Lesson-13: Metric Measure

10 Periods (40 minutes each)

Learn Better (Main Coursebook), Stay Ahead (Workbook), Book of Holistic Learning, Book of Project Ideas, CRM signs

Infographic, Animation, Animated Activities, Dictionary, eBook, HOTS, Explainer Video, Maths Lab, I Explain, Mental Maths, Quiz, Slideshow, Test Generator

Confirming better
I enjoy exploring digital tools.

Curricular Goals and Objectives (NCF)

To enable the students:
- to learn to convert one unit into another in the metric system.
- to identify and apply correct units for length, weight and capacity.
- to compare measurements of the given objects.
- to solve problems involving addition and subtraction of measurement.

Methodology

Period 1

Affirming better

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

MUST DO
10 MIN.

Students: We are good/fine.

Affirming *better* I enjoy exploring digital tools. (137)

Teacher: Before we dive into today's lesson, let us start with a quick activity to help us focus and get ready. Repeat after me: I enjoy exploring digital tools. It is important to explore these tools because they help us engage with the material in creative and exciting ways. So, let us share how we feel about using such tools in our learning process.

(Encourage students to reflect briefly and share their experiences with digital learning tools.)

Teacher: Now, I want you to take a moment and think about what we already know about Metric Measure. Are you ready?

Students: Yes, teacher.

Teacher: Great. Let us start with the activity called the KWL Chart.

K (What I Know)# **ICL** W (What I Want to Know)# (137)

Teacher: KWL stands for What I Already Know, What I Want To Know and What I Have Learnt. It helps us organise our thoughts and set goals for our learning.

K	W	L

Teacher: Let us begin with the K section—What I Know. Think about what you already know about this lesson's concepts, such as measurements of length, weight, measurement, addition and subtraction in measurement.

Teacher: Now, let us move to the W section—What You Want to Know. For example, you could say, about different units of measurement and their conversion. What are your questions?

(Encourage students to share their ideas. Record responses on the chart.)

Teacher: We will complete the "What You Have Learnt" section after the end of the lesson.

Re-KAP

Teacher: Today, we are going to do some fun activities to practise our skills with Metric Measure. Let us begin.

Kinaesthetic

Teacher: (Use CRM signs to settle the class) For this activity, we will be estimating the length of objects using

MUST DO
10 MIN.

our hands and then measuring them with a ruler. This will help us understand the differences between non-standard and standard units of measurement.

(Guide the students to make groups of 2.)

> **Kinaesthetic**
>
> **Make groups of two. Select an object. One of you estimate the length of the object using your handspan/cubit. The other should measure the same object with a ruler. Note, both the standard and non-standard units of measurements and discuss the differences.** (137)

Teacher: Alright, I am going to give you an object. I want one of you to estimate the length using your handspan or cubit. The other student will measure the object with a ruler. Are you ready?

Students: Yes, teacher.

Teacher: Let us start with the first object, the pencil. Who will estimate the length of the pencil?

(Let one student in each group estimate the length and respond.)

Teacher: Great. Now let us measure it with the ruler.

Teacher: The actual length of the pencil is 12 cm (Please note that the measurement can change as per the size of the pencil). How close was your estimate?

Students: Not too close, but I tried to estimate based on how long I think a pencil should be. (Accept all relevant responses.)

Teacher: Exactly. Even though it was not exactly right, this helps us understand how estimating with non-standard units like handspan can sometimes be less accurate than measuring with standard units like a ruler.

Teacher: Now, let us move on to another object. Are you ready?

Students: Yes, teacher.

(Continue the activity with other objects.)

Teacher: Excellent work, everyone.

Auditory

Teacher: Now, let us give our bodies a rest and use our ears. I will read a short text to check your prior understanding of time. Listen carefully as you will answer a question later.

MUST DO

10 MIN.

> Auditory*
>
> Listen to your teacher carefully. Answer the questions. (137)

Chapter 13: Metric Measure
Maria and her family visits Kaziranga National Park in Assam. They saw rhinoceros, elephants and wild water buffalo there. The tourist guide tells them that, "An adult elephant drinks about 200 litres of water in a day. A male water buffalo is three times bigger than their female counterpart. A male water buffalo can reach 200 to 300 centimetres in height, and weigh about 650 kilograms to 1200 kilograms."

1. How much water does an elephant drink in a day?
2. What is an average height of a water buffalo? (168)

Teacher: I hope you all listened to the text carefully. Now it is time to answer a question. You may use your notebook to write down the information in the text.

(Pictorial)

> Pictorial [PS]
>
> Match the following with the correct unit of measurement for each.

cm   km   m   (137)

Teacher's Note: *Read aloud to the class the listening text on the last page. Ask the questions given there.
*Guide the students to recall and answer these in their notebooks.

Teacher: For the next activity, there are three pictures with some measurements. We need to compare the sizes and answer the questions.

MUST DO

10 MIN.

Teacher: Which one is the tallest among the three?

Students: The giraffe is the tallest.

Teacher: Yes, the giraffe is 4 metres tall. Now, read the other questions and answer them as well.

Teacher: Excellent. Comparing objects using their measurements is a great way to understand their relative sizes.

Teacher: Before we finish for today, let us give ourselves a big round of applause for the great work we did. Keep practising your measurement skills.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

Identify and correct 3 wrong unit usages from this list:
- "I bought 2 km of milk"
- "My bag weighs 5 ℓ"
- "My height is 30 kg"

80 km/hr

Convert the following:
- 1.25 kg = _____ g
- 3.5 ℓ = _____ mℓ
- 1500 mℓ = _____ ℓ and _____ mℓ

40 km/hr

Convert 2 kg to grams and 2500 mℓ to litres and mℓ.

Home Task

Find a bottle at home. Check the mℓ or ℓ written on it and convert it to the other unit.

Period 2

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: In our last class, we learnt about different metric units like metres, litres, grams and so on. Today, I am going to give you a situation—and you will tell me the best unit to measure it. Are you ready?

Students: Yes, teacher.

(Ask the following questions to the students:

1. To measure the length of a pencil, I will use…
2. To measure the amount of water in a swimming pool, I will use…
3. To measure the weight of a baby, I will use…
4. To measure the height of a giraffe, I will use…
5. To measure the milk in a baby's bottle, I will use…
6. To measure the distance between two cities, I will use…
7. To measure the weight of a packet of sugar, I will use…
8. To measure the amount of juice in a juice box, I will use…
9. To measure the height of a table, I will use…
10. To measure the weight of a truck, I will use…

Allow them to respond.)

Interacting better

Teacher: Now, we are going to do an interactive activity to understand measurements in a fun way. We will

MUST DO

5 MIN.

talk about the length, weight and capacity of different things around us. You will be working with a partner to compare measurements and learn how to convert between different units.

Teacher: Let us begin with the first question. I want you to find out the length of your desk. Take a moment to measure it in centimetres and convert it to metres. Write down your answers.

(Let the students work together to find the answer.)

Interacting *better*   ICL

What is the length of your desk?   _____ cm= _____m
What is the weight of your bag?   _____ g = _____kg
What is the capacity of your water bottle? _____ mL = _____L
Talk to our partner. What is the difference between the measures? Write the answers in your notebook.   (138)

Teacher: Read the other questions and discuss them with your partner. Once you have finished, talk to your partner and discuss what you have learnt. What is the difference between the units of measure? Write the answers in your notebook.

(Allow the students time to finish the work.)

Teacher: Look at this fun scenario, class. Maria and her friends are visiting a Tech Expo and they are

MUST DO

10 MIN.

learning how measurements help us understand the size and height of objects. In the first image, they are comparing the height of a robot to a person and in the second image, they are talking about the size of a large screen.

Teacher: Why do you think measurements are important in these situations? How can knowing the height of the robot or the width of the screen help people?

(Allow the students to respond.)

Maria and her friends go to the Tech Expo.
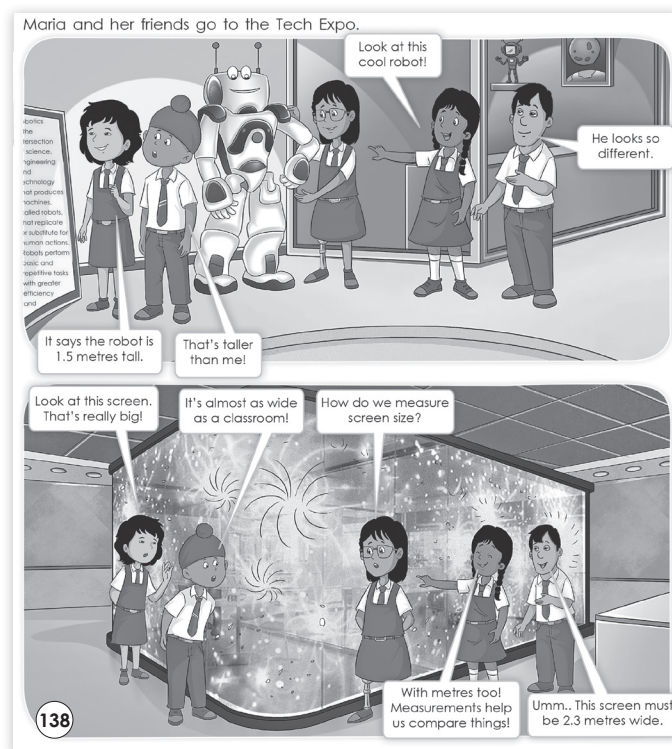
Teacher: In the first part, Maria notices that the robot is 1.5 metres tall. They compare it to their height, which shows the importance of using units like metres to describe how tall something is. Similarly, they are also talking about the size of the screen and how they estimate its size using metres. How do you think this helps them understand the objects around them better?

(Encourage students to respond, guiding them to connect the importance of measurement in everyday situations.)

Teacher: Next, we will be learning about the Measurement of Length. We are going to explore how the metre is the standard unit for measuring

MUST DO

15 MIN.

lengths and we will also look at smaller and bigger units that help us measure distances in different situations. Do you know that we can measure very small objects in millimetres and big distances like a trip across a country in kilometres?

Students: Yes, teacher.

Teacher: Let us look at this chart together. Here we can see the conversion between different units of length, from millimetres to kilometres. What do you notice about the relationship between these units? They are all based on 10s and 100s, which makes it easy to convert from one to another.
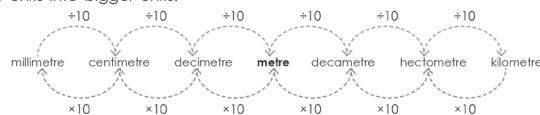
MEASUREMENT OF LENGTH
The standard unit of length is **metre**. There are small units to measure short lengths and bigger units to measure bigger lengths.

measure	milli- $\frac{1}{1000}$ units	centi- $\frac{1}{100}$ units	deci- $\frac{1}{10}$ units	standard unit	deca- 10 units	hecto- 100 units	kilo- 1000 units
length	millimetre (mm)	centimetre (cm)	decimetre (dm)	**metre (m)**	decametre (dam)	hectometre (hm)	kilometre (km)
weight	milligram (mg)	centigram (cg)	decigram (dg)	**gram (g)**	decagram (dag)	hectogram (hg)	kilogram (kg)
capacity	millilitre (mL)	centilitre (cL)	decilitre (dL)	**litre (L)**	decalitre (daL)	hectolitre (hL)	kilolitre (kL)

Each unit is 10 times the unit to its immediate left and $\frac{1}{10}$ times the unit to its immediate right. This makes it very easy to convert a unit to another unit.

The steps given on the right help us convert bigger units into smaller units and smaller units into bigger units.

millimetre — centimetre — decimetre — **metre** — decametre — hectometre — kilometre
(÷10 between each going left; ×10 between each going right)

Example 1: Convert 8 kilometres into
a. hectometres.   b. decametres.   c. metres.
a. 8 km = 8 × 10 hm = 80 hm   b. 8 km = 8 × 10 × 10 dam = 800 dam
c. 8 km = 8 × 10 × 10 × 10 m = 8,000 m

Example 2: Convert 7 millimetres into
a. centimetres.   b. decimetres.   c. metres.
a. 7 mm = $\frac{7}{10}$ cm = 0.7 cm   b. 7 mm = $\frac{7}{10 \times 10}$ dm = $\frac{7}{100}$ dm = 0.07 dm
c. 7 mm = $\frac{7}{10 \times 10 \times 10}$ m = $\frac{7}{1000}$ m = 0.007 m
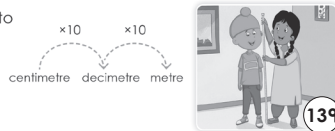
Example 3: Jas's height is 1 m 20 cm. What is his height in centimetres?
Here, we have to convert bigger units to smaller units, so we will multiply.
1 metre = (10 × 10) cm = 100 cm
1 m 20 cm = 100 cm + 20 cm = 120 cm
So Jas's height is 120 centimetres.

centimetre — decimetre — metre (×10, ×10)

139

Teacher: For example, if we wanted to convert 8 kilometres into metres, we just need to multiply 8 by 1000, since 1 kilometre is equal to 1000 metres. Let us try this together.

Teacher: Let us look at example 1 on the page. It says 8 kilometres = 8 × 10 × 10 × 10 = 8000 metres. So, 8 kilometres is the same as 8000 metres. How did we get that? (Allow the students to respond.)

Teacher: Great work. Now let us move on to example 2, where we will convert 7 millimetres into centimetres. How do we do that?

Students: We divide 7 by 10, since there are 10 millimetres in a centimetre.

Teacher: Exactly. So 7 millimetres equals 0.7 centimetres.

Teacher: Now, take a look at example 3, where we convert 1 metre 20 centimetres into centimetres. What do we need to do here?

Students: We multiply 1 metre by 100 to get centimetres and then add the 20 centimetres.

Teacher: Right. So 1 metre 20 centimetres equals 120 centimetres. Good work, everyone. Let us continue practising these conversions and help each other understand these steps.

You may show the **Animation** given on the digital platform.

Teacher: Keep practising your measurement skills. See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

Estimate the length of five different objects in the classroom and write down your guesses. Then, use a ruler or measuring tape to find the actual measurements and compare them to your estimates.

80 km/hr

Measure the length of your desk using a ruler and a measuring tape. Discuss which was easier to use and why.

40 km/hr

Measure your hand span using a ruler and then find objects in the classroom that are the same length.

Home Task

Find 5 objects at home (e.g., a book, spoon, toy, plate, pencil). With the help of your parent, measure the length of each object using a ruler and record the measurements. Now, measure the same objects using your handspan and write down those measurements. Compare the two measurements for each object.

Period 3

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Let us kick-start today's class with a fun and interactive warm-up.

MUST DO
10 MIN.

We will be focusing on measurements today, so I want you to think about different objects in the classroom and how we measure them.

Teacher: I will ask a few questions and I want you to raise your hand and answer. Are you ready?

Students: Yes, teacher.

Teacher: If we were to measure the length of your desk, what unit of measurement would we use? Would we use millimetres, centimetres or metres?

Students: Centimetres.

Teacher: That is right. Now, let us think about something a little bigger. If we were to measure the height of the classroom door, which unit would we use? Would it be centimetres, metres or kilometres?

Students: Metres.

Teacher: Well done. Now, imagine you are measuring a book. What unit would you use to measure the width of the book? Millimetres, centimetres or metres?

Students: Centimetres.

Teacher: Great answers, everyone. This warm-up helped us recall some important concepts about measurements. Let us dive deeper into metric measurements today.

Teacher: In the previous class, we learnt about the measurement of length – the smaller and the bigger units of length.

Teacher: Now that you have learnt how to convert to kilometres, let us solve a few questions. Are you ready?

Students: Yes, teacher.

1. Convert the following units to kilometres. Write the answers in your notebook.
   a. 22 mm   b. 43,762 cm   c. 8,735 m   d. 64,342 dam   e. 637 m   **140**

(Allow the students to solve question 1 on page 140.)

Teacher: Next, we are going to learn more about measurement of weight. As we have already learnt about different units of measurement for length, we will now focus on mass, which tells us how heavy or light something is.

Teacher: First, we will look at how we can convert from one unit of weight to another. For example, grams is the standard unit of weight, but we can also use smaller units like milligrams or larger units like kilograms.

Teacher: Let us take a quick example. If I tell you that 20 grams is the same as 200 decigrams, what would that mean? You are converting from one unit to another, but the value stays the same.

MEASUREMENT OF WEIGHT (MASS)

The standard unit of weight is **gram**. There are small units to measure light objects and bigger units to measure heavy objects.

The steps given on the right help us convert bigger units into smaller units and smaller units into bigger units, just like for length.

$\div10$ $\div10$ $\div10$ $\div10$ $\div10$ $\div10$

milligram   centigram   decigram   **gram**   decagram   hectogram   kilogram

$\times10$ $\times10$ $\times10$ $\times10$ $\times10$ $\times10$

The rules for conversion from one unit to another also remain the same.

Example 4: Convert 20 grams into
a. decigrams.   b. centigrams.   c. milligrams.
a. 20 g = 20 × 10 dg = 200 dg   b. 20 g = 20 × 10 × 10 cg = 2,000 cg
c. 20 g = 20 × 10 × 10 × 10 mg = 20,000 mg

Example 5: Convert 9 grams into
a. decagrams.   b. hectograms.   c. kilograms.
a. 9 g = $\frac{9}{10}$ dag = 0.9 dag   b. 9 g = $\frac{9}{10 \times 10}$ hg = $\frac{9}{100}$ hg = 0.09 hg
c. 9 g = $\frac{9}{10 \times 10 \times 10}$ kg = $\frac{9}{1000}$ kg = 0.009 kg

Example 6: Convert 45 g 140 mg into milligrams.
Here, we will have to convert bigger units to smaller units, so we multiply.

$+10$ $+10$ $+10$
milligram   centigram   decigram   gram
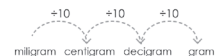
1 gram = (10 × 10 × 10) milligrams = 1,000 milligrams
45 gram = (45 × 1,000) mg = 45,000 mg
45 g 140 mg = 45,000 mg + 140 mg = 45,140 mg

2. Convert the following units to grams. Write the answers in your notebook.   **140**
   a. 538 dg   b. 25,612 cg   c. 65,215 kg   d. 7,348 mg

Teacher: We can apply this to different objects. Imagine a packet of sugar weighing 5 kilograms. How much is that in grams?

Students: 5000 grams.

Teacher: Great. 5 kilograms equals 5000 grams because

1 kilogram is equal to 1000 grams. We can convert kilograms, grams and milligrams in the same way, depending on what we need.

Teacher: Now, take a look at the given activity. We are going to practise converting between units of weight using grams, milligrams and kilograms. Let us start with some examples.

(Explain the examples to the students.)

Teacher: Now that you have learnt how to convert to grams, let us solve a few questions. Are you ready?

Students: Yes, teacher.

(Allow the students to solve question 2 on page 140.)

You may show the **Learn better (ebook)** given on the digital platform.

Understanding better

Teacher: Now, let us move to the Understanding better section. Here, we are going to solve a few questions based on the concept of measurement of weight.

Understanding **better**

Answer the following questions.
1. How many centigrams are there in 1 kilogram?
2. How many millilitres are there in 1 litre?   **140**

ICL

Teacher: We will solve the first question together. It asks: How many centigrams are there in 1 gram?

Teacher: To solve this, let us recall the relationship between grams and centigrams. 1 gram is equal to 100 centigrams. So, if you have 1 gram, you can easily convert it into 100 centigrams.

Teacher: Let us think about real-world scenarios. For example, when we measure smaller quantities like spices or medicine, we might use centigrams instead of grams. Can anyone think of another situation where centigrams might be used?

(Allow the students to share responses, such as measuring small amounts of ingredients, medicine, etc.)

Teacher: Exactly. Centigrams are very useful when we need to measure smaller quantities.

Teacher: The second question asks about litres. What is the relationship between millilitres and litres?

Teacher: 1 litre equals 1000 millilitres. This is another conversion we need to remember for capacity, just like how we used it for weight.

You may show the **I Explain** given on the digital platform.

Teacher: Before we finish for today, let us give ourselves a big round of applause for the great work we did. Keep practising your measurement skills.

Teacher: See you all in the next class. Have a great day ahead.

Home Task

Find 3 objects at home. Measure the length of each object in centimetres (cm). Write down the measurements and convert them into millimetres (mm).

Period 4

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Let us warm up our brains with some quick measurement questions. Are you ready?

SHOULD DO — 10 MIN.

Students: Yes, teacher.

Teacher: Can you think of something that weighs about 1 kilogram?

Students: A bag of rice, a large book, etc. (Accept all relevant responses.)

Teacher: Great. If you have 1000 millilitres of water, how many litres would that be?

Students: 1 litre.

Teacher: Yes, that is correct. If you need to measure something very small, what unit would you use - milligrams, centigrams or kilograms?

Students: Small measurements like spices or medicine. (Accept all relevant responses.)

Teacher: Awesome. If you are measuring the length of a pencil, which unit would you use - millimetres or kilometres?

Students: Millimetres.

Teacher: Exactly. How many centimetres are in 1 metre?

Students: 100 centimetres.

Teacher: Great. How many millilitres are in 1 litre?

Students: 1000 millilitres.

Teacher: Perfect. If a watermelon weighs 3 kilograms, how many grams is that?

Students: 3000 grams.

Teacher: Awesome work, everyone. Let us get started with today's lesson.

Teacher: Now, we will learn about the Measurement of Capacity, which is an important concept in daily life, especially when dealing with liquids. The standard unit of capacity is litre (l) and as with length and weight, there are smaller and bigger units to measure different quantities of liquid. Let us look at how we can convert between these units.

MUST DO — 20 MIN.

Teacher: For example, if we have 4 kilolitres (kl), we can convert them into hectolitres, litres or millilitres. Similarly, 12 litres can be converted into decalitres, hectolitres or kilolitres.

Teacher: Just like in length and weight, we follow the same rule for converting from one unit to another. We multiply or divide by powers of 10 depending on whether we are going from a smaller to a bigger unit or vice versa.

MEASUREMENT OF CAPACITY

The standard unit of capacity is **litre**. As is in the cases of length and weight, there are small and bigger units of capacity.

$\div 10$ between: millilitre — centilitre — decilitre — **litre** — decalitre — hectolitre — kilolitre ($\times 10$)

In case of capacity too, the rules for conversion from one unit to another remain the same as for length and weight.

Example 7: Convert 4 kilolitres into

a. hectolitres.　　b. litres.　　c. millilitres.

a. $4 \text{ kl} = 4 \times 10 \text{ hl} = 40 \text{ hl}$　　b. $4 \text{ kl} = 4 \times 10 \times 10 \times 10 \text{ l} = 4,000 \text{ l}$

c. $4 \text{ kl} = 4 \times 10 \times 10 \times 10 \times 10 \times 10 \text{ mL} = 40,00,000 \text{ mL}$

Example 8: Convert 12 litres into

a. decalitres.　　b. hectolitres.　　c. kilolitres.

a. $12 \text{ l} = \frac{12}{10} \text{ dal} = 0.12 \text{ dal}$　　b. $12 \text{ l} = \frac{12}{10 \times 10} \text{ hl} = \frac{12}{100} \text{ hl} = 0.012 \text{ hl}$

c. $12 \text{ l} = \frac{12}{10 \times 10 \times 10} \text{ kl} = \frac{12}{1000} \text{ kl} = 0.0012 \text{ kl}$

Example 9: Convert 4,590 mL into litres and millilitres.
Here, we convert bigger units to smaller units, so we multiply.

$\times 10$ between: millilitre — centilitre — decilitre — litre

$1 \text{ mL} = \left(\frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} \right) \text{l} = \frac{1}{1000} \text{l}$

$4,590 \text{ mL} = \frac{4590}{1000} \text{ l}$

When we divide 4,590 by 1,000, we get quotient = 4 and remainder = 590

So, $4,590 \text{ mL} = 4 \text{ l } 590 \text{ mL}$.

③ **Convert to litres. Write the answers in your notebook.**
a. 222 kl　　b. 3,522 dal　　c. 6,583 hl　　d. 5,352 cl

④ **Convert. Write the answers in your notebook.**
a. 485 cm to m and cm　b. 3,652 g to kg and g　c. 5,896 mL to l and mL

⑤ **Convert. Write the answers in your notebook.**
a. 653 m to cm　　b. 56 kg to g　　c. 17 l to mL

Understanding *better*

Answer the following questions.
1. How many grams are there in $\frac{1}{2}$ kg?
2. How many mL are there in 0.5 l?
3. How many metres are there in $\frac{1}{4}$ km?

ICL

LOTS | LOTS | LOTS

(141)

Teacher: Now that you have learnt conversion of capacity, let us solve a few questions. Are you ready?

Students: Yes, teacher.

(Allow the students to solve question 3, 4 and 5 on page 141.)

Understanding better

Answer the following questions.

1. How many grams are there in $\frac{1}{2}$ kg?

2. How many ml are there in 0.5 l?

3. How many metres are there in $\frac{1}{4}$ km?

(141)

Teacher: Now let us move on to the 'Understanding better' section. This will help us review and apply what we have just learnt.

MUST DO
10 MIN.

Teacher: Can anyone tell me how many grams make 1 kilogram?

Students: 1000 grams.

Teacher: Correct. There are 1000 grams in 1 kilogram. So, if I tell you that something weighs 0.5 kg, how many grams will that be?

Students: 500 grams.

Teacher: Great. How many millilitres are there in 0.5 l?

Students: 500 millilitres.

Teacher: Now, the last question asks, 'How many metres are there in $\frac{1}{4}$ km?

Teacher: To answer this, we need to know that 1 kilometre (km) is equal to 1000 metres (m). So, to convert $\frac{1}{4}$ km into metres, we just need to divide 1000 metres by 4.

Teacher: Let us do it step by step:

1 km = 1000 m, so $\frac{1}{4}$ km = 1000 ÷ 4 = 250 m. Therefore, $\frac{1}{4}$ km is equal to 250 metres.

(Allow students time to write the answers in their notebooks.)

Teacher: Well done, everyone.

📖 You may show the **Dictionary** given on the digital platform.

Teacher: Fantastic work. Let us give ourselves a big round of applause. Keep practising your measurement skills.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

You buy 1.5 kg of tomatoes and 750 g of onions. What is the total weight? How much more tomatoes than onions did you buy?

80 km/hr

You bought 2 kg potatoes and 1 kg onions. Find total weight.

40 km/hr

You have 1 kg apples and 1 kg bananas. What is the total?

Home Task

At home, weigh any two fruits or vegetables and find their total weight.

Period 5

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Alright, students, now we will be practising how to add different units of measurement, such as length, weight and capacity. This will help us to make sure we can work with different units and perform addition correctly.

MUST DO
25 MIN.

ADDITION IN MEASUREMENT

While adding two or more numbers in measurement, we write the number, keeping the place value in mind.

Example 10: Add 25 km 85 m, 115 km 652 m and 450 km 5 m.

km		m		
	1			
2	5	0	8	5
1 1	5	6	5	2
+ 4	5	0	0	5
5	9	0	7	4	2

25 km 85 m + 115 km 652 m + 450 km 5 m = 590 km 742 m

Example 11: Add 352 l 80 mL, 89 l 700 mL and 75 l 20 mL.

l		ml		
2 1		1		
3	5 2	0	8	0
	8 9	7	0	0
+	7	5	0	2	0
5	1 6	8	0	0

352 l 80 mL + 89 l 700 mL + 75 l 20 mL = 516 l 800 mL

Example 12: A big truck is carrying 365 kg 500 g of potatoes, 123 kg 60 g of onions and 430 kg cauliflowers. Find the total weight of vegetables that the truck is carrying.

Weight of potatoes = 365 kg 500 g

Weight of onions = 123 kg 60 g

Weight of cauliflowers = 430 kg

Total weight of the vegetables

= 365 kg 500 g + 123 kg 60 g + 430 kg

= 918 kg 560 g

The total weight of vegetables is 918 kg 560 g.

kg		g		
3	6 5	5	0	0
1	2 3	0	6	0
+ 4	3 0	0	0	0
9	1 8	5	6	0

COD (6) **Add the following. Write the answer in your notebook.**

a. 120 m 40 cm, 450 m 58 cm and 20 m 75 cm

b. 455 kg 850 g, 65 kg 181 g and 182 kg 783 g

c. 57 l 85 mL, 36 l 90 mL and 104 l 700 mL

LTL SP (7) **Solve the following word problems, in your notebook.**

a. A tailor used 1 m 15 cm cloth for Ram's shirt and 1 m 45 cm cloth for Rohan's shirt. What was the total length of cloths used for both the shirts?

b. Sam buys 1,875 g of nuts in January. She buys 1,955 g of nuts in February and 2,560 g of nuts in March. What is the total weight of nuts she buys in three months? Write your answer in kilograms and grams.

(142) c. A milk booth has 252 l 5 mL of cow milk and 485 l 370 mL of buffalo milk. Find the total quantity of milk available at the booth.

Teacher: Let us begin with example 10 on the board. We will start by aligning the units properly, first the kilometres and then the metres.

Teacher: What do we get when we add these numbers? Can anyone help me start the addition?

Students: 25 km 85 m + 115 km 652 m = 140 km 737 m.

Teacher: Excellent. Now, let us add the final part. What do we get when we add 450 km 5 m?

Students: The total is 590 km 742 m.

Teacher: Great work, everyone. So, we know that 25 km 85 m + 115 km 652 m + 450 km 5 m equals 590 km 742 m.

Let us move on to example 11, where we add volumes. Can anyone help me with the first part of example 11?

Teacher: First, let us start with the litres and then the millilitres.

Students: The litres part will be 352 l + 89 l + 75 l = 516 l.

Teacher: Excellent. Now, let us move on to the millilitres. What do we get when we add 80 ml + 700 ml + 20 ml?

Students: The total is 800 ml.

Teacher: Correct. So, the total is 516 l 800 ml. Good work, everyone.

Teacher: Now, let us try some word problems to apply what we have learnt about addition in measurement. Are you ready?

Students: Yes, teacher.

(Allow the students to solve questions 6 and 7 on page 142.)

You may show the **HOTS** given on the digital platform.

Teacher: In this section, we will be focusing on subtraction in measurement. As you already know,

when subtracting two measurements, we need to keep the units aligned properly. Let us start by looking at the examples on the board.

SUBTRACTION IN MEASUREMENT

While subtracting two numbers in measurement, we again write the numbers keeping the place value in mind.

Example 13: Subtract 442 km 632 m from 652 km 788 m.

km	m
6 5 2	7 8 8
− 4 4 2	6 3 2
2 1 0	1 5 6

652 km 788 m − 442 km 632 m = 210 km 156 m

Example 14: Subtract 253 l 250 ml from 452 l 580 ml.

l	ml
4 5 2	5 8 0
− 2 5 3	2 5 0
1 9 9	3 3 0

452 l 580 ml − 253 l 250 ml = 199 l 330 ml

Example 15: A passenger's suitcase and bag together weighed 35 kg 300 g. If his suitcase weighed 27 kg 355 g, find the weight of his bag.

Weight of the suitcase and bag together = 35 kg 300 g

Weight of the suitcase = 27 kg 355 g

So, weight of the bag = 35 kg 300 g – 27 kg 355 g = 7 kg 945 g

Thus, the weight of the passenger's bag is 7 kg 945 g.

kg	g
3 5	3 0 0
− 2 7	3 5 5
0 7	9 4 5	(143)

Teacher: First, in example 13, we are subtracting 442 km 632 m from 652 km 788 m. Let us go step by step. Can anyone tell me what the difference is between these two values?

Students: 652 km 788 m minus 442 km 632 m gives us 210 km 156 m.

Teacher: Excellent. Now, let us move on to example 14, where we subtract 253 l 250 ml from 452 l 580 ml.

Teacher: Who can help me with this subtraction?

Students: 452 l 580 ml minus 253 l 250 ml equals 199 l 330 ml.

Teacher: Perfect. Now, let us solve example 15. We need to find the weight of a passenger's bag if we know the weight of the suitcase and the combined weight of the suitcase and the bag.

Teacher: The combined weight is 35 kg 300 g and the suitcase alone weighs 27 kg 355 g. How can we calculate the weight of the bag?

Students: We subtract 27 kg 355 g from 35 kg 300 g. The weight of the bag is 7 kg 945 g.

Teacher: Exactly. Great work, everyone.

You may show the **Learn better (ebook)** given on the digital platform.

Laughing better

Teacher: Now, let us take a little break and have some fun with the next activity.

Laughing better PLH COD

Elphy: Why did you bring a ruler to the park?

Toby: I wanted to measure how much fun we were having!

(143)

Teacher: This is a fun way to connect our learning with something light-hearted. Let us see what Elphy and Toby are up to today.

Teacher: Elphy wonders why Toby brought a ruler to the park. Toby responds by saying that he wanted to measure the amount of fun they were having. Can we measure fun?

Students: No, teacher.

Teacher: Exactly. Fun is something we feel, not something we can measure with a ruler.

Teacher: Let us give ourselves a big round of applause for the awesome work today. Keep practising the concepts.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

Solve this riddle: "I am a unit. 1000 of me make a litre. What am I?" Make two more riddles using measurement units.

80 km/hr

If 1 person uses 20 l of water daily, how much is used in 5 days?

40 km/hr

If you use 1 l water every day, how much is used in 3 days?

Home Task

Book of Project Ideas

Explain to the students about the project on page 12 of Chapter 13: Metric Measure. Discuss the materials required and the steps to be followed to do the project. Instruct the students to present their project in the next class.

Chapter 13: Metric Measure

Measuring Around Us

PRO | 21st CS

Materials required: Ruler, measuring tape, pencil, paper, various objects (For example, books, toys, fruits).

Steps:

• Look at different objects like a book, a toy, and a fruit.

• Use a ruler to measure the length of the book.

• Use a measuring tape to find the height of the toy.

• Wrap a piece of string around the fruit, then use a ruler to measure the length of the string.

• Draw each object on paper and write down its measurements.

• Compare the measurements to see which object is the longest, shortest, or has the biggest circumference.

• Write down your observations and share what you learned about measuring with your classmates.

PRO – Project Work

(12-13)

Period 6

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Let us start with a quick warm-up. I am going to ask you a few questions related to what we have learnt so far.

SHOULD DO
10 MIN.

Teacher: First, can anyone remember the units we use to measure length?

Students: Metres, centimetres, millimetres. (Accept all relevant responses.)

Teacher: Great. Now, how about weight? What units do we use to measure weight?

Students: Grams, kilograms, milligrams. (Accept all relevant responses.)

Teacher: Excellent. And finally, what about capacity? How do we measure liquids or volumes?

Students: Litres, millilitres.

Teacher: Awesome. You have got it.

MUST DO
15 MIN.

Teacher: In the previous class, we learnt about subtraction in measurement. Now, let us try some subtraction in measurement and solving word problems to apply what we have learnt. Are you ready?

Students: Yes, teacher.

Teacher: Let us start with the subtraction questions. These will help us practise how we subtract in different units like metres, grams and litres. Look at the first set of questions, where we will be subtracting lengths and weights. I want you to pay attention to the units and make sure to align them properly when solving.

---

8 Subtract. Write the answers in your notebook.

a. 112 m 19 cm from 218 m 89 cm

b. 550 m 47 cm from 875 m 40 cm

c. 120 kg 880 g from 425 kg 350 g

d. 45 L 650 mL from 79 L 225 mL

Laughing *better* PLH

COD

Elphy: Why did you bring a ruler to the park?

Toby: I wanted to measure how much fun we were having!

9 Solve the following word problems, in your notebook.

LTL SP

a. A tortoise and a rabbit decide to race from the bottom to the top of a hill. The distance is 2,540 m. The rabbit runs fast and takes a nap after 652 m. How much further must the rabbit run to complete the race when he wakes up?

b. The capacity of a jar is 15 L. There is 12,540 mL water in it. How much more water must be added to fill the jar completely?

c. The weight of a watermelon is 3800 g. A pineapple is 1850 g lighter than the watermelon. What is the total weight of the two fruits?

(143)

(Allow the students time to solve question 8 on page 143.)

Teacher: Now, for the second set, we have some interesting word problems. These are a little trickier, but you are all capable of solving them.

(Allow the students time to solve question 9 on page 143.)

📖 You may show the **Infographic** given on the digital platform.

Connecting better

Connecting *better*

(144)

Social Studies

Arjun visited a farm with his family. The farmer told him, "We cultivated 1,200 kg of rice and 560 kg of sugarcane this year." Arjun thanked the farmer for giving all of us food. Then he tells his father, "Rice is a food crop and sugarcane is a cash crop." The farmer smiled and praised him.

HoLL

Teacher: Today, we are going to connect our learning to real-life situations. Let me tell you a story about Arjun, a skilled carpenter.

MUST DO
5 MIN.

Teacher: Arjun has a long piece of plywood. He carefully cuts it into three pieces measuring 40 cm, 25 cm and 30 cm.

Teacher: Using his tools, he assembles these pieces to create a beautiful wooden shelf for a study room. The shelf has smooth edges and polished wood, perfect for holding books and toys.

Teacher: So, can we see how we apply the concepts of length in this story? How did Arjun measure and cut the pieces for the shelf?

Students: Yes, he used measurements in centimetres to cut the plywood into the right sizes.

Teacher: Exactly. This connects our learning about measuring lengths and using them for practical tasks.

Recalling better

Teacher: Let us now move to the 'Recalling Better' section. This is where we take a moment to revise all that we have learnt so far.

MUST DO
10 MIN.

Recalling *better*

CING

In this chapter, I have learnt

○ that metre is the basic unit for measuring length.

○ that gram is the basic unit for measuring mass/weight.

○ that litre is the basic unit for measuring capacity.

○ that to change from a smaller unit to a bigger unit, we divide.

○ that to change from a bigger unit to a smaller unit, we multiply.

○ how to add and subtract metric units.

(144)

Teacher: Today, we have learnt about measuring length, weight and capacity using the metric system. We focused on the basic units like metre, gram and litre.

Teacher: We also learnt how to convert between different units and how to add and subtract these units.

Teacher: Now, let us take a quick recap. Can someone tell me what the basic unit is for measuring weight?

Students: Gram.

Teacher: Great. How about the basic unit for capacity?

Students: Litre.

Teacher: Excellent. Now, let us move on. What do we do when we want to convert from a smaller unit to a bigger one?

Students: We divide.

Teacher: And if we want to convert from a bigger unit to a smaller one?

Students: We multiply.

Teacher: Well done, everyone.

(Allow the students time to revise the points.)

You may show the **Animated Activities** given on the digital platform.

Teacher: Keep up the good work. See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

A recipe needs 250 g flour per pancake. How much flour is needed for 5 pancakes?

80 km/hr

A recipe uses 1.5 kg rice. How much is needed for 2 such recipes?

40 km/hr

You need 1 kg sugar. If you have 500 g, how much more do you need?

Home Task

Plan a picnic snack list and write the quantity needed using metric units.

Period 7

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Decoding better

MUST DO
10 MIN.

Teacher: Alright, everyone. Today, we are going to work in groups to understand how we measure mass. You will form groups of three. Each group will get different grocery items and we will use a weighing machine to measure the weight of these items. After that, we will compare the weights.

DECODING *better* | ABle
Aim: Practice estimating and comparing the weight of objects.
You will need: Notebook and items(eg - Pencil case, water bottle, notebook, crayon, and lunch box)
Procedure
STEP 1: Form groups of 3 and collect different items.
STEP 2: Each group will get a set of items. They will lift and see which items are heavier and which are lighter.
STEP 3: In the notebook, draw two columns labelled "Lighter" and "Heavier." Write the names of the items in the correct column based on your observation.
STEP 4: Discuss with your group why you think each item is heavier or lighter.
STEP 5: Compare your guesses with other groups to see if they match.
(144)

Students: Okay, teacher.

Teacher: Now, each group will have some rice, a packet of salt and a packet of sugar. What do you think the weight of each item will be? You will measure them using the weighing machine and see if your guess is correct.

Teacher: Once you have the measurements, each group will note down the weight of the items they have received on the blackboard. Then, you will write the total weight of all the items. Are you ready?

Students: Yes, teacher.

(Allow the students time to complete the activity.)

Solving better

MUST DO
5 MIN.

Teacher: Now, let us move on to a quick exercise that will help you strengthen your cognitive skills. In this section, you will fill in the blanks with the correct units for length, weight or capacity. The objective is to test your understanding of the units we use for different measurements.

Solving *better* | LOTS
Fill in the blanks.
a. 1 m = _____ mm
b. 1 kg = _____ dag
c. 3,000 g = _____ kg
d. 259 cm = _____ m _____ cm
e. 8,005 m = _____ km _____ m
f. 4,127 mL = _____ l _____ mL
g. 1,050 g = _____ kg _____ g
h. 13 l 54 mL = _____ mL
(144)

Teacher: Let us work through these questions carefully and remember, this is a chance to test your understanding of what we have learnt so far. After you complete it, we will go over the answers together. Are you all ready?

Students: Yes, teacher.

(Allow the students time to solve the questions.)

Learning better

MUST DO
15 MIN.

Teacher: Alright, everyone. Now we are going to focus on testing the knowledge you have gained about converting and calculating with different units of measurement. This exercise will allow you to apply your understanding of lengths, weights and capacities. Are you all ready?

Students: Yes, teacher.

Teacher: The objective here is simple: You will work through these questions to check how well you have understood the process of converting between units and adding or subtracting them.

Learning better

A Tick (✓) the correct answer.

1. 3 km = _____ m

   a. 3 ☐   b. 30 ☐   c. 300 ☐   d. 3,000 ☐

2. 6 kg = _____ g

   a. $\frac{1}{60}$ ☐   b. $\frac{1}{600}$ ☐   c. 600 ☐   d. 6,000 ☐

3. 10 l = _____ ml

   a. $\frac{1}{100}$ ☐   b. $\frac{1}{1000}$ ☐   c. 10,000 ☐   d. 1,00,000 ☐

4. 1 cm = _____

   a. $\frac{1}{100}$ m ☐   b. 100 m ☐   c. $\frac{1}{10}$ mm ☐   d. 1,000 mm ☐

5. 1 kl is equal to _____.

   a. 10 l ☐   b. 100 kg ☐   c. 1,000 l ☐   d. $\frac{1}{100}$ l ☐

B Match the following.

1. 18 l ●   ● a. 500 m
2. $\frac{1}{2}$ km ●   ● b. 18,000 mL
3. 0.5 m ●   ● c. $\frac{1}{4}$ m
4. 25 cm ●   ● d. 12,000 l
5. 12 kl ●   ● e. 50 cm

C Convert the following. Write the answers in your notebook.

1. Convert 6,122 mg into grams.
2. Convert 7 km 45 m into metres.
3. Sam's height is 1 m 30 cm. What would her height be in centimetres?

D Solve the following word problems, in your notebook.

1. Sourabh weighs 1 kg 950 g more than Bhavna. If Bhavna weighs 39 kg 50 g, what is Saurabh's weight?

(145) Richa travelled 68 km 500 m on Monday. She travelled 9 km 400 m less on Tuesday. How far did she travel on Tuesday?

Teacher: I want you to focus on applying the correct methods to each question, especially the word problems. Do not rush—read the questions carefully, take your time to think through the conversion, addition or subtraction process.

Teacher: If you are stuck, remember the steps we have learnt: Convert the units, check the appropriate formula and do not forget to carry out the necessary additions or subtractions. Once you are done, we will go over the answers together.

📖 You may show the **Maths Lab** given on the digital platform.

Creating better

Teacher: Today, we are going to do an exciting hands-on activity where you will make your very own paper dress. This will help you learn more about shapes.

MUST DO
10 MIN. ☐

Creating better

ArtI 21st CS

Make a Robot
• Take a piece of cardboard and thread.
• With the help of an adult, cut out two circles and a tongue shape from the cardboard.
• Apply glue on one circle, leaving a line, as shown.
• Paste the circles together. Draw eyes on the glued circle.
• With the help of an adult, cut a small part at the bottom, as shown.
• Pass the thread through the space at the bottom of the circle.
• Use tape to stick the tongue shape under the circle with the thread.
• Colour the face and the tongue as you like.
• Your robot is ready! Pull the thread up and down to make the robot's tongue move.

(146)

Teacher: In this activity, you will be using materials like large rectangles, waistband, straps but all made of coloured paper. You will create a paper dress by following the steps given in the activity. The purpose of this activity is to let you experience how a dress is made in real life.

Teacher: After you finish making the dress, you will display it to the class. Are you excited to start?

Students: Yes, teacher.

Teacher: Alright. Let us get to work and make our very own paper dress.

Teacher: Keep up the fantastic work. See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

A fruit vendor has 3 sacks weighing 2 kg 750 g, 3 kg 200 g and 1 kg 950 g. Convert each to grams, find the total weight and identify the sack with the maximum weight.

80 km/hr

Convert 4 kg 500 g and 2 kg 250 g to grams. Add both and write the total.

40 km/hr

Convert 2 kg into grams and circle the correct option:

a) 200 g
b) 2000 g
c) 20 g

Home Task

Find two objects at home whose lengths are more than 50 cm. Draw them and write their lengths below.

Period 8

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Before we dive into our lesson today, let us start with a quick and fun warm-up to get our minds focused.

SHOULD DO
10 MIN. ☐

Teacher: We will do a little 'Guess the Measurement' game. I will describe something in terms of size, weight or volume and you have to guess the measurement. Are you ready?

Students: Yes, teacher.

Teacher: Guess how much water a standard bottle holds. Is it A) 200 ml, B) 500 ml or C) 1 l?

Students: 500 ml.

Teacher: That is right. A standard bottle holds 500 ml of water.

Teacher: Next, how much does a typical pencil weigh? Is it A) 10 g, B) 20 g or C) 50 g?

Students: 10 g.

Teacher: Correct. A pencil typically weighs around 10 grams.

Teacher: Now, the last one. How long is a typical school desk? Is it A) 100 cm, B) 150 cm or C) 200 cm?

Students: 150 cm.

Teacher: Yes, most desks are around 150 cm long.

Teacher: Great work, everyone. Now that our minds are active, let us solve more exercises.

Thinking better

MUST DO

5 MIN.

Teacher: Next, we are going to work on developing our critical thinking skills through questions that evaluate what we have learnt so far. These questions will help us think about how the concepts of measurement apply in the real world.

> **Thinking** *better*   21st CS HOTS
> **Think and write the answer in your notebook.**
> Maria's computer desk is 75 cm long. She says her desk is 7.5 m long. Is she correct? If not, describe her error. (146)

Teacher: Remember, the goal is to understand the measurements we use and how they relate to the world around us. Let us dive in and put our minds to work.

You may show the **Mental Maths** given on the digital platform.

Choosing better

MUST DO

5 MIN.

Teacher: Now, we are going to focus on a very important skill that helps us make the right choices in everyday situations. This activity will help us develop our life skills and values, which are essential for making responsible decisions.

> **Choosing** *better*   LSV
> Imagine your parents prepared two plates of snacks for you and your sibling. You finish your share and want more. What would be the fair thing to do in this situation?
> • Politely ask for some snacks from your sibling.
> • Take your sibling's snacks without asking. (146)

Teacher: We will work on understanding how we can choose the best actions when faced with important decisions, especially when it involves helping others.

Teacher: Let us start by looking at this situation. Read the question carefully and make your choice. This will help us learn not only about the right choices but also about being kind, responsible and caring for others.

(Allow the students time to think and answer the question.)

Revising better

MUST DO

5 MIN.

Teacher: Now that we have covered a lot of different topics, you have solved a lot of word problems.

> **Revising** *better*   DBL
> Frame five word problems on addition and subtractions involving measurement (real life) in your Little Book. (146)

Teacher: In this section, you will frame your word problems on addition and subtraction involving measurement in your Little Book. Take examples from any real-life situations. (Allow students time to frame the word problems.)

Pledging better

Teacher: Now, let us take a moment to reflect on how we can make a positive impact through our use of technology. We know that technology can be a powerful tool, but we must use it safely and responsibly.

MUST DO

5 MIN.

> **Pledging** *better*   SDGs
> In my own little way, I pledge to use technology safely and responsibly.
> *SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE*
> **Teacher's Note:** *Guide the students to recall and answer this in their notebooks. (146)

Teacher: So, let us all pledge today. I want everyone to promise that they will use technology safely and responsibly.

Teacher: Please repeat after me: In my own little way, I pledge to use technology safely and responsibly. (Allow the students to repeat along.)

Teacher: Great. By making this pledge, you are contributing to SDG 9, which focuses on 'Industry, Innovation and Infrastructure'. We need to use technology to improve our world while ensuring it is safe for everyone.

L (What I have Learnt)

MUST DO

10 MIN.

Teacher: Now that we have completed the lesson, let us take a moment to reflect on what we have learnt.

Teacher: In the "L" section of your KWL chart, I want you to write down what you have understood from this lesson. Think about the key concepts and how they connect to real-life situations. What did you find interesting?

> **L (What I have Learnt)#** ICL (146)

Teacher: This is a great way to ensure that you remember everything you have learnt and to see how much you have grown in understanding metric measures and their application in daily life.

Teacher: Sit with your partners and discuss what you have learnt from the lesson. Consolidate your ideas on the "What Have I Learnt" part of the KWL chart. Once the chart is complete, discuss your journey, reflecting on what you initially knew, what you wanted to know and what you have learnt.

(Let the students discuss and write what they have learnt.)

You may show the **Slideshow** given on the digital platform.

Teacher: Good work. You have all done a great job understanding the concepts of metric measures. I hope you are feeling confident about what we have learnt. Keep revisiting the concepts. See you in the next class.

Differentiated Activities

110 km/hr

Convert 4 kg 765 g into grams and write a word problem using this number.

80 km/hr

A curtain is 4 m 20 cm long. Another is 3 m 80 cm. Which is longer and by how much?

40 km/hr

Write the following:

a) 1 kg = _____ g

b) 2 kg = _____ g

c) 3 kg = _____ g

Home Task

Fill a 1 L bottle using a 250 mL cup with the help of your parents. How many cups did you use?

Period 9

Teacher: (Use CRM signs to settle the class) Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Book of Holistic Teaching

Teacher: Today, we are going to discuss measurement. To begin, we will look at an English exercise where we focus on prepositions, followed by Science and finally applying this knowledge to Social Studies.

Teacher: It is important to see how the same concept shows up across different subjects. This connection across subjects is what makes learning truly holistic. Are you ready?

Students: Yes, teacher.

(Let the students think and write the answer for all three subjects.)

Theme 8: How Does Technology Work?

Chapter 13: Metric Measure

(A) English HoLL MDA

Circle the preposition(s) in the following problem.

Tehri Dam is higher than the Bhakra Nangal Dam by 34.5 m. The Bhakra Nangal Dam is about 226 m in height. It is built on the Bhagirathi river and Bhakra Nangal Dam is built on the Satluj River. Find the height of Tehri Dam.

(B) Science

Rahul's father bought a bicycle at ₹6000. When Rahul rode the bicycle. Then what kind of force is applied by Rahul?

(C) Social Studies

Lina's village is in Uttar Pradesh state. In her village, Lina's grandfather has 20 domestic cows. Each cow consumes 15 kg of sugarcane in a day. Then, find the total production of sugarcane in Uttar Pradesh in 2023 with the help of the internet or other resources.

18

Worksheet 1

Teacher: Alright, students. We have answered some questions and solved a few exercises earlier. We will solve more such exercises.

Theme 8: How Does Technology Work?

13. Metric Measure

Worksheet 1

A. Write true or false.

1. There are 1,000 km in a metre. _____

2. Litre is the standard unit for capacity. _____

3. 1 hectometre = 10 decametre _____

4. There are 500 metres in half kilometre. _____

5. 2000 ml = 2 l _____

B. Convert the following and fill in the blanks.

1. 400 m = _____ cm
2. 250 kg = _____ g
3. 35 l = _____ ml
4. 61 cm = _____ mm
5. 25 m = _____ mm

C. Add the following.

1. 3 kg 500 g + 4 kg 300 g
2. 2 l 800 ml + 4 l 100 ml
3. 3 km 400 m + 1 km 500 m
4. 12 m 20 cm + 15 m 70 cm
5. 20 kg 2 g + 4 kg 365 g
5. 18 kg 50 g + 12 kg 355 g

51

Teacher: Open Worksheet 1 on Page 51 and solve exercises A, B and C. I am sure you all know the answers. Read the questions carefully. Once done, we will discuss the answers.

Students: Okay, teacher.

(Allow the students to think and write the answers.)

You may show **Quiz** from the digital platform.

Teacher: Well done. We have almost reached the end of the lesson. We covered different concepts of measurement and answered a lot of questions. I hope you are feeling confident about what we have learnt.

Teacher: Keep revisiting the concepts. See you in the next class.

Differentiated Activities

110 km/hr

A rope of 8 m 45 cm is cut into 3 equal parts. What is the length of each part in cm?

80 km/hr

A jug holds 2 L. If 1 L 200 mL is poured in, how much more can it hold?

40 km/hr

A stick is 1 meter long. You cut 30 cm. How much is left?

Home Task

Find 3 things at home that weigh more than 5 kg. Draw their pictures.

Period 10

Teacher: (Use CRM signs to settle the class) Good morning/ afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Let us begin today's class with a quick thinking activity. Imagine you are at a grocery store. You have

SHOULD DO
10 MIN.

two baskets: one is filled with a small box of strawberries and the other one has a large watermelon. What do you think will weigh more?

Students: The watermelon.

Teacher: Exactly. Now, if I told you that the strawberries weigh about 100 grams and the watermelon weighs 5 kilograms, how would you explain the difference in their weight?

Students: The watermelon is way heavier and it is measured in kilograms, while the strawberries are in grams because they are much lighter.

Teacher: That is right. When we measure light things, like strawberries, we use grams. But when we measure heavier things, like the watermelon, we use kilograms. Today, we are going to learn more about measuring capacity. So, let us get ready to explore different units of measurement.

Worksheet 2

Teacher: Okay, students. Let us move to Worksheet 2 on Page 52 and solve exercises A, B and C. We will discuss

MUST DO
15 MIN.

the questions first and then you will write the answers.

Worksheet 2

A. Write **true** or **false**.
1. There are 100 cm in a metre. _____
2. Kilometre is the standard unit for weight. _____
3. 1 hectometre = 1,000 decimetre _____
4. There are 500 ml in half litre. _____
5. 3,000 m = 3 km _____

B. Convert the following and fill in the blanks.
1. 30,000 m = _____ km   2. 36,000 g = _____ kg
3. 21,000 ml = _____ l   4. 1,200 mm = _____ cm
5. 1,00,000 mm = _____ m

C. Subtract the following.
1. 700 g – 300 g
2. 12 l – 8 l
3. 7 km 800 m – 2 km 500 m
4. 23 m 7 cm – 13 m 4 cm
5. 80 kg 200 g – 40 kg 100 g
6. 40 m 15 cm – 28 m 12 cm

52

Students: Okay, teacher.

(Allow the students to think and write the answers.)

You may generate additional practice worksheets using the **Test Generator** given on the digital platform.

Worksheet 3

Teacher: Alright, students. Let us solve one last worksheet.

MUST DO
15 MIN.

Worksheet 3

A. Tick (✓) the correct answer.
1. To convert a greater unit to smaller unit, we _____.
   a. add   b. divide   c. multiply   d. subtract
2. To convert a smaller unit to greater unit, we _____.
   a. add   b. divide   c. multiply   d. subtract
3. How many hectometres are there in a metre?
   a. 10   b. 100   c. $\frac{1}{10}$ d. $\frac{1}{100}$
4. How many kilometres are there in a centimetre?
   a. 1000   b. 10,000   c. $\frac{1}{100}$ d. $\frac{1}{100000}$
5. How many milligrams are there in a gram?
   a. 100   b. 1,000   c. $\frac{1}{100}$ d. $\frac{1}{10000}$

B. Convert the following and fill in the blanks.
1. 42,000 m = _____ km   2. 6,500 cm = _____ m
3. 6,32,000 ml = _____ l   4. 1,56,000 g = _____ kg
5. 25,200 hm = _____ km

C. Convert and match the following.
1. 7,250 g •   • a. 7 kg 562 g
2. 7,056 g •   • b. 7 kg 560 g
3. 7,562 g •   • c. 7 kg 56 g
4. 7,625 g •   • d. 7 kg 250 g
5. 7,560 g •   • e. 7 kg 625 g

53

Teacher: Open Worksheet 3 on Page 53 and solve exercises A, B and C. We will discuss the questions first and then you will write the answers. Are you ready?

Students: Yes, teacher.

(Discuss the questions and let the students write the answers.)

Differentiated Activities

110 km/hr

A family used 19 l 350 ml of water on Monday, 21 l 275 ml on Tuesday and 17 l 640 ml on Wednesday. Find the total water used in 3 days.

80 km/hr

A 40 l 800 ml tank was filled. If 28 l 375 ml is used, how much is left?

40 km/hr

A watermelon weighs 5 kg. A piece weighing 2 kg was cut. How much is left?

Home Task

Measure your height using a measuring tape and write it in cm.

Learning Outcomes

The students will:

Domain	Learning Outcome
Physical Development	• be able to use different measurement tools
Socio-Emotional and Ethical Development	• work in collaboration with peers to measure weights and capacities accurately
Cognitive Development	• read and understand various units of measurement for length, weight and capacity • convert units of measurement in real-life situations. • find the total or difference in measurements through addition or subtraction of length, weight and capacity
Language and Literacy Development	• frame word problems on measurement in real-life situations and find solutions
Aesthetic and Cultural Development	• display creativity in making a paper dress
Positive Learning Habits	• learn to measure objects effectively and apply measurement concepts in daily life

Starry Knights

At the end of the day, do you feel motivated enough to include innovative activities in the lesson?

_____

What is that one factor of motivation that keeps you going? Please share.

_____

Reward yourself with a STAR.

Lesson-14: Perimeter and Area

9 Periods (40 minutes each)

Learn Better (Main Coursebook), Stay Ahead (Workbook), Book of Holistic Learning, Book of Project Ideas, CRM signs, Poster

Infographic, Animation, Animated Activities, Dictionary, eBook, HOTS, Explainer Video, Maths Lab, I Explain, Mental Maths, Quiz, Slideshow, Test Generator

Confirming better — I always try to do my best.

Curricular Goals and Objectives (NCF)

To enable the students:
- to calculate the perimeter of regular and irregular polygons
- to calculate the area of regular and irregular polygons
- to find the perimeter and area of given shapes or objects
- to observe that different shapes can have different area

Methodology

Period 1

Confirming better

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

MUST DO
10 MIN.

Students: We are good/fine.

Confirming *better* I always try to do my best. (147)

Teacher: Let us take a moment to think about the attitude we bring to our learning. One important aspect of learning is doing our best in everything we try.

Teacher: So, we are going to make a small commitment today. I want you to say, 'I always try to do my best.

(Allow the students to repeat along with you.)

Teacher: Wonderful. This simple commitment helps us stay focused and motivated. By always trying our best, we contribute to a positive learning environment and help ourselves grow.

Teacher: Now, I want you to take a moment and think about what we already know about Perimeter and Area. Are you ready?

Students: Yes, teacher.

Teacher: Great. Let us start with the activity called the KWL Chart.

K (What I Know)* ICL W (What I Want to Know)* (147)

Teacher: KWL stands for What I Already Know, What I Want To Know and What I Have Learnt. It helps us organise our thoughts and set goals for our learning.

K	W	L

Teacher: Let us begin with the K section—What I Know. Think about what you already know about this lesson's concepts, such as shapes and the distance between points.

Teacher: Now, let us move to the W section—What You Want to Know. For example, you could say, about different units of perimeter and area. What are your questions?

(Encourage students to share their ideas. Record responses on the chart.)

Teacher: We will complete the "What You Have Learnt" section after the end of the lesson.

Re-KAP

Teacher: Today, we are going to do some fun activities to practise our skills with Metric Measure. Let us begin.

Kinaesthetic

Teacher: (Use CRM signs to settle the class) We are going to start with a kinaesthetic activity. I would like each of you to draw shapes in your notebook with a pen. Once you have drawn the shapes, use a piece of string or yarn to measure each side. After measuring all sides, add them together to find the

MUST DO
10 MIN.

perimeter. This will help you practise measuring and understanding the perimeter of shapes.

> **Kinaesthetic**
>
> **Draw shapes in your notebook with a pen. Use a string or yarn to measure each side, then add the lengths to find the perimeter.** (147)

(Let the students draw the shapes and measure the sides with string/yarn as instructed.)

Teacher: Excellent work, everyone.

Auditory

Teacher: Now, let us give our bodies a rest and use our ears. I will read a short text to check your prior understanding of time. Listen carefully as you will answer a question later.

MUST DO | 10 MIN.

> **Auditory***
>
> **Listen to your teacher carefully. Answer the questions.** (147)

(Read the listening text on page 168 from Chapter 14.)

> **Chapter 14: Perimeter and Area**
> Kavya has a beautiful rectangular garden in her backyard. The garden is 5 m long and 3 m wide. She wants to put a fence all around it to keep it safe.
> What is the perimeter of Kavya's garden? (168)

Teacher: I hope you all listened to the text carefully. Now it is time to answer a question. You may use your notebook to write down the information in the text.

(Read the question after the listening text on page 168. Let the students respond. You may add a few more questions of your own.)

Pictorial

Teacher: For the next activity, look at the image of Jas walking around the rectangular swimming pool. As a group, you will solve this problem. I want you to calculate the distance Jas covered and the total perimeter by using the dimensions provided.

MUST DO | 10 MIN.

> **Pictorial** PS
>
> **Jas is walking around a rectangular lawn. He starts from point A and walks to points B, C, D and returns to A.**
>
> 1. Find the distance he covered from A to B = _____ units
> 2. Find the distance he covered from B to C = _____ units
> 3. Find the distance he covered from C to D = _____ units
> 4. Find the distance he covered from D to A = _____ units
> 5. Total distance covered by him = AB + BC + CD + DA
> = ____ + ____ + ____ + ____
> = ____ units
>
> ☐ = 1 unit
>
> A   B
>
> D   (147)
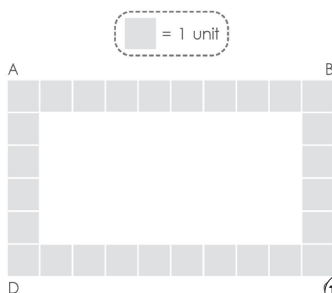
Teacher: We will start by calculating the distance Jas covered from A to B, then from B to C and continue through D and back to A. When you add all the distances together, you will get the total distance Jas walked.

(Guide the students on calculating the distances and perimeter. In the meantime, paste the poster on the wall for Theme 8: Find the perimeter and area.

Teacher: Excellent work. By completing these activities, you are practising measurement, addition and understanding of perimeter. These are useful skills in both math and real-life scenarios.

Teacher: Before we finish for today, let us give ourselves a big round of applause for the great work we did.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

You have two shapes—one square and one rectangle—both of area 36 cm². Which one has the lesser perimeter?

80 km/hr

A square and a rectangle both have side lengths of 6 cm and 4 cm. Find and compare their perimeters.

40 km/hr

Trace a square and a rectangle. Measure the sides and calculate the perimeter for each of them.

Home Task

Measure the length of your room and breadth using steps. Write the approximate perimeter.

Period 2

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Today, we are going to do a quick warm-up on measuring the perimeter. Are you ready?

SHOULD DO | 10 MIN.

Students: Yes, teacher.

Teacher: If you have a square with each side measuring 4 cm, how do you find the perimeter?

Students: 4 cm + 4 cm + 4 cm + 4 cm = 16 cm.

Teacher: Exactly. The perimeter is the sum of all the sides. Now, let us try a different shape. If you have a rectangle with a length of 7 cm and a width of 3 cm, how would you calculate the perimeter?

Students: Add the length and the width twice, so 7 cm + 3 cm + 7 cm + 3 cm = 20 cm.

Teacher: Great. Now, here is a challenge: If you have a triangle with sides measuring 5 cm, 6 cm and 8 cm, how would you find the perimeter?

Students: You add the three sides together, so 5 cm + 6 cm + 8 cm = 19 cm.

Teacher: Wonderful. You all are doing great. Let us move on to today's lesson.

Teacher: Let us start with a quick question. Which two instruments can you use to measure the lengths of objects that you see around you?

MUST DO
5 MIN.

Interacting better
ICL
Which two instruments can you use to measure the lengths of objects that you see around you?
(148)

Students: A ruler and a measuring tape.

Teacher: Correct. A ruler and a measuring tape are the common tools we use for measuring length. Now, let us talk about how you use these instruments. Who can explain how we use a ruler?

Students: We place the ruler along the object and read the measurement at the end.

Teacher: Exactly. And how about the measuring tape?

Students: A measuring tape is used for measuring longer objects. You can stretch it along the object to find its length.

Teacher: Great. Write the names of the two instruments in the space provided.

MUST DO
10 MIN.

(Allow the students time to finish the work.)

Teacher: Maria and her friends are at the Tech Expo, looking at a big robot. Can you guess what they are talking about in this picture?

Students: They are discussing how tall the robot is.

Teacher: Yes, they are amazed by how tall the robot is. But then they wonder about the base of the robot. What do you think they are discussing next?

Students: They are asking how to find the perimeter of the base.

Teacher: Correct. They figured out that the base is a rectangle. To find the perimeter, they need to add up the lengths of all four sides. Let us see what happens when they calculate it together.

Teacher: Now, the base of the robot is 4 metres by 3 metres. How would you calculate the perimeter of this rectangle?

Students: We add 4 metres + 4 metres + 3 metres + 3 metres.

Teacher: That is right. So, the perimeter is 4 + 4 + 3 + 3, which equals 14 metres.

You may show the **Animation** given on the digital platform.

Teacher: Today we will be learning about how to find the perimeter of different shapes. Perimeter is the total distance around a shape and we calculate it by adding up the lengths of all its sides.

MUST DO
15 MIN.

Teacher: Let us begin with polygons. We measure each side of the polygon and then add them together. Take a look at the example of the polygon on the board. Can you see all the sides?

Students: Yes, we can see the sides.

PERIMETER

Perimeter of a closed shape is the sum of all its sides. Look at the given figures. They are all closed figures. They are made up of straight lines.
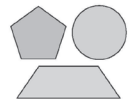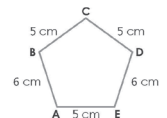
Perimeter of a polygon

To find the perimeter of a polygon, we first measure the line segments of the boundary of the polygon. Then we add them together.

Perimeter of a polygon = sum of the line segments of the boundary of the polygon

Example 1: Find the perimeter of the given polygon.

The perimeter of the given polygon
= AB + BC + CD + DE + EA
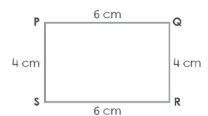= 6 cm + 5 cm + 5 cm + 6 cm + 5 cm = 27 cm

Perimeter of a rectangle

A rectangle has two pairs of equal and parallel sides.

Example 2: Find the perimeter of rectangle PQRS whose length is 6 cm and breadth is 4 cm.

Perimeter of rectangle PQRS
= PQ + QR + RS + SP
= 6 cm + 4 cm + 6 cm + 4 cm
or, (2 × 6) cm + (2 × 4) cm
= 2 × (6 + 4) cm = 2 × 10 cm = 20 cm

We find that

Perimeter of a rectangle = length + breadth + length + breadth
or = 2 × length + 2 × breadth = 2 × (length + breadth)

(148)

Teacher: Great. Now, in this example, the perimeter of the polygon is the sum of the line segments: AB + BC + CD + DE + EA. So, the perimeter will be 6 cm + 5 cm + 5 cm + 6 cm + 5 cm, which gives us 27 cm.

Teacher: Now, let us move to the perimeter of a rectangle. A rectangle has two pairs of equal and parallel sides. We add the lengths of the four sides to find the perimeter. For example, for rectangle PQRS, if the length is 6 cm and the breadth is 4 cm, we calculate the perimeter as follows: PQ + QR + RS + SP = 6 cm + 4 cm + 6 cm + 4 cm, which gives us 20 cm.

Teacher: Next, we will talk about squares. A square has four equal sides and the opposite sides are parallel. To find the perimeter of a square, we simply add up all four sides. For example, in square ABCD, with each side measuring 3 cm, the perimeter will be 3 cm + 3 cm + 3 cm + 3 cm, which gives us 12 cm.

Teacher: Write the formulas in your notebooks and draw each of the shapes.

(📖) You may show the **Slideshow** given on the digital platform.

Differentiated Activities

110 km/hr

A rectangular path is 10 m long and 4 m wide. You want to put a fence around it. How much fencing wire is needed? If each metre of wire costs ₹12, what is the total cost?

80 km/hr

A garden is 6 m × 4 m. Find the perimeter.

40 km/hr

Using a string and a ruler, measure the perimeter of your notebook.

Home Task

Draw any two objects from your home and label their sides. Find their perimeters.

Period 3

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

SHOULD DO
10 MIN.

Students: We are good/fine.

Teacher: Let us start with a fun activity. I will show you a picture of a shape and I want you to guess how we might measure its perimeter.

Teacher: Here is the first shape. It is a rectangle. Can anyone guess how we measure the perimeter of a rectangle?

Students: We add the lengths of all the sides.

Teacher: Yes, exactly. We add the length and the breadth and then double them.

Teacher: Now, let us try a square. How do we find the perimeter of a square?

Students: All the sides are equal, so we add the same number four times.

Teacher: Right again. The perimeter of a square is simply four times the length of one side. You all are getting the hang of this.

Teacher: Lastly, I want you to think about a polygon. How do we find its perimeter?

Students: We add the length of each side together.

Teacher: Correct. You are all experts in measuring perimeters. Let us explore it more in today's class.

Teacher: In the previous class, we learnt about the perimeter of different shapes and their formulas.

MUST DO
10 MIN.

Teacher: Let us solve a few questions. Are you ready?

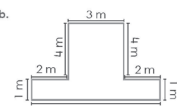**Students**: Yes, teacher.

(Allow the students to solve questions 1, 2 and 3 on page 150.)

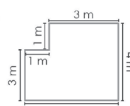**LOTS** ① Find the perimeter of each of the following. Write the answers in your notebook.

COD ② Find the perimeter of the following rectangles. Write the answers in your notebook.
   a. length 4 cm and breadth 3 cm   b. length 6 cm and breadth 5 cm
   c. length 10 cm and breadth 8 m   d. length 22 cm and breadth 10 m

LOTS ③ Find the perimeter of the following squares. Write the answers in your notebook.
   a. 2 cm   b. 7 cm   c. 10 m   d. 24 m   **150**

Teacher: Now, let us move to some interesting word problems involving perimeter. These are based on the shapes we just discussed. Let us see how we can calculate the perimeter in different scenarios.

MUST DO
15 MIN.

WORD PROBLEMS

Example 4: Maria has a rectangular blanket. The length of the blanket is 2.5 m. The width of the blanket is 1.5 m. What is the perimeter of the blanket?

length of the blanket = 2.5 m   breadth of the blanket = 1.5 m

perimeter of the blanket = 2 × (length + breadth)
= 2 × (2.5 + 1.5) m = 2 × 4 m = 8 m

So, the perimeter of the blanket is 8 m.

Example 5: Bipin wants to put a fence around his square field. One side of the field measures 30 m, find out the length of the fence needed.

The length of the fence needed is equal to the perimeter of the square field.

perimeter = 4 × length of a side
= 4 × 30 m = 120 m

So, the length of the fence needed is 120 m.

④ Solve the following word problems, in your notebook.
   a. Vipul has to plant trees around his square field, one side of which measures 90 m. Find the perimeter of the field.
   b. Jas runs around a rectangular garden which is 18 m long and 15 m wide. He completes 3 rounds around the garden. What is the total distance that he covered?
   c. Saurabh fixes a lace around a square pillow cover. One side of the cover measures 22 cm. How much lace does he need?
   d. Find the perimeter of a park which is triangular in shape. The sides of the park are 20 m, 20 m and 30 m.   **150**

Teacher: Here is the first example. Maria has a rectangular blanket. The length of the blanket is 2.5 metres and the width is 1.5 metres. What is the perimeter of the blanket?

Students: We will add the length and breadth and then multiply by 2.

Teacher: Exactly. The perimeter of a rectangle is found by adding the length and breadth and multiplying the result by 2. Let us calculate it.

Teacher: In the second example, Bipin wants to put a fence around his square field. The length of one side is 30 metres. Can anyone tell me how to calculate the perimeter of the square?

Students: We will multiply the length of one side by 4.

Teacher: Great. The perimeter of a square is simply four times the length of one side.

Teacher: Now that you have learnt how to solve word problems on perimeter, let us solve a few questions. Are you ready?

Students: Yes, teacher.

(Allow the students to solve question 4 on page 150.)

You may show the **Learn better** (**ebook**) given on the digital platform.

Understanding better

Teacher: Now, let us move to the Understanding better section. Here, we will answer a few questions to ensure you understand how to calculate the perimeter.

MUST DO
5 MIN.

Understanding *better*

Answer the following questions. ICL

1. If a side of a square is given, how will you find its perimeter?
2. If the length and breadth of a rectangle are given, how will you find its perimeter.

150

Teacher: The first question asks you how we can find the perimeter of a square if a side is given.

Students: We multiply the length of the side by 4.

Teacher: Correct. Now, let us move on to the second question. What if the length and width of a rectangle are already given? How do we find the perimeter?

Students: We just add the length and breadth and then multiply by 2.

Teacher: Yes. That is the key to calculating the perimeter of any rectangle or square. Keep practising these concepts and you will become experts at solving perimeter problems.

You may show the **I Explain** given on the digital platform.

Teacher: Before we finish for today, let us give ourselves a big round of applause for the great work we did.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

A square has a perimeter of 36 m. Find its side and then calculate the area.

80 km/hr

Find the side of a square if its perimeter is 20 m.

40 km/hr

Count the number of squares in a 3×3 grid and find the area.

Home Task

Observe a rug or mat at home. Measure and calculate its perimeter.

Period 4

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

COULD DO
10 MIN.

Teacher: Before we start with our lesson, let us take a few moments to centre ourselves.

Teacher: Please sit comfortably, close your eyes and take a deep breath in through your nose... (Pause) and now, slowly breathe out through your mouth. (Pause)

Teacher: Let us do that again. Breathe in deeply... and breathe out slowly. As you breathe, think about the air filling your body and then leaving it. Focus on your breathing and feel your body relax with each breath. (Pause)

Teacher: Now, let us imagine we are standing in a peaceful garden. Picture the trees, the flowers and the soft breeze around us. In your mind, you can feel the calmness in the air. Stay with this peaceful feeling as you continue to breathe deeply.

Teacher: If any thoughts come into your mind, just notice them and let them pass like clouds in the sky. Bring your focus back to your breath.

Teacher: We are ready now to begin our lesson. Slowly open your eyes, stretch your hands above your head and feel relaxed and focused.

Teacher: Today, we are going to learn about Area. It is the amount of space a figure or shape covers.

MUST DO
15 MIN.

AREA

Look at the figures on the grid. The side of each square is 1 unit.

1 unit

1 unit

A   B

Figure A covers 16 squares. So, the area of figure A is 16 squares unit.
Figure B covers 21 squares. So, the area of figure B is 21 squares unit.

151

Sometimes we need to count half squares to find the area of a figure.

Here, each ▢ is 1 unit.

Each ◣ (half square) is $\frac{1}{2}$ unit.

2 ◣ (half square) make up 1 ▢.

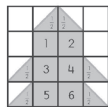The **area** of a closed figure is the amount of space it covers.

Example 6: Find the area of the given figure.

The figure has 6 complete squares and 6 half squares.

Total squares = $6 + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = (6 + 3)$ squares

So, the area of the given figure
= squares covered by the figure = 9 squares unit

Units of area

The standard unit of area is square metre (sq. m). A square with a side length of 1 metre has the area of 1 square metre.

Some other units of area are square centimetre and square kilometre.

A square of area 1 square metre

Example 7: Look at the wall painting given. It is divided into different sections.

Each section is one square metre. Find the total area of the painting in square metres.

The painting covers 18 sections.

Each section has an area of 1 square metre.

So, 18 sections have the area of 18 square metres.

Therefore, the total area of the painting is 18 sq. m.

(151)

Teacher: Look at the figures on the grid. The side of each square is 1 unit. Let us focus on Figure A. Figure A covers 16 squares. So, the area of Figure A is 16 square units.

Teacher: Now, let us look at Figure B. This figure covers 21 squares, so the area of Figure B is 21 square units.

Teacher: Sometimes, when counting the area, we need to include half squares. Each half square is $\frac{1}{2}$ unit.

Teacher: For example, in the next figure, you will notice half squares. Let us count the full and half squares to find the total area.

Teacher: Now, let us look at example 6 to practise finding the area of a figure. The figure shows 6 complete squares and 6 half squares. Let us calculate the total area of this figure together.

Teacher: The formula is simple: we count the complete squares and half squares. So, the total number of squares covered is 9 square units.

Teacher: Let us also practise finding the area of different shapes by counting the full and half squares, just like in example 7. This will help us understand how to calculate the area for any shape by dividing it into smaller parts, like squares.

Teacher: Now, think about how the area of the painting was calculated. The painting was divided into 18 sections and each section had an area of 1 square metre. What is the total area of the painting? Let us calculate it together. (Let the students count and say the answer.)

Processing better

Teacher: Let us look at this concept of unit squares in more detail. A unit square is a square with a side length of 1 unit and it has an area of 1 square unit.

MUST DO
5 MIN.

Processing better

A unit square is a square with a side length of 1 unit. It has an area of 1 square unit. **CL**

(151)

Teacher: In this activity, we are focusing on understanding the concept of area by using grid paper. Each square on the grid represents 1 unit of area. By counting the squares that make up a shape, we can find its total area.

Teacher: Now that you have learnt units of area, let us solve a few questions. Are you ready?

MUST DO
10 MIN.

Students: Yes, teacher.

(Allow the students to solve questions 5 and 6 on page 152.)

5 Find the area of each of the following shapes. Write the answers in the blanks.

a. b. c.

6 Read the question and answer them in your notebook. The side of each square is 1 cm.

A B C D

a. Which figure has the biggest area?
b. Which figure has the smallest area?
c. What is the area for figure D?

(152)

📖 You may show the **Explainer Video** given on the digital platform.

Teacher: Fantastic work. Let us give ourselves a big round of applause. Keep practising perimeter and area.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

Design the floor plan of your dream house using rectangles and squares. Label all sides and calculate area and perimeter.

80 km/hr

Draw and label the floor of your bedroom using rectangles. Write its perimeter.

40 km/hr

Paste coloured paper cutouts to make a house with squares and rectangles.

Home Task

Draw the top view of your house and show rooms using rectangles.

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Teacher: Now, let us look at how we find the area of different shapes.

Teacher: First, we will discuss the area of a rectangle. To find the area of a rectangle, we multiply the number of squares covered by the length and the number of squares covered by the breadth.

Teacher: Let us take an example. The length of the rectangle is 4 cm and the breadth is 3 cm. So, the area of the rectangle is:

Teacher: Area of the rectangle = length × breadth = 4 cm × 3 cm = 12 square cm.

Teacher: Now, let us talk about the area of a square. In a square, the length of each side is equal. So, to find the area, we multiply the number of squares covering any two sides. For example, if one side of the square is 5 cm, then the area of the square is:

Teacher: Area of the square = side × side = 5 cm × 5 cm = 25 square cm.

Teacher: Lastly, we will look at the area of irregular shapes. Sometimes, it is difficult to find the exact area of irregular shapes, but we can estimate the area. While calculating the area of such shapes, we need to follow a few simple rules.

Teacher: If a square covers 1 unit, we count it as 1 unit. If a square covers less than half, we count it as 0 units. If it covers more than half, we count it as 1 unit.

Teacher: Let us take an example to calculate the area of a circle. The blue region covers 13 full squares. The orange region covers 8 squares and the red region covers less than half of the square, so we count it as zero.

Teacher: The total area of the circle is 13 + 8 = 21 square units.

(Instruct the students to write the formulas of the areas of different shapes and draw them.)

Understanding better

Teacher: Now let us move on to the 'Understanding better' section. These are some important questions that will help you understand the concept even better.

Understanding *better*

Answer the following questions.

1. What is the area of a rectangle whose length and breadth are 10 cm and 8 cm respectively?

2. What is the area of a square whose sides are 1 metre?

(153)

Teacher: First, answer this question: If the length of a rectangle is 10 m and the breadth is 8 m, what is the area?

Teacher: You can solve this by multiplying the length and the breadth.

Teacher: Now, answer this: What is the area of a square whose side is 1 metre?

Teacher: You can solve this by multiplying the side by itself.

Teacher: These questions will help you apply the concept of area to different shapes and situations.

(Instruct the students to write the answers in their notebooks.)

You may show the **Dictionary** given on the digital platform.

Teacher: Now, let us try some questions related to area and word problems to apply what we have learnt about area. Are you ready?

Students: Yes, teacher.

(Allow the students to solve questions 7 and 8 on page 153.)

7. **Find the area of the following figures. Write the answers in the blanks.**

a. 6 cm, 6 cm, 6 cm
b. 9 cm, 9 cm, 9 cm
c. 8 cm, 6 cm, 8 cm
d. 10 cm, 6 cm

LOTS

8. **Solve the following word problems, in your notebook.**

a. A football field is 90 m long and 50 m wide. Find the area of the football field.

b. Jas has an ID card. The length of the ID card is 7 cm and the width is 5 cm. What is the area of the ID card?

c. Sam has a square notebook, each side of which is 15 cm. Find the area of the notebook.

d. An artist paints a portrait that is 60 cm long and 45 cm wide. Find the area of the portrait painted by the artist.

LTL SP

(153)

You may show the **HOTS** given on the digital platform.

Teacher: Let us give ourselves a big round of applause for the awesome work today. Keep practising the concepts.

Teacher: See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

You're planning to carpet a rectangular floor of size 12 m by 5 m. The carpet roll covers 1 m². How many rolls will you need if 1 roll costs ₹200?

80 km/hr

How much carpet is needed for a 4 m by 3 m room?

40 km/hr

Stick a paper cut-out of a rectangle and write its length, breadth and perimeter.

Book of Project Ideas

Chapter 14: Perimeter and Area

Activity: To see shapes having equal areas PRO 21st CS and may not have equal area.

- Create a group of 5 students each.
- Arrange 7 square pieces to form a shape (like the one in Fig. 1).
- The other students in the group will arrange their 7 square pieces to make different shapes (like those in Fig. 2 to Fig. 5).
- Measure the perimeter of the shape they created and compare it with the others.
- Notice that even though all shapes have the same area (7 square units), their perimeters are different.
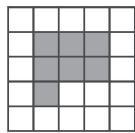
Fig. 1
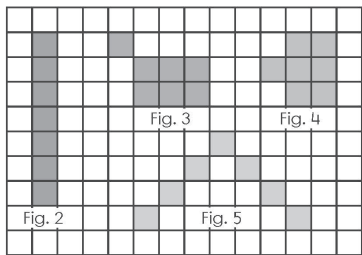
Fig. 3   Fig. 4

Fig. 2   Fig. 5

13

Explain the students about the project on page 13 of Chapter 14: Perimeter and Area. Discuss the materials required and the steps to be followed to do the project. Instruct the students to present their project in the next class.

Period 6

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

SHOULD DO
10 MIN.

Students: We are good/fine.

Teacher: Let us begin with a quick warm-up activity to get our minds active.

Teacher: I will show you some objects and I want you to guess which of them has the biggest area. Think carefully about the size of the objects and how we can measure them.

Teacher: Let us start. Here is a rectangular piece of paper and a circular plate. Which one do you think has the larger area? Can you guess why?

Students: The rectangular piece of paper is bigger.

Teacher: Good. Now, let us think about how we can measure their areas. We will calculate it later, but right now, just guess.

Teacher: Next, look at this square table and a round table. Which one do you think has the larger area? Think about their shapes.

Students: The square table might have more area because of its straight sides.

Teacher: Interesting guess. We will find out for sure soon.

Teacher: Now, let us think about some real-world examples. Can anyone guess the area of the whiteboard we have in our classroom? How can we measure the area of this big whiteboard?

Students: We can multiply the length and the width of the board.

Teacher: Yes, exactly. That is how we find the area of a rectangle. Good work, everyone.

Connecting better

Teacher: Today, we will discuss how measuring perimeter and area is used in real life. Let me share a story with you.

MUST DO
10 MIN.

Connecting better

Maya and Rahul used the concepts of perimeter and area to create a well-organised garden for their saplings, ensuring enough space for growth. In science, they learned that proper spacing and protection are crucial for healthy plant growth, just as the garden measurements helped them care for their plants.

HoLL **153**

Teacher: In a village, Maya and Rahul lived there and loved planting trees. They wanted to create a square garden for their saplings. Maya measured the perimeter of the garden using a string to make sure the garden was strong enough to protect the saplings. Rahul calculated the area to determine how many plants could fit in the garden. They planted rows of saplings, ensuring that each plant had enough space to grow. As the saplings grew, they measured the perimeter again to build a fence around the garden. By doing this, Maya and Rahul learnt how measuring perimeter and area helped them care for their growing garden.

Teacher: How do you think measuring perimeter and area helped Maya and Rahul take care of their garden?

Students: By measuring, they knew how much space the plants would need and they could make sure the fence was big enough.

Teacher: Exactly. Measuring helps in planning the space and making sure everything fits correctly, just like Maya and Rahul did.

You may show the **Infographic** given on the digital platform.

Recalling better

Teacher: Let us now move to the 'Recalling Better' section. This is where we take a moment to revise all that we have learnt so far.

MUST DO
5 MIN.

Recalling better

CING

In this chapter, I have learnt that

- the perimeter of a closed shape is the total sum of all its sides.
- the perimeter of a polygon = sum of the line segments of the boundary of the polygon
- the perimeter of a rectangle = 2 × (length + breadth)
- the perimeter of a square = 4 × length of a side
- area = amount of surface covered by a closed figure
- the area of a rectangle = length × breadth
- the area of a square = side × side

154

Teacher: We have learnt about the definition of area and perimeter, area and perimeter of different shapes and the formulas.

Teacher: Now, let us take a quick recap. Can anyone tell me how we find the perimeter of a square?

Students: We add all the sides together and since all sides are equal, it is 4 times the length of one side.

Teacher: Well done. Now, can anyone tell me how to find the area of a rectangle?

Students: We multiply the length by the breadth.

Teacher: Great work, everyone.

(Allow the students time to revise the points.)

📖 You may show the **Animated Activities** given on the digital platform.

Decoding better

DECODING *better*   ABle

Aim: Find the perimeter of shapes you create yourself.

You will need: Paper ruler, pencil, a pair of scissors, tape or glue

STEP 1: Draw different shapes, like squares, rectangles, and triangles on a piece of paper.

STEP 2: With the help of an adult, cut out the shapes.

STEP 3: Use a ruler to measure each side of the cut-out shapes.

STEP 4: Write down the measurements.

STEP 5: Add the lengths of all sides for each shape to find the perimeter.

STEP 6: Use a piece of string to measure around each shape and compare with your calculations.

STEP 7: Draw and write the perimeter of each shape in a chart on your paper.

(154)

Teacher: Today, we are going to learn how to find the perimeter of shapes that you create. This will help you

MUST DO

10 MIN.

understand how to measure the boundary of any shape, whether it is a square, rectangle or triangle. The goal of this activity is to help you creatively apply your understanding of perimeter by measuring the sides of shapes you draw and cut out.

Teacher: Remember, the perimeter is the total length around the boundary of a shape. This will be a hands-on activity where you will be measuring and calculating perimeters by yourself. Let us get started.

Solving better

Teacher: In this activity, we are going to focus on finding the area and perimeter of different figures. You will see four shapes and each square in the shape represents 1 cm. Your task is to calculate the total area and perimeter of these figures.

MUST DO
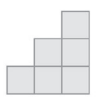
5 MIN.
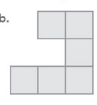
Solving *better*   LOTS

Find the area and perimeter of these figures. Write the answers in your notebook. (The side of each square is 1 cm.)
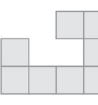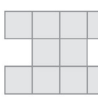
a.   b.   c.   d.

(154)

Teacher: First, remember that area is the space inside a figure and perimeter is the total distance around the figure. You will need to count the number of squares inside the shape to find the area. For the perimeter, count the length of all the sides that form the boundary of the figure.

Teacher: This exercise will help you practise both concepts of area and perimeter. Are you all ready?

Students: Yes, teacher.

(Allow the students time to solve the questions.)

Teacher: Keep up the good work. See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

A rectangular garden has a perimeter of 48 m. The length is 14 m. What is its width? What is the area of the garden?

80 km/hr

A square has one side of 6 m. Find its perimeter and area.

40 km/hr

Draw a square with a side of 5 cm. Measure and write the perimeter.

Home Task

Observe and write the perimeter of a door using a measuring tape.

Period 7

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Learning better

Teacher: Today, we are going to practise some problems related to perimeter and area. These will help

MUST DO

15 MIN.

you understand how we calculate the length of the boundaries and the space inside various shapes.

Learning *better*   CBA

A Tick (✓) the correct answer.

1. The perimeter of a triangle with sides 42 cm, 37 cm and 53 cm is _____.

   a. 132 cm   b. 79 cm   c. 90 cm   d. 95 cm

2. The side of a square field is 34 m. The perimeter of the field is _____.

   a. 136 sq. m   b. 136 cm   c. 136 m   d. 136 sq. cm

3. The perimeter of a rectangle with length 43 cm and breadth 27 cm is

   a. 70 cm   b. 113 cm   c. 140 cm   d. 280 cm

(155)

4. The area of a rectangle with length 40 m and breadth 50 m is _____.

   a. 90 sq. m   b. 180 sq. m   c. 200 sq. m   d. 2,000 sq. m

5. The area of a square with a side of 50 cm is _____.

   a. 200 sq. cm   b. 250 sq. cm   c. 250 sq. m   d. 2,500 sq. cm

B Match the following shapes with their perimeters.

1.
5 cm   6 cm
7 cm

2.
5 cm
4 cm   7 cm
3 cm

3.
12 m   9 m
4 m
6 m   6 m

4.
15 m
9 m   9 m
10 m   7 m

5.
6 cm
4 cm   4 cm
6 cm

a. 50 m   b. 20 cm   c. 18 m   d. 19 cm   e. 37 m

C Find the area of each shape. Write the answers in your notebook. (The side of each square is 1 cm.)

1.

2.

3.
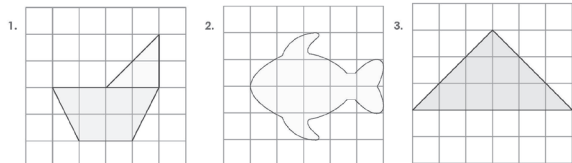
(155)

Teacher: We will be solving problems related to perimeter and area. I will guide you through it step by step. Remember, the perimeter is the total length around a shape and the area is the total space inside it.

Teacher: Now, let us move on to some word problems. This will help us understand how the concepts of perimeter and area apply to real-life situations. Word problems help you connect math with the world around you.

D Solve the following word problems. Write the answers in your notebook.
1. Sam walks along the edge of a rectangular field to look for her lost keychain. The length and breadth of the field is 100 m and 80 m, respectively. How far does she walk?
2. Daisy fixes an extra border around a square handkerchief. One side of the handkerchief measures 15 cm. How much extra cloth will she need?
(156)

(Allow the students time to solve the questions.)

You may show the **Mental Maths** given on the digital platform.

Creating better

Teacher: Today, we will use basic geometry and measurement skills to create something fun – a cardboard

MUST DO
10 MIN.

house. This activity will help you understand how shapes and measurements come together in real life.

Creating *better*   ArtI   21st CS
Make a Cardboard House
• Take cardboard boxes or sheets, pair of scissors, ruler, markers or crayons and tape or glue.
• Understand the basic structure of a house (walls, roof, door, windows).
• Measure and mark dimensions on the cardboard for each part of the house (walls, roof panels).
• With the help of an adult, cut out the measured pieces of the cardboard, using a pair of scissors.
• Fold and join the walls and roof panels using tape or glue.
• Attach the walls together to form the house structure.
• Use markers or crayons to decorate the house, adding windows, doors, and other details.
(156)

Teacher: The objective of this activity is to build a cardboard house using measurements, so you can apply your knowledge of geometry while creating something tangible. We will use simple materials like cardboard, scissors, tape, crayons and you will be able to decorate and build the house yourself.

Teacher: Let us get started with creating your cardboard house. Remember to pay attention to the measurements for the walls, roof and other parts of the house.

Thinking better

Teacher: Let us take a moment to think critically about perimeter. In this exercise, you will need to consider how changing the side length of a square affects the perimeter. You are given a square with sides of 4 cm and you are asked to increase each side by 2 cm.

MUST DO
5 MIN.

Thinking *better*   21st CS   HOTS
Think and write the answer in your notebook.
If you have a square with a side length of 4 cm, and you make each side 2 cm longer, what will the new perimeter be?
(156)

Teacher: The goal of this exercise is to encourage you to think about how the perimeter changes when the side lengths are altered and to practise your skills with addition and multiplication of lengths. So, what will the new perimeter be if we increase the sides by 2 cm?
(Allow the students to think and respond.)

Choosing better

Teacher: In this activity, we are going to think about responsibility and helping others. Ravi's sister needs to email her homework to her teacher and she asks Ravi for help. The question is: what should Ravi do in this situation?

MUST DO
2 MIN.

Choosing *better*   LSV
Ravi's sister needs to email her homework to her teacher. She asks Ravi for help. What should he do?
• Allow her to use his computer.
• Ignore her request and play games.
(156)

Teacher: We are exploring decision-making here. Would Ravi be more responsible by helping his sister or should he ignore her request? Think about how helping others can be the right choice.

Revising better

Teacher: Now, let us move to the next section. It is time to review everything we have learnt so far about perimeter and area.

MUST DO
3 MIN.

Revising *better*   DBL
Revise the problems on perimeter and area from this lesson in your Little Book.
(156)

Teacher: I want you to go over the problems on perimeter and area from this lesson in your Little Book. This will help you reinforce your understanding and be ready for the upcoming topics.

📖 You may show the **Maths Lab** given on the digital platform.

L (What I have Learnt)

Teacher: Now that we have completed the lesson, let us take a moment to reflect on what we have learnt.

Teacher: In the "L" section of your KWL chart, I want you to write down what you have understood from this lesson. Think about the key concepts and how they connect to real-life situations. What did you find interesting?

L (What I have Learnt)# ICL (156)

Teacher: This is a great way to ensure that you remember everything you have learnt and to see how much you have grown in understanding perimeter, area and their application in daily life.

Teacher: Sit with your partners and discuss what you have learnt from the lesson. Consolidate your ideas on the "What Have I Learnt" part of the KWL chart. Once the chart is complete, discuss your journey, reflecting on what you initially knew, what you wanted to know and what you have learnt.

(Let the students discuss and write what they have learnt.)

Teacher: Keep up the great work. See you all in the next class. Have a great day ahead.

Differentiated Activities

110 km/hr

A rectangular plot of land is divided into two equal square gardens. The total area is 100 m². What are the dimensions of each square?

80 km/hr

A plot is 10 m × 5 m. Divide it into two equal parts. What is the area of one part?

40 km/hr

Draw a rectangle and fold it into two equal halves. What is the area of each part?

Home Task

Use graph paper to draw any object and calculate its area.

Period 8

Teacher (with a smile): Good morning/afternoon, everyone. How are you all?

Students: We are good/fine.

Book of Holistic Teaching

Teacher: Today, we will focus on solving a few problems related to perimeter and area in various contexts.

Chapter 14: Perimeter and Area

Ⓐ **English** [HoLL] [MDA]

Fill in the blanks with the correct word from the options given.

1. The _____ (prize/price) of a squared notebook is ₹70.
2. The perimeter of the garden is _____ (quiet/quite).

Ⓑ **Science**

Rahul installed 30 square-shaped solar panels on his house roof, with each panel having a side length of 1 metre. How does the total area covered by these panels help in converting sunlight into electricity more effectively?

Ⓒ **Social Studies**

The Dhola–Sadiya Bridge is a beam bridge connecting Assam and Arunachal Pradesh. Its length is around 10 km and breadth is around 13 m. How does this bridge improve transportation and communication between the two states? (19)

Teacher: The importance of this activity is to help you understand how concepts like perimeter and area are not just mathematical terms but are also used in real-world applications. By solving these problems, you can see how these measurements are used in daily life – from calculating the price of a notebook based on area to understanding the space used by solar panels for energy generation.

Teacher: It also emphasises the significance of accurate measurements in practical scenarios, such as construction projects like the Dhola–Sadiya Bridge, where the area and distance impact communication and transportation. This kind of knowledge is important as it helps us in designing, building and efficiently using resources in various fields like architecture, engineering and even environmental science. This connection across subjects is what makes learning truly holistic. Are you ready?

Students: Yes, teacher.

(Let the students think and write the answer for all three subjects.)

Worksheet 1

Teacher: Alright, students. We have answered some questions and solved a few exercises earlier. We will solve more such exercises.

Teacher: Open Worksheet 1 on Page 54 and solve exercises A, B and C. I am sure you all know the answers.

Read the questions carefully. Once done, we will discuss the answers.


Worksheet 1
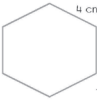
A. Write **true** or **false**.

1. Perimeter of a square = 2 × side _____
2. Area of a square = side × side _____
3. Area of a rectangle = length + breadth _____
4. Perimeter of a rectangle = 2 × (length × breadth) _____
5. The area of a closed figure is the amount of surface it covers. _____

B. Fill in the blanks.

1. Area of a _____ is equal to double of the sum of its length and breadth.
2. If length of a rectangle is doubled, then its area becomes _____.
3. If length and breadth of a rectangle are doubled, then its area becomes _____.
4. If the side of a square is halved, then its area becomes _____.
5. If the side of a square is doubled, then its area becomes _____.

C. Find the perimeters of the following figures.

54

Students: Okay, teacher.

(Allow the students to think and write the answers.)

📖 You may show **Quiz** from the digital platform.

Teacher: Well done. We have almost reached the end of the lesson. We covered different concepts of perimeter and area. I hope you are feeling confident about what we have learnt.

Teacher: Keep revisiting the concepts. See you in the next class.

Differentiated activities

110 km/hr

A rectangular garden has a perimeter of 48 m. The length is 14 m. What is its width? What is the area of the garden?

80 km/hr

A square has one side of 6 m. Find its perimeter and area.

40 km/hr

Draw a square with a side of 5 cm. Measure and write the perimeter.

Home Task

Create a mini floor plan of your ideal classroom using squares and rectangles.

Period 9

Teacher: (Use CRM signs to settle the class) Good morning/ afternoon, everyone. How are you all?

Students: We are good/fine.

Worksheet 2

Teacher: Okay, students. Let us move to Worksheet 2 on Page 55 and solve exercises A, B and C. We will discuss the questions first and then you will write the answers.

MUST DO
15 MIN.

Worksheet 2

A. Fill in the blanks.

1. Perimeter of a square is equal to _____ × side.
2. To find the area of a square we use the formula, _____ × _____.
3. Perimeter of a polygon is the _____ of the length of its sides.
4. To find the area of a rectangle _____ its length by its breadth.
5. Perimeter of a rectangle is _____ times of the sum of its length and breadth.

B. Find the perimeters of the following triangles, whose sides are given below, in your notebook.

1. 8 cm, 4 cm and 5 cm
2. 3 cm, 4 cm and 6 cm
3. 5 cm, 5 cm and 8 cm
4. 3 cm, 6 cm and 7 cm
5. 4 cm, 7 cm and 6 cm

C. Answer the following questions in your notebook.

1. A regular polygon with 4 cm of each side has the perimeter 12 cm. How many sides does it has?
2. A regular polygon with 5 m of each side has the perimeter 25 m. How many sides does it has?
3. A regular polygon with 1 m of each side has the perimeter 4 m. What is the name of this shape?
4. A regular polygon with 5 cm of each side has the perimeter 20 cm. How many sides does it has?
5. A regular polygon with 10 m of each side has the perimeter 60 m. How ma[ny] sides does it has?

55

Students: Okay, teacher.

(Allow the students to think and write the answers.)

Worksheet 3

**Teacher**: Alright, students. Let us solve one more worksheet.

MUST DO
10 MIN.

Worksheet 3

A. Match the following.

1. area of square ● ● a. 4 × side
2. area of rectangle ● ● b. 2 × (Length + Breadth)
3. perimeter of triangle ● ● c. Length × Breadth
4. perimeter of square ● ● d. Side × Side
5. perimeter of rectangle ● ● e. Sum of the lengths of its three sides

B. Find and write the area of each of the following shaded figures, in your notebook.

1 cm
1 cm

C. Based on the answers of Question B, answer the following questions, in your notebook.

1. Which figure has the largest area?
2. Which figure has the smallest area?
3. Which figures have the same area?
4. What is the difference between the areas of figure 2 and figure 5?
5. What is the difference between the areas of figure 1 and figure 3?

56

Teacher: Open Worksheet 3 on Page 56 and solve exercises A, B and C. We will discuss the questions first and then you will write the answers. Are you ready?

Students: Yes, teacher.

(Discuss the questions and let the students write the answers.)

📖 You may generate additional practice worksheets using the **Test Generator** given on the digital platform.

Worksheet 4

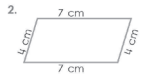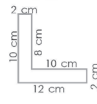**Teacher**: Fantastic work, students. Let us solve one last worksheet.
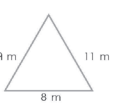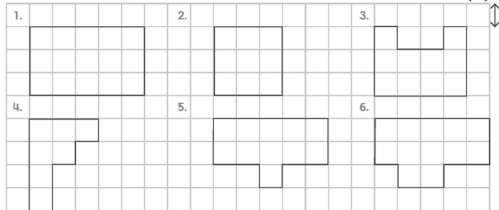
MUST DO

15 MIN.
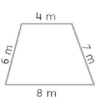
Worksheet 4

A. Answer the following questions in your notebook.
1. How many sides does a square have?
2. What is the formula to find the perimeter of a square?
3. Which one is correct for the perimeter of a rectangle?
   a. 2 × (Length + Breadth)   b. 4 × (Length + Breadth)
4. How many sides of a triangle we need to add to find its perimeter?
5. How do you find the area of rectangle if its length and breadth are given?

B. Find the perimeters of the given figures.

C. Find and write the areas of each of the following figures in your notebook.

57

Teacher: Open Worksheet 4 on Page 57 and solve exercises A, B and C. We will discuss the questions first and then you will write the answers. Are you ready?

Students: Yes, teacher.

(Discuss the questions and let the students write the answers.)

Teacher: Well done. We have reached the end of the lesson. We covered different concepts of perimeter and area. I hope you are feeling confident about what we have learnt.

Teacher: Keep revisiting the concepts. See you in the next class.

Differentiated activities

110 km/hr

You are designing a photo frame of area 64 cm². What could be the possible dimensions (length and breadth) for your frame?

80 km/hr

A rectangle has a length of 8 cm and breadth of 2 cm. What is its area?

40 km/hr

Trace a rectangle using a ruler with length 6 cm and breadth 2 cm. Colour it and write its area.

Home Task

Create a collage of rectangular and square objects from magazines.

Learning Outcomes

The students will:

Domain	Learning Outcome
Physical Development	• draw shapes with different area and perimeter
Socio-Emotional and Ethical Development	• work in collaboration with peers to measure perimeter and area accurately
Cognitive Development	• identify the perimeter and area of simple regular and irregular shapes in the surroundings • explain the meaning of perimeter and area through examples from daily life • apply appropriate formula to find perimeter and area of squares and rectangles
Language and Literacy Development	• comprehend word problems on area and perimeter
Aesthetic and Cultural Development	• display creativity in making a cardboard house
Positive Learning Habits	• learn and apply the concepts of perimeter and area in daily life

Starry Knights

How was the learners' response to the activities to find the area of irregular figures? Did you enjoy taking up such activities?

_____

Reward yourself with a STAR.