MEASUREMENT

The theme for this unit is *Animals*.

Learning Outcomes

- Compare things and say if they are long or short
- Measure how long a thing is using non-standard units
- Compare things and say if they are heavy or light

Integration

Art	Exercise
Environmental Studies	Warm-up, Exercise, Activity 1, Project
Life Skills and Values	Exercise
Multiple Intelligences	Maths Lab Activity 1, Maths Lab Activity 2, Maths Lab Activity 3
Digital	Picture Gallery, Interactivity, Presentation

Suggested Number of Sessions: 12

Session 1: Recall, Warm-up

Session 2: Long and short, tall and short

Session 3: Maths Lab Activity 1, Maths Lab Activity 2

Session 4: Exercise questions 1 to 3

Session 5: Exercise questions 4 to 6, Digital asset: Picture Gallery (*Some of the tallest buildings in the world*)

Session 6: How long, how tall, how short? Digital asset: Interactive activity, Instructions to be given to students to bring pictures of them as babies and also their latest pictures, for completing Activity 1 in the next session

Session 7: Instruction for Exercise question 7, which is to be given as home assignment, Exercise questions 8 to 10, Activity 1

Session 8: Activity 1 (continued), Heavy and light

Session 9: Maths Lab Activity 3, Exercise questions 11 to 13

Session 10: Exercise questions 14 to 17

Session 11: Exercise question 18, Digital asset: Presentation (*Taller-shorter, longer-shorter, heavier-lighter*), Instructions for the Project, which is to be given as home assignment

Session 12: Worksheets, Other pending work

Teaching Guidelines

Recall

- Instruct / Guide students to complete the **Recall** exercises.

Warm-up

- Point to the image of the cat marked 'a' in question 1. Tell students that Anil's kitten was very small at first. Then, it grew bigger and bigger. Ask students to identify the image that is slightly bigger than the one marked 'a' and write 'b' below it. Then, instruct them to identify the image bigger than the one marked 'b' and write 'c' below it. In the same way, ask them to compare the rest of the images and mark them using the letters d to f.

Once they have completed the task, ask them to look at the pictures from a to f (in the correct order) to know how Anil's kitten grew in size. Explain that animals, birds and even people grow in size. Encourage students to talk about how they have grown since they were babies. This is integration with Environmental studies.

Point to the image of the dog and the kennel in question 2. Explain what a kennel is with the help of the glossary on the page. Elicit the answer to question 2 from students. They must be able to say that the dog has grown in size since it was a pup. So it will not be able to use the small kennel. This is also integration with Environmental studies as it relates to growth in animals.

- Elicit the answer to question 3 from students.

Long and short, tall and short

- Explain the terms 'long', 'tall' and 'short' using things available in the class. For example, you may show a long stick or ruler or a measuring tape and say that it is long. Next, you may show a small ruler or pencil and say that is short. You may call two students to the front and say who is tall and who is short. (***Note:*** When you demonstrate tall and short with the help of students, be extremely mindful to stay objective. Ensure that the students are not made fun of for being tall or short.)
- With the help of the Coursebook, explain how two things are compared to know which one is longer and which one is shorter. Also explain the difference between 'taller' and 'shorter' with the help of the Coursebook.
- Tell students that when we compare three things of different sizes, we can find out the longest and shortest or the tallest and shortest among them.
- Ask students to identify the longest and shortest pencils and the tallest and shortest trees given in the Coursebook and mark them as instructed.

Arrange for the materials for **Maths Lab Activity 1**. Put students in pairs and tell them what they have to do. Physical activity and keen observation are involved in performing these tasks. There is integration of Multiple Intelligences (Bodily-Kinesthetic and Visual-Spatial intelligences) here. The activity involves collaboration and communication among students.

Put students into groups of five such that no two students are of the same height. Guide them to complete **Maths Lab Activity 2**. The activity integrates Multiple Intelligences (Bodily-Kinesthetic

and Visual-Spatial intelligences). Students observe the differences in their height and arrange themselves in the increasing order of their height. Students gain practical experience in comparing heights. The activity involves collaboration and communication among them.

- Instruct students to attempt questions 1 to 6 of the Exercise.

⑤ For answering questions 1 and 2, students compare things in their bag and draw the ones that are longer and shorter than their pencil, in the space provided. They draw pictures to exhibit their understanding of the concept. This is Art integration.

⑤ Open the Picture Gallery following question 6. Students get to see some of the tallest buildings in the world. Read out the names of those buildings. Ask students if they have visited any of these buildings or if they have been on the top floor of a very tall building. Ask them to share the experience of looking at things from a great height. This is Digital integration. Students learn with the help of digital technology.

How long, how tall, how short?

- Tell students that we sometimes use our body parts to find out how long or tall a thing is.
- Point to the pictures of a handspan, a cubit, a pace given in the Coursebook.
- Show students the arrow that stretches from the thumb to the little finger. Point out that the other fingers are apart and not joined.
- Then, show the handspan using your fingers.
- Repeat the process for explaining cubit (the arrow extends from the elbow to the tip of the middle finger) and pace (the arrow extends from big toe to the other end of the foot)
- Show cubit and pace using your arm and foot respectively.
- Point to the illustrations that show the handspan, cubit and pace being used to measure the length of different things.

Encourage students to do the interactive activity to guess how long different things are. This is Digital integration. Learning is reinforced using digital technology.

- Instruct students to complete question 7 of the Exercise as home assignment. Explain how they should answer the questions given.
- Guide students to answer question 8. They can use the handspan of one hand to measure the other arm from elbow to the tip of the middle finger to say how long a cubit is.
- Question 9 involves critical thinking. Students must be able to say that Hina has to add some blocks to the yellow tower and Arun has to remove some blue beads respectively. They must also be able to say how many blocks and beads are to be added and subtracted respectively.

⑤ Students can answer question 10 of the Exercise from their own experience. They must make the connection between the length of the nails and cleanliness (Short nails are cleaner, long nails may be dirty.).

Explain to them that dirt from nails gets into the food we eat and this can make us fall sick. Students learn that they need to keep their nails short in order to be healthy. They learn the importance of personal hygiene. This is integration with Environmental Studies.

Encourage students to complete **Activity 1**. Students observe the changes they have undergone since they were babies by comparing their pictures taken then and now. This is integration with Environmental Studies as students learn that they have changed as they grew up.

Heavy and Light

- Ask students to lift their school bag that has their books with one hand and a pencil box with the other hand.
- Ask them which of these thing is easier to carry and which is difficult to carry.
- Explain that heavy things are difficult to carry and light things are easy to carry
- Reinforce this with the help of the pictures given for the topic in the Coursebook.
- Using the examples given in the Coursebook, explain how we can compare two things in terms of which one is heavier than the other or which one is lighter than the other.
- Explain when we use the words 'heaviest' or 'lightest' for comparing things.
- Ask students to look at the pictures of the school bags with different number of books and mark the heaviest and the lightest among them. (*The bag with the most number of books is the heaviest and the bag with the least number of books is the lightest.*) Similarly ask them to say which of the water jugs is the heaviest and which one is the lightest. (*The water jug with the most amount of water is the heaviest and the one with the least amount of water is the lightest.*)

⑤ Conduct **Math Lab Activity 3** with different pairs of students. Read out and explain the instructions for doing the activity. Students learn that more notebooks are heavier than fewer notebooks. They learn this by doing the activity. This is integration with Multiple Intelligences (Bodily-Kinesthetic intelligence).

- Instruct students to complete questions 11 to 15 of the Exercise.

⑤ Questions 14 and 15 integrate Art. Students think of different fruits. They process which of those could be heavier than a lemon in their mind and draw them for question 14. Similarly for question 15, they think of fruits that could be heavier than a mango and draw them for question 15. They also colour the fruits they have drawn.

⑤ Question 16 has the picture of a boy who wants to help his mother put things in the car. He offers to lift the heavier basket but his mother stops him. So he says he can help by putting the lighter basket on the car seat. Students learn that they too can help others by carrying things for them that are not very heavy. This is integration with Values.

- Instruct students to complete question 17 of the Exercise.

⑤ Question 18 of the Exercise involves critical thinking. Students estimate and compare the weight of a muskmelon and a packet of biscuits. They visualise what will happen if the heavier muskmelon is placed on top of the lighter packet of cookies inside the bag. They understand that the biscuits will break because the muskmelon is heavy. They explain this to you and then answer the question. Students can use this knowledge in real-life to avoid damaging lighter things that can break easily. Thus this is integration with Life Skills.

Open the Presentation given in the link after students have completed answering question 18. Students learn to compare different things on the basis of whether they are taller, longer or shorter and heavier or lighter. This is Digital integration. Students learn with the help of digital technology.

[S] The **Project** relates to the theme of the lesson, which is *Animals*, and also reinforces the concepts taught in the lesson. Students learn the names of the tallest and the shortest as well as the heaviest and the lightest animals and birds. They collect pictures of these animals and birds and paste them in their notebooks. This is integration with Environmental Studies.
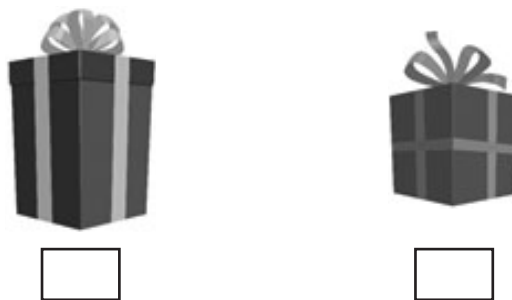
QUESTION BANK WITH ANSWERS

Measurement

A. Tick (✓) the shorter train.

Ans: Tick (✓): the train on the right

B. Tick (✓) the taller gift box.

Ans: Tick (✓): the gift box on the left

C. Jia and Lipi make toffee trains. What should Lipi do to make her toffee train as long as Jia's?

Jia:

Lipi:

Ans: Lipi has to add two more toffees to her train.

A. Write L for longer and S for shorter.

  □

  □

B. Write T for taller and S for shorter.

  □

  □

C. Draw a circle around the shortest pencil and draw a box around the longest pencil.

1.

2.

3.

D. What should Peter do to make his tower as tall as Linda's tower?

Peter has to _____

_____ .

E. Colour the heaviest in blue and the lightest in pink.

MEASUREMENT

A. Write L for the picture on the left and S for the picture on the right.

B. Write T for the tree on the right and S for the tree on the left.

C. Draw a circle around pencil 3 and draw a box around pencil 2.

D. Peter should add 2 more blocks to his tower.

E. Colour the bus blue and the scooter pink.