिवार के बड़ों पर आश्रित हैं ठीक उसी प्रकार कुछ जरूरतों के लिए व आस-पास के जीव-जगत पर भी आश्रित हैं और उनकी जरूरतों का ध्यान रखना हमारे उत्तरदायित्व का हिस्सा है। कहने का तात्पर्य यह है कि 'जीव-जगत थीम' पारिस्थितिकी तंत्र एवं सहजीविता की अवधारणा को सरल तरीके से समझाते हुए 'जीव-जगत' को सामाजिक और सांस्कृतिक संदर्भ में देखती है। यह भाषायी कौशलों की ओर बढ़ती है।

इस इकाई में सबसे पहले एक खेलगीत (सारंगी, भाग-1, पृष्ठ संख्या 25), **'मुर्गा बोला कुकड़ू कूँ'** दिया गया है। यह खेलगीत भाषा सिखाने के साथ-साथ उनके आस-पास के परिवेश में रहने वाले पक्षियों की आवाजों से परिचित करवाता है और शब्दों को तरह-तरह से बोलकर आनंद लेने के मौके देता है। इस खेलगीत को हाव-भाव, तान-अनुतान और तरह-तरह की भाव-भंगिमाओं के साथ करवाया जाए। कुछ भौतिक प्रतिक्रिया (टीपीआर) के सिद्धांत को ध्यान में रखते हुए खेलगीत में आए शब्दों के अनुसार मुद्राएँ (एक्शन) बनवाई जाएँ। खेलगीत के बाद बच्चों से उनके घर या घर के आस-पास रहने वाले जीव-जंतुओं से संबंधित प्रश्न पूछें, जैसे— आपने अपने-अपने घर में तरह-तरह के कीड़े-मकोड़े देखे होंगे, अपने दादा-दादी, नाना-नानी, माता-पिता, के साथ आते-जाते कीट-मकोड़े, पशु-पक्षी देखे होंगे। उनकी आवाज आकार, प्रकार और रंग आदि के बारे में चर्चा कीजिए।

'जीव-जगत' थीम में **'मिठाई'** नामक लघुकथा दी गई है। बच्चों को चित्र दिखाते हुए हाव-भाव के साथ कहानी सुनाएँ और कहानी के माध्यम से इस ओर ध्यान दिलाया जाए कि कैसे हाथी जैसे विशालकाय जीव और चींटी जैसे छोटे जीव एक साथ मिलकर एक-दूसरे के साथ रहते हैं। इस थीम में कहानी, कविता, चित्र पठन, के साथ-साथ विविध प्रकार की गतिविधियों के माध्यम से अवलोकन क्षमता, तार्किकता, अन्वेषण और चित्रकारी के भरपूर अवसर दिए गए हैं। यह थीम, थल जीवों के साथ-साथ जल जीवों जैसे— मछली और कछुआ के माध्यम से जलीय जीव से परिचित करवाती है। साथ ही साथ इसके माध्यम से पूर्व 'संख्या अवधारणाओं' को सीखने का अवसर भी प्रदान करती है। शिक्षक सायास इस थीम के आधार पर अंदर-बाहर, छोटा-बड़ा, दूर-पास, जैसी अवधारणाओं के प्रति समझ बनाने के लिए कुछ अतिरिक्त गतिविधियों के क्रियान्वयन का प्रयास करें, जैसे— मछली से जुड़ा पारंपरिक खेलगीत हाव-भाव के साथ करवाया

जा सकता है। 'जीव जगत' थीम के अंतर्गत 'कबरी-झबरी-बकरी' शीर्षक से एक 'जिह्वा मुड़कन' गीत (टंग ट्विस्टर) है। बच्चे भाषा के साथ बहुत से खेल खेलते हैं और आनंद लेते हैं। शिक्षक इस जिह्वा मुड़कन गीत के साथ स्थानीय रूप से प्रचलित और बच्चों के चिर-परिचित गीत शब्दबद्ध करवा सकते हैं, जैसे— 'कच्चा पपीता पका पपीता', 'झल झाल झील झिलैया' आदि।

'जीव-जगत' इकाई में 'गिलहरी की कहानी' नामक चित्रकथा (पृष्ठ संख्या 26–27) है। यह चित्रकथा बच्चों को अवलोकन करने और चित्रों के आधार पर कहानी गढ़ने के भरपूर अवसर देती है। बच्चों को प्रत्येक चित्र देखने का समुचित समय दें। उसके बाद उनसे पूछा जाए कि वे चित्र में क्या होता देख रहे हैं? उनके विचार सुनने के बाद उनसे चित्रकथा आधारित प्रश्न पूछे जा सकते हैं, जैसे—

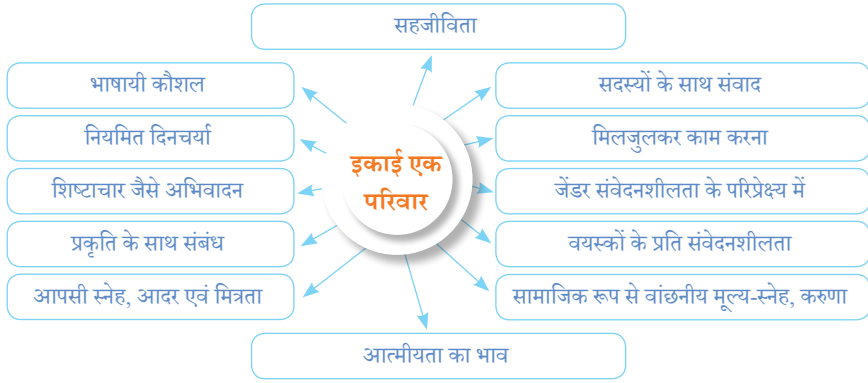
1. चित्र में कौन-कौन से पशु-पक्षी दिखाई दे रहे हैं?
2. खरगोश और गिलहरी आपस में क्या बातें कर रहे हैं?
3. क्या मगरमच्छ पानी से बाहर आ सकता है यदि नहीं तो क्यों?
4. खरगोश के पास रस्सी कहाँ से आई? खरगोश नीचे पानी में न गिर जाए इसके लिए उसे क्या-क्या सावधानियाँ ध्यान में रखनी होंगी?

'मिठाई' (पृष्ठ संख्या 28–31) कहानी के माध्यम से पशुओं के भोजन के बारे में चर्चा की जाए और बच्चों के मनपसंद भोज्य पदार्थों के बारे में पूछा जाए। बेहतर तो यह होगा कि एक चार्ट पेपर या पुराने कैलेंडर का पिछला साफ हिस्सा लेकर उस पर बच्चों के नाम लिखे जाएँ। फिर प्रत्येक बच्चे की मनपसंद मिठाई का नाम लिखा जाए। मनपसंद मिठाइयों वाला यह चार्ट बच्चों के 'दृष्टि-स्तर' पर टाँगकर कक्षा में 'प्रिंटरिच परिवेश' (मुद्रित समृद्ध परिवेश) का सृजन किया जा सकता है। इसी इकाई में (पृष्ठ संख्या 33) पर 'खोजें-जानें' शीर्षक के अंदर बच्चों द्वारा छोटे-छोटे कीट आदि के अवलोकन की बात कही गई है। यह कार्य विद्यालय परिसर में भी करवाया जाए। इससे बच्चों की अवलोकन क्षमता तो समृद्ध होगी ही उनमें जीव-जंतुओं के प्रति संवेदनशीलता का भी विकास होगा।

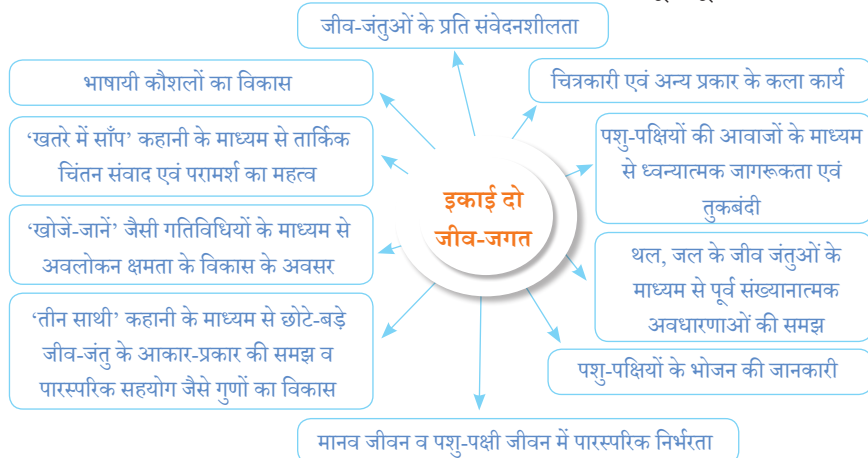


तान-अनुतान के साथ कविता का गायन करवाएँ और कविता में आई क्रियाओं का अभिनय भी करवाएँ। बच्चों से झूला-झूलने और छुपन-छुपाई खेलने के अनुभव सुनें और अपना अनुभव भी साझा करें। शिक्षक बच्चों से खेती-किसानी से जुड़े कार्य जैसे हल-जुताई, बीज-बुआई और सिंचाई-निराई-गुड़ाई, के बारे में चर्चा करें। यदि संभव हो तो इन क्रियाओं से संबंधित चित्र और फिल्म दिखाकर गतिविधि को और अधिक प्रभावशाली बनाया जा सकता है। इन क्रियाओं को अभिनय करके दिखा सकते हैं। बच्चों को भी अभिनय करने के लिए प्रोत्साहित करें। ठीक इसी प्रकार अन्य इकाइयों को थीम-संकल्पना मानचित्रण से समझा जा सकता है।

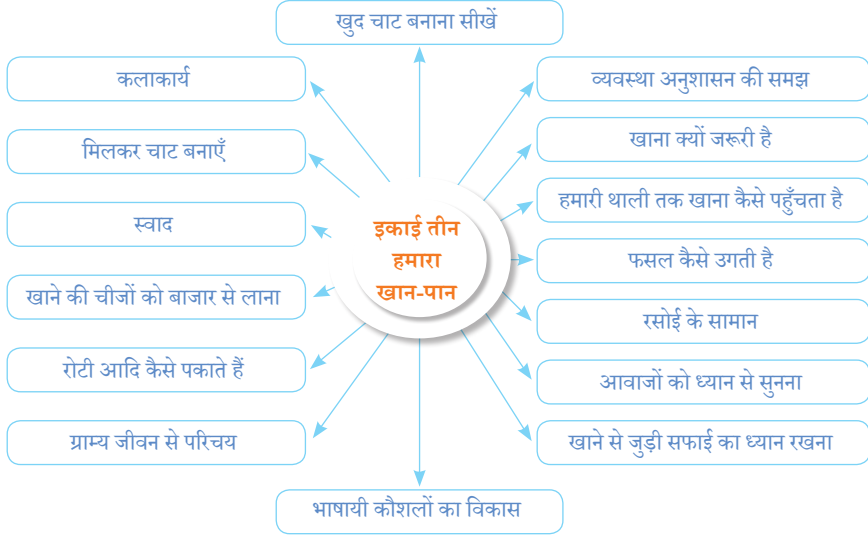
3.1.3 थीम-संकल्पना मानचित्रण



सारंगी पाठ्यपुस्तकों के थीम में प्रथम इकाई में 'परिवार' को शामिल किया है। बच्चे अपने ज्ञान का निर्माण स्वयं अपने आस-पास के परिवेश के माध्यम से करते हैं। 'परिवार' थीम बच्चों के ज्ञान को निर्मित करने तथा समझ विकसित करने में महत्वपूर्ण भूमिका निभाती है।



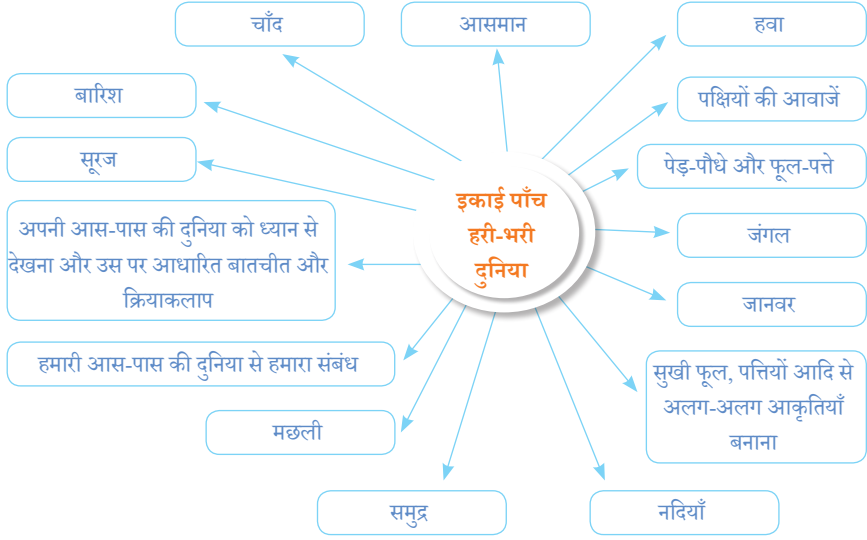
‘जीव-जगत’ थीम से बच्चों में अपने परिवेश, वातावरण और जीव-जगत के प्रति संवेदनशीलता की भावना विकसित होगी। बच्चे अपने परिवेश की चीजों को देख और समझकर अपनी कहानियाँ अपने ज्ञान का ताना-बाना स्वयं के अनुभवों से बुन पाएँगे।



‘हमारा खान-पान’ थीम के द्वारा शिक्षक बच्चों को खान-पान से संबंधित सामग्री, तरह-तरह के व्यंजनों, बर्तनों, बाजारों में बिकने वाली वस्तुओं और कला आदि की विभिन्न शब्दावली से परिचित करवा सकते हैं। इससे बच्चों में बाजार जाने और चीजों को खरीदने के प्रति न केवल जागरूकता विकसित होगी बल्कि उनमें स्वयं खाना बनाना, सीखने जैसे (चाट बनाना) एवं अपने बड़ों की रसोई घर में सहायता करने की भावना और उत्सुकता आएगी।



‘त्योहार और मेले’ थीम अपने देश की संस्कृति, रीति-रिवाजों, बाजार, सांस्कृतिक-मूल्यों, स्थानीय जागरूकता और पर्यावरण संरक्षण आदि की भावना को विकसित करते हैं।



‘हरी-भरी दुनिया’ थीम की मदद से शिक्षक बच्चों में उनके परिवेश, पर्यावरण, आस-पास की दुनिया और प्राकृतिक संसाधनों के प्रति सचेत एवं संरक्षण और जागरूकता की भावना पैदा कर सकते हैं।

3.2. भाषा एवं पाठ्यचर्या का अन्य विषयों से समेकन

राष्ट्रीय पाठ्यचर्या रूपरेखा-2022 (बुनियादी चरण) इस ओर संकेत करती है कि बच्चों को बहुआयामी विकास के अवसर मिलें। भाषा की शिक्षा को समग्रता में स्थान दिए बगैर बच्चों का बहुआयामी विश्वास संभव नहीं है, क्योंकि भाषा सिर्फ बोलने, सुनने, पढ़ने और लिखने तक सीमित नहीं है बल्कि यह बच्चे के व्यक्तित्व को रचने एवं निर्मित करने का भी कार्य करती है। भाषा केवल संप्रेषण का माध्यम मात्र नहीं है बल्कि यह एक ऐसा माध्यम भी है जिसके सहारे हम आस-पास की दुनिया को जानते एवं समझते हैं और भिन्न-भिन्न क्षेत्रों में ज्ञान सृजित एवं अर्जित करते हैं। भाषा वह व्यवस्था है जो हमारे आस-पास की वास्तविकताओं और घटनाओं को हमारे मस्तिष्क में व्यवस्थित करती है। हमें यह भी समझना जरूरी है कि भाषा को पढ़ना-पढ़ाना और सीखना-सिखाना केवल भाषा की कक्षा तक सीमित नहीं होता है। बल्कि गणित, पर्यावरण अध्ययन, कला

और शारीरिक शिक्षा सभी में भाषा व्याप्त है। किसी विषय को सीखने का मतलब है उसकी अवधारणाओं के प्रति समझ बनाना, उसकी शब्दावली सीखना, उसके बारे में समालोचनात्मक तरीके से चर्चा करना, पठन करना और लिखना, यह सब भाषा के द्वारा ही संभव है।

सारंगी शृंखला ने भाषा की इस अद्भुत ताकत का भरपूर प्रयोग किया है। उदाहरण के तौर पर *सारंगी* (भाग-1) की प्रथम इकाई- 'परिवार' का पहला चित्र पर्यावरण अध्ययन विषय क्षेत्र से संबंधित है। इस 'चित्र पठन' के माध्यम से बच्चे अवलोकन क्षमता, परिवेशीय सजगता और प्रश्न करना जैसे कौशलों का विकास करेंगे। इस चित्र में पशु-पक्षी और उनकी मानव जीवन पर पारस्परिक निर्भरता, घर में हो रहे तरह-तरह के कार्य, आपसी संबंध व एक-दूसरे पर निर्भरता, सहयोग और सहजीविता आदि का चित्रण है। ये उदाहरण बहुत ही सटीक संकेत करते हैं कि भाषा कैसे 'पर्यावरण अध्ययन' विषयक्षेत्र में आकार ले रही है।

सारंगी (भाग-1) की पृष्ठ संख्या 9 पर तीसरा प्रश्न है- 'बोल मेरी मछली कितना पानी?' यह प्रश्न भाषा के माध्यम से बच्चों को गणित और दृश्य कला दोनों की दुनिया से परिचित करवाता है। *सारंगी* (भाग-1) में पृष्ठ संख्या 13 पर खेल-खेल गतिविधि में बच्चों से मिट्टी से परिचित उपकरण यथा चूल्हा, थाली, कटोरी बनाने के लिए कहा गया है। यह गतिविधि 'शिल्प' से परिचित करवाती है। इसी भाग में पृष्ठ संख्या 14 की गतिविधि 'रेखा खींचकर पशु-पक्षियों को उनके घर तक पहुँचाइए', पर्यावरण अध्ययन की एक बहुत रचनात्मक गतिविधि है। पृष्ठ संख्या 91, पर दी गयी आनंदमयी कविता 'जन्मदिवस पर पेड़ लगाओ' बच्चों को प्रकृति से जोड़ने और पर्यावरण संरक्षण में अपनी नन्ही-सी भूमिका सुरक्षित करने के लिए प्रोत्साहित करती है।

सारंगी (भाग-2) की पृष्ठ संख्या 20 पर '**चींटा**' कविता बच्चों में वैज्ञानिक तत्परता का भाव पैदा करने का बहुत अच्छा उदाहरण है, जैसे— दूध से दही, गन्ने से शक्कर, शक्कर से शरबत, शरबत से प्यास बुझाना। यह सभी प्रारंभिक वैज्ञानिक प्रक्रियाएँ हैं। बच्चे इस कविता का आनंद लेते हुए 'कारक व परिणाम संबंध' के बारे में स्वतः चिंतन करने लगते हैं। *सारंगी* (भाग-2) की पृष्ठ संख्या 29 पर तीन क्रियाकलाप बच्चों को अपने परिवेश में खोजबीन करने, अवलोकन करने के अवसर देते हैं, यहाँ वे भाषा के माध्यम से पर्यावरण अध्ययन व विज्ञान की प्रारंभिक दक्षताओं को प्राप्त करने का प्रयास कर रहे हैं। पृष्ठ संख्या 44-45 पर रंग भरने की गतिविधि है। पृष्ठ संख्या 51 पर कंदील बनवाने की गतिविधि दी गई है। पृष्ठ संख्या 59 पर बच्चों को बागवानी के क्षेत्र में अनुभव

प्राप्त करने के अवसर दिए जा रहे हैं। कहने का तात्पर्य यह है कि सारंगी शृंखला समग्र भाषा पाठ्यचर्या की अवधारणा को अपनी विषयवस्तु, अभ्यास एवं विभिन्न प्रकार की गतिविधियों के माध्यम से साकार रूप देती है।

3.3. परिवेश एवं स्थानीयता का समावेश एवं अनुकूलन

भाषा के शिक्षण में अभिव्यक्ति का बहुत महत्व है। शिक्षा के बुनियादी स्तर पर अभिव्यक्ति का केंद्रबिंदु अपनी आवश्यकताएँ, भावनाएँ एवं अपने विचार हैं। इन सभी का आधार है स्थानीय परिवेश। स्थानीय परिवेश से तात्पर्य है, वह सांस्कृतिक और सामाजिक पृष्ठभूमि जहाँ से बच्चे आते हैं। बच्चों का परिवार, उनके रहन-सहन के तौर-तरीके, उनके परिधान-वेशभूषा, खान-पान के व्यंजन एवं खान-पान संबंधी आदतें, दिन-प्रतिदिन के व्यवहार में उपयोग में लाई जाने वाली भाषा, आजीविका के साधन, तीज-त्योहार, उत्सव, सगे-संबंधी एवं कुटुंब आदि इस परिवेश में शामिल हैं। बच्चों के घर के आस-पास का भौगोलिक पर्यावरण, वनस्पति वन-उपवन, साग-सब्जियाँ, फल-फूल, पशु-पक्षी, आस-पड़ोस और दैनिक जीवन की आवश्यकताओं की पूर्ति के लिए काम में आने वाले सुविधा-सेवा स्थल, वाहन, बाजार, मेले-हाट आदि, बच्चों के स्थानीय परिवेश की रचना करते हैं। भाषा-शिक्षण के लिए चयनित सामग्री बच्चों के इसी स्थानीय परिवेश से संबंधित होनी चाहिए।

सारंगी शृंखला ने हिंदी शिक्षण के लिए बहुभाषिक समाज की समरसता को ध्यान में रखते हुए एक परिवेश विशेष के बच्चों के लिए भाषागत वातावरण का सृजन ही नहीं किया है अपितु भिन्न-भिन्न भाषिक सांस्कृतिक संदर्भों को लेकर एक बहुत रुचिकर मनोहर हिंदी का संसार प्रस्तुत किया है। ऐसा भाषायी संसार जिसमें हिंदी बोलने, सुनने, पढ़ने और लिखने की समझ बनाने के सहज एवं स्वाभाविक संदर्भ आए हैं। बच्चों को पारस्परिक संवाद का ऐसा अथाह सागर प्रस्तुत किया है जिससे वे स्वयं ही एक सुव्यवस्थित व्याकरण एवं समृद्ध शब्दावली ढूँढ़कर ला सकते हैं। उदाहरण के लिए, *सारंगी* (भाग-1) की पृष्ठ संख्या 7 पर दी गई कविता ‘चंदा मामा दूर के’ का ‘चंदा’ हर बच्चे के परिवेश में है। इस चंदा मामा ने शैशवास्था से ही बच्चों को अपनी ओर आकर्षित किया है और अपने से जुड़े गीत और तुकबंदियाँ सुनने के मौके दिए हैं। यह कविता लगभग हर भाषा-बोली में बच्चों के लिए सुलभ है। शिक्षक हिंदी में दी गई इस कविता को अन्य भाषाओं में उपलब्ध करवाकर गा-सुना सकते हैं। इसी प्रकार से पृष्ठ संख्या 25 पर (इकाई-2) ‘जीव-जगत’ का आरंभ एक खेलगीत से होता है जिसका

शीर्षक है 'मुर्गा बोला कुकड़ू कूँ', इस खेलगीत में बच्चों के आस-पास रहने वाले उन जीव-जंतुओं व वस्तुओं का उल्लेख आया है जो अपनी आवाजों, आकार, रंग-रूप और कार्यों के माध्यम से बच्चों को हैरान करते रहते हैं, जैसे— मुर्गा, कुत्ता, गाड़ी, बकरी, बिल्ली आदि। अब यदि इनके स्थान पर ऐसी वस्तुओं के चित्र दिए जाएँ या उनका वर्णन किया जाए जिनसे बच्चे परिचित ही नहीं हैं या जिनका उल्लेख उनकी लोरियों, कहानियों, कविताओं और खेलों में आया ही नहीं है। वे उस वर्णन से तादाम्य स्थापित नहीं कर पाएँगे। और इस प्रकार वह वर्णन हिंदी शिक्षण के लिए एक निरर्थक सामग्री बनकर रह जाएगा।

सारंगी (भाग-2) से पृष्ठ संख्या 2 पर 'नीमा की दादी' कहानी सभी बच्चों के साथ-साथ शिक्षक का भी ध्यान अपने घर-परिवार की ओर ले जाएगी क्योंकि बहुत से बच्चों के अपने घर के बड़े-बुजुर्ग इसी प्रकार से घुटनों को सहलाते मिलते हैं। यह कहानी बच्चों में वृद्धजनों के साथ संवेदशनशील व्यवहार करने और उनकी जरूरतों की पहचान करने के लिए भी अभिप्रेरित करती है। इसी पुस्तक की पृष्ठ संख्या 46 पर दी गई कहानी 'तोसिया का सपना' इस आयुवर्ग के सभी बच्चों के सपनों का प्रतिनिधित्व करता है। लगभग सभी बच्चे इस आयु में खुद से तरह-तरह के सवाल करते हैं, जैसे— 'अगर जामुन के पेड़ में आम फलने लगते?', 'अगर मैं कढ़ू बनकर बेल पर लटक जाता?' और 'अगर सभी फूल एक ही रंग के हो जाते?' आदि। 'तोसिया का सपना' कहानी के माध्यम से बच्चों के घर के मसालों, फूलों, वस्त्रों, सब्जियों, गुब्बारों आदि उन सभी वस्तुओं का सहजता से उल्लेख आ गया है जो बच्चों को लुभाती हैं।

हम शिक्षकों का यह उत्तरदायित्व है कि हिंदी शिक्षण के लिए सारंगी शृंखला में रची-बुनी गई स्थानीय परिवेश से संबद्धता का लाभ बच्चों को हिंदी सीखने-सिखाने के लिए कैसे सुलभ करवाकर रचनात्मक तरीके से प्रस्तुत कर सकते हैं। अब खेल सामूहिक रूप से तरह-तरह के खेल हमारी बहुरंगी संस्कृति के अंग हैं। खेल और बच्चे एक-दूसरे के पर्याय हैं। बच्चों को खेल बहुत भाता है। वे अपने संगी-साथियों के साथ खेल खेलते हुए तरह-तरह की तुकबंदियाँ भी गाते हैं। बच्चों के इन स्थानीय खेलगीतों को सारंगी शृंखला ने अपने में पिरोया है, जैसे— पृष्ठ संख्या 92 पर 'पोषम पा भई पोषम पा', ये स्थानीय खेलगीत बच्चों की भाषा को विस्तार देते हैं।

सारंगी शृंखला तरह-तरह के आकर्षक चित्रों से सुसज्जित है। ये चित्र बच्चों को यह एहसास कराएँगे कि पाठ्यपुस्तक के चित्र और उनके पात्र हमारे आस-पास के ही हैं। शिक्षक होने के नाते हमारा आपका यह दायित्व होगा कि चित्रों के माध्यम से बच्चों की स्थानीय पृष्ठभूमि उभारने के साथ-साथ उनमें रचनात्मकता व सौंदर्यबोध का भी विकास करें।

अंततः यह समझ बनानी बहुत आवश्यक है कि भाषा और स्थानीय परिवेश को एक-दूसरे से अलग नहीं किया जा सकता। भाषा किसी भी परिवेश से उतनी ही प्रभावित होती है जितनी कि सभी वनस्पतियाँ सूर्य की रोशनी से। जिस प्रकार भाषा का सौंदर्य, संरचना तथा शब्द भंडार किसी भी परिवेश की विशिष्ट छाप लिए होता है उसी प्रकार परिवेश भी भाषा से प्रभावित होता है। इसलिए हिंदी सीखने-सिखाने की प्रक्रिया में हमें स्थानीय परिवेश को ध्यान में रखना जरूरी होगा।

भाषा की पढ़ाई का एक महत्वपूर्ण उद्देश्य हमारी संवेदनशीलता का विकास करना होता है। यहाँ संवेदनशीलता की बात न सिर्फ अपने परिजनों और मित्रों के प्रति बल्कि हमारे परिवेश में मौजूद हर प्राणी, वनस्पति एवं हर वस्तु के प्रति है। कक्षा में विशेष आवश्यकता वाले बच्चों के प्रति कैसे व्यवहार किया जाए और उन्हें भाषा की गतिविधियों में कैसे संलग्न किया जाए, उनके लिए सारंगी शृंखला विशेष संवेदनशीलता की माँग करती है। *सारंगी* (भाग-2) की पृष्ठ संख्या 81 पर दिया गया संवाद कक्षा में इस तरह से प्रस्तुत किया जाए कि बच्चे एक-दूसरे के प्रति सौहार्द भाव, एक-दूसरे की जरूरतों को समझने का भाव और तदनुसार एक-दूसरे की मदद करने की तत्परता दिखाएँ।

4. अभ्यास कार्य

4.1 उद्देश्य

सारंगी में दी गई रचनाएँ, अधिगम शिक्षण प्रक्रिया का रुचिकर एवं वैविध्यपूर्ण परिवेश निर्मित करती हैं और उनके साथ दिए गए अभ्यास कार्य एवं गतिविधियाँ उन रचनाओं को समझने, गहराई से जुड़ने और उनमें निहित ज्ञान व समझ को खोलने का कार्य करते हैं। भाषा अधिगम शिक्षण के संदर्भ में बच्चों से जिन कौशलों को प्राप्त करने की अपेक्षा की जाती है, अभ्यास प्रश्न उन कौशलों को न केवल विकसित करते हैं अपितु उनका संवर्द्धन एवं विस्तार भी करते हैं।

पाठ्यपुस्तक *सारंगी* बच्चों को अपने जीवन की भिन्न-भिन्न परिस्थितियों में भाषा का रचनात्मक उपयोग करने के तरह-तरह के अवसर देती है। तार्किक चिंतन, विश्लेषण करना, चुनौती-समाधान, कल्पनाशीलता, प्रत्यास्मरण और रचनाओं को अपने अनुभवों से जोड़ पाना, इन सभी कौशलों और क्षमताओं का विस्तार करने के उद्देश्य से *सारंगी* के अभ्यास कार्य सृजित किए गए हैं। बहुत से अभ्यास कार्य एवं गतिविधियाँ इस प्रकार की हैं जो बच्चों को भाषा की जाँच-पड़ताल, खोजबीन और भाषा के खेल खेलने के अवसर देती हैं।

4.2 विषय-वस्तु एवं अंतर पाठ्यचर्या अधिगम का संबंध

सारंगी के अभ्यास कार्यों व गतिविधियों की प्रकृति को निम्नलिखित विवरण के आधार पर समझा जा सकता है—

1. **अवलोकन क्षमता का विकास करने वाले अभ्यास कार्य**— हम सभी जानते हैं कि बच्चे प्रारंभ से ही स्वभाव से जिज्ञासु होते हैं। वे अपने आस-पास के परिवेश से अंतःक्रिया कर उसे जानना व समझना चाहते हैं। सारंगी के अभ्यास कार्यों में इस तरह की अपार संभावनाएँ हैं। उदाहरण के तौर पर 'खोजें-जानें' गतिविधि में कहा गया है कि सारंगी (भाग-1, पृष्ठ संख्या 33) अपने घर के आस-पास अपने परिवार के लोगों के साथ घूमिए। छोटे-छोटे कीड़े, मकोड़े और जानवरों को देखिए। वे क्या करते हैं, क्या खाते हैं और कितने अलग-अलग रंग के हैं आदि विशेषताओं पर ध्यान दें।
2. **अभिनय के माध्यम से अभिव्यक्ति को पोषित करने वाले अभ्यास कार्य**— बच्चे अपनी भावनाओं व आवश्यकताओं को केवल बोलकर ही नहीं अपितु हाव-भाव एवं तरह-तरह की मुद्राओं के माध्यम से भी अभिव्यक्त करते हैं। सारंगी के अभ्यास कार्य उनकी अभिनय क्षमता को पुष्ट करने के अनेक अवसर प्रदान करते हैं, इसे अभिनय करके समझाइए कि—
 - साफ-सफाई कैसे करते हैं?
 - खाना कैसे खाते हैं?
 - मंजन कैसे करते हैं?
 - कंघी कैसे करते हैं?



स्रोत— सारंगी (भाग-1) पृष्ठ संख्या 15

3. **चित्रकारी करने एवं कला के अन्य स्वरूपों का अनुभव करवाने वाले अभ्यास कार्य**— सभी बच्चे आड़ी-तिरछी रेखाएँ खींचकर एवं अन्य कई प्रकारों

से अपनी कलात्मकता एवं रचनात्मकता का परिचय देते हैं। *सारंगी* के अभ्यास कार्य उनकी इस सहज प्रवृत्ति एवं अभिरुचि को कल्पना के पंख लगाते हैं। उदाहरण के तौर पर, 'आओ कुछ बनाएँ', अंगूठे की छाप से आप भी अपनी पसंद के चित्र बनाएँ और उनके नाम लिखिए। (देखें, *सारंगी-1*, पृष्ठ संख्या 41)

4. **अनुमान लगाने का अवसर देने वाले अभ्यास कार्य**— भाषा केवल बोलने, सुनने और पढ़ने-लिखने के कौशलों तक ही सीमित नहीं है, भाषा में अनुमान लगाना भी बहुत महत्वपूर्ण है। विशेषकर पठन सीखने में तो अनुमान की बहुत बड़ी भूमिका है। *सारंगी* के अभ्यास कार्य बच्चों को भिन्न-भिन्न औपचारिक-अनौपचारिक स्थितियों में अनुमान लगाने के भरपूर मौके देते हैं, उदाहरण के रूप में—
 - मान लीजिए कि आप भी इस मेले में गए हैं। आप वहाँ क्या-क्या करेंगे? अपने मित्रों के साथ बातचीत कीजिए। (देखें, *सारंगी-1*, पृष्ठ संख्या 84)
5. **भाषायी कौशलों के साथ-साथ गणितीय कौशलों का विकास एवं संवर्द्धन करने वाले प्रश्न**— 'राष्ट्रीय शिक्षा नीति-2020' विषयों की परिधियों को तोड़कर एक-दूसरे के विषय में आवाजाही की अनुशंसा करती है। *सारंगी* ने इस अनुशंसा को अपने अभ्यास कार्य और गतिविधियों के माध्यम से प्रत्यक्ष साकार किया है। भाषायी कौशलों के विकास के साथ अनेक अभ्यास कार्यों में गणितीय कौशलों का समेकन किया है। उदाहरण के रूप में 'खोजें-जानें' अभ्यास में पूछा गया है कि गिनकर बताइए कि मुर्गी और बत्तख के कितने-कितने बच्चे हैं? (देखें, *सारंगी-1*, पृष्ठ संख्या 86)
6. **समालोचनात्मक चिंतन, चुनौती समाधान, पहली बूझने जैसे कौशलों से जुड़े अभ्यास कार्य**— *सारंगी* में दिए गए अभ्यास कार्यों की सार्थकता इस बात में है कि वे सीधे-सीधे पाठ आधारित उत्तरों की अपेक्षा बच्चों को समालोचनात्मक चिंतन करने के पर्याप्त अवसर दें। बच्चे पाठ में सीधे-सपाट उत्तर न ढूँढ़कर अपने अनुभवों व खोजबीन की प्रवृत्ति को आधार बनाते हुए एकल अथवा सामूहिक चिंतन करें, सवालों के उत्तर खोजें। *सारंगी* ने बच्चों को चुनौती समाधान के अनेक अवसर अभ्यास कार्यों के माध्यम से जुटाए हैं। उदाहरण के रूप में—
 - अगर बोरे में छेद नहीं होता तो कहानी में आगे क्या होता? (देखें, *सारंगी-1*, पृष्ठ संख्या 57)
 - भालू, आलू की जगह बोरे में क्या भरकर ले जा सकता था?

- माला की चाँदी की पायल खो गई है। अक्षरों को जोड़कर 'माला की चाँदी की पायल' बनाइए (देखें, सारंगी-2, पृष्ठ संख्या 13)

7. **कल्पनाशीलता का पोषण करने वाले अभ्यास प्रश्न एवं गतिविधियाँ—** कल्पनाशीलता का पोषण करना, भाषा का प्रमुख कार्य है। बच्चे अपने आस-पास के परिवेश के इर्द-गिर्द कल्पनाओं का बहुत ही सुंदर संसार रचते हैं और उन्हें तरह-तरह का विस्तार भी देते हैं। सारंगी शृंखला उनकी कल्पनाशीलता को अपने अभ्यास कार्यों के माध्यम से प्रोत्साहित करती है। उदाहरण के लिए, “क्या होता अगर?”

1. चिड़िया का बच्चा तालाब में न गिरता?
2. हाथी तालाब के पास न होता? (देखें, सारंगी-1, पृष्ठ संख्या 37)
3. अगर चाँद और सूरज न होते, तो क्या होता? (देखें, सारंगी-2, पृष्ठ संख्या 38)
4. संसार में रंग न हों, तो कैसा लगेगा? (देखें, सारंगी-2, पृष्ठ संख्या 50)

8. **लैंगिक समानता, श्रमजीवियों के प्रति सम्मान, पर्यावरण संरक्षण के प्रति सरोकार जैसे सामाजिक मुद्दों के प्रति सजगता—** सारंगी शृंखला के अभ्यास प्रश्न एवं गतिविधियाँ भाषिक कौशलों के बीच ऐसा ताना-बाना बुनती हैं जिनके कारण बच्चे स्वतः लैंगिक समानता, श्रम का महत्व, पर्यावरण संरक्षण चुनौतीपूर्ण, विशेष आवश्यकता वाले लोगों की जरूरतों को समझना आदि जैसे मूल्य आत्मसात करते हैं। कहने का तात्पर्य यह है कि सामाजिक और सांस्कृतिक रूप से वाँछनीय मूल्यों को सहजता के साथ विकसित करते हैं। उदाहरण स्वरूप—

- जब अतिथि घर आते हैं तो आप क्या कहकर उनका स्वागत करते हैं? (बड़ों का सम्मान) (देखें, सारंगी-1, पृष्ठ संख्या 13)
- आइए मिलकर बनाएँ और मिलकर खाएँ। (घर के कामों में सहभागिता) (देखें, सारंगी-1, पृष्ठ संख्या 76)

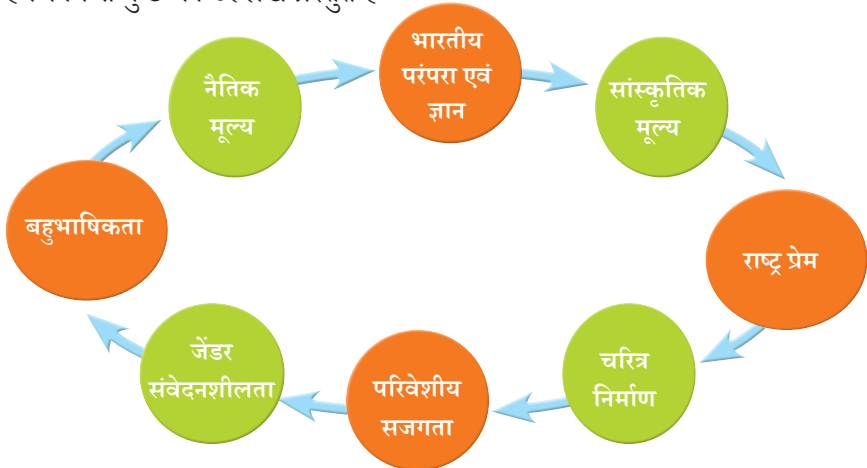
‘क्या होता अगर?’

1. अगर आप सभी अपने जन्मदिवस पर पेड़ लगाते?
2. अगर आप सभी अपने जन्मदिवस पर स्वच्छता के कार्य करते? (पर्यावरण संरक्षण) (देखें, सारंगी-1, पृष्ठ संख्या 92)

9. **भाषा के साथ तरह-तरह के खेल खेलने के अवसर**— बच्चों को शब्दों को उलटने-पलटने और तोड़-मरोड़कर बोलने में बहुत आनंद आता है। भाषा के साथ खेल खेलना उन्हें भाषा की बारीकियों से परिचित करवाता है। प्रस्तुत अभ्यास प्रश्न एवं गतिविधियाँ बच्चों को भाषा के साथ मजे लेने के अवसर देती हैं, जैसे— ‘शब्दों का खेल’ कविता। इस कविता में सन-सन, गड-गड-गड और चम-चम जैसे शब्द हैं। ऐसे ही अपनी पसंद के कुछ और शब्द बनाइए और कविता पूरी कीजिए। (देखें, सारंगी-2, पृष्ठ संख्या 65)

5. गतिविधियाँ

हिंदी पाठ्यपुस्तक *सारंगी* (भाग-1 एवं 2) का सृजन ‘राष्ट्रीय शिक्षा नीति-2020’ में वर्णित (बुनियादी चरण) बच्चों में भाषा विकास (L1, L2 तथा R1, R2) के साथ-साथ सतत सीखने की कला, समस्या समाधान, तार्किक और रचनात्मक सोच के विकास पर बल प्रदान करने के लक्ष्य को ध्यान में रखते हुए किया गया है। पाठ्यपुस्तक में विविध प्रकार की रोचक पठन सामग्री के माध्यम से बच्चों को पढ़ना एवं लिखना सिखाने का प्रयास किया गया है। सारंगी शृंखला में इस बात का भरपूर ध्यान रखा गया है कि बच्चे भाषायी कौशल सीधे-सपाट तरीके से न सीखें बल्कि भौतिक प्रतिक्रिया के सिद्धांत के आधार पर हिंदी की प्रकृति से परिचित हों, इसके लिए तरह-तरह की गतिविधियाँ दी गई हैं जिनमें से कुछ का उल्लेख प्रस्तुत है—



शिक्षक को बेहतर तरीके से यह समझ विकसित करने हेतु

पाठ्यपुस्तक में शामिल बच्चों के जीवन से जुड़े संदर्भों, परिवार, रंग ही रंग, हरी-भरी धरती, मित्रता, आकाश, जीव-जगत, हमारा खान-पान, त्योहार और मेले में भाषा

विकसित करने के पर्याप्त अवसर गतिविधियों के माध्यम से दिए गए हैं, इनके उदहारण हैं—

बातचीत के लिए
प्रश्न

शब्दों का खेल

चित्रों को पहचानते
हुए बोलना

पढ़ना और लिखना

खोजें-जायें

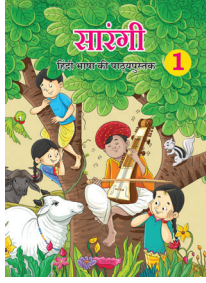
मिट्टी से घर-घर खेल
खेलते हुए भाषा के
कौशलो में दक्ष बनाना

अक्षरों को जोड़कर
शब्द बनाना

मिलान करो गतिविधि
चित्र पर चर्चा और
बातचीत

चित्रों को पूरा करने
का खेल

अक्षरों को खोजते हुए
घेरा लगाना



चित्रकारी और लेखन

रंग भरने का खेल

आओ कुछ बनाएँ

चित्रों को पहचानते हुए
कहानी सुनाना/लिखना

भूल-भुलैया खेल

तुकांत शब्द पहचान
का खेल

आओ कुछ बनाएँ

भाषा विकसित करने के अवसर

सांरंगी भाग-1 पाठ्यपुस्तक में इकाई-1 'परिवार' में चित्र और बातचीत पोस्टर दिया गया है। शिक्षक इस पोस्टर की सहायता से बच्चों से बातचीत और चर्चा कर सकते हैं।



शिक्षक को बच्चों को अपनी-अपनी घर की भाषा में विचार अभिव्यक्त करने के मौके प्रदान करने होंगे। शिक्षण-संकेत में उदाहरण स्वरूप कुछ प्रश्न दिए गए हैं। शिक्षक इनके अतिरिक्त अपने विवेक से प्रश्न बनाते हुए बच्चों को चित्र अथवा पोस्टर पर बातचीत के मौके दे सकते हैं। ऐसा करने से बच्चे अपनी-अपनी मन की बात रख पाएँगे और पारिवारिक संदर्भों के बारे में अपनी समझ समृद्ध करेंगे।

सारंगी भाग-1 में पृष्ठ संख्या 48-49 में जंगल का चित्र और बातचीत पोस्टर दिया गया है। शिक्षक पोस्टर में दिखाए गए जानवरों के बारे में प्रश्न पूछ सकते हैं अथवा पालतू एवं जंगली जानवरों की पहचान करने के लिए कहा जा सकता है।



इसी प्रकार सारंगी भाग-2 में पृष्ठ संख्या 52-53 में (इकाई-3) हरी-भरी धरती संदर्भ-चित्र और बातचीत पोस्टर दिया गया है। शिक्षण-संकेत का प्रयोग करते हुए शिक्षक बच्चों को बातचीत के मौके दे सकते हैं।

पाठ्यपुस्तक के अतिरिक्त 'जादुई पिटारा' में शामिल स्टोरी कार्ड्स तथा पोस्टर चार्ट के माध्यम से बच्चों के साथ समूह में चर्चा और बातचीत करते हुए तथा सभी बच्चों की सक्रिय भागीदारी सुनिश्चित करते हुए उनका मौखिक भाषा विकास करवाया जा सकता है। मौखिक भाषा के विकास के लिए शिक्षक कक्षा-कक्ष में निम्नलिखित और गतिविधियाँ करवा सकते हैं—

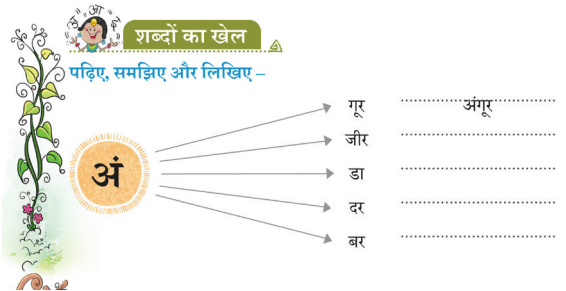
- **अभिनय और पात्र-अभिनय**— शिक्षक पाठ्यपुस्तक में शामिल कहानी को अभिनय के माध्यम से प्रस्तुत करने के लिए बच्चों को कह सकते हैं। शिक्षक यदि ऐसा अवसर बच्चों को देते हैं तो उनसे बच्चों की कल्पनाशीलता और सृजनात्मकता को बढ़ाने के अवसर तो मिलते ही हैं साथ ही साथ बच्चों के घरों की स्थानीय संस्कृति और परंपरा को भी कक्षा में पूरा मान-सम्मान मिलता है।
- **चित्रों वाले पासे का खेल**— चित्रों वाले पासे के खेल सभी बच्चों की सक्रिय भागीदारी आमंत्रित करने की सशक्त गतिविधि है।

- **अपने अनुभवों का वर्णन करवाना**— शिक्षक कक्षा-कक्ष में पाठ्यपुस्तक से संबंधित किसी पोस्टर, घटना, अनुभव, देखी गई चीज, अपने परिवार के बारे में और कोई चीज कैसे बनती है आदि के बारे में बच्चों से बातचीत कर सकते हैं।
- **शब्द कार्ड या चित्र कार्ड के खेल**— शिक्षक बच्चों के जीवन से जुड़े संदर्भों, परिवार, रंग ही रंग, हरी-भरी धरती, मित्रता, आकाश, जीव-जगत, हमारा खान-पान, त्योहार और मेले को ध्यान में रखते हुए शब्द कार्ड/चित्र कार्ड तैयार कर खेल गतिविधि करवा सकते हैं।
- **बूझो तो जानें खेल**— शिक्षक बच्चों को विद्यालय में या कक्षा-कक्ष के पास किसी भी वस्तु को देख कर आने के लिए कहें। इसके उपरांत बच्चे देखी हुई वस्तु को एक वाक्य में सभी के समक्ष बोलेंगे। सामने बैठे हुए बच्चे अनुमान लगाते हुए उत्तर देने का प्रयास करेंगे। इससे जहाँ एक ओर बच्चों की मौखिक भाषा का विकास होता है वहीं दूसरी ओर उनकी सोचने की क्षमता भी संवर्द्धित होती है।

5.1 शब्द पहचान कौशल विकसित करने हेतु गतिविधियाँ या खेल

कक्षा-कक्ष में शिक्षक को ध्वनि जागरूकता व ध्वनि पहचान करवाते हुए शब्द की ओर लेकर जाना चाहिए। हिंदी की *सारंगी* पाठ्यपुस्तक (भाग 1 एवं 2) में कहानी और कविता के बाद शब्दों का खेल दिया गया है। जैसे— ‘मीना का परिवार’ में ‘द’ से शुरू होने वाले शब्दों का खेल दिया गया है। इसी प्रकार ‘रानी भी’ पाठ में अक्षरों की ध्वनि को पहचानने और लिखने का अभ्यास करवाने का शब्दों का खेल दिया गया है। शिक्षक को ऐसे खेल कक्षा-कक्ष में करवाते रहना चाहिए और बच्चों के साथ-साथ अवलोकन भी करते रहना चाहिए। ‘तीन साथी’ पाठ में भी शब्दों का खेल दिया गया है। इस खेल में ‘इ’ तथा ‘ई’ की मात्रा में बच्चों को दक्ष बनाने का प्रयास किया गया है। चित्र को पहचानते हुए बच्चे शब्द बनाने में दक्ष बन पाएँगे।

2. ‘त’, ‘घ’ ‘ङ’ की ध्वनि वाले शब्दों को पहचानिए और लिखिए –



सारंगी पाठ्यपुस्तक (भाग-1 एवं 2) की प्रत्येक इकाई में शब्दावली विकास या शब्द पहचान की गतिविधियाँ दी गई हैं।

शिक्षक 'जादुई पिटारा' में दिए गए कार्डों का प्रयोग करते हुए बच्चों को शब्दों की पहचान करवा सकते हैं और उनकी सहायता से समान ध्वनि वाले शब्दों का निर्माण भी करवा सकता है। शिक्षक इसके अतिरिक्त स्वयं अपने विवेक के अनुसार 'फ्लैशकार्ड', 'शब्द पहिए का खेल' और 'क्लिपबोर्ड' का खेल तैयार करते हुए ध्वनियों की पहचान व जागरूकता की गतिविधियाँ समूह में खेल-खेल के माध्यम से करवा सकते हैं। शिक्षक ध्वनि पहचान, ध्वनि जागरूकता तथा शब्द पहचान के लिए वर्ण-अक्षर ग्रिड का प्रयोग भी कर सकते हैं। वर्ण या अक्षर पासे के खेल के माध्यम से भी इस प्रकार बच्चों को गतिविधियों में शामिल करते हुए उनकी सक्रिय भागीदारी निभाते हुए ध्वनि पहचान, ध्वनि जागरूकता तथा शब्द पहचान के कौशल में उन्हें दक्ष बना सकते हैं।

5.2 पठन कौशल विकसित करने हेतु गतिविधियाँ या खेल

बच्चे जब लिखित सामग्री से अर्थ निर्माण करने में दक्ष हो जाएँगे तभी वे पढ़ने के कौशल में निपुण बन पाएँगे। सारंगी (भाग-1 एवं 2) में 'सुनें कहानी', 'मिलकर पढ़िए' और 'कविता' आदि भागों में बच्चों के लिए पढ़ने की विविधताओं के अवसर प्रचुर मात्रा में दिए गए हैं। चित्रों को दिखाते हुए अनुमान लगाना, कहानी सुनकर बातचीत करना, शब्दों को चित्र रूप में समझना और प्रश्नों के उत्तर देना आदि गतिविधियाँ शिक्षक कक्षा-कक्ष में करवा सकते हैं। होली (सारंगी भाग-1) कविता में समान लय वाले शब्द ढूँढ़ने की गतिविधियाँ भी प्रस्तुत की गई हैं।

पाठ्यपुस्तक सारंगी (भाग-1, पृष्ठ संख्या 62) 'पढ़िए और मिलाइए' नामक गतिविधि दी गई है। इस गतिविधि से पढ़ने के कौशल को विकसित किया जा सकता है। भुट्टे कविता में 'मिलकर पढ़िए' गतिविधि के माध्यम से शिक्षक बच्चों को पढ़ने का अभ्यास करवाते हुए पढ़ने के प्रति रुचि पैदा कर सकते हैं।



पढ़िए और मिलाइए



चढ़ें पेड़ पर पकड़म-पकड़ी



आओ झूलम-झूली खेलें

छुपन-छुपाई खेलें

धरती में बीजों को बोएँ



62

स्रोत — सारंगी 1 (भाग-1) (इकाई-3), पृष्ठ संख्या 62

5.3 लिखने का कौशल विकसित करने हेतु गतिविधियाँ या खेल

लिखने की शुरुआत चित्रों से होती है और फिर चित्रों के साथ बच्चे पहले शब्द और धीरे-धीरे वाक्य बनाने में व्यस्त हो जाते हैं। *सारंगी* (भाग 1 और 2) में यह प्रयास किया गया है कि बच्चे अपने अनुभव और विचारों को चित्रों के माध्यम से बताएँ और फिर उन पर कुछ शब्द शिक्षक की सहायता से लिखें। पाठ्यपुस्तक में 'सुनें कहानी', 'मिलकर पढ़िए', 'कविता' आदि भागों में लिखने के कौशल विकसित करने के पर्याप्त अवसर प्रदान किए गए हैं। जैसे— *सारंगी* भाग-1, पृष्ठ संख्या 15 पर 'चित्रकारी और लेखन' तथा पृष्ठ संख्या 93 पर शब्दों का खेल दिया गया है।

सारंगी भाग-1, पृष्ठ संख्या 52 पर अक्षरों को जोड़कर शब्द बनाने की गतिविधि दी गई है और पृष्ठ संख्या 75 पर चित्र के माध्यम से वर्ण या अक्षर की पहचान करते हुए शिक्षक बच्चों को शब्द बनाने की गतिविधि करवा सकते हैं। इसी पुस्तक के पृष्ठ संख्या 84 में 'चित्रकारी' गतिविधि के माध्यम से चित्र बनाते हुए शब्द लिखने के कौशल को विकसित करने की गतिविधि रखी गई है। इसी प्रकार पृष्ठ संख्या 93 पर 'पेड़ों के नाम' खोज कर लिखने की गतिविधि रखी गई है। इस गतिविधि के माध्यम से जहाँ बच्चे लेखन कार्य में दक्ष बन पाएँगे वहीं उनका प्रकृति संबंधी ज्ञान भी बढ़ पाएगा।

3. पेड़ों के नाम खोजकर लिखिए—

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6. आकलन

हम सभी इस बात को जानते, समझते और स्वीकार करते हैं कि सीखने-सिखाने की प्रक्रिया में आकलन एक महत्वपूर्ण घटक है। हम सभी शिक्षक पूर्व प्रारंभिक बाल्यावस्था देखभाल एवं शिक्षा केंद्र या विद्यालय में दैनिक आधार पर जो कुछ भी करते हैं, उनमें आकलन का अपना एक विशिष्ट स्थान है। राष्ट्रीय पाठ्यचर्या रूपरेखा-2022 (बुनियादी चरण) द्वारा अनुशंसित दक्षता आधारित पाठ्यचर्या में आकलन एक ऐसा माध्यम है, जिसकी मदद से न केवल यह जाना जा सकता है कि बच्चों ने 'क्या' और 'कितना' सीखा है, बल्कि यह भी समझा जा सकता है कि बच्चों ने तथ्यों व अवधारणाओं को किस गहराई से जाना-समझा है और किस तरह से सीखा है। आकलन सीखी जा रही समझ की परतों को खोलता है और शिक्षकों को यह भी बताता चलता है कि बच्चों के सीखने की शैलियों के अनुसार शिक्षकों को अपनी अधिगम शिक्षण शैलियों में किस

प्रकार से समय-समय पर परिवर्तन करते चलना है। बुनियादी चरण के सीखने की प्रक्रिया में आकलन के उद्देश्यों को इस प्रकार से समझा जा सकता है।

6.1 आकलन के उद्देश्य

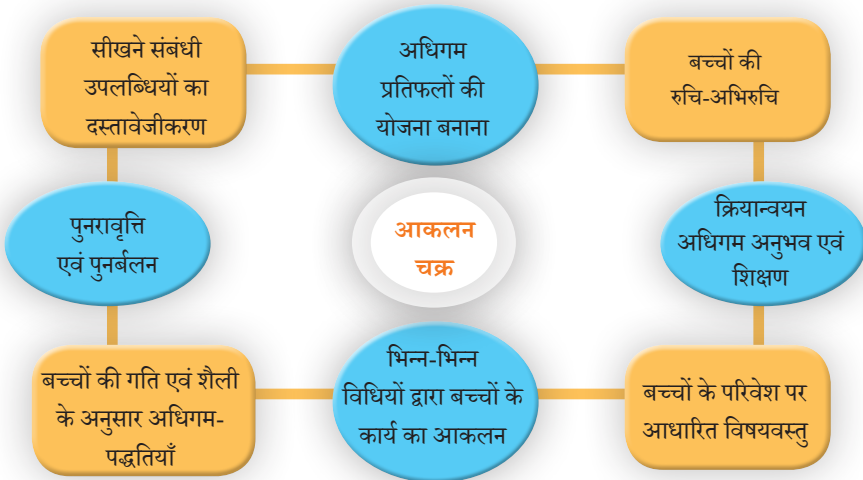
- (क) बच्चों की अधिगम संबंधी आवश्यकताओं, प्राथमिकताओं और रुचियों की पहचान करना जिसके आधार पर अनुभव देने की पद्धतियों का चयन किया जा सके।
- (ख) बच्चों की अधिगम संबंधी उपलब्धियों के प्रति अध्यापकों को अंतःदृष्टि प्रदान करना और उन्हें आगामी कार्यवाही के लिए निर्देशित करना।
- (ग) सार्थक गतिविधियों एवं अभ्यासों द्वारा विकसित हो रही समझ एवं कौशलों में पैनापन लाने की संभावनाएँ जुटाना।
- (घ) बच्चों को सीखने-सिखाने के समुचित अवसर प्रदान करने के लिए किए जा रहे प्रयासों में समन्वय स्थापित करना।
- (ङ) बच्चे, किसी दक्षता को सीखने एवं अवधारणा विशेष को सीखने में कितना समय ले रहे हैं, यानी समय के संदर्भ में उनके सीखने की दर के बारे में जानकारी होना।
- (च) सभी बच्चों द्वारा पाठ्यचर्यक लक्ष्यों को प्राप्त करने की दिशा में विषयवस्तु एवं शिक्षण-शास्त्रीय प्रविधियों की योजना बनाने और उन्हें संयोजित करने के लिए समग्र दृष्टिकोण प्रदान करना।
- (छ) बच्चों के अधिगम में रह जाने वाले अंतरों को समय रहते पहचान पाना, तदनुसार उन अंतरों और रिक्तताओं को संबोधित करने के लिए उचित कार्यवाही करना।
- (ज) विकासात्मक चुनौतियों एवं अधिगम कठिनाइयों के संदर्भ में मिल रहे संकेतकों की पहचान करना और संभावित समाधानों की खोज करना।

राष्ट्रीय पाठ्यचर्या रूपरेखा-2022 (बुनियादी चरण) के अनुसार आकलन के उद्देश्यों को पढ़कर अब यह समझ उभर कर आती है—

- सभी बच्चे अपने आप में अद्वितीय हैं और किसी भी स्थिति के प्रति अपने ही ढंग से प्रतिक्रिया करते हैं।
- सभी बच्चों में सीखने की अपार क्षमता एवं संभावना है।

- 'सीखना' एक सतत प्रक्रिया है और 'आकलन' सीखने की प्रक्रिया का आवश्यक अभिन्न हिस्सा है।
- बच्चों के सीखने की दिशा एक सीधी रेखा में नहीं चलती यानी वे नवीन वस्तुओं, परिघटनाओं और सूचनाओं तक पहुँचते हैं, फिर वापस पूर्व में सीखी अवधारणाओं तक पुनः पहुँचते हैं। इस तरह पुनः आगे की ओर बढ़ते हैं।
- सीखना, समग्रता में ही होता है इसलिए आकलन को भी टुकड़ों-टुकड़ों यानी भिन्न-भिन्न कालचक्रों में नहीं बाँटा जा सकता। यह सीखने की प्रक्रिया के साथ-साथ चलता है।
- गलतियाँ, सीखने की प्रक्रिया का हिस्सा हैं। गलतियों की पहचान करना और उनके आधार पर नई युक्तियों को खोजकर क्रियान्वित करना आकलन का मुख्य पहलू है।

भाषा में आकलन की प्रक्रिया को एक चक्रीय अवस्था के रूप में देखा जा सकता है जिसमें अधिगम प्रतिफलों को निर्दिष्ट करना, अधिगम प्रक्रिया के अनुभव देना, साथ-साथ भिन्न-भिन्न तरीकों द्वारा पता लगाते चलना कि अधिगम हो रहा है या नहीं, हो पा रहा है तो किस प्रकार से हो रहा है और यदि नहीं हो पा रहा है तो क्या कारण हो सकते हैं, तदनुसार पुनरावृत्ति, पुनर्बलन प्रदान करना आदि शामिल हैं। आकलन को इस चक्र के माध्यम से समझा जा सकता है—



6.2 आकलन की विधियाँ (आकलन कैसे किया जाए)

बच्चे भिन्न-भिन्न गति और भिन्न-भिन्न शैलियों से सीखते हैं इसलिए हमें आकलन करने के लिए केवल एक ही तरीके पर निर्भरता न प्रदर्शित करके तरह-तरह की विधियों का प्रयोग करना चाहिए। आकलन की बहुविध युक्तियों को हम निम्नलिखित सिद्धांत के अंतर्गत समझ सकते हैं।

6.2.1 अधिगम के लिए आकलन

हिंदी भाषा की कक्षा में अधिगम के लिए आकलन बच्चों की प्रगति के मापन हेतु बच्चों के सीखने की शैली के अनुरूप तरह-तरह की विधियों की माँग करता है। आकलन को इस प्रकार से अभिकल्पित किया जाए कि बच्चों के भाषायी विकास को समुन्नत किया जा सके और उन्हें हिंदी भाषा के प्रति रुचि एवं आकर्षण की अनुभूति हो सके। आकलन का यह प्रकार सीखने की प्रक्रिया के साथ आरंभ हो जाता है। यह शिक्षण के आरंभ, मध्य और अंत तक सतत रूप से चलता है।

हिंदी बोलने, सुनने, ध्वन्यात्मक जागरूकता पैदा करने, प्रिंट चेतना, डिकोडिंग, लिखित मुद्रित सामग्री से अर्थग्रहण करना, चित्रों के साथ संवाद करना, तुकबंदी करना, कविता, गीत गाना, आगे बढ़ाना, अभिनय करना और स्वतंत्र अभिव्यक्ति अर्थात् बच्चों की भाषा की विस्तृत समझ के लिए केवल प्रश्नोत्तर (मौखिक एवं लिखित) रूप पर निर्भर नहीं रहा जा सकता। एक तनाव मुक्त अधिगम परिवेश में तरह-तरह की खेल-परक, अंतः क्रियात्मक और आयु उपयुक्त तरीकों को आधार बनाने की जरूरत है। उदाहरण के रूप में—

- अवलोकन करना।
- भिन्न-भिन्न स्रोतों और विधियों से सूचना एवं साक्ष्यों का संग्रहीकरण, इसमें माता-पिता या अभिभावक, मित्र या सहपाठी, परिजन या समुदाय के लोग भी निष्पक्ष सूचना स्रोत हो सकते हैं।
- कहानी कहना-सुनना।
- निर्देशित खेल या मुक्त खेल उल्लेखनीय प्रसंग ये सभी विधियाँ सुनियोजित रूप से प्रयोग में लाई जा सकती हैं। सारंगी शृंखला से एक उदाहरण प्रस्तुत है—

सारंगी भाग-1, इकाई 1, ‘मीना का परिवार’ (पृष्ठ संख्या 4) उदाहरण के लिए यहाँ लिया जा सकता है। आप सुनिश्चित करना चाहेंगे कि सभी बच्चों के पास पुस्तक हो। आप ‘मीना का परिवार’ कहानी पाठ उलटने-पलटने के मौके देकर उनके स्वयं के

परिवार के बारे में बातचीत करना चाहेंगे। इसके बाद उन्हें कहानी पढ़कर सुनाएँगे। आपका पहला प्रयास यह रहेगा कि आप कहानी का एक ही खंड पढ़कर सुनाएँ और बच्चों का ध्यान चित्रों की ओर दिलाएँगे। इसके बाद बच्चों से निम्नलिखित प्रश्न पूछे जा सकते हैं—

- इस कहानी में किसके परिवार की बात हो रही है?
- परिवार में कुल कितने लोग हैं?
- परिवार में कौन-कौन हैं?
- मीना और दिवाकर कौन-सा खेल खेलते हैं?

आप यह भी चाहेंगे कि बच्चों का ध्यान पाठ में दिए गए चित्रों की ओर जाए और वे कहानी की विषयवस्तु का चित्रों के साथ संबंध जोड़ पाएँ। इसके लिए आप कुछ इस तरह के प्रश्न पूछ सकते हैं—

- बच्चो! इस कहानी में मीना के दादी-दादा, माता-पिता, चाचा और उसके छोटे भाई दिवाकर की बातें आपने सुनीं। इस कहानी के चित्रों को देखिए और पहचानिए कि मीना और दिवाकर कहाँ हैं? दादा-दादी कौन से हैं? चाचा क्या कर रहे हैं? मीना के दादा क्या कर रहे हैं? दिवाकर कहाँ छिपा हुआ है? इस तरह के प्रश्नों से बच्चों को अभिव्यक्ति का अवसर मिलेगा।
- बच्चों से प्रत्येक सदस्य के कार्यकलाप की भी चर्चा की जा सकती है। चित्रों से संबद्धता स्थापित करने के बाद आप यह भी चाहेंगे कि बच्चे इस परिवार की सभ्यता या असभ्यता की भी चर्चा करें। इस प्रकार हम उन्हें चित्र पढ़ने, शब्दों की पहचान करने, लिखित युक्त वाक्यों की पहचान करने, पढ़ने के तरीकों और स्वतंत्र अभिव्यक्ति करने एवं सीखने के अवसर दे रहे हैं।

यदि बच्चे प्रश्नों के उत्तर नहीं दे पा रहे हैं तो पुनः कहानी का पठन करेंगे और चित्रों के अवलोकन का मौका देंगे। इस बार स्वयं भी चित्रों की ओर संकेत कर सकते हैं कि देखो, यह मीना है न! अच्छा... तो इसका भाई कहाँ पर है? क्या यह बच्चा इसका भाई होगा?

इस प्रकार के प्रश्न पूछकर बच्चों का ध्यान शब्दों, वाक्यों एवं चित्रों की ओर दिलाकर हम समझ पाएँगे कि बच्चों की समझ बन रही है या नहीं।

6.2.2 अधिगम का आकलन

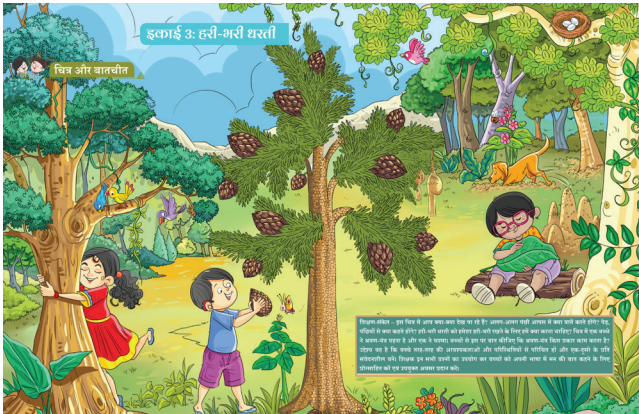
‘अधिगम का आकलन’ भी एक सतत प्रक्रिया है और यह भी सीखने की प्रक्रिया के साथ आरंभ हो जाती है। इस संदर्भ में सबसे प्रमुख बात यह है कि बच्चे के अधिगम की

तुलना उसके किसी सहापाठी के अधिगम स्तर से न की जाए बल्कि उस बच्चे की पूर्व प्रगति एवं पूर्व अधिगम स्तर से की जाए, तभी बच्चे को सीखने संबंधी कोई सहायता एवं समर्थन दिया जा सकता है।

‘अधिगम के आकलन के संदर्भ में’ बुनियादी चरण के बच्चों का अवलोकन करना, सर्वाधिक उपयुक्त तकनीक है। बच्चों के सुनने-बोलने का विकास, शब्द-संपदा और निजभाषा से विद्यालय की भाषा की ओर परागमन-बोध आदि का अवलोकन करना जितना आवश्यक होगा वह उतना ही महत्वपूर्ण भी होगा।



सारंगी भाग-2, इकाई-3, ‘हरी-भरी धरती’ से एक उदाहरण प्रस्तुत है।



चित्र और बातचीत

प्रस्तुत संदर्भ में बच्चों के आकलन हेतु अवलोकन के बिंदु इस प्रकार हो सकते हैं—

- चित्र की ओर उत्सुकता प्रदर्शित कर रहे हैं या नहीं?
- चित्र की ओर ध्यान से देख रहे हैं या नहीं?
- चित्र की बारीकियों की ओर ध्यान दे पा रहे हैं या नहीं?
- चित्र में दी गई वस्तुओं, पात्रों की पहचान कर पा रहे हैं या नहीं?
- चित्र देखकर उसके बारे में बता पा रहे हैं या नहीं?
- चित्र से संबंधित प्रश्न पूछ पा रहे हैं या नहीं?
- अपने साथियों की बात सुनने के प्रति सहिष्णुता का प्रदर्शन कर रहे हैं या नहीं?
- बच्चे, अपने साथी और स्वयं के अवलोकन में विरोधाभास होने पर तर्क रख रहे हैं या नहीं?
- चित्र के परिवेश से अपने घर आस-पड़ोस के परिवेश की संबद्धता जोड़ पा रहे हैं या नहीं?
- चित्र को देखकर किसी पूर्व घटना या प्रसंग का अनुमान लगा पा रहे हैं या नहीं?
- चित्र में आए लिखित शब्दों (प्रिंटचेतना) की पहचान कर पा रहे हैं या नहीं?

आकलन की प्रक्रिया यहीं समाप्त नहीं होती। इसके बाद महत्वपूर्ण चरण यह है कि अवलोकन, प्रश्नोत्तर से प्राप्त सूचनाओं एवं साक्ष्यों का दस्तावेजीकरण करना और उन्हें माता-पिता/अभिभावकों तक संप्रेषित करना। यह जरूरी नहीं कि प्रत्येक बच्चे के अवलोकन संबंधी साक्ष्यों को प्रतिदिन दर्ज किया जाए क्योंकि वह संभव नहीं। इसके लिए सर्वाधिक उपयुक्त तरीका है कि प्रतिदिन चार या पाँच बच्चों के अवलोकन संबंधित साक्ष्यों को दर्ज किया जाए और यह ध्यान रखा जाए कि किसी भी बच्चे के सीखने से संबंधित कोई पहलू नहीं छूटे। अंततः यह कहना आवश्यक रूप से अनिवार्य है कि आकलन किसी भी रूप एवं स्थिति में बच्चों को किसी तरह की श्रेणी में डालने के लिए नहीं किया जाता और न ही बच्चों की एक-दूसरे से तुलना करने के लिए किया जाता है। बच्चों की प्रगति का उल्लेख सरल व स्पष्ट भाषा में अभिभावकों तक संप्रेषित किया जाए और उनकी सहभागिता को भी आमंत्रित किया जाए।

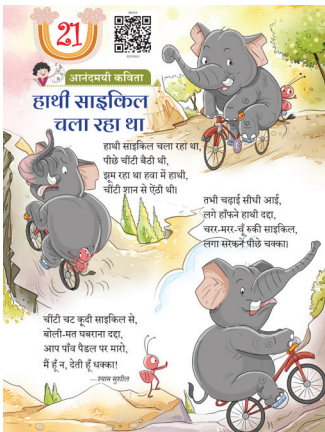
7. अधिगम-शिक्षण सामग्री

अधिगम-शिक्षण सामग्री का तात्पर्य शिक्षण के उन साधनों से है जिनके प्रयोग से बालकों की ज्ञानेंद्रियाँ सक्रिय हो जाती हैं और वे पाठ के सूक्ष्म तथा कठिन भावों को सरलतापूर्वक समझ जाते हैं। हिंदी पाठ्यपुस्तक *सारंगी* (भाग-1 एवं 2) में अधिगम-शिक्षण सामग्री का प्रयोग बहुत ही सुंदर तरीके से किया गया है। शिक्षक पाठ्यपुस्तक में दी गई निम्नलिखित सामग्री का कक्षा-कक्ष में सार्थक प्रयोग करते हुए पाठ्यपुस्तक में शामिल बच्चों के जीवन से जुड़े संदर्भों, परिवार, रंग ही रंग, हरी-भरी धरती, मित्रता, आकाश, जीव-जगत, हमारा खान-पान, त्योहार और मेले में भाषा-शिक्षण के उपर्युक्त चारों कौशलों को विकसित कर सकते हैं। शिक्षक निम्नलिखित प्रकार की अधिगम शिक्षण सामग्री (पाठ्यपुस्तक में वर्णित एवं पाठ्येतर) का प्रयोग कर सकते हैं—

सारंगी भाग-2 (पृष्ठ संख्या 84-85) में चित्र और बातचीत पोस्टर



सारंगी भाग-2 (पृष्ठ संख्या 103 एवं 109) में निहित आनंदमयी कविताएँ



लूडो का खेल



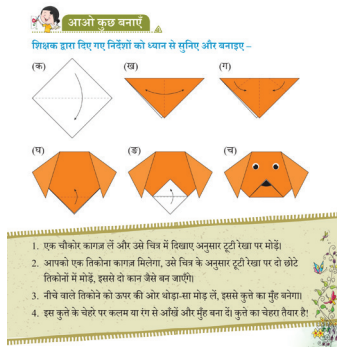
साँप-सीढ़ी का खेल



शब्द पहिए का खेल



- स्वदेशी खिलौनों का प्रयोग।
 - आप अपने अनुभवों एवं समझ-बूझ से स्थानीय परिवेश में उपलब्ध संसाधनों का उपयोग करते हुए तरह-तरह की शिक्षण सामग्री का प्रयोग कर सकते हैं।
- सारंगी भाग-1 पाठ्यपुस्तक (पृष्ठ संख्या 51) में 'आओ कुछ बनाएँ'



गतिविधि के माध्यम से गणित की आकृतियों से परिचित करवाने का एक सार्थक प्रयास किया गया है। इस गतिविधि में एक तरफ बुनियादी साक्षरता ज्ञान कौशल विकसित करने का प्रयास देखने को मिलता है साथ ही बुनियादी संख्यात्मक ज्ञान एवं कला विषय

को भी बहुत ही सुंदर रूप में जोड़ने का सार्थक प्रयास किया गया। *सारंगी* भाग-2 में भी बुनियादी साक्षरता ज्ञान के चार भाषा स्तंभों के साथ-साथ बुनियादी संख्यात्मक ज्ञान कौशल विकसित करने पर भी पूर्ण ध्यान रखा गया है।

पाठ **नटखट दिवाकर** (*सारंगी*, भाग 2, पृष्ठ संख्या 25) में समय और संख्या ज्ञान को बखूबी संजोया गया है। *सारंगी* भाग 1 और 2 में लोकगीत, लोकनृत्य तथा वाद्ययंत्रों के साथ भी संबंध स्थापित करने का एक सुंदर प्रयास किया गया है। *सारंगी* (भाग-2) पृष्ठ संख्या 94-95 में दिए गए 'चित्र और बातचीत' पोस्टर के माध्यम से जहाँ मौखिक भाषा के विकास पर बल देने का एक प्रयास किया गया है, वहीं दूसरी ओर स्थानीय संस्कृति से परिचित करवाने का प्रयास भी देखने को मिलता है। शिक्षक बच्चों से चर्चा और बातचीत करते हुए उन्हें लोकगीत गाने के लिए, लोकनृत्य करने के लिए तथा तबला या अन्य संगीत वाद्ययंत्र बजाने के लिए बुला सकते हैं।

कला समेकित अधिगम

वह शैक्षणिक दृष्टिकोण है जिसमें विविध विषयों की अवधारणाओं के अधिगम आधार के रूप में कला और संस्कृति के विभिन्न अवयवों का उपयोग कर कक्षा को अधिक आनंदपूर्ण बनाया जाता है।

खिलौना आधारित शिक्षाशास्त्र

बच्चे मौज-मस्ती और आनंद के लिए तरह-तरह के खेल खेलते हैं। इस प्रक्रिया में वे बहुत से कौशल सहजता के साथ सीखते हैं। खेलने के दौरान वे नाना प्रकार की सामग्री यानी कि खिलौनों का प्रयोग करते हैं। बहुत से खिलौनों का प्रयोग पाठ्यचर्यक अवधारणाओं की समझ विकसित करने के लिए किया जाता है। स्थानीय रूप से उपलब्ध खिलौनों, खेलों और पुतल-मुखौटे, कक्षायी शिक्षण में अधिगम संवर्धन के लिए उपयोग में लाए जाते हैं। खिलौना आधारित शिक्षाशास्त्र पर अधिक जानकारी लेने के लिए लिंक पर जाएँ— <https://ncert.nic.in/pdf/notice/toy-based-pedagogy.pdf>

ऐसी अपेक्षा है कि यह शिक्षक संदर्शिका, *सारंगी* श्रृंखला (भाग 1 संख्या 2) की पाठ्यपुस्तकों के माध्यम से राष्ट्रीय शिक्षा नीति-2020 और राष्ट्रीय पाठ्यचर्या की रूपरेखा-2022 (बुनियादी चरण) की भावनाओं को सच्चे अर्थों में आप तक संप्रेषित कर पाने में सक्षम हो पाएगी। वस्तुतः नवीन बदलावों को समंजित कर कक्षा-कक्ष में शिक्षण-अधिगम की प्रक्रिया में सार्थक बदलाव लाना ही इस संदर्शिका का मूल उद्देश्य है। इसका उपयोग शिक्षण-अधिगम की प्रक्रिया को और भी रोचक, आनंददायक, रचनात्मक और परिपूर्ण बनाएँ, ऐसी कामना है।

Notes

Notes



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