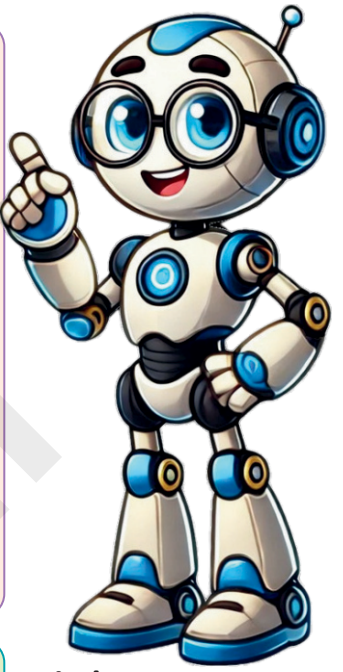
8 Measurement

We'll cover the following key points:

- → Measurement of Length
- → Conversions of Length
- → Addition and subtraction in Measures of Length
- → Word Problems of Length
- → Multiplication and division in Measures of Length
- → Measurement of Weight
- → Conversion of Weight
- → Addition and subtraction in Measures of Mass
- → Word Problems of Weight
- → Multiplication and division in Measures of Mass
- → Measurement of Capacity
- → Conversion of Capacity
- → Addition and subtraction in Measures of Capacity
- → Word Problems of Capacity
- → Multiplication and division in Measures of Capacity



Hi, I'm EeeBee

Do you Remember fundamental concept in previous class.
In class 2nd we learnt

- → Basic Concept Measurement of Length
- → Addition and Subtraction of Length
- → Introduction of Measure of Weight

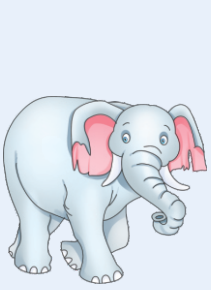
Still curious? Talk to me by scanning the QR code.

Learning Outcomes

By the end of this chapter, students will be able to:

- Understand the need for measurement in daily life and identify different measurable attributes (length, weight, capacity).
- Compare objects based on length, weight, and capacity using non-standard and standard units of measurement.
- Use standard tools like rulers, weighing scales, and measuring jars for accurate measurement.
- Solve simple problems involving addition and subtraction of lengths, weights, and capacities.
- Estimate and measure the length, weight, and capacity of objects in standard units (meters, liters, kilograms, etc.).
- Understand and use the relationship between units of measurement (e.g., 100 cm = 1 m, 1000 ml = 1 liter).

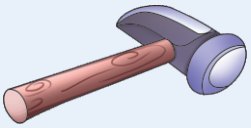
Which do you think is taller, an elephant or a giraffe ?

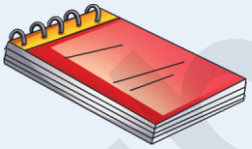


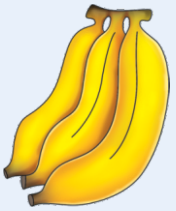
A male elephant grows to an approximate height of 3 m 30 cm and a giraffe grows to an approximate height of 5 m 50 cm.

Difference between their heights is _____ m _____cm.

Ask the student to estimate the approximate weight of the following and arrange in ascending order in their notebook:







Match the most likely measure:

5 ml

200 ml

10 ml

20 l

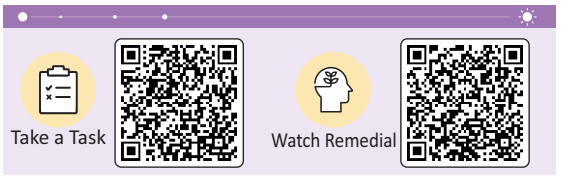
1 litre

400 ml

1 litre

5 litres

Measurement of Length



We have studied that we measure the length of object, height of the wall, length and breadth of the playground etc. in **metres**.

The length of small piece of cloth, pencil etc. are measured in **centimetres**. Long distances i.e., distances between two cities are measured in **kilometres**. We use :

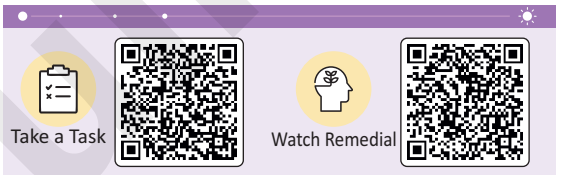
mm for the short form of **millimetres**.

cm for the short form of **centimetres**.

m for the short form of **metres**.

km for the short form of **kilometres**.

Conversions



You know, we can convert kilometres into metres and metres into centimetres by a very simple and easy method explained here:

We already know that:

1 km = 1000 m

1 m = 100 cm

(a) To convert metres into centimetres, we multiply the number of metres by 100.

1 m = 100 cm

8 m = 8 × 100 cm = 800 cm

6 m 50 cm = 6 × 100 cm + 50 = 600 cm + 50 cm = 650 cm

(b) To convert kilometres into metres, we multiply the number of kilometres by 1000.

1 km = 1000 m

7 km = 7 × 1000 m = 7000 m

9 km 500 m = 9 × 1000 m + 500 m = 9000 m + 500 m = 9500 m.

(c) To convert centimetres into metres and centimetres; first transform the given number of centimetres into a multiple of 100. This will give the number of metres in the given number of centimetres. The remaining number will be in centimetres.

508 cm = 500 cm + 8 cm = 5 × 100 cm + 8 cm = 5 m + 8 cm

= 5 m 8 cm.

5082 cm = 5000 cm + 82 cm = 50 × 100 cm + 82 cm = 50 m + 82 cm

= 50 m 82 cm.

(d) To convert metres into kilometres and metres; first transform the given number of metres into a multiple of 1000. This will give the number of kilometres in the given number of metres. The remaining number will be in metres.

7592 m = 7 × 1000 + 592 m = 7 km + 592 m = 7 km 592 m.

2597 m = 2 × 1000 + 597 m = 2 km + 597 m = 2 km 597 m.

Exercise 8.1

Knowledge Application

1. Fill in the blanks:

(a) The standard unit of length is ..... .

(b) The smaller unit of length is ..... .

(c) There are ..... metres in 1 kilometre.

(d) There are ..... centimetres in 1 metre.

2. Fill in the blanks:

(a) ..... cm = 6 m.

(b) 75 km = ... m.

(c) 8000 m = ... km.

(d) 200 cm = ... m.

(e) 3 km 50 m = ... m + 50 m = ... m.

(f) 8457 m = ... km ..... m.

(g) 80 km 100 m = ... m + ... m.

(h) 9235 m = ... km ..... m.

Addition and subtraction in Measures of Length

The process of addition and subtraction in measures of length is exactly similar to that of addition of ordinary numbers.

Example 1 : Add 125 km 315 m, 65 km 75 m and 367 km 9 m

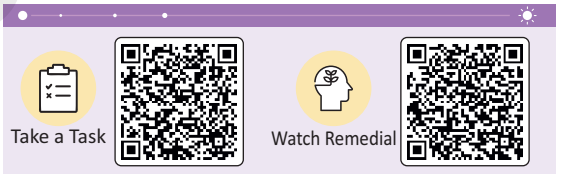
Solution :

km	m
125	315
065	075
+367	009

Step 1: Arrange the **km** and **m** columns respectively. Remember to put zeros in the missing space.

km	m
125	315
065	075
+367	009
	399

Step 2: Add the figures in the **m** column first.



km	m
125	315
065	075
+367	009
557	399

Step 3: Then add the figures in the **km** column.

Thus, the sum is **557 km 399 m**.

Example 2 : Subtract 25 km 326 m from 98 km 457 m

Solution :

km	m
98	457
– 25	326

Step 1. Arrange the figures in **km** and **m** columns respectively.

km	m
98	457
– 25	326
	131

Step 2. Subtract the figures in **m** column first.

km	m
98	457
– 25	326
73	131

Step 3. Then subtract the figures in the km column.

Thus, the difference is **73 km 131 m**.

Exercise 8.2

Knowledge Application

1. Add the following:

(a)

km
287
392
+075

(b)

m	cm
125	23
75	08
+ 09	05

(c)

km	m
135	900
255	320
+079	719

2. Subtract the following:

(a)

m	cm
74	68
– 29	15

(b)

m	cm
75	68
– 58	27

(c)

m	cm
315	60
– 120	75

3. Add the following:

(a) 88 km 755 m + 12 km 613 m + 96 m

(b) 13 km 351 m + 29 km 617 m + 1 km 20 m + 87 m

(c) 87 m 10 cm + 15 m 21 cm + 74 cm

4. Subtract:

(a) 49 km 10 m from 88 km 30 m

(b) 81 m 52 cm from 99 m 49 cm

(c) 100 km from 200 km 500 m

(d) 562 km 21 m from 785 km 72 m

Word Problems

Example 3 : Supriya bought 2 m 60 cm cloth for a t-shirt, 6 m for a dress and 89 cm for a blouse. How much material did she buy?

Solution :

		m	cm
Length of the cloth for t-shirt	=	2	60
Length of the cloth for dress	=	6	00
Length of the cloth for blouse	=	+ 0	89
Total length of the cloth	=	9	49

Thus, total length of the cloth bought by Supriya is **9 m 49 cm**.

Example 4 : A tailor has 400 m 26 cm of thread. He used 248 m 8 cm for stitching. How much thread is left with him?

Solution :

		m	cm
Length of the thread	=	400	26
Length of the thread used	=	– 248	08
Length of the thread left	=	152	18

Thus, the length of the thread left with the tailor is **152 m 18 cm**.

Exercise 8.3

Knowledge Application

Solve the following :

1. A plant was 55 cm when planted. It has grown 1 m 11 cm. How tall is the plant now?

2. Mr. Sharma travelled 676 km by train, 125 km 502 m by scooter and 887 m by cycle. What was the total distance covered by him?

3. Ojas painted 68 m 80 cm of the fence before lunch break and 15 m 28 cm after lunch. How much fence did he paint altogether?

4. A tree is 12 m 25 cm tall. The upper part of the tree is broken by the strong wind and the remaining part is 3 m 87 cm. What is the length of the broken part of the tree ?

5. If a wire is 58 m 20 cm long and 36 m of it is used for fencing. How much wire is left over ?

6. The distance between two towns is 712 km 300 m. A bus has covered 369 km 288 m distance. How much distance is left to be covered ?

Multiplication and division in Measures of Length

The process of multiplication in measures of length is similar to that of ordinary multiplication of numbers.

Multiplication of Length

Example 5 : Multiply 33 km 125 m by 6.

Solution :

km	m
33	125
×	6
198	750

Answer is **198 km 750 m**.

Example 6 : Multiply 135 km 410 m by 3.

Solution :

m	cm
135	410
×	3
406	230

Answer is **406 m 230 cm**.

Division of Length

This last operation among the four operations of numbers is called division. It is similar to that of ordinary division of numbers.

Example 7 : Divide 135 m 85 cm by 5

Solution :

```
      m         cm
5 ) 135         8 5 ( 27 m
   −10
     35
   − 35
     00
               c m
            5 ) 8 5 ( 17 cm
              − 5
                35
              − 35
                00
```

Step 1: Divide the figure in m column first by 5.

Step 2: When we get the remainder as zero in m column, bring the figure in cm down and divide it by 5.

Thus, 135 m 85 cm ÷ 5 = **27 m 17 cm**.

Word Problems

Example 8 : A roll of cloth is 248 m 24 cm long. It is cut into 4 equal pieces. What is the length of each piece?

Solution :

Length of cloth = 248 m 24 cm

Number of pieces = 4

Length of each piece of cloth = 248 m 24 cm ÷ 4

```
      m         cm
4 ) 248         2 4 ( 62 m
  − 24
    008
      8
      0
               c m
            4 ) 2 4 ( 6 cm
                2 4
                0 0
```

Thus, each piece of cloth is **62 m 6 cm** long.

Example 9 : 2 m 65 cm of cloth is used for a shirt. How much cloth will be used for 8 shirts?

Solution :

	m	cm
Length of cloth used for a shirt =	2	65
Length of cloth used for 8 shirts =	×	8
	21	20

Thus, length of cloth used for 8 shirts is **21 m 20 cm**.

Exercise 8.4

Knowledge Application

1. Multiply:

(a)

m	cm
19	82
×	3

(b)

km	m
35	12
×	8

(c)

km
319
× 7

2. Divide:

(a) 258 m 90 cm by 2 (b) 994 km 959 m by 7 (c) 963 km 63 m by 9

(d) 56 m 96 cm by 4 (e) 366 m 54 cm by 3 (f) 728 km ÷ 8

(g) 303 m 78 cm ÷ 3 (h) 425 m 25 cm ÷ 5 (i) 366 km 36 m ÷ 6

3. Solve the following :

(a) A rod is cut into 4 equal pieces each measuring 27 m 82 cm long. What is the total length of the 4 rods together?

(b) Sneha needs 5 m 35 cm cloth for a dress. How much cloth will she need for making 9 dresses?

(c) A taxi runs 227 km 440 m in a day. How much distance will it cover in 6 days?

(d) A car runs 396 km 240 m in 3 days covering equal distance each day. What is the distance covered by the car in each day ?

(e) Tapan bought a wire which is 147 m 21 cm long. He cut it into 7 equal pieces. What is the length of each piece ?

Measurement of Weight

In Class II, we have learnt that we measure the mass of an object or quantity in kilograms and grams. Here, we use **kg** for kilogram and **g** for gram. In our daily life, we use the word weight instead of mass.

We know that:

(i) The standard unit of weight is **kilogram**.

(ii) The smaller unit of weight is **gram**.

(iii) **1000 g = 1 kg**

Conversion

We can convert kilograms into grams in the same way as we did in the previous conversion of kilometres into metres. It is explained below:

We already know that,

$$1 \text{ kg} = 1000 \text{ g}$$

(a) To convert kilograms into grams we multiply the number of kilograms by 1000. For example:

$$5 \text{ kg} = 5 \times 1000 \text{ g} = 5000 \text{ g} \qquad 12 \text{ kg} = 12 \times 1000 \text{ g} = 12000 \text{ g}$$

(b) To convert 'kilograms and grams' into grams, first convert kilograms into grams by multiplying with 1000 and then add by the given number of grams to it. For example:

$$9 \text{ kg } 860 \text{ g} = 9 \times 1000 \text{ g} + 860 \text{ g} = 9000 \text{ g} + 860 \text{ g} = 9860 \text{ g}$$

(c) To convert grams into 'kilograms and grams', first transfrom the given number into multiple of 1000. This will give the number of kilograms in the given number of grams. The remaining number will be in grams.

$$7685 \text{ g} = 7000 \text{ g} + 685 \text{ g} = 7 \times 1000 \text{ g} + 685 \text{ g} = 7 \text{ kg } 685 \text{ g}$$

$$9060 \text{ g} = 9000 \text{ g} + 060 \text{ g} = 9 \times 1000 \text{ g} + 060 \text{ g} = 9 \text{ kg } 60 \text{ g}$$

Exercise 8.5

Knowledge Application

1. Choose the right option:

(a) The standard unit of weight is _____.

(i) kilogram (ii) litre (iii) kilometre (iv) gram

(b) 48 kg – 32 kg = _____?

(i) 61 kg (ii) 16 g (iii) 16 kg (iv) 44 kg

2. Fill in the blanks:

(a) 5 kg = ... g

(b) 8 kg 265 g = ... g + 265 g = ... g

(c) 7 kg 167 g = ... g + ... g = ... g

(d) 9258 g = ... kg ..... g

(e) 5289 g = ... kg ..... g

(f) 12 kg = ... g

Addition and subtraction in Measures of Mass

Take a Task

Watch Remedial

Addition of Mass

Addition in measures of mass is similar to that of addition in measures of length.

Example 1 : 12 kg 280 g, 11 kg 350 g and 8 kg 361 g

Solution :

kg	g
12	280
11	350
+ 08	361

Step 1 : Arrange the **kg** and **g** in the columns respectively.

kg	g
12	280
11	350
+ 08	361
	991

Step 2 : Add the figures in the **g** column first.

kg	g
12	280
11	350
+ 08	361
31	991

Step 3 : Then add the figures in the **kg** column.

Thus, the sum is **31 kg 991g**.

Subtraction of Mass

Subtraction in measures of mass is similar to that of subtraction of ordinary subtraction of numbers.

Example 2 : 59 kg 750 g from 80 kg 350 g

Solution :

kg	g
80	350
– 59	750

Step 1 : Arrange the **kg** and **g** columns respectively.

Always remember the greater number should be written first.

Always remember to fill up the missing places with zeros.

kg	g
80	350
–59	750
	600

Step 2 : Subtract the figures in the **g** column first.

kg	g
80	350
–59	750
20	600

Step 3 : Then subtract the figures in the **kg** column.

Thus, the difference is **20 kg 600 g**.

1. Add the following:

(a)

kg
6528
2905
+1010

(b)

kg	g
72	635
17	355
+08	010

(c)

kg	g
053	928
+126	087

(d)

kg	g
65	900
+00	318

2. Subtract:

(a)

kg	g
64	075
– 29	899

(b)

kg	g
80	250
– 59	365

(c)

kg	g
88	275
– 29	975

3. Find the sum:

(a) 56 kg 345 g, 41 kg 675 g and 7 kg 26 g

(b) 165 g, 87 kg 705 g and 5 kg 2 g

(c) 94 kg 129 g, 140 kg and 85 kg 20 g

(d) 152 kg, 122 kg 480 g and 500 g

4. Find the difference between:

(a) 12 kg 192 g and 5 kg 109 g

(b) 195 kg and 115 kg 966 g

(c) 45 kg 271 g and 754 g

(d) 27 kg 3 g and 10 kg 13 g

Word Problems

Example 3 : Manish purchased 11 kg 252 g of wheat, 18 kg 135 g of rice and 12 kg 775 g of sugar. What was the total weight of all the items purchased?

Solution :

	kg	g
Weight of wheat purchased =	11	252
Weight of rice purchased =	18	135
Weight of sugar purchased = +	12	775
	42	162

Thus, the total weight of items purchased is **42 kg 162 g**.

Example 4 : Radhika purchased 12 kg 525 g of sugar. 8 kg 755 g of it was used for making cakes. How much sugar is left?

Solution :

	kg	g
Weight of sugar purchased =	12	525
Weight of sugar consumed =	– 8	755
Weight of sugar left =	3	770

Thus, mass of sugar left is **3 kg 770 g**.

Exercise 8.7

Knowledge Application

Solve the following :

1. Anita is carrying books weighing 2 kg 255 g, notebooks weighing 2 kg 570 g and lunch box weighing 750 g in her school bag. What is the total weight of the school bag carried by her?
2. Sonia bought 7 kg mangoes, 6 kg 850 g melons and 4 kg apples. What is the total weight of fruits bought by her?
3. Jugal bought a tin of chocolates weighing 3 kg, a packet of toffees weighing 2 kg 500 g and nuts weighing 2 kg 150 g for distribution among his friends. Find the weight of all the items purchased by him.
4. A man weighed 80 kg 300 g. He lost 15 kg 755 g of his weight due to illness. What is his weight now?
5. A box full of utensils weighs 56 kg 875 g. The weight of the empty box is 5 kg 255 g. Find the weight of the utensils in the box.
6. On her son's birthday Seema bought a cake weighing 7 kg 35 g. The amount of cake consumed was 5 kg 365 g. How much cake was left?

Multiplication and division in Measures of Mass

Multiplication of Mass

The process of multiplication in measures of mass is similar to that of ordinary multiplication of numbers.

Example 5 : Multiply : 32 kg 775 g by 5.

Solution :

kg	g
32	775
×	5
163	875

The products is **163 kg 875 g**.

Example 6 : Multiply 42 kg 726 g by 9.

Solution :

kg	g
42	726
×	9
384	534

The product is **384 kg 534 g**.

Division of Mass

The process of division in measures of mass is similar to that of ordinary division of numbers.

Example 7 : Divide : 496 kg 96 g by 8

Solution :

kg	g	
8) 4 9 6	9 6	62 kg
− 4 8		
1 6		
− 1 6		
0 0	8) 9 6	12 g
	− 8	
	1 6	
	− 1 6	
	0 0	

Step 1: Divide the figure in kg column first by 8.

Step2 : When we get the remainder as zero, bring the figure in the g column down and divide by 8.

Thus, 496 kg 96 g ÷ 8 = **62 kg 12 g**.

Word Problems

Example 8 : Mahesh purchased some bags of cement, each containing 42 kg 335 g of cement. He used 9 bags of cement. Find the quantity of cement used by him.

Solution :

		kg	g
Weight of cement in 1 bag	=	42	335
Weight of cement in 9 bags	=	×	9
Total quantity of cement	=	381	015

Therefore, Mahesh used **381 kg 15 g** of cement.

Example 9 : The total quantity of wheat in 7 bags is 546 kg 210 g. Find the quantity of wheat in one bag if there is equal quantity in each bag.

Solution :

		kg	g
Quantity of wheat in 7 bags	=	546	210
Quantity of wheat in 1 bag	=	546	210 ÷ 7

kg		g	
7) 5 4 6		2 1 0	78 kg
− 4 9			
5 6			
− 5 6			
0 0	7)	2 1 0	30 g
	−	2 1	
		0 0 0	

Thus, each bag of wheat weighs **78 kg 30 g**.

1. Multiply:

(a)

	g
	125
×	3

(b)

kg	g
128	75
×	7

(c)

kg
776
× 9

2. Divide:

(a) 248 kg 200 g ÷ 5

(b) 765 kg 75 g ÷ 5

(c) 72 kg 138 g ÷ 3

(d) 115 kg 575 g ÷ 5

(e) 976 kg 240 g ÷ 8

3. Answer the following questions:

(a) A box of oranges weigh 9 kg 555 g. If there are 6 such boxes of oranges to be carried on a rickshaw. How much weight will the rickshaw puller have to carry ?

(b) Amit bought a carton full of loaves of bread. If one loaf of bread weighs 850 g. What will be the weight of 6 such loaves of bread ?

(c) Sonia bought a packet of coffee weighing 1 kg 450 g. What is the total weight of 6 such packets of coffee?

(d) A bag of wheat weighs 68 kg 375 g. What will be the weight of 5 such bags of wheat ?

(e) Ravi bought a box of sweets weighing 3 kg 425 g. What is the total weight of 6 such boxes of sweets?

Measurement of Capacity

Take a Task | Watch Remedial

We have already learnt that the quantity of liquid and capacity of vessels are measured in litres and millilitres.

l is the short form of **litres**.

ml is the short form of **millilitres**.

The two types of containers used for measuring liquids are shown below:

For measuring water, milk etc.

For measuring oil like petrol, diesel, kerosene etc.

Conversion of Litres (*l*) Into Millilitres (ml)

We know that 1 litre = 1000 millilitres.

For the conversion of litres into millilitres, we multiply the number of litres by 1000.

So, 5 litres = 5 × 1000 ml = 5000 ml

8 litres = 8 × 1000 ml = 8000 ml

9 litres = 9 × 1000 ml = 9000 ml

Similarly, 6 litres 250 ml = 6 × 1000 ml + 250 ml

= 6000 ml + 250 ml = 6250 ml

Example 1 : Convert 9 litres 750 millilitres into millilitres (ml).

Solution : 9 litres 750 ml = 9 × 1000 ml + 750 ml

= 9000 ml + 750 ml = 9750 ml

Conversion of Millilitres (ml) Into Litres (*l*)

We know that, 1000 ml = 1 litre

Therefore, 5000 ml = 5 litres 7000 ml=7 litres

9500 ml = 9000 litres + 500 ml = 9 litres + 500 ml

= 9 litres 500 ml = 9 l 500 ml

Example 2 : Convert 5287 ml into litres and millilitres.

Solution : 5287 ml = 5000 ml + 287 ml

= 5 litres + 287 ml = 5 l 287 ml

Litre (*l*)

The standard unit to measure large quantity of liquids is called **litre**. It is written as '*l*'.

For example : milk, petrol, kerosene etc. are sold in litres.

Millilitres (ml)

Millilitre is used to measure small quantities of liquids. It is written as 'ml'.

For example : eyedrops, shampoo, perfumes etc are sold in millilitre.

1 Litre (*l*) = 1000 Millilitre (ml)

Conversions

Students, you are already aware of conversion of km into m and m into cm and also kg into g and vice-versa. We can call 6 litres as 6000 ml also. Let me explain it to you in detail!

We already know that 1 *l* = 1000 ml

1 *l* = 500 ml + 500 ml

or 1 *l* = 500 ml × 2 = **1000 ml**

(a) To convert 'litres' into 'millilitres' we multiply the number of litres by 1000.

$4\,l = 4 \times 1000$ ml = **4000 ml** $8\,l = 8 \times 1000$ ml = **8000 ml**

(b) To convert 'litres and millilitres' into 'millilitres', we multiply the litres by 1000 and add the millilitres.

$8\,l\,520$ ml $= 8 \times 1000$ ml $+ 50$ ml $= 8000$ ml $+ 520$ ml $= 8520$ ml

Exercise 8.9

Knowledge Application

1. Multiple Choice Questions (MCQs)

Choose the correct option:

(a) The standard unit of capacity is

(i) litres (ii) millilitres (iii) centimetres

(b) The short form of litre is

(i) ml (ii) l (iii) lit

(c) 8359 ml is equal to

(I) 8 l 359 ml (ii) 83 l 59 ml (iii) 59 l 83 ml

2. Convert into millilitres (ml):

(a) 8 litres (b) 3 litres (c) 6 litres

(d) 5 litres (e) 9 litres 500 ml (f) 7 litres 800 ml

(g) 18 litres 256 ml (h) 15 litres 150 ml (i) 8 litres 56 ml

3. Fill in the blanks:

(a) $9\,l$ = ... × ..... ml = ... ml

(b) $6\,l\,850$ ml = ... ml + 850 ml = ... ml

(c) $5\,l\,278$ ml = ... ml + ... ml = ... ml

Addition and subtraction in Measures of Capacity

Take a Task

Watch Remedial

Addition : Addition in measures of capacity is similar to addition in measures of length and mass.

Example 3 : Add 17 *l* 250 ml, 8 *l* 401 ml and 23 *l* 27 ml

Solution :

	l	ml
	17	250
	08	401
+	23	027

Step 1 : Arrange the *l* and ml columns respectively.

	l	ml
	17	250
	08	401
+	23	027
		678

Step 2 : Add the figures in the ml column first.

	l	ml
	17	250
	08	401
+	23	027
	48	678

Step 3 : Then add the figures in the *l* column.

Thus, the sum is **48 *l* 678 ml**.

Subtraction : Subtraction in measures of capacity is similar to that of subtraction in measures of length and mass.

Example 4 : Subtract 52 *l* 75 ml from 88 *l* 412 ml

Solution :

	l	ml
	88	412
–	52	075

Step 1 : Arrange the *l* and ml columns respectively. Always write the larger figure first. Fill up missing space with zeros.

	l	ml
	88	412
–	52	075
		337

Step 2 : Subtract the figures in the ml column first

l	ml
88	412
−52	075
35	337

Step 3 : Then subtract the figures in the l column.

Thus, the difference is **35 l 337 ml**.

Exercise 8.10

Knowledge Application

1. Add the following:

(a)

l
370
+ 315

(b)

l	ml
19	252
+ 52	319

(c)

l	ml
29	146
+ 12	497

2. Subtract:

(a)

l	ml
95	015
− 47	610

(b)

l	ml
135	304
− 88	792

(c)

l	ml
132	001
− 99	099

3. Add the following:

(a) 171 l 300 ml + 62 ml + 285 l 150 ml

(b) 59 l 405 ml + 140 l 27 ml + 72 ml + 806 ml

(c) 116 l 179 ml + 28 l 400 ml + 150 ml

Word Problems

Example 5 : Kapish purchased 12 l 600 ml of coconut oil, 18 l 250 ml of groundnut oil and 35 l 705 ml of mustard oil. How much oil did he purchase in total?

Solution :

	l	ml
Capacity of coconut oil =	12	600
Capacity of groundnut oil =	18	250
Capacity of mustard oil =	+35	705
	66	555

The total capacity of oil purchased by Kapish is **66 l 555 ml**.

Example 6 : Neetu purchased 35 *l* 335 ml oil. She consumed 12 *l* 685 ml of it. How much oil is left?

Solution :

	l	ml
Capacity of oil purchased =	35	335
Capacity of oil consumed =	– 12	685
Capacity of oil left =	22	650

Thus, capacity of oil left is **22 *l* 650 ml**.

Example 7 : A shopkeeper had 57 *l* 287 ml of oil. He sold 22 *l* 863 ml to one customer and 19 *l* 662 ml to another customer. How much oil is left with him?

Solution :

	l	**ml**
Capacity of oil sold to 1st customer =	22	863
Capacity of oil sold to 2nd customer =	+ 19	662
Capacity of oil sold =	42	525

	l	**ml**
Capacity of oil with the shopkeeper =	57	287
Capacity of oil sold =	– 42	525
Capacity of oil left =	14	762

Capacity of oil left with the shopkeeper is **14 *l* 762 ml**.

Exercise 8.11

Knowledge Application

Answer the following questions:

1. Mamta made 10 *l* 250 ml of orange squash, 15 *l* 100 ml of lemon squash and 12 *l* of pineapple squash. Find the total quantity of squash made by her.

2. Ravi bought 25 *l* of petrol on Monday, 20 *l* 270 ml on Tuesday, 35 *l* 255 ml on Wednesday and 18 *l* on Thursday. How much petrol did he buy in these 4 days?

3. I drink 350 ml of milk in the morning, 180 ml in the evening and 200 ml in the night. How much milk do I drink in the day?

4. A cow gives 14 *l* of milk at a time. The calf drank 2 *l* 335 ml of milk. How much milk is left with the milkman?

5. A drum has a capacity of 37 *l* 250 ml. If I pour 18 *l* 728 ml of water into it. How much more water can be poured in it?

6. Shekhar puts 25 *l* of petrol in the car at the beginning of the journey. At the end of the journey 11 *l* 200 ml of petrol is left in his car. How much petrol was used during his journey?

7. Raghav bought 18 *l* of paint for painting doors and windows. He required 6 *l* for painting doors and 9 *l* 775 ml for painting windows. How much paint was left?

8. Puja bought 18 *l* 822 ml of oil from the market. She consumed 7 *l* 385 ml of oil and 2 *l* of oil got spoiled. How much oil is left with her now?

Multiplication and division in Measures of Capacity

Multiplication : Multiplication in measures of capacity is also similar to that of ordinary multiplication of numbers.

Example 8 : 18 *l* 375 ml by 5.

Solution :

l	ml
18	375
×	5
91	875

∴ Products is 91 *l* 875 ml

Example 9 : 68 *l* 325 ml by 8.

Solution :

l	ml
68	325
×	8
546	600

∴ Product is 546 *l* 600 ml

Division : The process of division in measures of capacity is similar to ordinary division of numbers.

Example 10 : Divide 384 *l* 56 ml by 4

Solution :

	l	ml
4)	3 8 4	5 6
	− 3 6	
	2 4	
	− 2 4	
	0 0	

96 *l*

Step 1: Divide the figure in the *l* column by 4 first.

4) 5 6

− 4

1 6

− 1 6

0 0

14 ml

Step2 : When we get the remainder as zero, bring down the figures in ml column and divide by 4.

Thus, 384 l 56 ml ÷ 4 = **96 *l* 14 ml**.

Word Problems

Example 11 : A flask can be filled with 9 mugs of tea. Each mug holds 2 *l* 115 ml of tea. How much tea does the flask contain?

Solution :

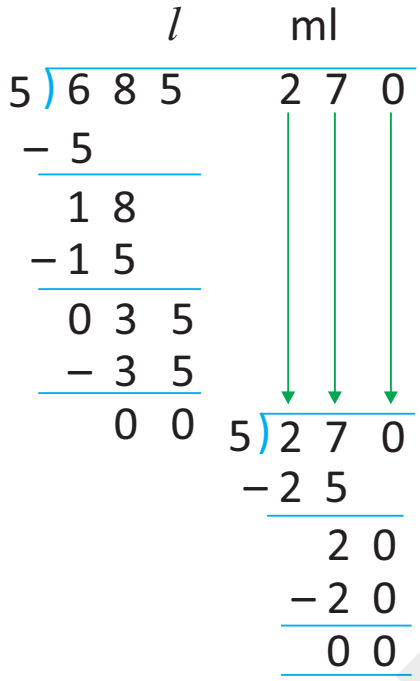
	l	**ml**
Capacity of 1 mug of tea =	2	115
Capacity of 9 mugs of tea =	×	9
Capacity of 9 mugs of tea =	19	035

The flask can hold **19 *l* 35 ml** of tea.

Example 12 : 5 drums together contain 685 *l* 270 ml of kerosene. What is the capacity of each drum?

Solution :

		l	ml
Capacity of 5 drums	=	685	270
Capacity of each drum	=	685*l*	270 ml ÷ 5



137 *l*

54 ml

Hence, Capacity of each drum for holding kerosene is **137 *l* 54 ml**.

Exercise 8.12

Knowledge Application

1. Multiply:

(a)

l	ml
12	335
×	2

(b)

l	ml
7	117
×	6

(c)

l	ml
67	173
×	3

(d)

l	ml
52	620
×	6

2. Divide:

(a) 420 *l* 66 ml ÷ 6

(b) 1098 *l* 900 ml ÷ 9

(c) 468 *l* 276 ml ÷ 2

(d) 735 *l* 555 ml ÷ 5

(e) 963 *l* 33 ml ÷ 3

3. Solve the following:

(a) Three drivers buy 30 *l* 250 ml of petrol each. How much petrol do they buy altogether?

(b) There are 4 tins to be filled up with oil, each having capacity of 13 *l* 485 ml. What quantity of oil is put in the 4 tins altogether?

(c) Suresh bought 8 tins of oil. Each tin contains 15 *l* 375 ml of oil. How much oil did he buy altogether?

(d) Rupali had 12*l* 870 ml of kerosene oil. She gave away 5*l* 275 ml kerosene oil to Supriya. How much oil is left with her?

Gap Analyzer™
Take a Test

1. Tick (✓) the correct answer:

(a) What is the standard unit of length?

(i) m ☐ (ii) *l* ☐ (iii) kg ☐

(b) How many metres make a kilometre?

(i) 2000 m ☐ (ii) 1000 m ☐ (iii) 500 m ☐

(c) How many millilitres make a litre?

(i) 1500 m*l* ☐ (ii) 2000 m*l* ☐ (iii) 1000 m*l* ☐

2. Match the following:

(a)	1 kg	(i)	2 kg
(b)	1 *l*	(ii)	100 cm
(c)	1 m	(iii)	1000 m*l*
(d)	2000 g	(iv)	1000 g

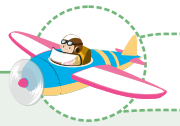
Custom Learning Path
Scan to Create Your Own Learning Path

Mental Math

Critical Thinking

Convert the following:

1. 3 km = _____ m
2. 2cm = _____ mm
3. 4000g = _____ kg
4. 300cm = _____ m
5. _____ *l* = 3000 m*l*
6. _____ g = 3 kg
7. 8*l* = _____ ml
8. _____ mm = 10 cm
9. 5 m = _____ cm



Fun Time Activity

Problem Solving

Fill in the blanks with the correct unit (m, cm, kg, g, *l* and m*l*) used to measure the following:

1. Length of a train _____
2. Weight of an elephant _____
3. Quantity of milk in a glass _____
4. Weight of a bag of rice _____
5. Quantity of medicine in a spoon _____

Maths Lab Activity

Conceptual Learning

Learning objective: To help the students understand how to measure different items and add them up.

Material required: Weighing machine, measuring jar, measuring tape, 5 items each to weight, to measure capacity, and to measure length, note books and pencils.

Procedure:

1. Divide yourselves into groups of 3 and choose a leader to conduct the activity. Arrange 3 tables, each with 1 measuring instrument and the items to measure.
2. Three groups are called forward to begin the activity. Each group will start measuring the items on the tables and note them down in their notebooks.
3. Next they will tally the figures and make a total.
4. The group with the maximum correct answers will be the winner. The activity continues until all the groups have had a chance to play.

Critical Thinking

Mayank had 6*l* 550m*l* of water. During a journey, he drank 5*l* 250m*l*. How much water is left now.