Lesson-11: Measurement

17 Periods (40 minutes each)

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

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

Affirming better: I always think before I act.

Curricular Goals and Objectives (NCF)

To enable the students:

- to understand the concept of measurement and its importance in daily life.
- to recognise and apply different units of measurement for length, weight and capacity.
- to calculate the total or difference in measurement for various objects and quantities.
- to convert between different units of measurement.
- to use tools to accurately measure objects.
- to solve word problems involving the addition and subtraction of measurements in length, weight and capacity.
- apply measurement concepts in real-life scenarios.
- integrate measurement concepts with other subjects like English, Science and Social Studies to enhance understanding and solve practical problems.

Methodology

Period 1

Affirming better

MUST DO 5 MIN.

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

Students: We are good/fine.

Teacher: Today, we are going to talk about making good decisions. Sometimes, when we rush, we might not think about the consequences of our actions and that can lead to mistakes. But when we take a moment to pause and think, we make better choices.

Teacher: Can anyone think of a time when they made a decision without thinking and it did not turn out well? Or maybe a time when they paused to think before acting and things went well? Let us share some of your experiences.

(Allow the students to respond.)

Teacher: When we make decisions, it is always better to stop for a moment and think about what might happen before we act. This helps us make better choices and avoid mistakes.

Teacher: Now, let us say it together: I always think before I act. This will remind us to take that pause and make sure we are making the best choice.

(Let the students repeat along with you in unison.)

KWL Chart

MUST DO 10 MIN.

Teacher: We will begin a new chapter, Measurement. I have made a KWL format on the blackboard. Please take out your notebooks and draw the same format in your notebooks.

Students: Yes, teacher.

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

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 measuring length using handspans, converting metres and centimetres, measuring capacity, etc.

Teacher: Now, let us move to the W section—What You Want to Know. For example, you could say, "using standard units of measurement, measuring capacities of different containers". What are your questions?

Teacher: Take a few minutes to think and write. If you have any questions, feel free to ask.

Teacher: You all did an amazing job in this activity. Let us move to Re-KAP activities. We will use Kinaesthetic, Auditory and Pictorial activities today to make our learning exciting. Let us start with the Kinaesthetic activity.

Re-KAP

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

MUST DO

15 MIN.

Kinaesthetic

Teacher: Let us do a fun activity to learn more about measurement. You may remember from previous grades that we used our handspan to measure objects. Today, we will do the same, but this time, we will compare our measurements with a partner.

(Instruct the students to open page 131.)

Kinaesthetic

Pair up with your partner. Measure the length of your table using your handspan. Then measure it using your's partner's handspan. Is there any difference in the measurement? Compare.

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Teacher: Pair up with your partner. One of you will measure the length of your table using your handspan and the other will do the same with your partner's handspan. Do you think the measurements will be the same or different? Let us find out.

Teacher: Once you have measured, compare your results. Was there any difference in the measurements? What do you think caused that?

(Allow the students to measure and respond.)

(In the meantime, paste the poster on the wall for Theme 8)

Auditory

Teacher: Now, let us give our bodies a rest and use our ears. I will read a short story about the life of early humans. Listen carefully—you will be asked some questions afterwards.

MUST DO

10 MIN.

Auditory*

Listen to your teacher carefully. Answer the questions.

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(Read the listening text on page 160 for Chapter 12.)

Chapter 11: Measurement

Babita uses a ruler to measure her pencil and finds that it is 15 centimetres long. Then she measures her notebook and sees that it is 10 centimetres longer than the pencil.

1. How long is Babita's pencil?
2. What is the length of Babita's notebook?

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Teacher: I hope you all listened to the text carefully. Can you answer the questions?

(Let the students guess the correct answer.)

Teacher: Great. Now, answer some more questions.

1. Can we use our handspan to measure both the pencil and the notebook?
2. If Babita's pencil was measured to be 12 cm instead of 15 cm, how long would the notebook be then?

(Let the students respond. You may add a few more questions of your own.)

Teacher: Today, we reviewed what we already know about measurement and we saw how important it is to use different tools, like rulers and handspans, to measure objects. You did a great job recalling how to use these tools. In our next classes, we will dive deeper into the chapter on measurement and explore more ways to measure different objects.

Teacher: Keep thinking about how you measure things around you and we will build on what you already know. Great work today, everyone. See you next time.

Differentiated Activities

110 km/hr

Use your handspan to estimate the length of the longest object in the classroom. Now, measure it with a ruler. Write in your notebook which method gave the most accurate result and why.

80 km/hr

Measure the length of a book using your handspan. Now, measure the same book using a ruler. Write down the two measurements and compare them.

40 km/hr

Pick one object. Use your handspan to measure its length. Draw the object and write down how many handspans it took.

Home Task

Find 3 objects at home, such as a book, a toy and a pencil. Measure them using your handspan.

Period 2

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

Students: We are good/fine.

Warm-up

MUST DO

5 MIN.

Teacher: Let us get ready for today's lesson with a fun warm-up activity.

Teacher: I want you to look around the classroom and think about the size of some objects. We will do a quick guessing game. I will name a few objects in the room and you need to guess how many handspans long they are. Are you ready?

Students: Yes, teacher.

Teacher: We will start with something easy—how long do you think the whiteboard is in handspans? Take a guess.

(Allow students to guess. After they make their guesses, call a student and ask him/her to measure the object with handspans.)

Teacher: Great guesses. Now, let us try a few more things. How long do you think the length of a book is in handspans?

(Let the students respond. Repeat the process with various objects in the room.)

Teacher: Awesome job, everyone. This activity was a great way to refresh your memory on measuring using your handspan.

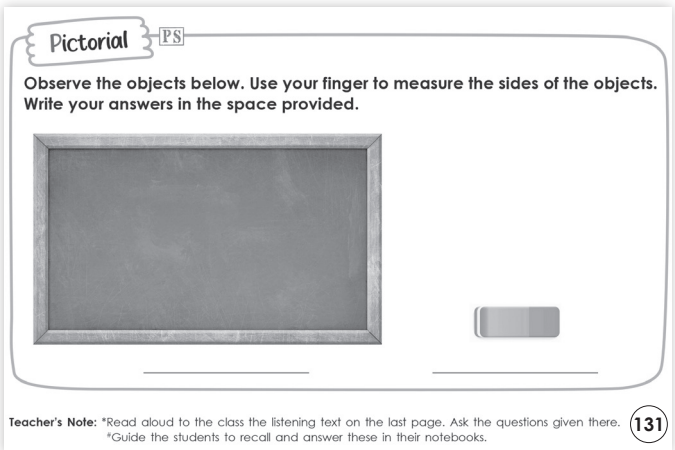
Pictorial

MUST DO

10 MIN.

Teacher: Alright. Let us get our minds warmed up with a simple and fun activity. Are you ready for the activity?

Students: Yes, teacher.



Teacher: You are going to measure some objects using a very special tool —your finger. Look at the chalkboard on page 131. You have to use your finger to measure the sides of the objects, just like we did before with handspans. This time, we will focus on how we can use our fingers to estimate length.

Teacher: Observe the objects and write down the measurements in the space provided. Once you are done, we will discuss the measurements together.

Teacher: Let us see how accurate we can be using our finger as a measuring tool. Let us begin.

(Allow the students to complete the activity and then discuss the answers.)

Interacting better

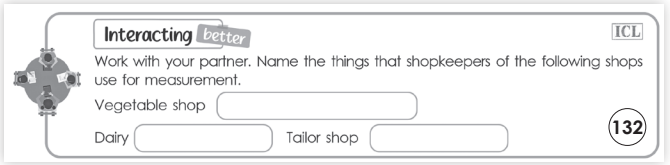
MUST DO

10 MIN.

Teacher: Let us dive into a fun activity where we will be thinking about real-life examples of measurement. Think about the shops you visit and how shopkeepers use different tools to measure things. Pair up with your partner. We are going to explore three different types of shops: a vegetable shop, a dairy and a tailor shop.

Teacher: For each shop, discuss with your partner and come up with the things that shopkeepers use for measuring. Write your answers in the blanks provided.

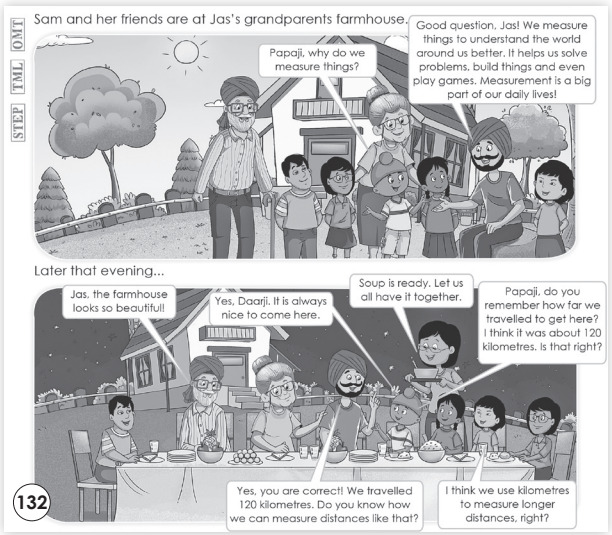
Teacher: Take a few moments to think and once you are ready, we will discuss the answers together.



MUST DO

15 MIN.

Teacher: Today, we will read a short story about Sam and her friends visiting Jas's grandparents' farmhouse. In this story, they talk about measuring different things. Can you guess why measuring things is important?



Students: To know how far or how big something is. (Accept all relevant responses)
Teacher: Yes, that is correct. We measure things to understand the world around us. In this story, Jas is curious about how far they have travelled to the farmhouse. His grandfather tells him that they travelled 120 kilometres. Why do you think we use kilometres for long distances?
Students: Because kilometres are bigger than metres. (Accept all relevant responses)
Teacher: Now, let us think about how else we use measurements in our daily life. Can anyone think of something we measure?
Students: We measure how much time it takes to get to school. (Accept all relevant responses)
Teacher: Good one. Time is another important measurement. What about when we buy things, like fruits or vegetables? Do we use measurements there?
Students: Yes, we use kilograms or grams to measure how much the fruit weighs. (Accept all relevant responses)
Teacher: Exactly. So, as we can see, measuring is very important. It helps us understand and organise the world around us. Let us read the conversation and think about how we use measurements in our lives. After reading, we will discuss how measurements are useful for us.
You may show **Animation** from the digital platform.
Teacher: Today, we reviewed what we already know about measurement and we also saw how measurement is important in our lives. In our next classes, we will dive deeper into the chapter on measurement.
Teacher: Great work today, everyone. See you next time.

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: (Use CRM signs to settle the class) Good morning/ afternoon, everyone. How are you all?
Students: We are good/fine.
Teacher: Alright, class. Let us do a quick warm-up to get our minds ready for measuring length. I will show you a few objects in the classroom. Your task is to guess which one is the longest and which one is the shortest.

SHOULD DO
5 MIN.

Teacher: Once you have made your guesses, we will measure them with a ruler to see how close you were. Are you ready to make your best guesses?
Students: Yes, teacher.
(You may show 3-4 objects, such as a pencil, book, ruler and eraser. Ask the students to make their predictions about which is longest or shortest.)
Teacher: Imagine you are trying to measure the length of your schoolbag. How would you describe how long it is?
Students: I would say it is pretty long, but I do not know exactly how long. (Accept all relevant responses)
Teacher: That is where measurement comes in. Just like how we can say a pencil is small or a classroom is big, we need special ways to measure how long something is. But instead of just saying 'long' or 'short', we need units to give us an exact answer.
Students: What do you mean by 'units'?
Teacher: Good question. Units are like the 'standard words' we use to describe the length of something. Just like you measure your height in centimetres or metres, we use units to measure the length of things around us. For example, if we measure the length of your bag, we could say it is 30 centimetres long or if it is a very long road, it might be 2 kilometres.
Students: So, the bigger the thing, the bigger the unit?
Teacher: Exactly. The bigger the object, the larger the unit we use to measure it. For example, when we measure a pencil, we use centimetres, but when we measure something bigger, like a road, we use kilometres. Today, we will learn about various units that help us measure everything from small objects, such as pencils, to large things, like buildings.
Teacher: Let us dive into how we measure things around us using the right units. Are you all ready to start?
Students: Yes, teacher.
Teacher: Now, we are going to learn about measuring length. Length tells us how long or tall an object is.

MUST DO
10 MIN.

MEASURING LENGTH
The length of an object is a measure of how long or tall it is. Some standard units of measuring length are centimetres (cm), metres (m) and kilometres (km).
For example, a guitar is 1 m long.
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Teacher: When we measure length, we use different units depending on what we are measuring. For very

small objects like a pencil or a book, we might use centimetres. For bigger objects, like the length of a table or a room, we use metres.

Teacher: Let us look at the different units of length. We start with millimetres (mm) for really small lengths, then centimetres (cm) and for even bigger measurements, we use metres (m). When we need to measure long distances, like the distance between two cities, we use kilometres (km). When we talk about height, we use the same units. For example, the height of a pencil might be measured in centimetres, but the height of a door or a person would usually be measured in metres.

The units of length in ascending order are:

millimetre centimetre decimetre metre decametre hectometre kilometre

Let us now learn how to convert the units of length.

To measure	short length	long length	short distance	long distance	height
Units used	millimetre (mm), centimetre (cm)	metre (m)	metre (m)	kilometre (km)	centimetre (cm), metre (m)

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Teacher: Can anyone think of something that could be measured in millimetres, centimetres and something that might need a kilometre?

Students: A pencil can be measured in centimetres. (Accept all relevant responses)

Teacher: Great. A pencil is a good example of something that we measure in centimetres. What about something smaller than that, like the size of a button?

Students: We measure it in millimetres.

Teacher: Exactly. A button is small enough to be measured in millimetres. Now, what about something big, like the distance between two places?

Students: We measure the distance between two cities in kilometres.

Teacher: Well done. So, remember, we use millimetres, centimetres, metres and kilometres based on the size of what we are measuring.

You may show **Learn better (eBook)** from the digital platform.

Teacher: Now, we are going to learn how to convert different units of length. You already know how to measure things in centimetres (cm) and metres (m), but what if we need to change between these units?

MUST DO

15 MIN.

CONVERSION OF UNITS OF LENGTH

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To convert a larger unit to a smaller unit of length, multiply by the appropriate conversion factor.

For example:

- To convert metres (m) to centimetres (cm), multiply by 100. (1 metre = 100 centimetres).
- To convert kilometres (km) to metres (m), multiply by 1000. (1 kilometre = 1000 metres).

Converting metres into centimetres

Example 1: Convert 3 m to cm.

1 m = 100 cm

3 m = 3 × 100 cm

= 300 cm

3 m = 300 cm

Example 2: Convert 5 m 40 cm into cm. To convert m and cm into cm, multiply m by 100 and then add cm.

5 m 40 cm = (5 × 100 cm) + 40 cm

= 500 cm + 40 cm

= 540 cm

5 m 40 cm = 540 cm

1 **Convert into centimetres.** 133

a. 8 m b. 14 m 18 cm c. 23 m 5 cm d. 31 m 3 cm

Converting kilometres into metres

Example 3: Convert 5 km into m.

1 km = 1000 m

5 km = 5 × 1000 m = 5000 m

5 km = 5000 m

Example 4: Convert 7 km 45 m into m. To convert km and m into m, multiply km by 1000 and then add m.

7 km 45 m = 7 × 1000 m + 45 m

= 7000 m + 45 m = 7045 m

7 km 45 m = 7045 m

2 **Convert into metres.**

a. 6 km b. 8 km 467 m c. 5 km 911 m d. 6 km 28 m

LOTS

Teacher: For example, if you want to convert metres into centimetres, you multiply by 100. So, 1 metre is equal to 100 centimetres. That means, if you have 3 metres, it would be 3 multiplied by 100, which gives you 300 centimetres. Can you tell me if you have 4 metres, how much it will be in centimetres?

Students: If I have 4 metres, I will multiply 4 by 100, which is 400 centimetres.

Teacher: Exactly. Now, if we need to convert kilometres into metres, we multiply by 1000. So, 1 kilometre equals 1000 metres. If we have 5 kilometres, it will be 5 multiplied by 1000, giving us 5000 metres. Can you tell me how much 2 kilometres is?

Students: 2000 metres.

Teacher: Yes, great work. Now, let us learn more about conversion. Look at the examples of conversion from metres to centimetres and kilometres to metres.

Teacher: Are you ready to solve some questions on conversion?

Students: Yes, teacher.

Teacher: Let us solve questions 1 and 2 on page 133. (Allow the students time to solve the questions.)

Teacher: Now that we have learned how to convert from a larger unit to a smaller unit, let us look at converting from a smaller unit to a larger one. This time, we will divide by the conversion factor instead of multiplying.

MUST DO

10 MIN.

To convert a larger unit to a smaller unit of length, multiply by the appropriate conversion factor.

For example:

- To convert metres (m) to centimetres (cm), multiply by 100. (1 metre = 100 centimetres).
- To convert kilometres (km) to metres (m), multiply by 1000. (1 kilometre = 1000 metres).

133

Teacher: For example, if we want to convert millimetres into centimetres, we divide by 10 since there are 10 millimetres in a centimetre.

Teacher: Similarly, to convert centimetres into metres, we divide by 100 because there are 100 centimetres in a metre. To convert metres into kilometres, we divide by 1000, as there are 1000 metres in a kilometre.

Laughing better

Teacher: As we come to the end of today's class, let us finish with a bit of fun. Here is a joke to lighten the mood:

MUST DO

5 MIN.

Teacher: Why did the ruler refuse to measure? It did not want to get too attached to the problems.
(Explain the joke to the students. Let them enjoy.)
Teacher: I hope that gave you a good laugh.
Teacher: Great work today, everyone. We have learned a lot about measuring length and how we can use different units like millimetres, centimetres and metres to measure things around us. From measuring the length of a pencil to understanding the importance of the right unit, you have all done well.
Teacher: Remember, units like millimetres are for smaller lengths, centimetres are for everyday objects and metres are used for larger things. We even learned how to convert these units, making it easier to work with measurements in different situations.
Teacher: Keep practising what we learned today. I will see you in the next class.

Differentiated Activities

110 km/hr

Measure the length of 5 objects around the classroom using centimetres (cm). Then, convert these measurements into metres (m). Afterward, arrange these objects in order from shortest to longest based on both measurements (centimetres and metres).

80 km/hr

Choose 3 objects from the classroom (e.g., a pencil, a book and a cup). Measure the length of each in centimetres (cm) and write down your results. Then, choose one object and convert its measurement into metres (m).

40 km/hr

Pick 2 objects (e.g., a book and a pencil). Measure the length of each object in centimetres (cm). Write down the measurements and then compare which one is longer.

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

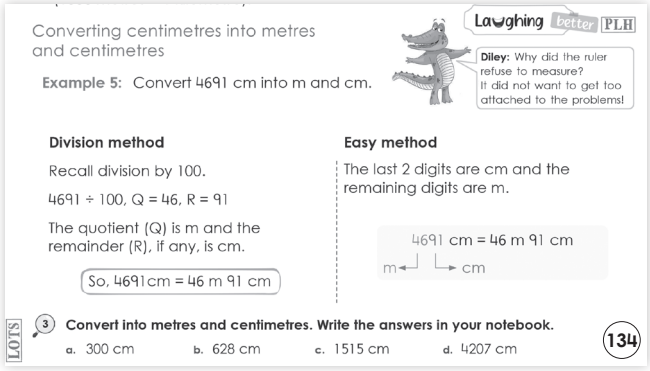
Teacher: (Use CRM signs to settle the class) Good morning/ afternoon, everyone. How are you all?
Students: We are good/fine.

COULD DO
10 MIN.

Teacher: Before we begin our lesson today, let us quickly review some concepts we already know about measurement. We will do a quick activity to refresh our minds. Can anyone think of an object in the classroom that you have measured before? Maybe you measured it using your handspan or a ruler.
Students: I measured my pencil with a ruler the other day. It is about 10 centimetres long. (Accept all relevant responses.)
Teacher: Great. And what about something bigger? What else have you measured?
Students: I measured the width of the classroom door with my handspan. I think it was about 6 handspans wide. (Accept all relevant responses.)
Teacher: Excellent. Now, let us take this one step further. We are going to practise measuring some things around us, but this time, we will use different units. We use different units for different objects, depending on how big or small they are.
Teacher: Let us try something together. I want you to look around the room and think of 2 objects: one small and one big. For example, a pencil is small and we measure that in centimetres. But the length of a bookshelf or a classroom might be better measured in metres.

MUST DO
15 MIN.

Teacher: Now, we are going to learn how to convert between different units of length. Sometimes, we measure in centimetres for smaller objects like a pencil or a book and for longer measurements, we use metres. But did you know you can also convert from one unit to another, like from centimetres to metres or from metres to kilometres?


Converting centimetres into metres and centimetres

Example 5: Convert 4691 cm into m and cm.

Laughing better PLH
Diley: Why did the ruler refuse to measure? It did not want to get too attached to the problems!

Division method
Recall division by 100.
4691 ÷ 100, Q = 46, R = 91
The quotient (Q) is m and the remainder (R), if any, is cm.
So, 4691 cm = 46 m 91 cm

Easy method
The last 2 digits are cm and the remaining digits are m.
4691 cm = 46 m 91 cm
m ← → cm

LOTS 3 Convert into metres and centimetres. Write the answers in your notebook.
a. 300 cm b. 628 cm c. 1515 cm d. 4207 cm
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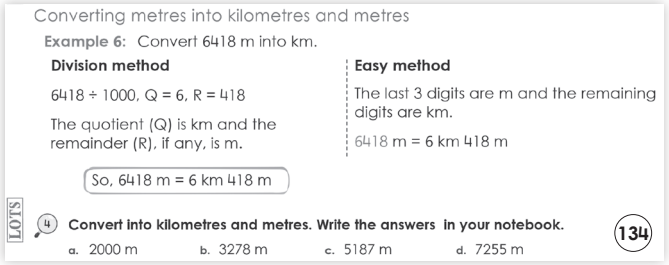
Teacher: For example, if you have 4691 centimetres, how do we convert it to metres and centimetres? We use the division method. We divide the number by 100 (since 1 metre = 100 centimetres) and then split it up.
(Write the example on the board for the students to see: 4691 cm ÷ 100 = 46 m 91 cm)
Teacher: You can also use an easy method to convert different units.
(Explain both the methods to students. Solve a few questions on the board.)

Teacher: Let us now solve question 3 on page 134. Write the answers in your notebook.
(Allow the students time to solve question 3.)
Teacher: Good work. Let us look at the next part. We can also convert kilometres to metres. If you have 6418 metres, how do you convert it to kilometres? You divide by 1000 (since 1 kilometre = 1000 metres).

MUST DO
15 MIN.

(Write the example on the board: 6418 m ÷ 1000 = 6 km 418 m)
Teacher: Let us try a few examples together. After we finish, I will ask you to convert some lengths into different units and record your answers.
(Write a few numbers on the board and ask the students to convert the units into kilometres and metres. Allow the students time to solve the questions.)


Converting metres into kilometres and metres

Example 6: Convert 6418 m into km.

Division method

6418 ÷ 1000, Q = 6, R = 418

The quotient (Q) is km and the remainder (R), if any, is m.

So, 6418 m = 6 km 418 m

Easy method

The last 3 digits are m and the remaining digits are km.

6418 m = 6 km 418 m

LOTS

4 **Convert into kilometres and metres. Write the answers in your notebook.**

a. 2000 m b. 3278 m c. 5187 m d. 7255 m

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Teacher: Now, that you have learned two different methods for converting metres into kilometres and metres, let us solve some more questions.
(Allow the students time to solve question 4 on page 134.)
Teacher: Great work today, everyone. Keep practising what we learned today. I will see you in the next class.

Differentiated Activities

110 km/hr

You are given 10 metres 30 centimetres of rope. Convert the length into centimetres. Next, you are given 5000 millimetres. Convert it to metres and explain the conversion process.

80 km/hr

Measure the length of a small object in centimetres (e.g., pencil, eraser). Convert the measurement into metres. Now, measure a bigger object (e.g., a notebook) in metres and convert it into centimetres. Write your answers in both units.

40 km/hr

Take any object around you (e.g., a book or a cup). Measure it in centimetres and then convert the length into metres. Write down both the measurements in your notebook.

Home Task

Go on a "Length Scavenger Hunt" at home. Find 5 objects of different sizes (like a pencil, book, door or chair). Measure each object using a ruler or measuring tape in centimetres. After measuring, convert each measurement into metres. Draw a simple picture of each object and write its length in both centimetres and metres.

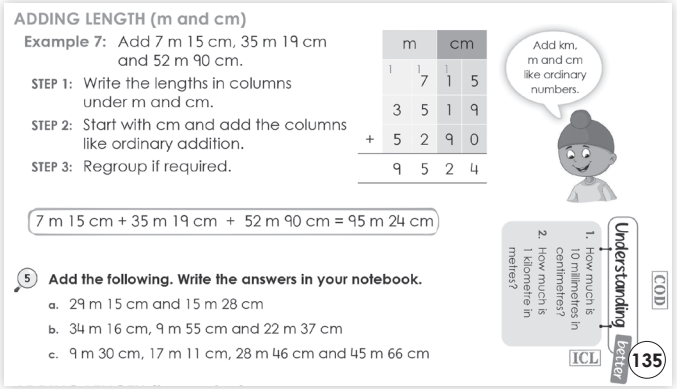
Period 5

Teacher: (Use CRM signs to settle the class) Good morning/ afternoon, everyone. How are you all?
Students: We are good/fine.
Teacher: Today, we will have an exciting warm-up activity to get our minds ready for the lesson. Let us imagine we are all going on a road trip to a distant place. Can anyone guess how far your house is from a popular destination? Let us think of how far places around us might be in kilometres.

COULD DO
10 MIN.

(Show a simple map or point to places on a board, for example, the distance between two cities or landmarks.)
Teacher: For example, the distance between Delhi and Agra is about 200 kilometres. But what about the distance between your house and the nearest mall or park? How many kilometres do you think that is? Let us hear some guesses.
(Allow students to guess and share their ideas.)
Teacher: Fantastic. Now, let us think about it in real life. If a trip is 10 kilometres, how long would it take you to travel by car or bus? If it is 5 kilometres, would it take longer or shorter?
(Write the distances and time guesses on the board.)
Teacher: Great work. Let us get ready for the next part of the lesson.
Teacher: Alright, students. Now that we have talked about measuring lengths in metres and centimetres, let us move on to the part where we will learn how to add lengths in both metres and centimetres.

MUST DO
15 MIN.


ADDING LENGTH (m and cm)

Example 7: Add 7 m 15 cm, 35 m 19 cm and 52 m 90 cm.

STEP 1: Write the lengths in columns under m and cm.

STEP 2: Start with cm and add the columns like ordinary addition.

STEP 3: Regroup if required.

	m	cm
	7	15
	35	19
+	52	90
	95	24

Add km, m and cm like ordinary numbers.

7 m 15 cm + 35 m 19 cm + 52 m 90 cm = 95 m 24 cm

5 **Add the following. Write the answers in your notebook.**

a. 29 m 15 cm and 15 m 28 cm

b. 34 m 16 cm, 9 m 55 cm and 22 m 37 cm

c. 9 m 30 cm, 17 m 11 cm, 28 m 46 cm and 45 m 66 cm

Understanding better

1. How much is 10 millimetres in centimetres?
2. How much is 1 kilometre in metres?

COD ICL

135

Teacher: Sometimes, when we need to find the total length of two or more objects, we need to add them together. For example, if you have a piece of rope

that is 7 metres 15 centimetres long and another that is 35 metres 19 centimetres, you need to add both lengths together.

Teacher: We will start by writing the lengths in columns under metres and centimetres separately, just like adding ordinary numbers. Do not forget to regroup if the centimetres total goes over 100 cm—remember, 100 centimetres equals 1 metre.

Teacher: Let us solve a similar example together first. You can see here we have 7 metres 15 cm, 35 metres 19 cm and 52 metres 90 cm. We will add the centimetres first and then add the metres.

(Explain the example and steps on the board.)

Teacher: Now, that you have learned the steps to add length, let us solve question 5. Are you ready?

Students: Yes, teacher.

(Guide the students to solve question 5 on page 135.)

Teacher: Now that we have covered how to add lengths in metres and centimetres, let us take it up a notch and add lengths in kilometres and metres.

MUST DO
15 MIN.

Teacher: Just like the previous example, we will need to add the lengths in two parts: kilometres and metres. For example, if you have a road that is 6 kilometres 457 metres and another that is 38 kilometres 65 metres, we need to add them separately.

Teacher: We will first add the metres and then the kilometres. Do not forget, if the metres total goes over 1000 metres, we will need to convert that to kilometres and add it to the kilometre column. Let us do this step by step just like we did earlier and if needed, we can regroup.

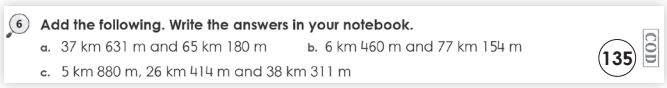
Teacher: Now, I will show you how to add these lengths: 6 km 457 m + 38 km 65 m + 25 km 745 m. Let us add them up to find the total length.

(Demonstrate the addition process, step by step.)

Teacher: Now, that you have learned the steps to add length, kilometre and metre, let us solve question 6. Are you ready?

Students: Yes, teacher.

(Guide the students to solve question 6 on page 135.)


6 Add the following. Write the answers in your notebook.
a. 37 km 631 m and 65 km 180 m
b. 6 km 460 m and 77 km 154 m
c. 5 km 880 m, 26 km 414 m and 38 km 311 m
135

Teacher: Great work today, everyone. Keep practising what we learned today. I will see you in the next class.

Differentiated Activities

110 km/hr

You are given a distance of 1500 m and 2 km 300 m.

- Convert both measurements into metres.
- Add them together and write the total distance in metres and kilometres.

80 km/hr

You are given the following lengths: 6 m 25 cm and 3 m 75 cm. Add these two lengths together and write the result in metres and centimetres.

40 km/hr

You are given two lengths: 2 m and 1 m 50 cm. Add these two lengths together and write the answer in metres.

Home Task

Imagine you are measuring the length of your study table and a chair. The length of the study table is 150 cm and the chair is 80 cm tall.

1. Add the lengths of the study table and chair together. Write your answer in centimetres.
2. Convert the total length from centimetres to metres.
3. If you want to add 50 cm to the length of the table, what will the new total length be in centimetres and metres?

Period 6

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

Students: We are good/fine.

Teacher: Let us kick off today's class with a fun challenge. I will give you a series of clues and you will need to figure out what we are measuring. Are you ready?

COULD DO
5 MIN.

Students: Yes, teacher.

Teacher: I am as long as a school ruler, but I can also fit into your pocket. What are you measuring?

Students: A pen.

Teacher: That is right. The length of a pen is nearly 15 cm. Well done.

Teacher: I am long. I stretch all the way from one end of the classroom to the other. What do you think we are measuring?

Students: The length of the classroom.

Teacher: Exactly. The classroom could be measured in metres.

Teacher: I am something big. I can take you all the way from home to school and I am measured in kilometres. What am I?

Students: The distance from home to school.

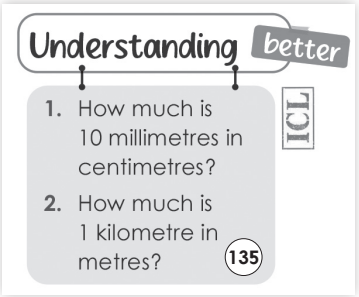
Teacher: That is right. Great work, everyone.

Teacher: Now that we have warmed up, let us dive into today's lesson.

Teacher: Now that we have discussed how to convert different units of length, let us put our

MUST DO
5 MIN.

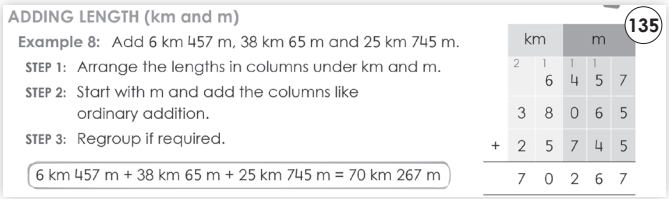
understanding to the test with some quick questions.



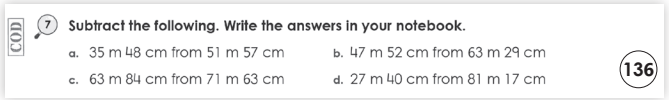
Teacher: I will give you a moment to think and answer. We will go over them together. Are you ready?
Students: Yes, teacher.
Teacher: Let us read the questions and discuss.
(Wait for student responses and discuss the conversion process briefly.)
Teacher: Good work, everyone. These are simple conversions, but they help us understand how different units of measurement relate to each other.
Teacher: Now, let us move on to subtraction. Just like we add lengths, we can also subtract them. Let us look at an example. In this case, we are subtracting 23 metres 75 centimetres from 47 metres 12 centimetres.

MUST DO
15 MIN.

Teacher: We start by arranging the numbers under metres and centimetres. Then we subtract the centimetres first. If needed, regroup just like we do with regular subtraction. Let us go ahead and work through the example. The answer is 23 metres 37 centimetres.



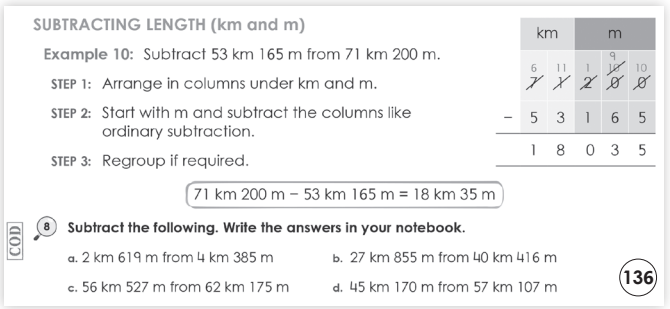
Teacher: Now, I want you to try some subtraction problems on your own. Let us look at question 7 on page 136. Are you ready?
Students: Yes, teacher.



Teacher: Once you are done with these, we will check our answers together. Let us practise these subtraction techniques to make sure we are all comfortable with it.
(Allow time for the students to work on the problems.)
Teacher: Let us now explore how to subtract lengths when we are dealing with kilometres and metres. Similar to what we did before with centimetres, we can subtract kilometres and metres, too.

MUST DO
15 MIN.

Teacher: Here is an example: we are subtracting 53 km 165 m from 71 km 200 m. First, we write the lengths in columns under the km and m. Then, just like ordinary subtraction, we subtract the metres first and if necessary, we regroup.
Teacher: When we subtract these, we get 18 km 35 m. Remember, always start with the smaller unit, which is the metre and then move on to the larger unit, which is the kilometre.
Teacher: Now, I want you to try some subtraction problems on your own. Let us look at question 8 on page 136. Are you ready?
Students: Yes, teacher.



Teacher: Once you are done with these, we will check our answers together. Let us practise these subtraction techniques to make sure we are all comfortable with it.
(Allow time for the students to work on the problems.)
Teacher: Great work today, everyone. Keep practising what we learned today. I will see you in the next class.

Differentiated Activities

110 km/hr

You are given the lengths of three different rooms in a building: Room A (12 m), Room B (15 m 50 cm) and Room C (9 m 20 cm). Add the lengths of all three rooms. Convert the total length to kilometres and write it down. After calculating the total length in metres, convert the total into kilometres and write down the result in both metres and kilometres.

80 km/hr

Provide students with a fictional map where different road segments are given in m and cm (or km and m). Ask them to calculate total distances between cities using addition and subtraction.

40 km/hr

Give a worksheet of a toy shop where toy sizes are labelled. Ask the students to add/subtract lengths to find the total height/length of toys in a cart.

Home Task

Activity: My Length Logbook
Ask children to create a mini logbook at home for 2–3 days. Each day, they measure and record:

- The height of one item (e.g., water bottle, chair, etc.) in m and cm.
- The distance they travel to a shop or park (with help from a parent), in km and m.

At the end of 3 days:

- They must add or subtract any two measurements and write the answer neatly.
- Add a drawing of the item or place they measured.

Period 7

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

Students: We are good/fine.

Teacher: Great. Let us start the class with a fun and quick activity called 'Measurement Relay'. Are you all ready?

SHOULD DO
10 MIN.

Students: Yes, teacher.

Teacher: I will call out an object or something we all know. Then I will call one of you to the board and write down how long you think it is.

Teacher: The length of your pencil?

(Call one of the students to write it down on the board in either centimetres or millimetres.)

Teacher: The height of the door?

(Call one of the students to write it down on the board in metres.)

Teacher: The width of your desk?

(Call one of the students to write it down on the board in centimetres or metres.)

Teacher: How far do you think the school bus is from the classroom?

(Call one of the students to write it down on the board in metres or kilometres.)

Teacher: Well done, everyone. That was awesome. Now we will learn how to measure things accurately using the right units.

Teacher: Alright, now let us move on to something a bit more practical: word problems on length.

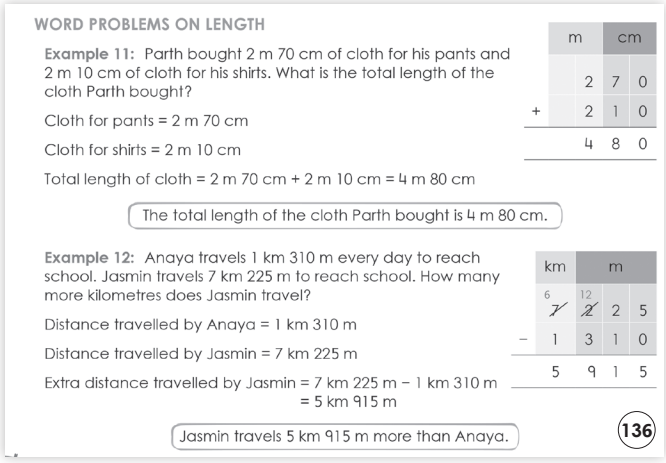
MUST DO
10 MIN.

Teacher: Word problems are a great way to apply what we have learned. They help us see how measurements work in real-life situations.

Teacher: Let us take a look at the first example. Parth bought some cloth for his pants and shirts. He bought 2 metres 70 cm for his pants and 2 metres 10 cm for his shirts. How can we find the total length of cloth he bought?

(Write the problem on the board and explain the steps.)

Teacher: We simply add the measurements of the cloth for his pants and shirts. First, we add the centimetres and then the metres. We get the total length, which is 4 metres 80 cm.



WORD PROBLEMS ON LENGTH

Example 11: Parth bought 2 m 70 cm of cloth for his pants and 2 m 10 cm of cloth for his shirts. What is the total length of the cloth Parth bought?

Cloth for pants = 2 m 70 cm

Cloth for shirts = 2 m 10 cm

Total length of cloth = 2 m 70 cm + 2 m 10 cm = 4 m 80 cm

	m	cm
	2	70
+	2	10
	4	80

The total length of the cloth Parth bought is 4 m 80 cm.

Example 12: Anaya travels 1 km 310 m every day to reach school. Jasmin travels 7 km 225 m to reach school. How many more kilometres does Jasmin travel?

Distance travelled by Anaya = 1 km 310 m

Distance travelled by Jasmin = 7 km 225 m

Extra distance travelled by Jasmin = 7 km 225 m − 1 km 310 m = 5 km 915 m

	km	m
	6 7	12 2
	7	225
−	1	310
	5	915

Jasmin travels 5 km 915 m more than Anaya.

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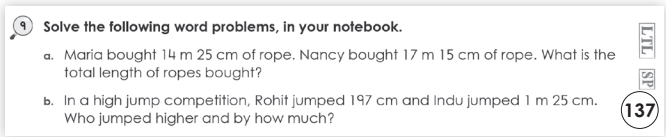
Teacher: Let us move on to the second example. Anaya travels 1 km 310 m every day to reach school and Jasmin travels 7 km 225 m. Can anyone tell me how we can figure out how much more Jasmin travels than Anaya?

(Write the problem and go through the process of subtraction.)

Teacher: We subtract Anaya's distance from Jasmin's distance. The difference is 5 km 915 m. So, Jasmin travels 5 km 915 m more than Anaya.

MUST DO
10 MIN.

Teacher: Great work, everyone. Now, let us try some more word problems to practise our skills. Remember, the key to solving these problems is to understand what we are being asked to find and then choose the right operation to solve it.



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

a. Maria bought 14 m 25 cm of rope. Nancy bought 17 m 15 cm of rope. What is the total length of ropes bought?

b. In a high jump competition, Rohit jumped 197 cm and Indu jumped 1 m 25 cm. Who jumped higher and by how much?

LTL SP 137

(Write the first problem on the board.)

Teacher: In this first problem, Maria bought 14 m 25 cm of rope and Nancy bought 17 m 15 cm of rope. We need to find the total length of the ropes bought. Can anyone tell me how we can do that?

(Wait for responses and guide them through adding the lengths. Allow the students time to solve part a of question 9 on page 137.)

Teacher: We will add the metres first and then the centimetres. If the centimetres add up to more than 100, remember we will have to carry over to the metres.

(Teacher writes the second problem on the board.)

Teacher: Now, in this next problem, Rohit jumped 197 cm and Indu jumped 1 m 25 cm. We need to figure out who jumped higher and by how much.

(Allow the students to solve the question.)

Teacher: We will compare their jumps by converting everything to the same unit, either cm or m. Let us convert the 1 m 25 cm into centimetres and then subtract the

smaller jump from the bigger one to see the difference. (Guide the students to solve the questions.)

Teacher: Next, we are going to learn about measuring weight, which tells us how heavy or light something is. Just like we use different units to measure length, we also use different units to measure weight, depending on how heavy or light an object is.

MUST DO
10 MIN.


MEASURING WEIGHT (MASS)

Different kinds of weights are used to weigh different things.

5 kg 2 kg 1 kg 500 g 200 g 100 g 50 g

- Very light things, such as feathers, safety pins and medicine tablets, are weighed in milligrams (mg). 1 g = 1000 mg
- Light things, such as gold ornaments and spices, are weighed in grams (g). 1 g = 1000 mg
- Heavy things, such as suitcases and vegetables, are weighed in kilograms (kg). 1 kg = 1000 g

Different types of weighing machines are used to measure the weights of different things.

weighing scales electronic balance spring balance

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Teacher: For very light things, like a feather or a medicine tablet, we measure weight in milligrams (mg). Did you know 1 gram (g) is equal to 1000 milligrams? For example, a small paperclip might be measured in milligrams.

Teacher: Next, we have grams (g). We use grams to measure lighter objects, like a gold ornament or a packet of spices. Can you give me an example?

Students: A packet of sugar or salt. (Accept all relevant responses)

Teacher: And then we have kilograms (kg) for heavier objects, like a suitcase or vegetables. One kilogram is equal to 1000 grams. So, a big watermelon would weigh a few kilograms.

Teacher: To weigh these objects, we use different kinds of machines. For example, there are traditional weighing scales, electronic balances and spring balances. Each of these is used depending on the type of object being weighed.

Teacher: Can anyone think of something you might weigh in milligrams, grams or kilograms?

(Encourage students to share ideas, making connections with everyday objects they are familiar with, like a coin, a book or a fruit.)

Teacher: Great. Let us now explore how we can measure weight using these units and machines in the next part of the lesson.

Teacher: Great work today, everyone. Keep practising what we learned today. I will see you in the next class.

Differentiated Activities

110 km/hr

You are a length detective. Solve the clues below to find how far the missing item has travelled.

Clue 1: The item was first sent 3 km 250 m, then taken another 2 km 640 m.

Q: What is the total distance travelled so far?

Clue 2: It was returned by mistake and came back 2 km 640 m.

Q: How much distance did it cover on its return?

Final Question:

The total distance travelled by the item is ____ km ____ m.

80 km/hr

Build-A-Bridge Challenge: Give students different measurements on strips of paper (e.g., 1 m 50 cm, 2 m 30 cm, 1 m 20 cm). Their task is to combine the right strips to build a "bridge" that totals exactly 5 m, 6 m 50 cm. They must show the working (addition) and explain their choices.

40 km/hr

Imagine you have a string that is 10 cm long. Now, think about how many of these strings would fit into the length of a pencil, a book or a chair. Without measuring, guess how many 10 cm strings it would take to cover the length of each object. After making your guesses, use a ruler or measuring tape to measure the length of the objects and check how close your guesses were.

Home Task

Find a household item that you use every day (like a spoon, remote or a cup). First, estimate its length (in cm or m) and then use a ruler to measure it. Write down the estimated length and the actual length you found. Compare the two and see how close or far your estimate was from the actual measurement.

Period 8

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

Students: We are good/fine.

Teacher: Alright, students. Let us begin the class with a quick fill-in-the-blank activity to test your skills and get started with measuring.

SHOULD DO
10 MIN.

Teacher: I will say a few sentences with missing words and you need to guess the correct word for each blank. Are you all ready?

1. A pencil is measured in _____ (millimetres/ centimetres/metres), because it is a small object.
2. The length of a classroom door is usually measured in _____ (centimetres/metres/kilometres), as it is a larger object.

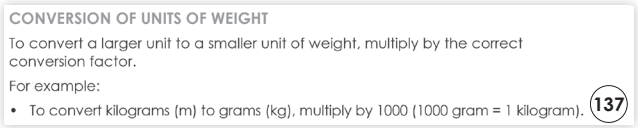
3. When measuring the distance between two cities, we use _____ (millimetres/kilometres/metres) because it is a very long distance.
4. A book is about _____ (10 cm/100 cm/1 m) long.
5. The width of a piece of paper is typically measured in _____ (millimetres/centimetres/metres).
6. The height of a person is usually measured in _____ (centimetres/metres/millimetres).
7. The length of a pencil is usually about _____ (5 cm/50 cm/5 m).
8. To measure the distance between two places in the same city, we would use _____ (kilometres/metres/millimetres).

(Allow the students to think and respond.)

Teacher: Great work. Let us dive deeper into measurements today.

MUST DO
10 MIN.

Teacher: In the previous lessons, we learned how to measure length in different units. Today, we will focus on measuring weight. Just like how we used different units for length, weight can also be measured in different units, such as grams and kilograms.


CONVERSION OF UNITS OF WEIGHT

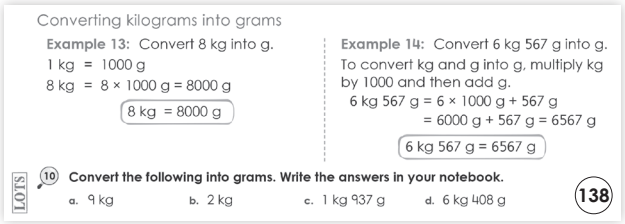
To convert a larger unit to a smaller unit of weight, multiply by the correct conversion factor.

For example:

- To convert kilograms (m) to grams (kg), multiply by 1000 (1000 gram = 1 kilogram).

137

Teacher: When we need to convert from a larger unit to a smaller one, like kilograms to grams, we multiply by 1000. For example, 1 kilogram is 1000 grams. So, if we have 8 kilograms, we multiply 8 by 1000 to get 8000 grams.


Converting kilograms into grams

Example 13: Convert 8 kg into g.
1 kg = 1000 g
8 kg = 8 × 1000 g = 8000 g
8 kg = 8000 g

Example 14: Convert 6 kg 567 g into g.
To convert kg and g into g, multiply kg by 1000 and then add g.
6 kg 567 g = 6 × 1000 g + 567 g
= 6000 g + 567 g = 6567 g
6 kg 567 g = 6567 g

LOTS 10 **Convert the following into grams. Write the answers in your notebook.**
a. 9 kg b. 2 kg c. 1 kg 937 g d. 6 kg 408 g

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Teacher: Now, let us practise converting kilograms into grams together. We will also see how to work with larger numbers, like 6 kg 567 g. We will multiply 6 by 1000 and add the 567 grams. This will give us the total in grams.

Teacher: Now, I want you to try some conversion problems on your own. Let us look at question 10 on page 138. Are you ready?

Students: Yes, teacher.

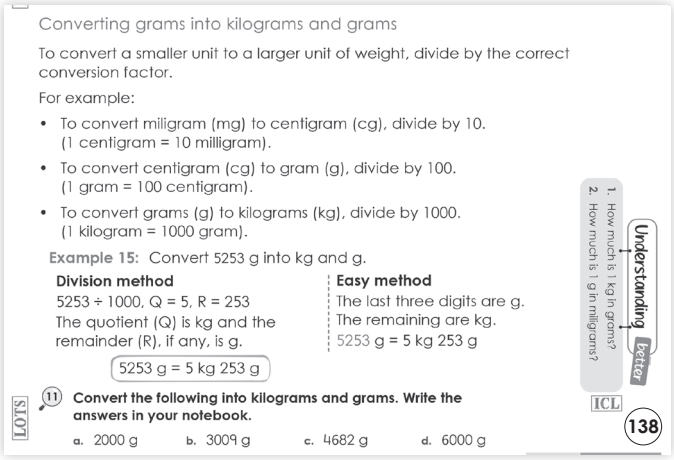
Teacher: Once you are done with these, we will check our answers together.

(Allow time for the students to work on the problems.)

You may show **Learn better (eBook)** from the digital platform.

MUST DO
10 MIN.

Teacher: Now that we have seen how to convert grams into kilograms, let us learn how to go the other way around. Just as we multiplied to convert larger units into smaller ones, today we will divide when converting from smaller units to larger ones.


Converting grams into kilograms and grams

To convert a smaller unit to a larger unit of weight, divide by the correct conversion factor.

For example:

- To convert miligram (mg) to centigram (cg), divide by 10. (1 centigram = 10 milligram).
- To convert centigram (cg) to gram (g), divide by 100. (1 gram = 100 centigram).
- To convert grams (g) to kilograms (kg), divide by 1000. (1 kilogram = 1000 gram).

Example 15: Convert 5253 g into kg and g.

Division method
5253 ÷ 1000, Q = 5, R = 253
The quotient (Q) is kg and the remainder (R), if any, is g.
5253 g = 5 kg 253 g

Easy method
The last three digits are g.
The remaining are kg.
5253 g = 5 kg 253 g

Understanding better
1. How much is 1 kg in grams?
2. How much is 1 g in miligrams?

LOTS 11 **Convert the following into kilograms and grams. Write the answers in your notebook.**
a. 2000 g b. 3009 g c. 4682 g d. 6000 g

ICL
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Teacher: For example, if we have 5253 grams, we want to convert it into kilograms. Since 1 kilogram is 1000 grams, we divide 5253 by 1000. The quotient or result will give us the number of kilograms and the remainder will be in grams.

Teacher: You can think of it this way: the first part of the number will be in kilograms and the last three digits will be the remaining grams.

Teacher: Let us work through this together with the example.

(Explain the division method and the easy method with the example.)

Teacher: Now, I want you to try some conversion problems on your own. Let us look at question 11 on page 138. Are you ready?

Students: Yes, teacher.

Teacher: Once you are done with these, we will check our answers together.

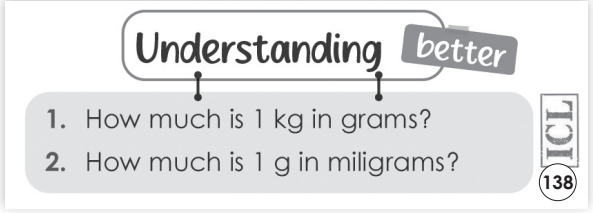
(Allow time for the students to work on the problems.)

You may show **I Explain** from the digital platform.

Understanding better

MUST DO
10 MIN.

Teacher: Now that we have discussed how to convert between grams and kilograms, let us test our understanding with a few quick questions. These questions will help reinforce the concepts we just learned.


Understanding better

1. How much is 1 kg in grams?
2. How much is 1 g in miligrams?

ICL
138

Teacher: Let us look at the first question: How much is 1 kilogram in grams?
(Allow the students to respond.)
Teacher: And the second question: How much is 1 gram in milligrams?
(Allow the students to respond.)
Teacher: Well done. Great work today, everyone. Keep practising what we learned today. I will see you in the next class.

Differentiated Activities

110 km/hr

Neha went to the grocery store and bought the following items: 2 kg 450 g of rice, 1 kg 750 g of sugar and 3 kg 275 g of wheat flour. Convert the weight of each item into grams. Then, find the total weight in grams. Finally, convert the total weight back into kilograms and grams.

80 km/hr

Convert the following weights into grams and arrange them in ascending order: 2 kg 100 g, 1 kg 950 g, 3 kg 50 g, 2 kg 75 g

40 km/hr

Convert the following weights into grams.
a. 1 kg **b.** 3 kg **c.** 5 kg

Home Task

Kitchen Weighing Hunt
Find three items from the kitchen (like rice, sugar, lentils) with the printed weight on the packet. Write the weight as printed (in kg/g), convert it into grams or into kg and grams as needed and record it in a table:

Item	Printed weight	Converted weight

P.S. Ask the students to bring chart paper to make posters in the next class.

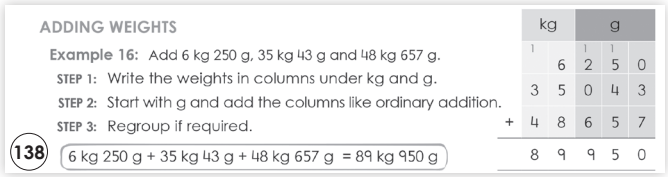
Period 9

Teacher: (Use CRM signs to settle the class) Good morning/ afternoon, everyone. How are you all?
Students: We are good/fine.
Teacher: Let us take a moment to relax. We are going to do a short meditation to clear our minds and focus. Sit comfortably in your seats and close your eyes gently. Take a deep breath in, hold it for a second and breathe out slowly. Let us do this two more times.

COULD DO
10 MIN.

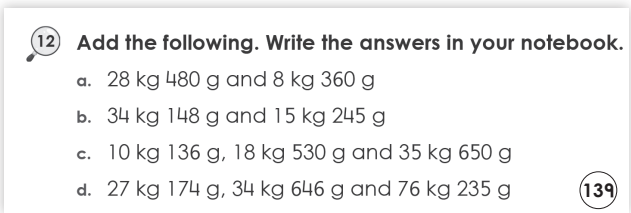
(Pause for a moment.)
Teacher: Now, imagine you are in a peaceful place. It could be a quiet park, a calm beach or even your favourite room at home. Picture yourself there, surrounded by calm and peace.
Teacher: As you breathe in, imagine you are breathing in fresh air and as you breathe out, release any stress or worries.
Teacher: Keep breathing slowly and gently. Focus on the sound of your breath and feel how your body relaxes with every breath. Let us take a few more deep breaths together.
Teacher: Now, slowly start to bring your attention back to the room. Wiggle your fingers and toes. When you are ready, open your eyes. How do you feel?
(Wait for responses, creating space for students to reflect on their experience.)
Teacher: Remember, you can always take a moment like this whenever you need to calm down and focus. Let us carry this calmness with us through the rest of the day.
Teacher: Now, we are going to learn how to add weights, which involves adding both kilograms and grams together. Let us take a look at this example.

MUST DO
10 MIN.


ADDING WEIGHTS
Example 16: Add 6 kg 250 g, 35 kg 43 g and 48 kg 657 g.
STEP 1: Write the weights in columns under kg and g.
STEP 2: Start with g and add the columns like ordinary addition.
STEP 3: Regroup if required.
6 kg 250 g + 35 kg 43 g + 48 kg 657 g = 89 kg 950 g
138

	kg		g		
		1	1	1	
		6	2	5	0
	3	5	0	4	3
+	4	8	6	5	7
	8	9	9	5	0

Teacher: We are going to add 6 kg 250 g, 35 kg 43 g and 48 kg 657 g. How do you think we should start? Any ideas?
Students: We first write the weights in columns.
Teacher: Exactly. We first write the weights in columns under kilograms (kg) and grams (g). Let us start with grams first.
Teacher: Next, we will add the grams together. 250 g + 43 g + 657 g.
(Guide students through the addition.)
Teacher: Now, we move on to the kilograms. 6 kg + 35 kg + 48 kg. Let us add that up.
Teacher: So, the total weight is 89 kg 950 g. You see, we added the grams first and then the kilograms, just like regular addition.
Teacher: Now that we have learned how to add weights, let us practise some problems in your notebook.


12 **Add the following. Write the answers in your notebook.**
a. 28 kg 480 g and 8 kg 360 g
b. 34 kg 148 g and 15 kg 245 g
c. 10 kg 136 g, 18 kg 530 g and 35 kg 650 g
d. 27 kg 174 g, 34 kg 646 g and 76 kg 235 g
139

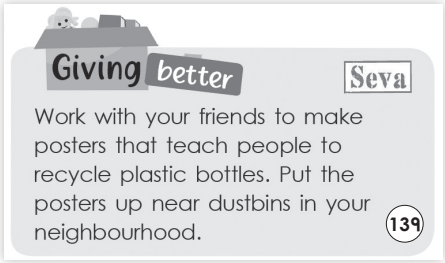
Teacher: Let us look at question 12 on page 139. Are you ready?
Students: Yes, teacher.

Teacher: Once you are done with these, we will check our answers together.
(Allow time for the students to work on the problems.)
You may show **Maths Lab** from the digital platform.

Giving better

MUST DO
10 MIN.

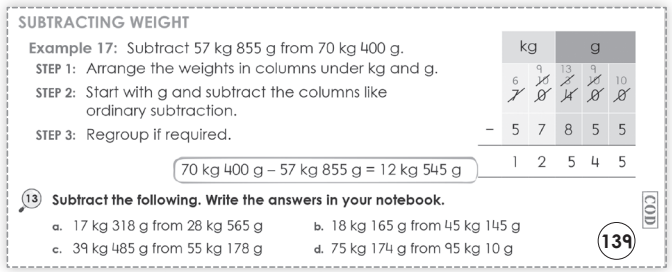
Teacher: Next, we have an exciting and important task. We are going to work in groups and create posters that will encourage people in our community to recycle plastic bottles. Why do you think recycling is important? How does it help our environment?
Students: Recycling helps reduce waste and keeps the earth clean. (Accept all relevant responses)



Teacher: That is right. When we recycle, we are helping to save resources and keep our surroundings clean. Once you have made these posters, you will take them and put them up near the dustbins in your neighbourhood, so everyone can see them and remember to recycle.
Students: It is a good way to remind people to recycle more often.
Teacher: Exactly. Let us start creating some posters that will make a difference.
Teacher: Now, we will learn about subtracting weights. Just like we added weights in the previous section, we can also subtract weights. When subtracting, we need to be careful with the kilograms (kg) and grams (g) separately. Let us look at an example.

MUST DO
10 MIN.

(Solve the example on the board and explain.)
Teacher: In this example, we are subtracting 57 kg 855 g from 70 kg 400 g. First, we arrange the weights in columns, one for kilograms and one for grams. Start by subtracting the grams. If we need to regroup, we do so just like normal subtraction.


SUBTRACTING WEIGHT

Example 17: Subtract 57 kg 855 g from 70 kg 400 g.

STEP 1: Arrange the weights in columns under kg and g.

STEP 2: Start with g and subtract the columns like ordinary subtraction.

STEP 3: Regroup if required.

	kg		g		
	6	9	13	9	10
	~~7~~	~~0~~	~~1~~	~~4~~	~~0~~
−	5	7	8	5	5
	1	2	5	4	5

70 kg 400 g – 57 kg 855 g = 12 kg 545 g

(13) **Subtract the following. Write the answers in your notebook.**

a. 17 kg 318 g from 28 kg 565 g
b. 18 kg 165 g from 45 kg 145 g
c. 39 kg 485 g from 55 kg 178 g
d. 75 kg 174 g from 95 kg 10 g

COD 139

Teacher: Now, let us try the same process with question 13 on page 139. You will follow the same method: first subtract the grams, then the kilograms.
(Allow the students time to solve the questions.)
You may show **Learn better (eBook)** from the digital platform.
Teacher: Today, we focused on exploring weights, specifically learning how to add and subtract them. We practised working with kilograms and grams, converting between the two and solving word problems. Remember, adding and subtracting weights is important in everyday tasks, such as cooking, shopping and even in sports. Keep practising these skills to become more comfortable with weights in real-life scenarios. In the next class, we will continue building on these concepts. Well done, everyone.

Differentiated Activities

110 km/hr

Priya is baking cakes for a party. She used the following amounts of flour in three different recipes:
Chocolate cake: 2 kg 750 g
Vanilla cake: 1 kg 925 g
Fruit cake: 3 kg 275 g
a) What is the total amount of flour she used?
Later, she realised she had only 9 kg 500 g of flour in total.
b) How much flour is left after baking the cakes?

80 km/hr

a) Add the following weights:
- 16 kg 125 g
- 8 kg 840 g
- 12 kg 935 g

b) Subtract: 23 kg 560 g from 45 kg 480 g
Show your steps clearly in columns.

40 km/hr

a) Add: 4 kg 300 g and 3 kg 450 g
b) Subtract: 6 kg 250 g from 10 kg 100 g
Write kg and g in columns. Solve step by step.

Home Task

A family went shopping and bought the following items:
Rice: 12 kg 750 g
Wheat flour: 9 kg 620 g
Sugar: 5 kg 980 g
a) Find the total weight of all the items bought.
b) After reaching home, they used 4 kg 875 g of the total for cooking.
How much of the groceries are left now?

Period 10

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

Students: We are good/fine.

SHOULD DO
10 MIN.

Teacher: Let us start today's class with a fun game. I will say a weight and I want you to guess if it is heavier or lighter than something in the classroom. Are you all ready?

Students: Yes, teacher.

Teacher: If I say 2 kg, can anyone tell me if 2 kg is heavier or lighter than this book?

(Hold up a book.)

Students: Lighter.

Teacher: Great. Now, let us try this: 5 kg. Is it heavier or lighter than my pencil case?

(Hold up the pencil case.)

Students: Heavier.

Teacher: Well done. Let us make it a bit trickier. Can you tell me if 1 kg is heavier or lighter than a box of crayons?

(Hold up a box of crayons.)

Students: Heavier.

Teacher: Exactly. Now, let us compare two objects. Suppose I have a bag of flour and a water bottle. The flour weighs 3 kg and the water bottle weighs 1.5 kg. Which one is heavier?

Students: The bag of flour is heavier.

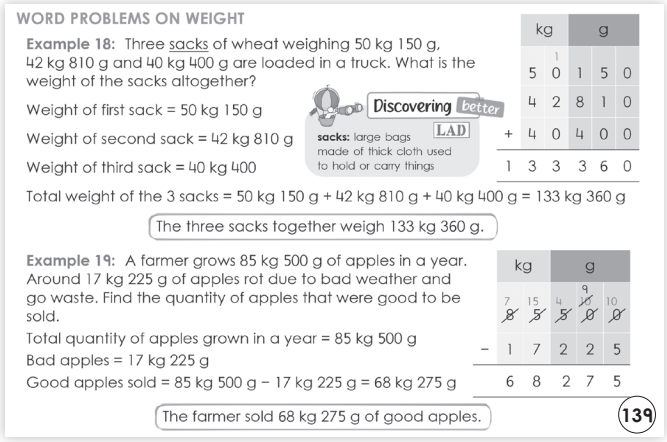
Teacher: Good work. Let us do one more. Let us say that I have a ball that weighs 250 grams and a small book that weighs 400 grams. Which one is heavier?

Students: The book is heavier.

Teacher: Excellent. You all did an amazing job.

Teacher: Now that we have learned how to add and subtract weights, let us apply what we have learned to some real-life word problems.

MUST DO
15 MIN.



WORD PROBLEMS ON WEIGHT

Example 18: Three sacks of wheat weighing 50 kg 150 g, 42 kg 810 g and 40 kg 400 g are loaded in a truck. What is the weight of the sacks altogether?

Weight of first sack = 50 kg 150 g

Weight of second sack = 42 kg 810 g

Weight of third sack = 40 kg 400

Discovering better

sacks: large bags made of thick cloth used to hold or carry things LAD

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

Total weight of the 3 sacks = 50 kg 150 g + 42 kg 810 g + 40 kg 400 g = 133 kg 360 g

The three sacks together weigh 133 kg 360 g.

Example 19: A farmer grows 85 kg 500 g of apples in a year. Around 17 kg 225 g of apples rot due to bad weather and go waste. Find the quantity of apples that were good to be sold.

Total quantity of apples grown in a year = 85 kg 500 g

Bad apples = 17 kg 225 g

Good apples sold = 85 kg 500 g − 17 kg 225 g = 68 kg 275 g

	kg	g
	7 ~~8~~	~~15~~ ~~5~~
−	1 7	2 2 5
	6 8	2 7 5

The farmer sold 68 kg 275 g of good apples.

139

Teacher: In our first example, we will find the total weight of three sacks of wheat. Each sack weighs differently and we need to add them up to find the total weight.

Teacher: Let us break it down. We have:

- The first sack that weighs 50 kg 150 g
- The second sack that weighs 42 kg 810 g
- The third sack that weighs 40 kg 400 g

Teacher: We will add these weights together to find out how much the sacks weigh altogether. Let us go ahead and add them.

(Explain the method while solving the problem on the board.)

Teacher: Now, moving to our second example, a farmer has grown apples, but not all of them were in good condition. We need to subtract the weight of the bad apples from the total weight of apples grown to find out how many good apples were sold. Let us solve this together.

(Guide the students through the subtraction step-by-step.)

Teacher: Next time you come across different weights, you will know exactly how to measure and calculate their total weight. Keep practising and you will get even better at it.

SP LTL 14 **Solve the following word problems, in your notebook.**

a. Jagdish bought 7 kg 200 g of vegetables and 9 kg 395 g of rice for an event at his place. What is the total weight that Jagdish carried from the market?

b. Rohit weighs 54 kg 635 g and Ash weighs 45 kg 487 g. Who weighs less and by how much?

140

Teacher: Now, let us try the same processes with question 14 on page 140.

(Allow the students time to solve the questions.)

Discovering better

Teacher: Before we start solving the problems, let us take a moment to understand the term 'sack'.

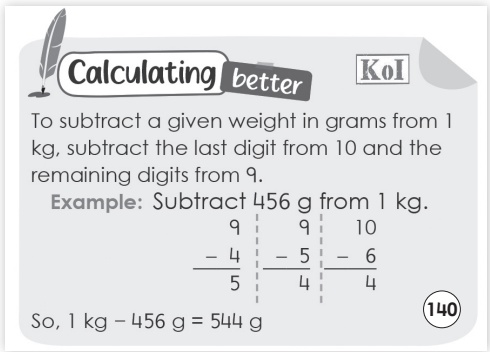
MUST DO
5 MIN.

Teacher: A sack is a large, strong bag made from thick cloth, used to carry or store things. Sacks are commonly used in farms, factories and even grocery stores. They are strong enough to hold heavy items, like wheat, rice and other goods. For example, in farms, sacks are often used to carry grains like wheat or rice that are harvested from the fields.

Calculating better

Teacher: Let us take a look at a method for subtracting weights in grams from 1 kilogram. This method helps us make the subtraction process simpler.

MUST DO
10 MIN.



Teacher: When we subtract a given weight in grams from 1 kilogram, we use a trick. First, we subtract the last digit from 10 and then subtract the remaining digits from 9. For example, if we need to subtract 456 grams from 1 kilogram, we first subtract the 6 from 10, which gives us 4. Then, we subtract the remaining 4 from 9, which gives us 5. This leaves us with 544 grams, which is the result of 1 kilogram minus 456 grams.

Teacher: Let us try using this method to solve similar problems in class.

Teacher: Let us try another example using the same method to subtract a given weight from 1 kilogram. Imagine we want to subtract 325 grams from 1 kilogram. Try and solve the question in your notebook.

(Guide the students to solve the question.)

You may show **Animated Activities** from the digital platform.

Teacher: Keep practising these skills to become more comfortable with weights in real-life scenarios. In the next class, we will continue building on these concepts. Well done, everyone.

Differentiated Activities

110 km/hr

A farmer harvested 95 kg 780 g of mangoes. He sold 38 kg 245 g in the market and packed 27 kg 960 g for delivery. How many kilograms and grams of mangoes are still left with the farmer?

80 km/hr

Arrange the following weights in descending order:

- 42 kg 980 g
- 40 kg 400 g
- 50 kg 150 g
- 48 kg 657 g

40 km/hr

Ravi bought 4 kg 500 g of potatoes and 3 kg 200 g of onions. What is the total weight of the vegetables he bought?

Home Task

Ask any two family members to weigh themselves (you can use approximate values if no weighing scale is available). Write their weights in kg and g. Then,

1. Find the total weight of both family members.
2. Find the difference in their weights.

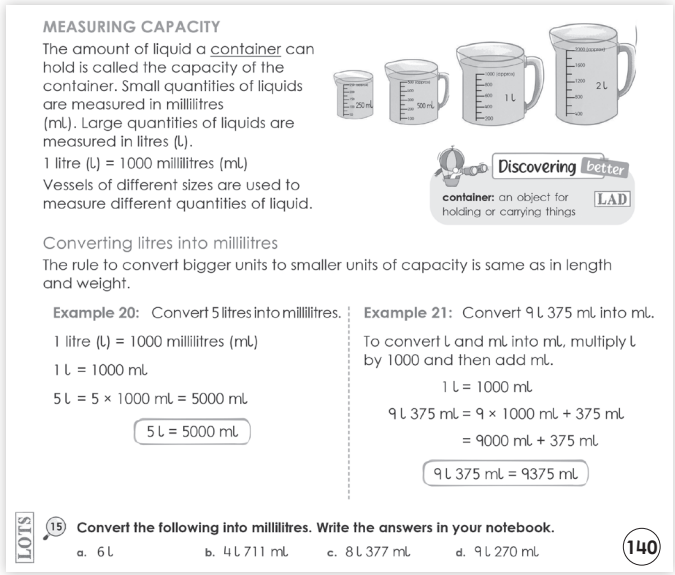
Period 11

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

Students: We are good/fine.

Teacher: Today, we are going to learn about measuring capacity, which tells us how much liquid a container can hold. We measure small quantities of liquids in millilitres (mL) and larger quantities in litres (L).

MUST DO
15 MIN.



Teacher: For example, 1 litre is the same as 1000 millilitres. So, if we have 5 litres, how much is that in millilitres?

Students: It is 5000 millilitres, because 5 times 1000 is 5000.

Teacher: Great. Now, let us look at another example. If we have 9 litres and 375 millilitres, how do we convert that into millilitres?

Students: First, we convert 9 litres to millilitres, so 9 times 1000 is 9000 millilitres and then we add the 375 millilitres.

Teacher: Exactly. So, 9 litres and 375 millilitres would be 9375 millilitres. Let us now try some problems. Are you ready?

Students: Yes, teacher.

Teacher: Great. Let us try the same process with question 15 on page 140.

(Allow the students time to solve the questions.)

You may show **Explainer Video** from the digital platform.

Discovering better

MUST DO
5 MIN.

Teacher: Alright, class. Before we dive deeper into today's lesson, let us take a moment to understand one important word: container.

Teacher: A container is an object used for holding or carrying things. Can anyone think of examples of containers in your homes or school?

Students: A basket can be a container. You can put fruits in it. (Accept all relevant responses)

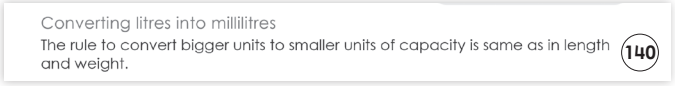
Teacher: Excellent. And what about something bigger, like a bucket or a water bottle? Those are also containers. Can you think of more examples?

Students: A lunchbox is a container, too. (Accept all relevant responses)

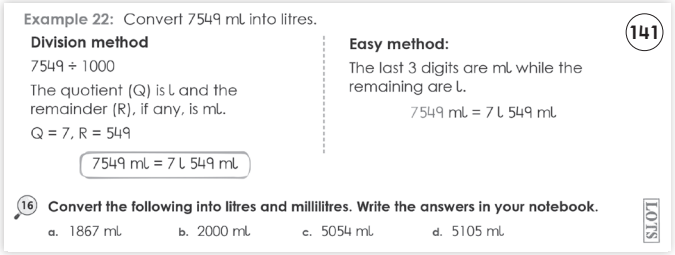
Teacher: Great. Now that we know what a container is, let us move ahead with today's lesson.

MUST DO
10 MIN.

Teacher: Let us now learn how to convert millilitres (ml) into litres (l). The rule for converting smaller units to bigger units of capacity is similar to how we convert smaller and larger units of length and weight. Here is how it works.



Teacher: For example, if you have 7549 millilitres, you want to convert that into litres. First, divide 7549 by 1000 because 1000 millilitres equals 1 litre. The result will give you the number of litres and the remainder will be the millilitres left over.



Teacher: So, let us do this conversion together. 7549 divided by 1000 gives us 7 litres with 549 millilitres left over. That means 7549 millilitres equals 7 litres 549 millilitres. Let us also practise the easy method.

Teacher: Let us try some problems now. Are you ready?

Students: Yes, teacher.

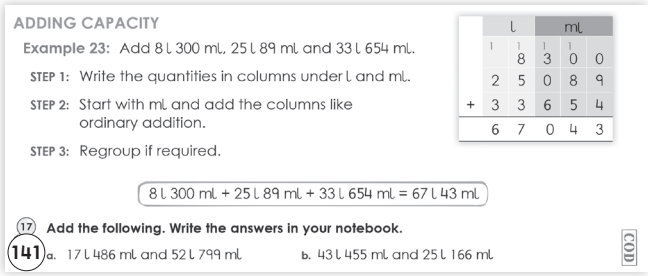
Teacher: Great. Take a look at question 16 on page 141. Read carefully and solve them in your notebook.

(Allow the students time to solve the questions.)

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

Teacher: Alright. Next, we are going to learn how to add capacities. Just like we add lengths and weights, we can also add the amounts of liquid. We measure liquid in litres and millilitres and now, we will focus on adding them together.

MUST DO
10 MIN.



Teacher: Let us look at an example: We have 8 L 300 mL, 25 l 89 mL and 33 L 654 mL. Can anyone tell me what we should do first when we add these?

Students: We should add the millilitres first.

Teacher: Exactly. We always start by adding the millilitres. Perfect. So, we have 1043 millilitres. But wait, 1000 millilitres make 1 litre. So, we will convert 1043 mL into 1 litre and 43 mL. Now, we can add that 1 litre to our litres column. What is 8 L + 25 L + 33 L + 1 L?

Students: 67 litres.

Teacher: Good work. So, we have 67 l 43 mL. That is our total capacity.

Teacher: Now, it is your turn. I want you to solve question 17 on page 141 in your notebooks. Follow the same steps. Remember, first add the millilitres and then the litres. I am looking forward to seeing your answers.

(Allow the students time to solve the questions.)

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

Teacher: Keep practising these skills to become more comfortable with capacities in real-life scenarios. Well done, everyone. See you in the next class.

Differentiated Activities

110 km/hr

Estimate and convert the total capacity of 3 containers: 1 L 250 mL, 750 mL and 2 L 500 mL into mL. Then arrange them in descending order.

80 km/hr

Convert the capacity of 2 containers: 2 L 200 mL and 1 L 800 mL into ml and add the total.

40 km/hr

Convert 3 L into mL and write how many 500 mL bottles can be filled with it.

Home Task

Measure how much water your bottle holds using a 100 mL measuring cup. Record the answer with the help of your parents.

Period 12

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

Students: We are good/fine.

SHOULD DO
5 MIN.

Teacher: Today, we will do a fun and interactive warm-up before diving into our lesson on measuring capacity. Are you ready?

Students: Yes, teacher.

Teacher: I will give you a riddle about containers and I want you to think carefully. Let us see if you can guess correctly. Here is the first one.

Teacher: I am small and usually found in kitchens. I can hold 250 millilitres of water. What am I?

Students: A cup.

Teacher: That is correct. A cup usually holds 250 millilitres. Well done. Let us move on to the next one.

Teacher: I am much bigger than a cup and can hold up to 2 litres of water. You often see me in the fridge. What am I?

Students: A bottle.

Teacher: Exactly. A bottle can hold 2 litres. Great work.

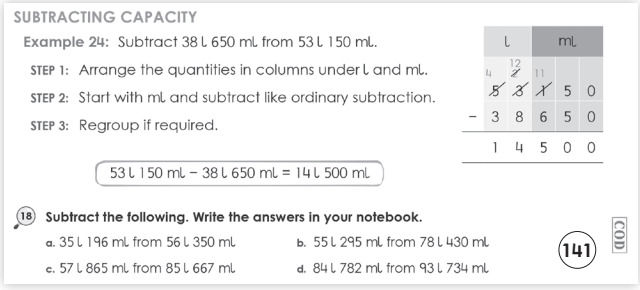
Teacher: I am large and can hold many litres of water. People use me to water their gardens. What am I?

Students: A watering can.

Teacher: Yes. A watering can hold many litres, sometimes even 5 or 10 litres of water. You all did a fantastic job.

MUST DO
10 MIN.

Teacher: Now, we are going to look at how we subtract capacity, which is a very useful skill when dealing with liquids in real life. Think about when you are filling up a water tank or measuring out a drink for your friend. Sometimes, you need to find out how much liquid is left after you have used some. So, let us learn how to do that.



SUBTRACTING CAPACITY

Example 24: Subtract 38 ℓ 650 mℓ from 53 ℓ 150 mℓ.

STEP 1: Arrange the quantities in columns under ℓ and mℓ.

STEP 2: Start with mℓ and subtract like ordinary subtraction.

STEP 3: Regroup if required.

	ℓ	mℓ	
	~~5~~ ~~3~~	~~1~~	5	0
−	3	8	6	5	0
	1	4	5	0	0

53 ℓ 150 mℓ − 38 ℓ 650 mℓ = 14 ℓ 500 mℓ

18 **Subtract the following. Write the answers in your notebook.**

a. 35 ℓ 196 mℓ from 56 ℓ 350 mℓ
b. 55 ℓ 295 mℓ from 78 ℓ 430 mℓ
c. 57 ℓ 865 mℓ from 85 ℓ 667 mℓ
d. 84 ℓ 782 mℓ from 93 ℓ 734 mℓ

141 COD

Teacher: I have a question for you all. Imagine you have a container with 53 litres and 150 millilitres of juice and you pour out 38 litres and 650 millilitres. How much juice do you think is left in the container?

Students: We need to subtract in order to find out the answer.

Teacher: Good thought. To find out how much juice is left, we need to subtract. We will subtract the millilitres first, then the litres.

Teacher: Let us look at the example together. We are subtracting 38 ℓ 650 mℓ from 53 ℓ 150 mℓ. First, we write the quantities in two columns: one for the litres and the other for the millilitres.

Teacher: Now, let us start with the millilitres: 150 mℓ minus 650 ml. Can anyone guess what happens when we try to subtract a smaller number from a larger one?

Students: We cannot do it, because 150 is smaller than 650.

Teacher: Exactly. When that happens, we borrow 1 litre, which is equal to 1000 millilitres. So, we add the 1000 mℓ to the 150 mℓ, which gives us 1150 mℓ. Now, we can subtract 650 mℓ from 1150 mℓ. That gives us 500 mℓ.

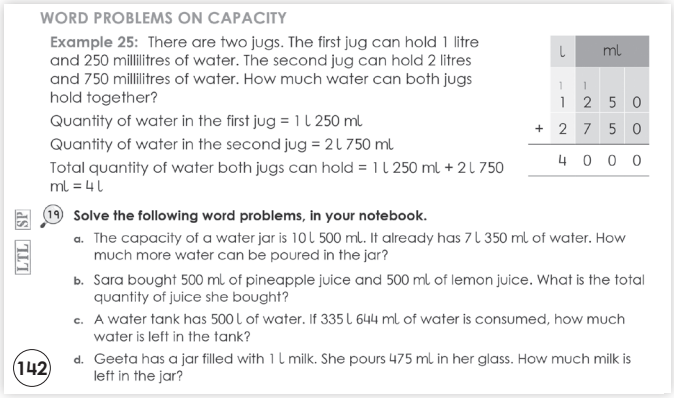
Teacher: Now, let us subtract the litres: 53 ℓ minus 38 ℓ, which gives us 15 ℓ. So, our final answer is 15 ℓ 500 mℓ.

Teacher: Now, I want you to solve question 18 on page 141 in your notebooks. Follow the same steps. Remember, first add the millilitres and then the litres.

(Allow the students time to solve the questions.)

MUST DO
15 MIN.

Teacher: Alright. Let us now talk about how much liquid different containers can hold. This will help us understand how to work with capacity, which is a very useful concept when measuring liquids.



WORD PROBLEMS ON CAPACITY

Example 25: There are two jugs. The first jug can hold 1 litre and 250 millilitres of water. The second jug can hold 2 litres and 750 millilitres of water. How much water can both jugs hold together?

Quantity of water in the first jug = 1 ℓ 250 mℓ

Quantity of water in the second jug = 2 ℓ 750 mℓ

Total quantity of water both jugs can hold = 1 ℓ 250 mℓ + 2 ℓ 750 mℓ = 4 ℓ

	ℓ	mℓ	
	1	1		
	1	2	5	0
+	2	7	5	0
	4	0	0	0

SP LTL 19 **Solve the following word problems, in your notebook.**

a. The capacity of a water jar is 10 ℓ 500 mℓ. It already has 7 ℓ 350 mℓ of water. How much more water can be poured in the jar?

b. Sara bought 500 mℓ of pineapple juice and 500 mℓ of lemon juice. What is the total quantity of juice she bought?

c. A water tank has 500 ℓ of water. If 335 ℓ 644 mℓ of water is consumed, how much water is left in the tank?

d. Geeta has a jar filled with 1 ℓ milk. She pours 475 mℓ in her glass. How much milk is left in the jar?

142

Teacher: Let us begin with an example. Imagine we have two jugs. The first jug can hold 1 litre and 250 millilitres of water. The second jug can hold 2 litres and 750 millilitres. Can anyone tell me what would happen if we combined the water from both jugs?

Students: We would have more water than just the first or the second jug.

Teacher: Exactly. Now, let us find out how much water we have in total. To combine the water, we will add the quantities from both jugs together. We have 1 litre 250 millilitres from the first jug and 2 litres 750 millilitres from the second jug.

Teacher: So, when we add 1 ℓ 250 mℓ and 2 ℓ 750 mℓ, we can add the litres first and then the millilitres. 1 ℓ + 2 ℓ equals 3 ℓ and 250 mℓ + 750 mℓ equals 1000 mℓ, which is 1 litre. So, we end up with 4 litres of water in total.

Teacher: Now, you all are going to solve question 19 on page 142 in your notebooks. Read the questions carefully to understand if you have to perform addition or subtraction to find out the answers We will discuss all the questions once you are done.

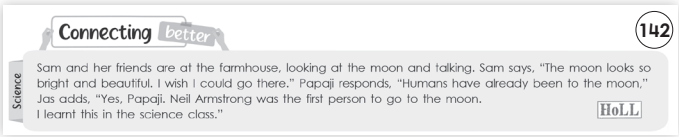
(Allow the students time to solve the questions.)

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

Connecting better

MUST DO
5 MIN.

Teacher: Let us look at the next section. Sam and her friends are looking at the moon and talking about how beautiful it looks. Sam wonders if she could go there. Papaji explains that humans have already been to the moon.


Connecting better
142
Science
Sam and her friends are at the farmhouse, looking at the moon and talking. Sam says, "The moon looks so bright and beautiful. I wish I could go there." Papaji responds, "Humans have already been to the moon," Jas adds, "Yes, Papaji. Neil Armstrong was the first person to go to the moon. I learnt this in the science class."
HoLL

Teacher: This is connected to our science lessons because space exploration is a big part of learning about the world beyond Earth. Why do you think this is important in science? Why do we study the moon and space in science?

Students: To learn about space. (Accept all relevant responses.)

Teacher: Exactly. Science helps us understand how things work in space, like how astronauts get there and what they do once they are there. Do you find this amazing that science can help us explore places far away, like the moon?

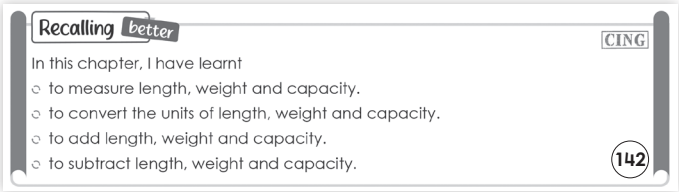
Students: Yes, teacher.

Teacher: So, think about how science is used in real-life situations, like space exploration and how we can use it to learn new things about the world around us.

Recalling better

MUST DO
5 MIN.

Teacher: Now that we have almost come to the end of the chapter, let us take a moment to recall the key concepts we have learned. Recalling what we have learned is important because it helps us remember and understand the material better.


Recalling better
CING
In this chapter, I have learnt
- to measure length, weight and capacity.
- to convert the units of length, weight and capacity.
- to add length, weight and capacity.
- to subtract length, weight and capacity.

142

Teacher: Can anyone tell me why it is important to know how to measure length, weight and capacity in real life?

Students: To measure things like how tall we are or how much our bag weighs. (Accept all relevant responses.)

Teacher: Exactly. Remembering these concepts helps us use them every day. It is like having a toolbox of knowledge that you can use in the world around you.

Teacher: Well done, everyone. You did amazing today. Remember, measuring length, weight and capacity helps us in many situations, like when we buy things or even when we cook. Keep practising what we have learned so far and it will become easier for you.

Teacher: You have made great progress in understanding how to measure and convert units. Keep it up. See you all in the next class.

Differentiated Activities

110 km/hr

Riya had 12 ℓ of juice. She poured 2 ℓ 500 mℓ into one jug, 1 ℓ 750 mℓ into another and the rest equally into 3 jars. How much juice did each jar get?

80 km/hr

Rahul has 5 ℓ juice. He gave 2 ℓ 300 mℓ to his friend. How much is left?

40 km/hr

A bottle holds 1 ℓ water. 600 mℓ was drunk. How much remains?

Home Task

Help your parents while cooking and observe how they measure water or milk. Write down your observation in the notebook.

Period 13

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

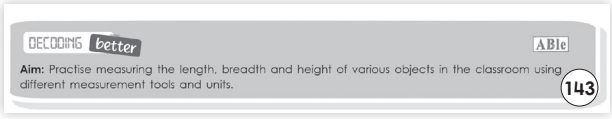
Students: We are good/fine.

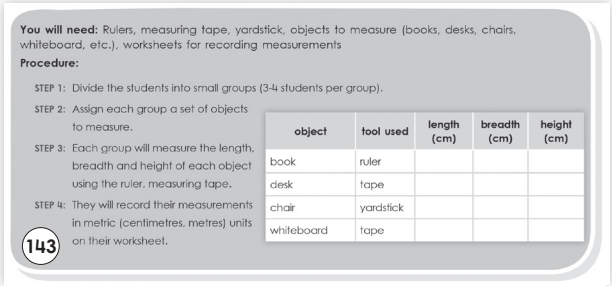
Decoding better

MUST DO
10 MIN.

Teacher: Let us begin the class with an exciting activity. In this task, we will be using different measuring tools like rulers, measuring tapes and yardsticks to measure the length, breadth and height of various objects in our classroom. This will help you practise using different tools and units. You will see how each object can be measured in different ways. Are you all ready to begin the activity?

Students: Yes, teacher.


DECODING better
ABIc
Aim: Practise measuring the length, breadth and height of various objects in the classroom using different measurement tools and units.
143


You will need: Rulers, measuring tape, yardstick, objects to measure (books, desks, chairs, whiteboard, etc.), worksheets for recording measurements
Procedure:
STEP 1: Divide the students into small groups (3-4 students per group).
STEP 2: Assign each group a set of objects to measure.
STEP 3: Each group will measure the length, breadth and height of each object using the ruler, measuring tape.
STEP 4: They will record their measurements in metric (centimetres, metres) units on their worksheet.

object	tool used	length (cm)	breadth (cm)	height (cm)
book	ruler			
desk	tape			
chair	yardstick			
whiteboard	tape			

143

Teacher: The objective of this activity is to understand how

to measure objects accurately using different tools and to practise recording those measurements in the right units. You will also get hands-on practise by measuring a variety of objects, just like how we use measurements in daily life.

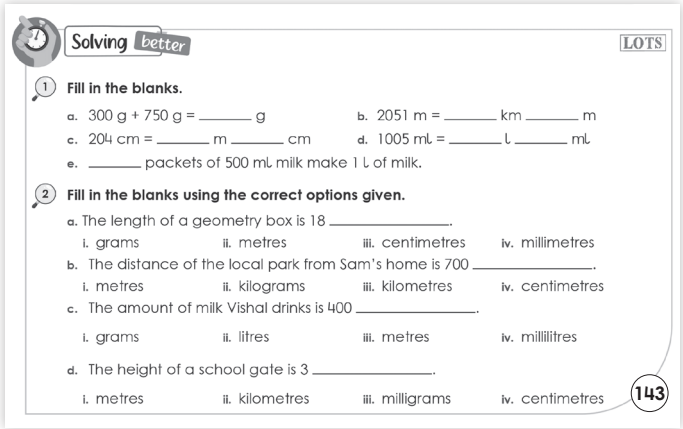
Teacher: Let us get started. I will divide you into small groups and each group will be assigned a set of objects to measure.

(Explain the steps to the students. Guide the students 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

1. **Fill in the blanks.**
   a. 300 g + 750 g = _____ g
   b. 2051 m = _____ km _____ m
   c. 204 cm = _____ m _____ cm
   d. 1005 mℓ = _____ ℓ _____ mℓ
   e. _____ packets of 500 mℓ milk make 1 ℓ of milk.
2. **Fill in the blanks using the correct options given.**
   a. The length of a geometry box is 18 _____.
      i. grams ii. metres iii. centimetres iv. millimetres
   b. The distance of the local park from Sam's home is 700 _____.
      i. metres ii. kilograms iii. kilometres iv. centimetres
   c. The amount of milk Vishal drinks is 400 _____.
      i. grams ii. litres iii. metres iv. millilitres
   d. The height of a school gate is 3 _____.
      i. metres ii. kilometres iii. milligrams iv. centimetres

143

Teacher: This exercise will help you practise which units go with which type of measurement, like grams for weight, kilometres for distance or litres for capacity. It is an important skill because it helps you know exactly how to measure and record different things around you.

Teacher: Let us work through these questions carefully and remember, this is a chance to test your understanding of what we have learned 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.)

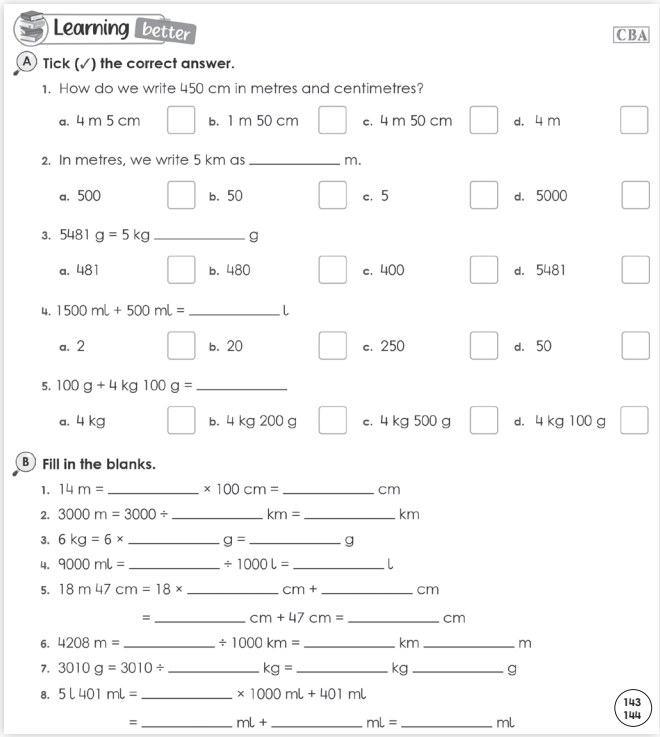
Learning better

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 — CBA

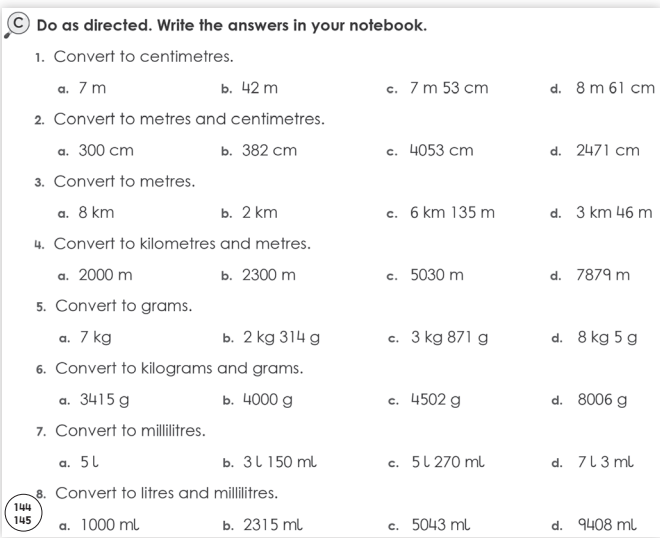
A **Tick (✓) the correct answer.**

1. How do we write 450 cm in metres and centimetres?
   a. 4 m 5 cm ☐ b. 1 m 50 cm ☐ c. 4 m 50 cm ☐ d. 4 m ☐
2. In metres, we write 5 km as _____ m.
   a. 500 ☐ b. 50 ☐ c. 5 ☐ d. 5000 ☐
3. 5481 g = 5 kg _____ g
   a. 481 ☐ b. 480 ☐ c. 400 ☐ d. 5481 ☐
4. 1500 mℓ + 500 mℓ = _____ ℓ
   a. 2 ☐ b. 20 ☐ c. 250 ☐ d. 50 ☐
5. 100 g + 4 kg 100 g = _____
   a. 4 kg ☐ b. 4 kg 200 g ☐ c. 4 kg 500 g ☐ d. 4 kg 100 g ☐

B **Fill in the blanks.**

1. 14 m = _____ × 100 cm = _____ cm
2. 3000 m = 3000 ÷ _____ km = _____ km
3. 6 kg = 6 × _____ g = _____ g
4. 9000 mℓ = _____ ÷ 1000 ℓ = _____ ℓ
5. 18 m 47 cm = 18 × _____ cm + _____ cm
   = _____ cm + 47 cm = _____ cm
6. 4208 m = _____ ÷ 1000 km = _____ km _____ m
7. 3010 g = 3010 ÷ _____ kg = _____ kg _____ g
8. 5 ℓ 401 mℓ = _____ × 1000 mℓ + 401 mℓ
   = _____ mℓ + _____ mℓ = _____ mℓ

143 144



C **Do as directed. Write the answers in your notebook.**

1. Convert to centimetres.
   a. 7 m b. 42 m c. 7 m 53 cm d. 8 m 61 cm
2. Convert to metres and centimetres.
   a. 300 cm b. 382 cm c. 4053 cm d. 2471 cm
3. Convert to metres.
   a. 8 km b. 2 km c. 6 km 135 m d. 3 km 46 m
4. Convert to kilometres and metres.
   a. 2000 m b. 2300 m c. 5030 m d. 7879 m
5. Convert to grams.
   a. 7 kg b. 2 kg 314 g c. 3 kg 871 g d. 8 kg 5 g
6. Convert to kilograms and grams.
   a. 3415 g b. 4000 g c. 4502 g d. 8006 g
7. Convert to millilitres.
   a. 5 ℓ b. 3 ℓ 150 mℓ c. 5 ℓ 270 mℓ d. 7 ℓ 3 mℓ
8. Convert to litres and millilitres.
   a. 1000 mℓ b. 2315 mℓ c. 5043 mℓ d. 9408 mℓ

144 145

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

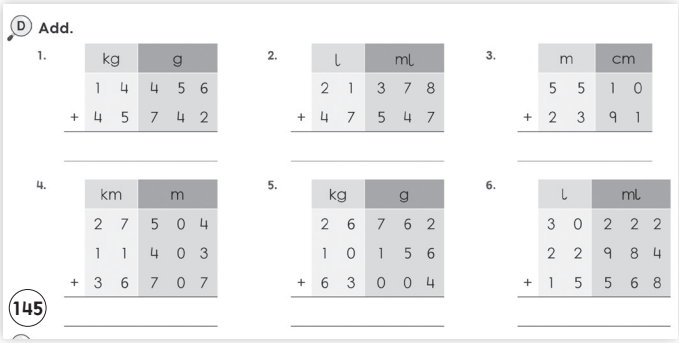
Teacher: If you are stuck, remember the steps we have learned: Convert the units, check the appropriate formula and do not forget to carry out the necessary additions or subtractions. Once you are done, we will go over the answers together.

(Allow the students time to solve the questions A, B and C on page 143, 144 and 145.)

MUST DO
10 MIN.

Teacher: Alright, everyone. Next, we will be focusing on testing the knowledge you have gained

about conversions, additions and subtractions involving different units of measurement. The goal of this exercise is to reinforce your understanding and allow you to confidently apply what we have learned in real-world scenarios.



Teacher: The purpose of these questions is to assess your ability to correctly convert units, add them and subtract them. By practising these skills, you will become more comfortable with working between units like kilograms to grams, litres to millilitres and so on.

(Allow the students time to solve question D on page 145.)

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

Teacher: You have made great progress in understanding how to measure and convert units. Keep it up. See you all in the next class.

Differentiated Activities

110 km/hr

Subtract 5 kg 700 g from 10 kg 150 g. Regroup if required and show your working.

80 km/hr

Convert 2 m 30 cm and 1 m 70 cm to cm and find the total.

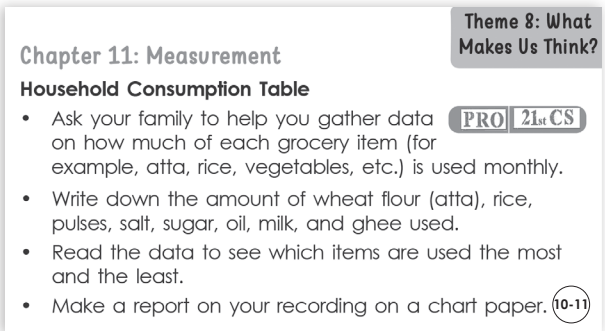
40 km/hr

Draw a 30 cm line using a scale. Now, estimate and draw a line of 10 cm.

Home Task

Book of Project Ideas

Instruct the students to make a household consumption table on page 10. Explain the steps to the students. Discuss the reports of individual students in the next class.



Household Consumption Table

- Ask your family to help you gather data on how much of each grocery item (for example, atta, rice, vegetables, etc.) is used monthly.
- Write down the amount of wheat flour (atta), rice, pulses, salt, sugar, oil, milk and ghee used.
- Read the data to see which items are used the most and the least.
- Make a report on your recording on a chart paper.

Period 14

Teacher: (Use CRM signs to settle the class) 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
5 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?

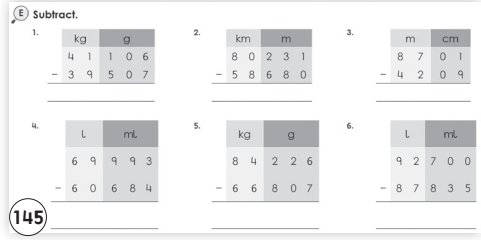
Students: 150 cm.

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

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

MUST DO
10 MIN.

Teacher: Now that we have explored addition and subtraction with different units of length, weight and capacity, we will practise subtraction further in this activity. In this exercise, you will subtract measurements of different units like kilograms, grams, litres, millilitres and kilometres.



Teacher: Now, let us begin working on these subtraction problems. Take your time and let us work through these step by step. Are you all ready?

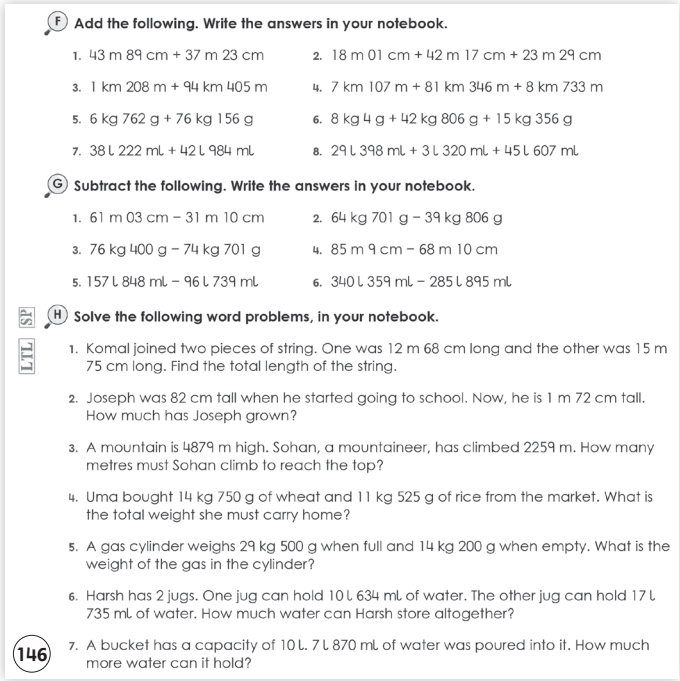
Students: Yes, teacher.

(Allow the students time to solve question E on page 145.)

Teacher: In this part, we are going to practise both addition and subtraction of different measurements. We will work with lengths, weights and capacities to strengthen our understanding of these concepts.

MUST DO

25 MIN.



F Add the following. Write the answers in your notebook.

1. 43 m 89 cm + 37 m 23 cm
2. 18 m 01 cm + 42 m 17 cm + 23 m 29 cm
3. 1 km 208 m + 94 km 405 m
4. 7 km 107 m + 81 km 346 m + 8 km 733 m
5. 6 kg 762 g + 76 kg 156 g
6. 8 kg 4 g + 42 kg 806 g + 15 kg 356 g
7. 38 L 222 mL + 42 L 984 mL
8. 29 L 398 mL + 3 L 320 mL + 45 L 607 mL

G Subtract the following. Write the answers in your notebook.

1. 61 m 03 cm − 31 m 10 cm
2. 64 kg 701 g − 39 kg 806 g
3. 76 kg 400 g − 74 kg 701 g
4. 85 m 9 cm − 68 m 10 cm
5. 157 L 848 mL − 96 L 739 mL
6. 340 L 359 mL − 285 L 895 mL

SP LTL H Solve the following word problems, in your notebook.

1. Komal joined two pieces of string. One was 12 m 68 cm long and the other was 15 m 75 cm long. Find the total length of the string.
2. Joseph was 82 cm tall when he started going to school. Now, he is 1 m 72 cm tall. How much has Joseph grown?
3. A mountain is 4879 m high. Sohan, a mountaineer, has climbed 2259 m. How many metres must Sohan climb to reach the top?
4. Uma bought 14 kg 750 g of wheat and 11 kg 525 g of rice from the market. What is the total weight she must carry home?
5. A gas cylinder weighs 29 kg 500 g when full and 14 kg 200 g when empty. What is the weight of the gas in the cylinder?
6. Harsh has 2 jugs. One jug can hold 10 L 634 mL of water. The other jug can hold 17 L 735 mL of water. How much water can Harsh store altogether?
7. A bucket has a capacity of 10 L. 7 L 870 mL of water was poured into it. How much more water can it hold?

146

Teacher: Now, let us look at the questions. These exercises will test your skills in adding and subtracting with different units of measurement. You will be dealing with units like centimetres, kilograms, litres and millilitres, so make sure to pay attention to the units and apply the correct operations.

Teacher: We will also solve some word problems where you will need to apply what you've learned to real-life situations. Are we ready to start?

Students: Yes, teacher.

Teacher: Great. Let us begin by solving.

(Allow the students time to solve the questions F, G and H on page 146. Guide the students to solve the word problems.)

You may show **Mental Maths** from the digital platform.

Teacher: Fantastic. You have done really well. Keep it up. See you all in the next class.

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

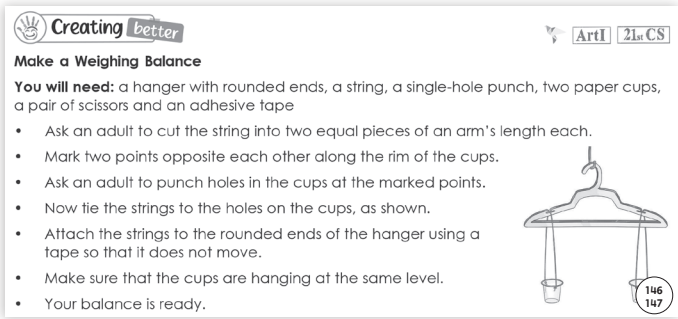
Find two objects at home whose lengths are more than 20 cm. Draw them and write their lengths below.

Period 15

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

Students: We are good/fine.

Creating better



Creating better

ArtI 21st CS

Make a Weighing Balance

You will need: a hanger with rounded ends, a string, a single-hole punch, two paper cups, a pair of scissors and an adhesive tape

- Ask an adult to cut the string into two equal pieces of an arm's length each.
- Mark two points opposite each other along the rim of the cups.
- Ask an adult to punch holes in the cups at the marked points.
- Now tie the strings to the holes on the cups, as shown.
- Attach the strings to the rounded ends of the hanger using a tape so that it does not move.
- Make sure that the cups are hanging at the same level.
- Your balance is ready.

146 147

Teacher: Today, we are going to do an exciting hands-on activity where you will make your very own weighing balance. This balance will help us understand how objects can be compared by their weight.

MUST DO

20 MIN.

Teacher: In this activity, you will be using a few simple materials like a hanger, string and cups. You will create a tool that can balance things by their weight. The purpose of this activity is to let you experience how a weighing scale works in real life.

Teacher: After you finish making the balance, we will use it to weigh different objects. Are you excited to start?

Students: Yes, teacher.

Teacher: Alright. Let us get to work and make our very own weighing balance.

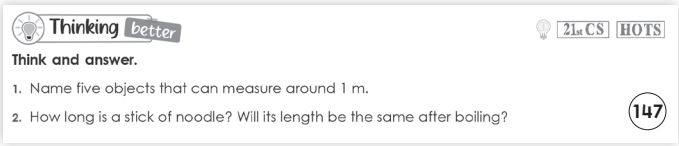
Thinking better

Teacher: Next, we are going to work on developing our critical thinking skills through questions that evaluate

MUST DO

5 MIN.

what we have learned so far. These questions will help us think about how the concepts of measurement apply in the real world.

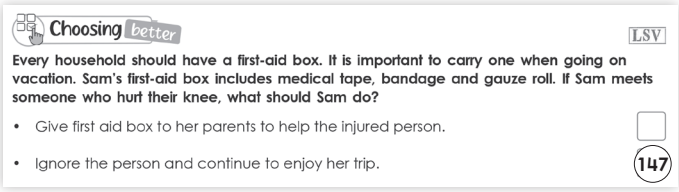


Teacher: Remember, the goal is to understand the measurements we use and how they relate to the world around us. Let us dive in and put our minds to work.

Choosing better

MUST DO
3 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.



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

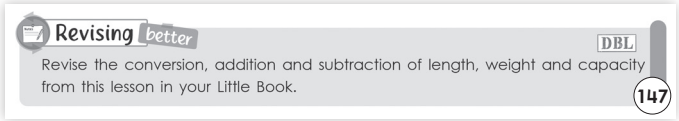
Teacher: Let us start by looking at this situation. Read the question carefully and make your choice. This will help us learn not only about the right choices but also about being kind, responsible and caring for others.

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

Revising better

MUST DO
5 MIN.

Teacher: Now that we have covered a lot of different topics, it is important to take some time to revise everything we have learned.



Teacher: In this section, we will review the key concepts on converting, adding and subtracting length, weight and capacity. This revision will help us ensure we remember and understand these important skills.

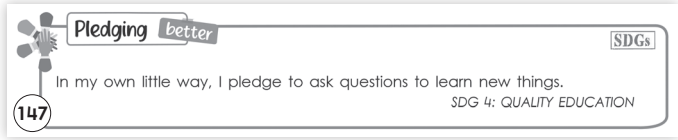
Teacher: Please open your Little Book and go over your notes.

(Allow students time to revise.)

Pledging better

MUST DO
2 MIN.

Teacher: As we come to the end of today's lesson, I want us to think about something important. In our learning journey, one of the best ways to understand new concepts is by asking questions. It is okay to not know everything right away – what matters is that we are curious and eager to learn.



Teacher: So, let us take a moment to make a promise to ourselves, a pledge to continue asking questions and seeking answers in everything we learn.

Teacher: Please repeat after me: In my own little way, I pledge to ask questions to learn new things.

(Let the students repeat along.)

Teacher: Great. Remember, asking questions helps us grow and understand the world around us. Keep this in mind as you continue your learning journey.

L (What I have Learnt)

MUST DO
5 MIN.

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

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?

Teacher: This is a great way to ensure that you remember everything you have learned and to see how much you have grown in understanding measurement and its 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: Good work. You have all done a great job understanding the concepts of Measurement. I hope you are feeling confident about what we have learned. 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 16

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

MUST DO

10 MIN.

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

Theme 8: What Makes Us Think?

Chapter 11: Measurement

FLN HoLL MDA

A English

Underline the prepositions in the following sentences.

1. There are 400 litres of water in the water tank.
2. The boxes on the floor weigh 36 kilograms each.

B Science

Humans have travelled to the Moon, which is 384,400 km away, but not yet to Mars, which is about 225 crore km away. The mission to Mars has been challenging for the astronauts for longer travel time, life support systems, communication delays. Why do you think humans have been able to travel to the Moon but not yet to Mars?

C Social Studies

Name four sports items. Specify the units used to measure each of them.

19-20

Teacher: It is important to see how the same concept shows up across different subjects. The understanding of measurement helps us in so many areas: in science to understand distances like the moon and Mars, in English to construct meaningful sentences and in social studies to understand the world around us. 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.

MUST DO

15 MIN.

Theme 8: What Makes Us Think?

11. Measurement

Worksheet 1

A. Tick (✓) the correct answer.

1. Small distances are measured in _____.
   a. grams (g) ☐ b. litres (L) ☐
   c. metres (m) ☐ d. kilometres (km) ☐
2. We measure our weight in _____.
   a. grams (g) ☐ b. litres (L) ☐
   c. kilograms (kg) ☐ d. millilitres (mL) ☐
3. Small quantities of liquids are measured in _____.
   a. grams (g) ☐ b. metres (m) ☐
   c. centimetres (cm) ☐ d. millilitres (mL) ☐
4. Your height is measured in _____.
   a. litres (L) ☐ b. kilograms (kg) ☐
   c. kilometres (km) ☐ d. centimetres (cm) ☐
5. Weight of a geometry box can be measured in _____.
   a. grams (g) ☐ b. litres (L) ☐
   c. centimetres (cm) ☐ d. millilitres (mL) ☐

B. Write true or false.

1. 1 m = 1000 cm _____
2. 1 km = 100 m _____
3. 1 L = 10 mL _____
4. 1 kg = 1000 g _____
5. 1 g = 1000 kg _____

C. Fill in the blanks.

1. 10 m = _____ × 100 cm = _____ cm
2. 7000 m = 7000 ÷ _____ km = _____ km
3. 2 kg = 2 × _____ g = _____ g
4. 6000 mL = _____ ÷ 1000 L = _____ L
5. 5 km = _____ × 1000 m = _____ m

40

Teacher: Open Worksheet 1 on Page 40 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.

Worksheet 2

Teacher: Okay, students. Let us move to Worksheet 2 on Page 41 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. Tick (✓) the correct answer.

1. Weighing machines are used to measure the _____ of different things.
   a. height ☐ b. length ☐
   c. weight ☐ d. capacity ☐
2. The weight of very light things, such as feathers, is measured in _____.
   a. metres (m) ☐ b. kilograms (kg) ☐
   c. milligrams (mg) ☐ d. millilitres (mL) ☐
3. The distance between two places is measured in _____.
   a. grams (g) ☐ b. litres (L) ☐
   c. kilometres (km) ☐ d. centimetres (cm) ☐
4. To convert km to m, we multiply km by _____.
   a. 1 ☐ b. 10 ☐ c. 100 ☐ d. 1000 ☐
5. To convert g to kg, we divide kg by _____.
   a. 1 ☐ b. 10 ☐ c. 100 ☐ d. 1000 ☐

B. Write true or false.

1. 1 kg = 1000 mg _____
2. 1 g = 100 mg _____
3. 1 L = 1000 mL _____
4. 1 km = 1000 m _____
5. 1 m = 100 km _____

C. Fill in the blanks.

1. 7 km = _____ × 1000 m = _____ m
2. 1000 m = 1000 ÷ _____ km = _____ km
3. 8 kg = 8 × _____ g = _____ g
4. 2000 mL = _____ ÷ 1000 L = _____ L
5. 6 m = _____ × 100 cm = _____ cm

41

Students: Okay, teacher.
(Allow the students to think and write the answers.)
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 learned.
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 metre long. You cut 30 cm. How much is left?

Home Task

Find 3 things at home that weigh more than 1 kg. Draw their pictures.

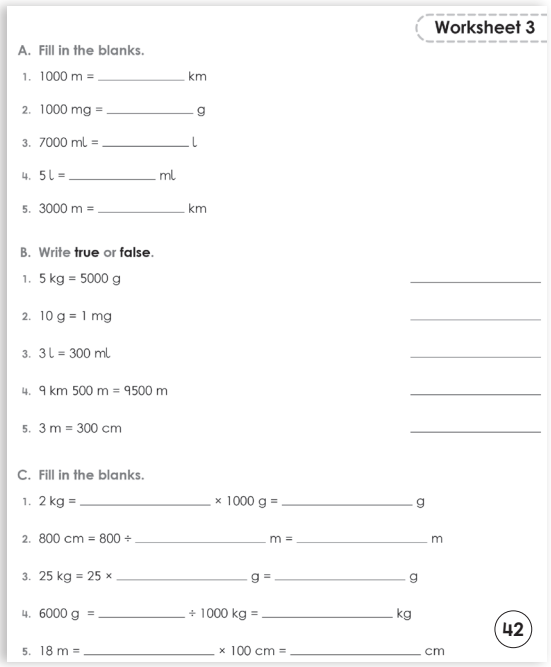
Period 17

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 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?

SHOULD DO
10 MIN.

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 3
Teacher: Alright, students. Just like in our last class, we will solve more worksheets.

MUST DO
15 MIN.



Worksheet 3

A. Fill in the blanks.

1. 1000 m = _____ km
2. 1000 mg = _____ g
3. 7000 mL = _____ L
4. 5 L = _____ mL
5. 3000 m = _____ km

B. Write **true** or **false**.

1. 5 kg = 5000 g _____
2. 10 g = 1 mg _____
3. 3 L = 300 mL _____
4. 9 km 500 m = 9500 m _____
5. 3 m = 300 cm _____

C. Fill in the blanks.

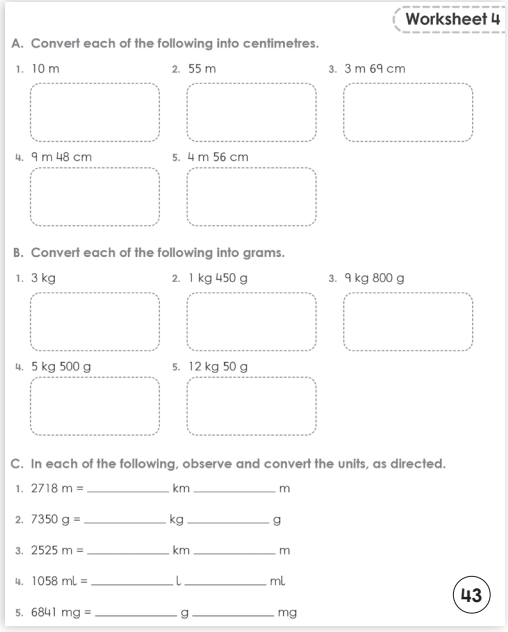
1. 2 kg = _____ × 1000 g = _____ g
2. 800 cm = 800 ÷ _____ m = _____ m
3. 25 kg = 25 × _____ g = _____ g
4. 6000 g = _____ ÷ 1000 kg = _____ kg
5. 18 m = _____ × 100 cm = _____ cm

42

Teacher: Open Worksheet 3 on Page 42 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.)
Worksheet 4
Teacher: Let us move to the next worksheet. Open Worksheet 4 on Page 43 and solve exercises A, B and C. We will again discuss the questions first and then you will write the answers. Are you ready?

MUST DO
15 MIN.

Students: Yes, teacher.



Worksheet 4

A. Convert each of the following into centimetres.

1. 10 m
2. 55 m
3. 3 m 69 cm
4. 9 m 48 cm
5. 4 m 56 cm

B. Convert each of the following into grams.

1. 3 kg
2. 1 kg 450 g
3. 9 kg 800 g
4. 5 kg 500 g
5. 12 kg 50 g

C. In each of the following, observe and convert the units, as directed.

1. 2718 m = _____ km _____ m
2. 7350 g = _____ kg _____ g
3. 2525 m = _____ km _____ m
4. 1058 mL = _____ L _____ mL
5. 6841 mg = _____ g _____ mg

43

(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.

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 objects accurately using different measurement tools.
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 weighing balance
Positive Learning Habits	• learn to measure objects effectively and apply measurement concepts in daily life

Starry Knights

Hope the lesson started on a positive note for you and the learners.

Share some of their strengths here. Also, identify their weaknesses that you need to work on through the year.

Give yourself a STAR for being an efficient teacher.