Unit 6

Measurement

Length

Let's play some game

Collect these things with the help of your friends

. cap of a small bottle . match box . a piece of tile

Now make a mark on the ground and put one of these thing on it. Now hit the item with your finger. Mark that place with a chalk where the item stops. Measure the distance between both the marks and write it in the following table.

Name of the player	First attempt	Second attempt
	cm	cm
	cm	cm
	cm	cm

Lets do long jump

All the students of the class go to the field with your teacher. Draw a line on the field. Every student does long jump by turns. Measure the distance covered by each student by metre scale and show it to your teacher. The student who jumps the longest will be the winner.



Name	Make it dear
	mtscm
	mtscm
	mtscm
(50)	

Items	Length (approx)	Length(after measurement)
Book	cm	
Slate	cm	
Rubber	cm	
Pencil	cm	
Rope	mtrcm	
Door	mtrcm	
Table	mtrcm	

Guess and write the length of the things written in the table:

Now take one metre scale or measuring tape used by tailors. Measure all the things one by one with the help of your teacher and write them in the table.

Now measure the things and see how much close is the guessed measurement to the actual measurement.

You have read in class III

1 metre = 100 cm 100 cm = 1 metre

Let's convert (change) 4 metres into centimetre

4 metre = 1 mtr + 1 mtr + 1 mtr + 1 mtr

= 100 cm + 100 cm + 100 cm + 100 cm

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= 100×4 centimetre or 4×100 centimetre

= 400 centimetre

What is the distance ?

Take 1 mtr of measuring tape used by tailor. Go out in the field. Insert one nail on the ground. Draw a six metre long line from here. Now mark at every 50 cm distance on the line. Make one child stand on every mark.

Now tell :

- Who is standing at 2 metre distance from the nail
- What is the distance between the child standing on the third and fifth position.
- Who is standing at 500 cm distance from the nail.



Fill in the blanks

3 mtr	$=$ 3 \times 100 cm	or	300 cm
5 mtr	= × cm	or	cm
8 mtr	= × cm	or	cm
9 mtr	= × cm	or	cm
6 mtr	= × cm	or	cm

Example : Rama has 5 metres and 75 centimetres long cloth. How will you convert this measurement into centimeter?

Let us do and see: 5 mtrs 75 centimetres

- = 5 mtr + 75 cm
- = 5 \times 100 cm + 75 cm
- = 500 cm + 75 cm
- = 575 cm



There are six houses in a colony of Asna village. The length of the courtyards of these houses are given in metres and centimetres. Convert the length in centimetres and write it in your copy.

1.	5 mtr 25 cm	2.	7 mtr 87 cm
3.	9 mtr 5 cm	4.	14 mtr 50 cm
5.	20 mtr 95 cm	6.	21 mtr 27 cm

Example: Convert 300 cm into metre

300 cm = 100 cm + 100 cm + 100 cm= 1 mtr + 1 mtr + 1 mtr = 3 metres

Given below are the lengths of different ropes in centimeters. Convert them and write in metres and centimetres

400 cm	= mtr
500 cm	= mtr
700 cm	= mtr
340 cm	= mtrcm
930 cm	= mtr cm
1125 cm	= mtr cm
	(52)

Rita's House

Rekha's House

Some lines and diagrams are given below. Measure their length with the help



How to add:

Example:

Reeta's house is 42 mts and 35 cm far from the well. Rekha's house is 25 mtr 40 cms from Reeta's house. How far is Rekha's house from the well?

> 42 mtr 35 cm + 25 mtr 40 cm

67 mtr 75 cm

Therefore Rekha's house is 67 mts 75 cms from the well.

Exercise

1.	12 mtr 40 cm	2.	36 mtr 75 cm
	+ 25 mtr 27 cm		+ 15 mtr 15 cm
3.	22 mtr 35 cm	4.	50 mtr 25 cm
	+ 19 mtr 40 cm		+ 35 mtr 55 cm
	Guess the sum :		
1.	42 mtr 35 cm + 57 mtr 20 cm	L	
2.	64 mtr 21 cm + 27 mtr 49 cm	n	
3.	25 mtr 31 cm $+$ 65 mtr 29 cm		
	Now verify your guess.		

Example

Mohan's house is 25 mts and 90 cm from the well. Asifs house is 37 mtr 65 cm from Mohans house. What is the distance of Asif's house from the well ?

25 mts 90 cm
+ 37 mts 65 cm
62 mts 155 cm
But 100 cm = 1 mts
Therefore 62 mts 155 cm
= 62 mts & 1 mts 55 cm

Thus the distance of Asifs house is 63 mts 55 cms from the well.

This sum (question) can be solved in the given manner also.

25 mts 90 cm + 37 mts 65 cm 63 mts 55 cm

First guess then add and answer

- 1. 43 mts 45 cm & 32 mts 75 cm
- 2. 26 mts 85 cm & 18 mts 35 cm
- 3. 148 mts 55 cm & 71 mts 45 cm
- 4. 65 mts 25 cm & 25 mts 75 cm

Now check your guess

One more example

- + 12 cm 7 millimetre
 - 57 cm 16 millimetre
- 57 cm 16 millimetre
- = 57 cm & 1 cm 6 millimetre
 - = 58 cm 6 millimetre

Add:

1. 45 cm 3 millimetre & 18 cm 6 millimetre

- 2. 86 cm 7 millimetre & 53 cm 8 millimetre
- 3. 39 cm 5 millimetre & 28 cm 5 millimetre
- 4. 68 cm 4 millimetre & 30 cm 9 millimetre





Measurement

How to subtract Example

First tree is 45 mts 50 cms far from third tree. Second tree is 25 mts 20 cms far from the third tree.

Answer what is the distance between first and second tree? 45 mts 50 cm

- 25	mts	20	cm	
20	mts	30	cm	



Thus the difference between first and second tree is 20 mts and 30 cms.

How to subtract these :

72 mts 10 cm _ 32 mts 25 cm you cannot subtract 25 cms from 10 cms - 32 mtr 25 cm therefore change into centimetre 1 mtr = 100 cm Therefore 72 mtrs 10 cms will be 71 mtrs 110 cm

Now you can subtract easily

71 mts 110 cm - 32 mts 25 cm 39 mts 85 cm

First guess then subtract and answer:

- 1. 25 mts 20 cm from 48 mts 40 cm
- 2. 13 mts 75 cm from 31 mts 65 cm
- 3. 12 mts 90 cm from 18 mts 60 cm
- 4. 52 mts 70 cm from 85 mts 50 cm

One more example :

The length of a mat is 18 mts 45 cms. What will be the total length of four such mats ? **Solution:** You know how to solve this question. We have to do multiplication.

18 mts $45cm \times 4$

First 45 cm is multiplied by 4 then 18 mts

55)



is multiplied by 4 That comes to

72 mts 180 cm

But you know :

180 cm = 1 mts 80 cm

Therefore 72 mtr 180 cms is 73 mts and 80 cms

Thus the total length of four mats will be 73 mts 80 cms.

First guess then solve :

- 1. Multiply 15 mts 50 cms by 3
- 2. Multiply 19 mts 62 cms by 2
- 3. Multiply 22 mts 56 cms by 5
- 4. Multiply 29 mts 44 cms by 2

Some questions :

- 1. One roll of cloth contains 25 mts 45 cms cloth. How many metres will be there in eight such rolls?
- 2. Prachi has 42 mts 70 cms rope for making flag .Nisha has 38 mtr 85 cms rope. Tell what is the total length of the rope both have?
- 3. Rekha has to tie 8 ropes in her room. If the length of the room is 4 metre 16 cm , then what is the minimum length of rope she will require?
- 4. One shopkeeper sells 18 mts 50 cms of cloth from a roll of 32 mts 46 cms. Tell how much cloth will remain with him?
- 5. To make a mosquito net 5 mts 75 cms cloth is required. How much cloth will be required to make 20 mosquito nets?
- 6. 15 pipes are needed for tap connection to a house. If length of each pipe is 5 mts 95 cms. Tell the distance of the house from main pipe?

Weight

Take one kilogram weight in your hand. Now feel its weight. Now find out some items from your neighbourhood which weighs 1 kilogram.

Write the names of the items which weigh equal to the weight given in the following table:

Measurement

Weight	Names of items
1 kilogram	
500 gms	
200 gms	
100 gms	one apple
50 gms	2 lemons



Names of some items are given below. First guess and tell their weight. Then weigh these items in a weighing machine and write their actual weight in front of the items :

Name of item	Weight by guess (in Kilogram or gram)	Actual weight (in Kilogram or gram)
Maths book		
Duster		
Bell		
Lock		
Slate		
A box of chalk		

1 Kilogram	= 1000 gms	5
$\frac{1}{2}$ Kilogram	= 500 gms	5
$\frac{1}{4}$ Kilogram	= 250 gms	5

Tell how much

 5 Kilogram 250 gms
 5250 gms

 17 Kilogram 400 gms

 28 Kilogram 50 gms

 35 Kilogram 850 gms

 45 Kilogram 950 gms



Some more questions :

7300 gms =	 Kilogram	 gms
18350 gms =	 Kilogram	 gms
17800 gms =	 Kilogram	 gms
35050 gms =	 Kilogram	 gms
65000 gms =	 Kilogram	 gms

Example : Two bags of paddy were weighed. In one bag it was 17 kgs 450 gms and in the other it was 16 kgs 700 gms. If we mix the paddy of both the baskets then tell what is the total weight of the paddy ?

Kilogram	gms
17	450
+ 16	700
33	1150

Total weight of the paddy = 33 Kilogram 1150 gms

= 33 Kilogram + 1000 gms + 150 gms

= 33 Kilogram + 1 Kilogram + 150 gms

1000 gram = 1 Kilogram

First guess the sum and then add properly and tell the total weight of the following :

1. 28 Kilograms 250 gms & 19 Kilograms 850 gms

= 34 Kilogram 150 gms

- 2. 67 Kilograms 300 gms & 25 Kilograms 800 gms
- 3. 9 Kilograms 650 gms & 26 Kilograms 750 gms
- 4. 34 Kilograms 900 gms & 17 Kilograms 350 gms
- 5. 52 Kilograms 250 gms & 33 Kilograms 700 gms

What is the difference between your guess and the addition done by you ? **Example:** One shopkeeper purchased 80 kgs 950 gms of rice. Out of this he sold 46 kg 750 gms of rice. Tell how much quantity of rice is left with him.

Kilogram	gms
80	950
- 46	750
34	200

First guess, then by subtracting tell how much is left :

- 1. 32 Kilogram 650 gms from 68 kilograms 700 gms.
- 2. 56 Kilogram 200 gms from 175 kilograms 450 gms.
- 3. 85 Kilogram 500 gms from 337 kilograms 500 gms.
- 4. 25 Kilogram from 85 Kilogram.
- 5. 115 Kilogram 100 gms from 228 Kilogram 350 gms.

What is the difference between your guess and the subtraction done by you ?

Example: A packet contains 1 kg 200 gms toffees. What is the weight of 7 such packets.

Kilogram	gms	
1	200	= 7 Kilogram + 1400 gms
	×7	= 7 Kilogram + 1000 gms + 400 gms
7	1400	= 8 Kilogram + 400 gms

How much :

- 1. 8 kgs 500 gms multiplied by 7
- 2. 4 kgs 600 gms multiplied by 2
- 3. 12 kgs 300 gms multiplied by 3
- 4. 20 kgs 200 gms multiplied by 4
- 5. A sack contains 47 kgs 500 gms of rice. Tell, how much quantity of rice will be there in 12 sacks?
- 6. Weight of a biscuit packet is 50 gms. What will be the weight of 50 packets?
- 7. Weight of a basket of oranges is 12 kgs 650 gms. What will be the weight of 7 baskets of oranges?
- 25 kgs 800 gms potatoes and 28 kgs 700 gms tomatoes are grown in Rahul's field. Find the total weight of the vegetables.
- 9. Rekha went to market with 15 kgs 250 gms groundnut. She sold 12 kgs 750 gms of groundnuts during the whole day. Tell how much groundnut is left with her.
- 10. Rehana filled 2 kg 800 gms of cotton in a quilt and 4 kg 500 gms in a mattress. What was the total quantity of cotton filled in quilt and mattress?

Capacity

In the previous class you filled a 1 litre container with 500ml, 200ml, 100ml, measuring cans of water. Do it once more.

Container of 1 litre

•	How many 500 ml cans can fill the 1 litre container?	times
•	How many 200 ml cans can fill the 1 litre container?	times
•	How many 100 ml cans can fill the 1 litre container?	times
	Can you tell, how much water can be there in a contain	er of 1 litre? Now tell us 1
	litre equals to how many millilitres?	

In the morning Ramu's mother was doing her work. Then the milkman came. Ramu's mother told Ramu to bring one container and take two litres of milk. As soon as Ramu went to the milkman the milkman said "Son it will not contain two litres of milk". Tell why the milkman told this to Ramu?

Let's find it

Collect the items given below with the help of your friends

buckets, jug, glass and cup.

Guess - How much of water will bucket, jug, glass and cup contain?

Write your guess in the table given below:

Item	Capacity (by guess)	Capacity	Difference
		(by measuring)	
Bucket			
Jug			
Glass			
Cup			

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Now fill water in these containers by measuring pots. How much water does each container have?

Write in the table .

Find out what is the difference between your guess and

actual measurement.

Milk I am not getting the ontainer of half litre. Please give half Itre milk Itre milk Please give fire Of the two times with a container of half not getting the ontainer of half litre. Please give fire Of the two times with a container of half not getting the ontainer of half litre. Please give fire Of the two times with a container of half not getting the ontainer of half litre. Data and the ontainer of half litre.

How to measure?

Measurement	1 litre	500 ml	200 ml	100 ml	50 ml
1. 800 ml water	0	1	1	1	0
2. 250 ml milk					
3. 950 ml oil					
4. 50 ml medicine					
5. 3 ltr 650ml diesel					
6. 7 ltr 150 ml petrol					

Tally your table with your friends table

Fill in the blanks with litre and millilitres:

- 1. 200.....of medicine is there in a medicine bottle.
- 2. 1.....of kerosine oil is there in stove.
- 3. 500.....of kerosine oil is there in lamp.
- 4. 25.....of diesel is there in tractor tank.

Example: Convert 3 litre into millilitre 3 litres = 1 litre + 1 litre + 1 litre = 1000 millilitre + 1000 millilitre + 1000 millilitre = 1000 × 3 millilitre = 3000 millilitre	Example: Convert 5 ltrs 250 ml into millilitres = 5 litres + 250 millilitre = 5 × 1000 millilitre + 250 millilitre = 5000 millilitre + 250 millilitre = 5250 millilitre
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Exercise :

Some units of litre are given below . Convert them into millilitre

1.	6	litres		2.	8	litres	3.	2	litres 300	millilitre
4.	3	litres 50	millilitre	5.	7	litres	6.	5	litres 425	millilitre

4. 3 litres 50 millilitre 5. 7 litres

Conversion of millilitre into litre

Example: Convert 2000 ml into litres	Example: Convert 4430ml into litres			
2000 millilitre = 1000 millilitre +				
1000 millilitre	4430 millilitre = 4000 millilitre +			
= 1 litres $+$ 1 litres	430 millilitre			
= 2 litres	= 4 litres + 430 millilitre			
	= 4 litres 430 millilitre			

Convert the followings :-

1.	2350 millilitre	2.	7800 millilitre	3.	9650 millilitre
4.	4270 millilitre	5.	3020 millilitre	6.	1030 millilitre

Example: Rambharose takes out 9 ltr 550 ml kerosene oil on the first day and 7 ltrs 250 ml on the second day from a drum. What is the total quantity of kerosin oil he took out?

millilitres litres 9 550 + 7 250 16 litres 800 millilitres **Example:** Mukesh purchased 10 ltrs 500 ml of diesel. He poured 6 ltrs 200 ml of diesel in his tractor. Tell how much diesel is left with him ?

litres	millilitres
10	500
- 6	200
4 litres	300 millilitres

Example: A glass can contain 250 millilitres of milk.Tell how much milk can be there in 7 glasses.?

Milk in 7 glasses = $250 \text{ml} \times 7$ = 1750 millilitres= 1 litres 750 millilitres

Exercise :

- 1. There is a buffalo and a cow in Salma's house. The buffalo gives 6 litres 550 ml and the cow gives 5 litres and 325 ml of milk. Tell how much quantity of milk is there in Salma's house ?
- 2. A barrel contains 13 litres 800 ml of oil. Out of this 6 ltrs 900 ml is sold. Tell how much oil is left in the barrel ?
- 3. If a bottle is filled with water by a 10 ml spoon it takes 20 spoons to fill the bottle . What is the capacity of the bottle ?
- 4. Raju drinks 250 millilitres milk everyday and Mina drinks 150 ml milk everyday. How much milk will they drink in five days ?
- 5. Which quantity is greater between 9 ltrs 500 ml and 9850 ml by how much more ?

