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LESSON – 7 Measurements: Length, Mass  
and Capacity

**Pre activity – Lets Begin from T.B. (Pg. No. 120)**

**T.B. Pg. No. 121**

**Concrete Stage**

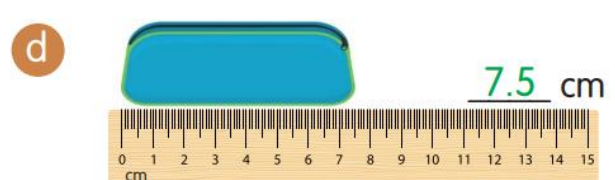
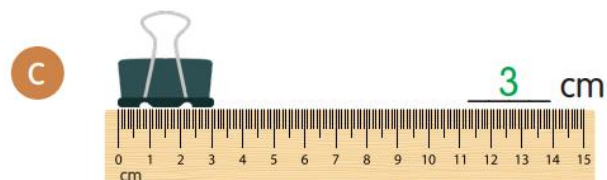
Use suitable measuring instruments to measure the following.

- a The length of my sharpener is \_\_\_\_\_ mm.
- b My height is \_\_\_\_\_ cm.
- c The length of my pencil is \_\_\_\_\_ cm.
- d The width of my math book is \_\_\_\_\_ cm.
- e The length of my desk is \_\_\_\_\_ cm.

Answer: Answer may vary.

**Pictorial Stage**


Read the length of the objects given below.



**Abstract Stage**

- 1 Draw a straight line segment measuring 11 cm and 6 mm.
- 2 Tick (✓) the units that you would use to measure the following.

- a Length of a swimming pool.  
 millimetres  centimetres  metres  kilometres
- b Distance between two cities.  
 millimetres  centimetres  metres  kilometres
- c Thickness of a dictionary.  
 millimetres  centimetres  metres  kilometres

3 Estimate the length of the rope in cm. Measure it using a ruler, and find out how closer is your estimation? 

- a The estimated length of the rope is 7 cm.
- b The actual length of the rope is 7.5 cm.

**Think Aloud** 

What is similar and different about these weighing scales? Which one of them would you use to measure the mass of an apple? Why?



Kitchen Scale



Bathroom Scale



Spring Scale

Answer: Answer may vary.

T.B. Pg. No.123

**Concrete Stage** 

Verify the metric conversion table using a measuring tape and convert the following units as stated.

Metric conversions							
1 cm	=	10 mm		1 m	=	100 cm	

Lengths	m
600 cm	6
1 m 20 cm	1.2 m

Lengths	mm
90 cm	900
5 cm 3 mm	53

Lengths	cm
5 m	500
3 m 62 cm	362

T.B. Pg. No. 124

**Pictorial Stage** 

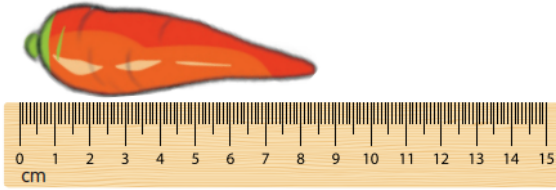
- 1 Observe the pictures to find the lengths of given objects. Convert the lengths into mm.

a



The length of the pencil is 5 cm  
and 5 mm = 55 mm

b



The length of the carrot is 8 cm  
and 5 mm = 85 mm

2 Look at the measurements, and convert into cm.

a 5 m 50 cm = 550 cm



b 2 m 70 cm = 270 cm



### Abstract Stage

1 The height of a neem tree is 28 m 50 cm. Find the height of the tree in cm.

Answer: 2850 cm

2 The given table shows the distances of three cities from a place. Convert the distances, and complete the table.

Name of the city	Distance in km	Distance in m
Mumbai	162	<u>162,000</u>
Hinjewadi	20	<u>20,000</u>
Pune	15	<u>15,000</u>

T.B. Pg. No. 125

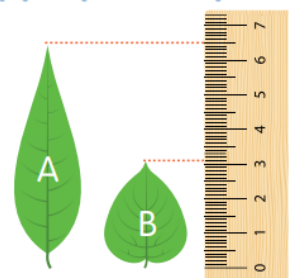
### Concrete Stage

1 Collect any 2 fallen leaves. Use a ruler to measure the lengths of the leaves. Frame the comparison statements using appropriate symbols (>, <, or =).

a The length of Leaf A is 6 cm 5 mm.

b The length of Leaf B is 3 cm 1 mm.


c The length of Leaf A  the length of Leaf B



2 Compare the length of three line segments and fill in the blanks to complete the comparison statements.

a PQ is longer than Line AB.

Line segment AB



b AB and PQ are shorter than RS.

Line segment PQ



c RS is longer than PQ and AB.

Line segment RS



T.B. Pg. No. 126

3 Draw the line segments of the given lengths to represent the given comparison statements.

a 6 mm is shorter than 6 cm.

b 15 mm is longer than 105 mm.

### Pictorial Stage

1 Use metric conversion table to fill in the blanks.

$$1 \text{ cm} = 10 \text{ mm}$$

$$1 \text{ m} = 100 \text{ cm}$$

$$1 \text{ km} = 1000 \text{ m}$$

a 1 m is equals 1000 mm.

b 2 cm is shorter 200 m.

c 5000 m is equals 5 km.

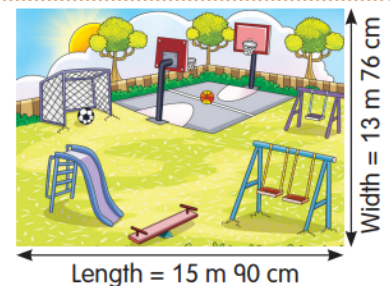
d 56 cm is longer 500 mm.

2 Miki visits a park. Look at the picture, compare the length and width, and form a comparison statement.

Answer: length = 15 m 90 cm = 1590 cm

width = 13 m 76 cm = 1376 cm

length of the park is longer than width of the park



### Abstract Stage

1 Compare and fill in the boxes with appropriate symbols (<, >, or =).

a 565 mm  50 cm 5 mm

b 708 mm  78 cm

c 9 m  9009 mm

d 100 m  10000 cm

2 The height of Gate A is 30 cm and 8 mm and of Gate B is 380 mm. Which gate is taller? Show your working.



Answer: Height of Gate A = 30 cm 8 mm = 308 mm  
 Height of Gate B = 380 mm  
 Gate B is taller.

T.B. Pg. No. 127





**Concrete Stage**

Use electronic weighing scale/measuring jar to find the mass/capacities of the following.

- a The mass of my pencil box is g.
- b My body mass is kg.
- c The capacity of my water bottle is L.
- d The capacity of a small paper cup is g.

**Pictorial Stage**





1 Observe the pictures, and circle the suitable measuring units for the following.

a 	b 	c 	d 
<u>kg/g</u>	<u>kg/g</u>	<u>L/mL</u>	<u>L/mL</u>

2 Read and write correct measurement for the given objects. Remember to use appropriate units.

a 	b 	c 
<u>g</u>	<u>mL</u>	<u>mL</u>

3 Observe the pictures, and write their mass/capacities.

a 	b 	c 	d 
The capacity of the syringe is <u>ml</u> .	The mass of the apples is <u>kg</u> .	The capacity of the water bottle is <u>L</u> .	The mass of the watermelon is <u>kg</u> .

**Abstract Stage**

Write the appropriate metric units for the following things.

- a Mass of a strawberry g      b Amount of water in a fish tank L  
 c Mass of a watermelon kg      d Capacity of a glass ml

**Concrete Stage**

Verify the metric conversion table using a kitchen scale or measuring cup, and convert the following units as stated.

Metric conversions						
1 kg	=	1000 g		1 L	=	1000 mL
Mass		kg		Capacity		mL
10000 g		10		2 and a half L		2500
2500 g		2 kg 500 g		7 L 70 mL		7070

**Pictorial Stage**

Observe the pictures to read the measurements, and compare.

- a Which is heavier?



- b Which has more capacity?



**Abstract Stage**

- 1 Shino needs 2 kg of flour to bake a cake for her birthday. She has 2550 g of flour. Is it enough? Explain.  
 Answer: Yes, 2 kg = 2000 g

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- 2 Maya pours 3 L 250 mL juice into a container with the capacity of 3500 mL. Can the container hold the whole amount of juice? Show the comparison statement and conversion.  
 Answer: Yes, container can hold the whole amount of Juice.

- 3 Shyam drinks 2 L 470 mL of water and Mayank drinks 2470 mL of water per day. Shyam says he drinks more water than Mayank. Is Shyam right? Explain your answer.

Answer: Both drink same quantity of water i.e., 2 L 470

T.B. Pg. No.-132

### Concrete Stage

- 1 Use electronic weighing machine/measuring cup to find the answers.

- a Find the total mass of any 2 vegetables.

Answer: Answer may vary.


- b Take a water bottle with a capacity of 2 L. Pour 250 mL of water in a glass. Find the remaining amount of water left in the bottle.

Answer: Answer may vary.

- 2 Measure the lengths of the given line segments. Add the lengths and draw a line segment of the total length.

a


AB



AB + CD


2 + 4 = 6

CD



b


PQ



PQ + RS

1 + 4.5 = 5.5

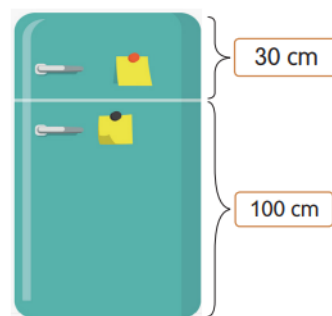
RS



### Pictorial Stage

- 1 Look at the picture below. Find the total length of the refrigerator.

Answer: 130 cm



- 2 Observe the given pictures, and answer the following questions.

- a What is the height of the bamboo plants? 74 cm

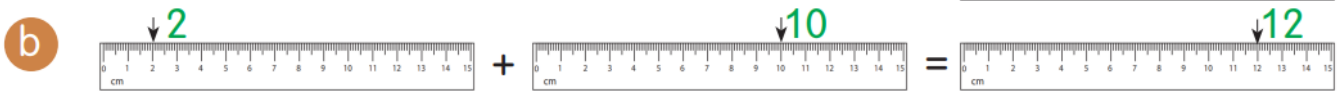
- b The height of the mint plant is 60 cm.

- c Which plant is taller? How much? Bamboo; 14 cm taller





3 Observe the measure and mark the total measure in the ruler given below.



### Abstract Stage

1 Ria cut a piece of watermelon weighing 1 kg 450 g from a watermelon that weighs 6 kg 350 g. Find the amount of watermelon left.

Answer: 4 kg 900 g

2 A fruit salad was prepared by using fruits 500 g of apricot, 250 g of grapes, and 500 g of banana. What will be the total mass of the salad?

Answer: 1 kg 250 g

3 Nisha's family purchased 4 L 690 mL of oil and Joisha's family purchased 4 L 960 mL of oil for a month. Which family purchased more quantity of oil? and by how much?

Answer: Joisha's family purchased more by 270 mL.

### Linking Chain EVS

Use the map of road network in India and Internet. Search the distances, and answer the following questions.

a The distance between Kochi and Mumbai is 1,431.1 km

b The distance between Mumbai and Ahmedabad is 60 km shorter than the distance between Goa and Mumbai.

c Ria said travelling from Mumbai to Kochi is longer than the travelling from Ahmedabad to Delhi. Say yes or no. Answer: **Yes**

d Tia travelled from Ahmedabad to Goa via Mumbai. Find the total distance travelled by her. Answer: **1112 km**

### Blooming Questions

1 Which is the better estimate for the length of a bench, 200 centimetres or 200 metres?

Answer: 200 centimetres





2 Tick (✓) the better estimate.

a Width of a football field.

109 m      1 km ✓

b Distance between Mumbai and Delhi.

1440 Km ✓      1004 m

3 Complete the sentence.





James jogged 3 km. He expressed the same as 3000 m.

4 Manan has 3 m of pipe. He needs 500 cm of pipe to water his garden. Does he have enough pipe to water the garden? Explain using metric measures table.

Answer: No.



5 Look at the pictures below. Fill in the table with the length of each object in mm. Then answer the questions that follow.

Object		
Length in mm	60 mm	70 mm
Object		
Length in mm	119 mm	90 mm

a The longest object is drawing brush

b The crayon is 10 mm shorter than the pencil.

c The paintbrush is 29 mm longer than the duster.

6 Mahira says that 100 mm is equal to 1 m. Is she right? Explain.

Answer: Mahira's statement is incorrect. 100 mm is not equal to 1 m; rather, it is equal to 0.1 m.

7 Use electronic weighing machine / measuring cup to find the answers.

Object	Estimated mass/capacity	Actual mass
My school bag	Answer: Answer may vary.	Answer: Answer may vary.
Cricket bat	Answer: Answer may vary.	Answer: Answer may vary.
My water bottle	Answer: Answer may vary.	Answer: Answer may vary.
Milk mug	Answer: Answer may vary.	Answer: Answer may vary.

8 A tetra pack contains 250 mL of juice, and a bottle of juice contains 960 mL. How much more juice is there in the bottle compared to the tetra pack?

Answer: 710 ml

- 9 Veronica made 950 mL of milkshake for a party at her home. The capacity of the serving jug is 540 mL. How much milkshake will be left in the pot after she fills up the serving jug?

Answer: 410 ml

- 10 From a sack of 25 kg 300 g sugar, 15 kg 450 g of sugar is shifted to another bag. How much sugar is left in the sack?

Answer: 9 kg 850 g

## Mental Maths

- 1 Choose the correct estimation for the mass of the following. 13 kg, 50 g, 1 kg

a



50 g

b



13 kg

c



1 kg

- 2 Circle the suitable measurement for each.

a



600 mL

6 L

b



500 L

20 L

c



100 g

100 kg

## Post Activity-

Convert the following.

(i) 32 m = \_\_\_\_\_ cm

(ii) 3 m = \_\_\_\_\_ cm

(iii) 8,106 g = \_\_\_\_\_ kg

(iv) 4k 260 g = \_\_\_\_\_ g

(v) 8000 mL = \_\_\_\_\_ l

(vi) 7 l 300 mL = \_\_\_\_\_ mL