Unit – 3

MULTIPLICATION

Do you remember multiplication?

Let us solve some problems.

1. Multiply.

(a) $\begin{array}{r} 76 \\ \times\ 13 \\ \hline \\ \hline \end{array}$ (b) $\begin{array}{r} 532 \\ \times\ 25 \\ \hline \\ \hline \end{array}$ (c) $\begin{array}{r} 127 \\ \times\ 43 \\ \hline \\ \hline \end{array}$ (d) $\begin{array}{r} 483 \\ \times\ 21 \\ \hline \\ \hline \end{array}$

2. Multiply.

(a) 62 by 2 (b) 101 by 5 (c) 98 by 21 (d) 213 by 42

3. Find the product.

(a) 713 × 3 (b) 42 × 50 (c) 220 × 10 (d) 411 × 23

Let us discuss more about Multiplication.

Do you know Multiplicand and Multiplier?

$\begin{array}{r} 7 \\ \times\ 3 \\ \hline 21 \\ \hline \end{array}$

7 ← **Multiplicand** (the number to be multiplied)

× 3 ← **Multiplier** (the number by which we multiply)

21 ← **Product** (the answer we get after multiplication)

MULTIPLICATION (3-DIGIT AND 4-DIGIT NUMBER BY A 3-DIGIT NUMBER)

Example: Multiply 2,135 by 327

	L	T.Th	Th	H	T	O	
			2	1	3	5	
			×	3	2	7	
		1	4	9	4	5	←
+		4	2	7	0	0	←
+	6	4	0	5	0	0	←
	6	9	8	1	4	5	←

327 (the multiplier) can be written as:

327 = 3 hundreds + 2 tens + 7 ones
= 300 + 20 + 7

Step 1 : Find 2,135 × 7

Step 2 : Find 2,135 × 20

Step 3 : Find 2,135 × 300

Step 4 : Product of Step 1 + Product of Step 2 + Product of Step 3

Thus, 2,135 × 327 = 6,98,145

For the Teacher:
In this Chapter, we are discussing the multiplication of a 3-digit and 4-digit number by a 3-digit number with product not exceeding 9,99,999.

Worksheet 1

1. Multiply.

(a) 317 × 125 (b) 892 × 243 (c) 734 × 162

(d) 931 × 217 (e) 753 × 135 (f) 731 × 307

2. Multiply.

(a) 431 by 721 (b) 821 by 621 (c) 972 by 340

(d) 435 by 425 (e) 1,432 by 211 (f) 7,312 by 135

3. Find the product.

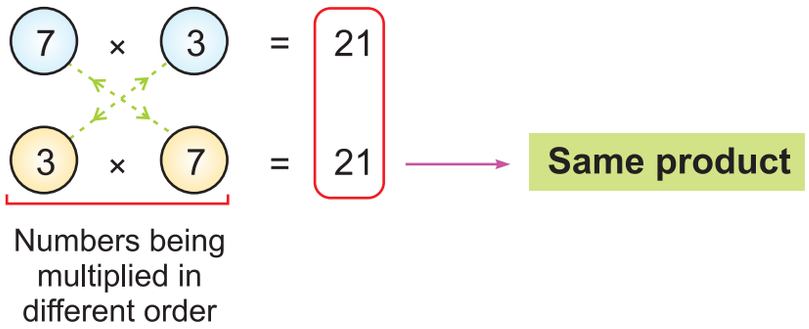
(a) 437 × 211 (b) 713 × 217 (c) 982 × 133

(d) 345 × 264 (e) 1,732 × 259 (f) 1,083 × 847

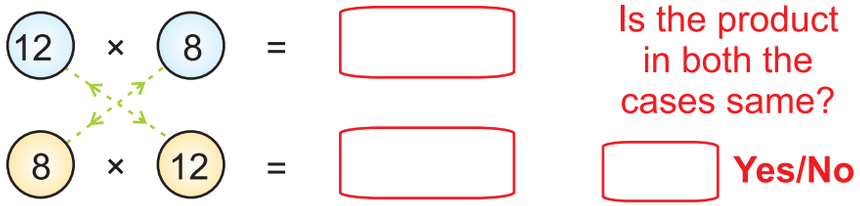
4. Using the digits 3, 1 and 5 only once, write the smallest and the largest 3-digit numbers. Also find their product.

PROPERTIES OF MULTIPLICATION

Let us find 7 × 3 and 3 × 7



Similarly, find:



Remember

If two numbers are multiplied in either order, the product remains the same.

Thus, from the above example we conclude:

$7 \times 3 = 3 \times 7$

$12 \times 8 = 8 \times 12$

Now, let us multiply three numbers.

Multiply 2, 5 and 8.

We can multiply three numbers in six different orders.

1st order	:	2 × 5 × 8	=	80
2nd order	:	5 × 2 × 8	=	80
3rd order	:	8 × 2 × 5	=	80
4th order	:	2 × 8 × 5	=	80
5th order	:	5 × 8 × 2	=	80
6th order	:	8 × 5 × 2	=	80

Product is the same

In order to multiply three numbers, first we multiply two of them and then, multiply the product obtained, by the third number.

Example:

$2 \times 5 \times 8$

$10 \times 8 = 80$

Remember

If three numbers are multiplied in any order, the product remains the same.

Multiplication by 1:

(a) 17 × 1 = 17 (b) 1 × 48 = 48

Remember
The product of a number and 1 is the number itself.

Multiplication by zero:

(a) 7 × 0 = 0 (b) 0 × 18 = 0

Remember
The product of any number and zero is zero.

Worksheet 2

1. Using the properties of multiplication, fill in the blanks.

(a) If 4 × 56 = 224 then, 56 × 4 = _____

(b) If 73 × 12 = 876 then, 12 × 73 = _____

(c) 925 × 213 = 213 × _____

(d) 621 × 127 = _____ × 621

(e) _____ × 615 = _____ × 713

(f) 7,256 × 1 = _____

(g) 1 × 276 = _____

(h) _____ × 396 = 396

(i) If 43 × 2 × 4 = 344 then, 2 × 43 × 4 = _____

(j) 11 × _____ × 42 = _____ × 42 × 56

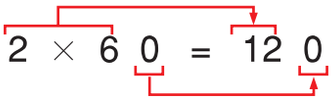
(k) 90 × 0 = _____

(l) 356 × _____ = 0

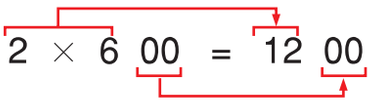
(m) 71 × 0 × 35 = _____

MULTIPLICATION (ORALLY)

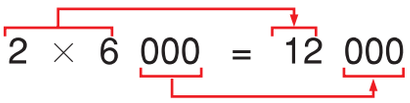
Now, let us see the following pattern.



2 × 6 = 12 with one zero on right side.



2 × 6 = 12 with two zeroes on right side.



2 × 6 = 12 with three zeroes on right side.

Remember

In order to multiply a number by 100, 200, ..., 900, we multiply the number by 1, 2, ..., 9 respectively, and put two zeroes on the right of the product. Similarly, we put three zeroes if we multiply a number by 1000, 2000, ..., 9000.

Worksheet 3

1. Find the product orally.

(a) 44 × 100 = _____

(b) 96 × 1,000 = _____

(c) 18 × 1,000 = _____

(d) 9 × 40 = _____

(e) 7 × 400 = _____

(f) 5 × 900 = _____

(g) 9 × 8,000 = _____

(h) 31 × 200 = _____

(i) 42 × 300 = _____

(j) 12 × 8,000 = _____

(k) 10 × 1,000 = _____

(l) 7 × 40 = _____

(m) 7 × 4,000 = _____

(n) 9 × 80 = _____

(o) 8 × 7,000 = _____

(p) 459 × 1,000 = _____

2. Fill in the blanks.

(a) 75 × 1,000 = _____

(b) 25 × _____ = 2,500

(c) _____ × 1,000 = 68,000

(d) 33 × _____ = 33,000

Word Problems

We need to do multiplication in many situations in our daily life. Let us study some examples.

Example 1: In a library, there are 1,250 books in each almirah. There are 62 almirahs in the library. Find the total number of books in the library.

Solution: Number of books in each almirah = 1,250

Number of almirahs = 62

Total number of books in 62 almirahs =

$$\begin{array}{r} 1\,2\,5\,0 \\ \times\ 6\,2 \\ \hline 2\,5\,0\,0 \\ +\,7\,5\,0\,0\,0 \\ \hline 7\,7\,5\,0\,0 \end{array}$$

Thus, the number of books in 62 almirahs is 77,500.

Example 2: Rajat saves ₹ 350 every month. How much money can he save, (i) in 12 months (ii) in four years?

Solution: (i) Money saved by Rajat in one month = ₹ 350

Money saved in 12 months =

$$\begin{array}{r} ₹\quad 3\,5\,0 \\ \times\ 1\,2 \\ \hline 7\,0\,0 \\ +\,3\,5\,0\,0 \\ \hline ₹\ 4\,2\,0\,0 \end{array}$$

Rajat saves ₹ 4,200 in 12 months.

(ii) We know that one year = 12 months

Money saved in one year = ₹ 4,200

Money saved in four years =

$$\begin{array}{r} ₹\ 4\,2\,0\,0 \\ \times\ 4 \\ \hline ₹\ 1\,6\,8\,0\,0 \end{array}$$

Therefore, in four years, he can save ₹ 16,800.

Worksheet 4

1. Solve the following word problems.

(a) There are 850 toffees in a packet. How many toffees are there in 215 packets?

(b) A can of oil contains 15 litres of oil. How much oil is there in 240 such cans?

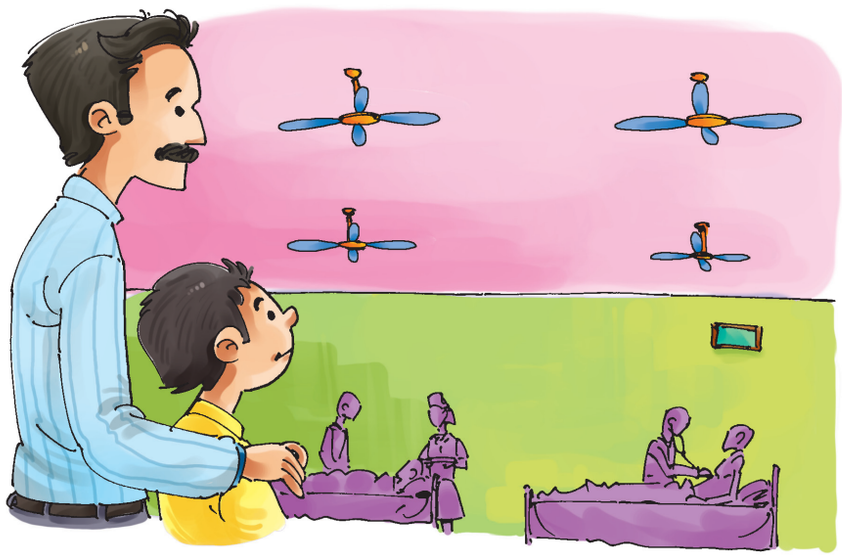
(c) There are 238 beads in a necklace. Find the total number of beads in 167 such necklaces.

(d) One dozen bananas cost ₹ 36. What is the cost of 720 dozen bananas?

(e) There are 1,000 pages in a book. How many pages are there in 75 such books?

Value Based Question

Rohan visited a charitable hospital with his grandparents during a summer vacation. There he saw that most of the fans were not in proper working condition. Rohan wanted to help the patients of the charitable hospital by donating some fans. He spoke to his father who was the president of his colony. The colony donated 35 fans to the charitable hospital. The hospital authorities were thankful to Rohan and his father.



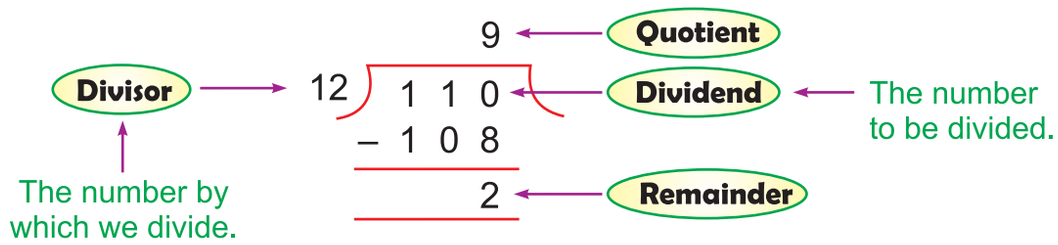
1. If the cost of one fan is ₹ 895, how much money was spent on the fans?
2. In what other ways can you help a charitable hospital?

Unit – 4

DIVISION

Do you remember division?
Let us recall....

Division is fun when you know your multiplication tables **by heart!**



1. Divide and find the quotient and remainder.

(a) 84 ÷ 4 (b) 984 ÷ 9 (c) 786 ÷ 10

(d) 465 ÷ 8 (e) 720 ÷ 10 (f) 864 ÷ 8

(g) 118 ÷ 6 (h) 226 ÷ 4 (i) 643 ÷ 7

2. Divide orally using multiplication tables.

(a) 15 ÷ 5 (b) 56 ÷ 8 (c) 70 ÷ 10

(d) 63 ÷ 9 (e) 28 ÷ 7 (f) 36 ÷ 6

3. Fill in the blanks.

(a) 17 ÷ 1 = ☐ (b) 0 ÷ 8 = ☐ (c) 32 ÷ 32 = ☐

(d) 9 ÷ ☐ = 9 (e) ☐ ÷ 6 = 0 (f) ☐ ÷ 1 = 18

Relationship between Dividend, Divisor, Quotient & Remainder

Let us solve 20 ÷ 3

$$\begin{array}{r} 6 \\ 3\overline{)\,20} \\ -\,18 \\ \hline 2 \end{array}$$

Here, Quotient = 6
Remainder = 2
Divisor = 3
Dividend = 20

Find divisor × quotient,

= 3 × 6 = 18

Add remainder to it,

18 + remainder

= 18 + 2 = 20 ← (same as the dividend)

So, we conclude that: **Divisor × Quotient + Remainder = Dividend**

Divisor × Quotient + Remainder = Dividend

Worksheet 1

1. Divide and check your answers.

(a) 98 by 8 (b) 87 by 9 (c) 725 by 10

(d) 547 by 7 (e) 918 by 10 (f) 132 by 6

2. Keeping the relation between divisor, quotient, remainder and dividend in mind, find the missing numbers.

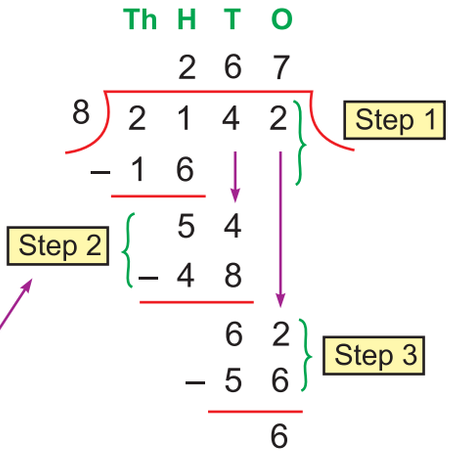
	Divisor	Quotient	Remainder	Dividend
(a)	8	6	4	
(b)	3	11	2	
(c)	8	8	0	
(d)	8	7		56
(e)	6	4		27

Division (4-digit number by single digit number)

> **Remember**
> We start division from the extreme left of dividend.

Example 1: Divide 2,142 by 8.

Solution: We arrange the numbers as:



Step 1:
We start with thousands. As 2 < 8,
we shall take next digit, that is 1 together with 2.

Now, divide 21 hundreds by 8
Recite the multiplication table of 8:
2 × 8 = 16 < 21
3 × 8 = 24 > 21

21 ÷ 8 = 2 as quotient, with remainder 5.
Write 2 at hundreds place in quotient.

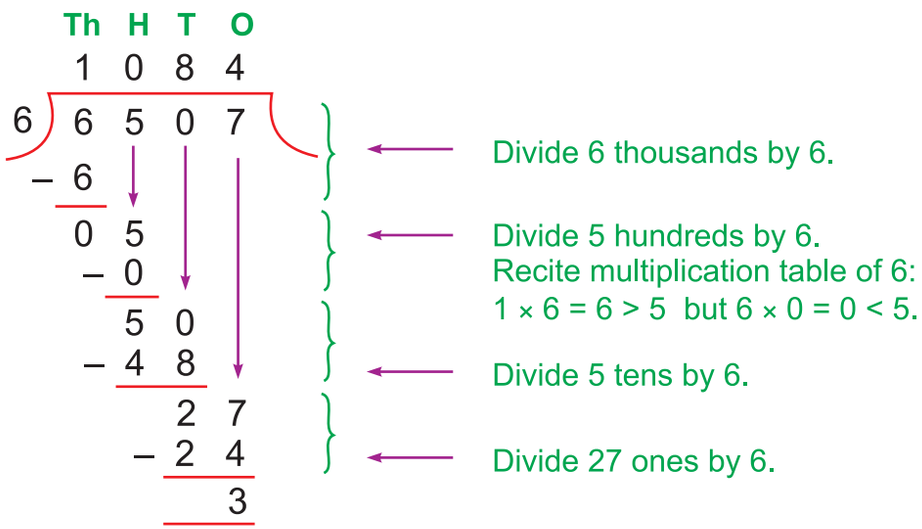
Step 2:
Bring next digit, that is 4 down.
It gives 54 tens. Divide 54 tens by 8.
54 ÷ 8 = 6 as quotient, with remainder 6.
Write 6 at tens place in quotient.

Step 3:
Bring next digit, that is 2 down. It gives 62 ones.
Divide 62 ones by 8.
62 ÷ 8 = 7 as quotient, with remainder 6.
Write 7 at ones place in quotient.

We get Quotient = 267, Remainder = 6

Example 2: Divide 6,507 by 6.

Solution:



We get Quotient = 1084, Remainder = 3

Worksheet 2

1. Divide and write quotient and remainder.

(a) 7,525 ÷ 5 (b) 8,296 ÷ 4 (c) 4,926 ÷ 7

(d) 2,786 ÷ 3 (e) 4,924 ÷ 8 (f) 4,528 ÷ 9

2. Divide and check your answer.

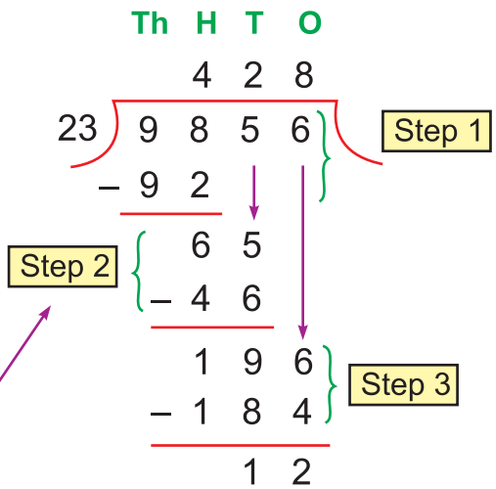
(a) 7,352 by 2 (b) 4,325 by 6 (c) 7,316 by 5

(d) 4,217 by 8 (e) 6,275 by 4 (f) 1,026 by 3

Division (4-digit number by 2-digit number)

Example 1: Divide 9,856 by 23.

Solution: We arrange the numbers as:



Step 1:
We start with thousands. As 9 < 23, take next digit, that is 8 together with 9. Divide 98 hundreds by 23. Multiplication table of 23 gives:

$23 \times 4 = 92 < 98$

$23 \times 5 = 115 > 98$

$98 \div 23 = 4$ as quotient, with remainder 6.
Write 4 at hundreds place in quotient.

Step 2:
Bring next digit, that is 5 down. It gives 65 tens. Divide 65 tens by 23. Multiplication table of 23 gives:

$23 \times 2 = 46 < 65$

$23 \times 3 = 69 > 65$

$65 \div 23 = 2$ as quotient, with remainder 19.
Write 2 at tens place in quotient.

Step 3:
Bring next digit, that is 6 down. It gives 196 ones. Divide 196 ones by 23. Multiplication table of 23 gives:

$23 \times 8 = 184 < 196$

$23 \times 9 = 207 > 196$

$196 \div 23 = 8$ as quotient, with remainder 12.
Write 8 at ones place in quotient.

We get Quotient = 428, Remainder = 12

Worksheet 3

1. **Divide.**

   (a) 7,982 ÷ 11 (b) 6,287 ÷ 12 (c) 6,258 ÷ 25

   (d) 9,826 ÷ 37 (e) 1,889 ÷ 62 (f) 5,985 ÷ 75

2. **Divide and check your answers.**

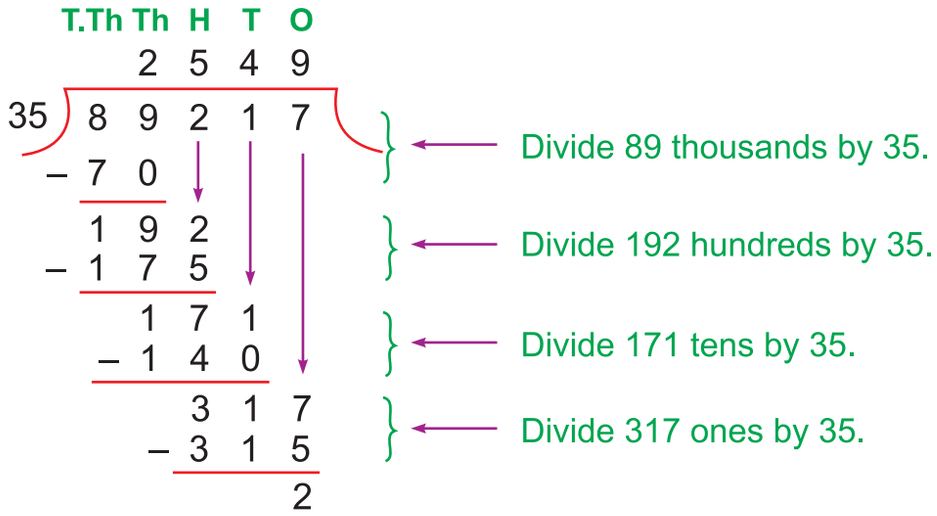
   (a) 1,826 by 12 (b) 4,210 by 15 (c) 7,615 by 27

   (d) 9,885 by 46 (e) 6,016 by 66 (f) 8,423 by 54

Division (5-digit number by 2-digit number)

Example 1: Divide 89,217 by 35

Solution:



We get Quotient = 2549, Remainder = 2

Worksheet 4

1. **Divide.**

   (a) 72,895 by 15 (b) 91,027 by 12 (c) 61,526 by 27

   (d) 54,327 by 45 (e) 41,276 by 68 (f) 91,257 by 54

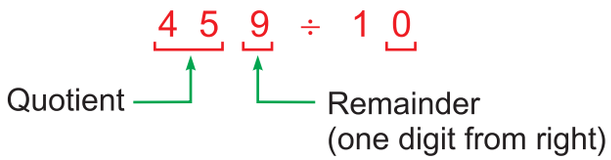
2. **Find the quotient and the remainder.**

   (a) 62,825 ÷ 21 (b) 52,525 ÷ 25 (c) 12,157 ÷ 12

   (d) 70,012 ÷ 49 (e) 98,125 ÷ 62 (f) 62,923 ÷ 26

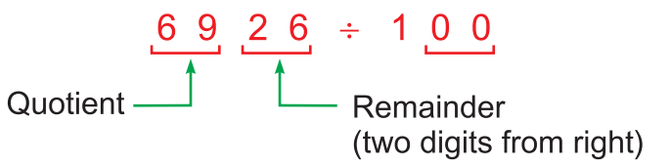
DIVISION (ORALLY)

In Class-III, we have learnt dividing a number by 10 (orally), let us recall:



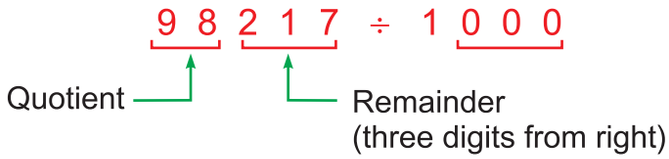
When a number is divided by 10, the quotient is obtained by removing the first digit from right. The digit removed is the remainder.

In the same way, we can divide orally by 100:



When a number is divided by 100, the quotient is obtained by removing the first two digits from right. The digits removed is the remainder.

Divide orally by 1000:



When a number is divided by 1000, the quotient is obtained by removing the first three digits from right. The digits removed is the remainder.

Worksheet 5

1. Complete the following table.

		Quotient	Remainder
(a)	7,321 ÷ 10	732	1
(b)	213 ÷ 10		
(c)	19,827 ÷ 10		
(d)	4,324 ÷ 100		
(e)	98,276 ÷ 100		
(f)	62,731 ÷ 100		
(g)	47,321 ÷ 1000		
(h)	9,827 ÷ 1000		
(i)	62,578 ÷ 1000		
(j)	12,345 ÷ 1000		
(k)	98,271 ÷ 10		
(l)	73,219 ÷ 100		

Word Problems

We need to do division in many situations in our daily life. Let us study some examples.

Example 1: The cost of five pens of the same type is ₹ 75. Find the cost of one pen.

Solution: Cost of 5 pens = ₹ 75

Cost of 1 pen = ₹ 75 ÷ 5

```
    1 5
  ------
5 | 7 5
  - 5
  -----
    2 5
  - 2 5
  -----
      0
```

Therefore, the cost of one pen is ₹ 15.

Example 2: The annual salary of Raman is ₹ 1,57,620. Find his monthly salary.

Solution: Raman's annual salary = ₹ 1,57,620

One year = 12 months

His monthly salary = ₹ 1,57,620 ÷ 12

```
      1 3 1 3 5
    ------------
12 | 1 5 7 6 2 0
   - 1 2
   -------
     3 7
   - 3 6
   -------
       1 6
     - 1 2
     -------
         4 2
       - 3 6
       -------
           6 0
         - 6 0
         -------
             0
```

Therefore, Raman's monthly salary is ₹ 13,135.

Worksheet 6

1. Solve the following word problems.

(a) The cost of nine cycles is ₹ 13,725. Find the cost of one cycle.

(b) There are equal number of students in each class. In 24 classes, there are 1,104 students. How many students are there in each class?

(c) A book has 3,125 pages. Reema reads 25 pages daily. In how many days will she finish the whole book?

(d) 11,424 candles are packed in 24 boxes. How many candles are there in each box?

(e) The product of two numbers is 7,695. If one of them is 57, find the other.

(f) 42 books can fit on one shelf of an almirah. How many shelves will 4,116 books require?

(g) A 75 m ribbon is cut into 15 pieces of same length. What is the length of each piece?

Value Based Question

Today is Neha's birthday. She wants to celebrate it in a different way. She spoke to her parents and they decided to distribute free gifts to the children of an orphanage near their house. Neha distributed gifts worth ₹ 3,360 and was very happy.

1. If there are 32 children in the orphanage, what is the value of each gift?
2. How would you like to celebrate your next birthday?
3. Suggest two different ways in which you can celebrate your birthday.

Brain Teasers (Multiplication and Division)

1. Tick (✔) the correct answer.

(a) There are _____ dozens in 264.

(i) 44 (ii) 22 (iii) 13 (iv) 11

(b) 2 lakh × _____ = 20 lakh

(i) 0 (ii) 10 (iii) 1 (iv) 100

(c) 7 × 3 × 0 × 5 = _____

(i) 21 (ii) 15 (iii) 0 (iv) 105

(d) If Divisor = 7, Remainder = 3, Quotient = 3 then, Dividend = _____

(i) 13 (ii) 16 (iii) 21 (iv) 24

(e) Product of the greatest 2-digit number and the smallest 3-digit number is–

(i) 990 (ii) 9000 (iii) 99000 (iv) 9900

2. Solve the following sums.

(a) 3,282 × 213

(b) 19,816 × 6

(c) 4,172 ÷ 26

(d) 14,865 ÷ 15

3. Replace ★ by the correct number.

(a)
$$\begin{array}{r} 1\ 8\ 2\ 9 \\ \times\ 3\ 1\ 8 \\ \hline 1\ \bigstar\ 6\ 3\ 2 \\ +\ 1\ 8\ 2\ 9\ \bigstar \\ +\bigstar\ 4\ 8\ \bigstar\ \bigstar\ \bigstar \\ \hline 5\ \bigstar\ 1\ 6\ 2\ 2 \end{array}$$

(b) 432 ÷ ★ = 24

(d)
$$\begin{array}{r} 2\ 1\ 9\ 8 \\ \times\ 1\ 2\ 5 \\ \hline 1\ 0\ 9\ 9\ 0 \\ +\ 4\ 3\ \bigstar\ 6\ \bigstar \\ +\bigstar\ 1\ \bigstar\ 8\ \bigstar\ \bigstar \\ \hline 2\ \bigstar\ 4\ 7\ \bigstar\ 0 \end{array}$$

(c) ★ ÷ 60 = 10

4. Divide and check the answer.

(a) 2,000 by 12

(b) 7,682 by 45

5. **Given that 270 × 15 = 4,050, find the product.**

   (a) 270 × 16 (b) 270 × 14

6. **What is the total cost of fencing 275 plots of land if the cost of fencing one plot of land is ₹ 950?**

7. **Fill in the blanks.**

   (a) 7,612 × _____ = 40 × 7,612

   (b) _____ × 1 = 89,210

   (c) 515 × _____ × 18 = 5 × _____ × 18

   (d) 10 × _____ = 8,000

   (e) 176 ÷ _____ = 176

   (f) _____ ÷ 82 = 0

   (g) If 85,715 ÷ 35 = 2,449 then, 85,715 ÷ 2,449 = _____

   (h) 7,542 ÷ 1000, quotient = _____ and remainder = _____

Unit – 5

LENGTH

Do you remember
Centimetre (cm), Metre (m), Kilometre (km)?

We know:
1 metre = 100 cm
1 kilometre = 1000 m

We also know:
The standard unit of length is **metre.**
The smallest unit of length is **millimetre (mm).**

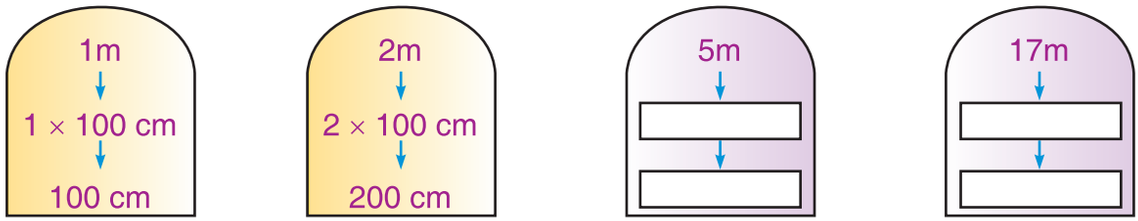
1. **Name any five things sold by a shopkeeper by measuring length.**
2. **Find the length of any three objects in your classroom.**
3. **Which unit will you choose to express the following:**
   (a) Height of a telephone pole.
   (b) Length of your skirt/shorts.
   (c) Distance between Delhi & Agra.
   (d) Height of your study table.
   (e) Distance between Earth & Moon.
   (f) Length of a road.

CONVERSIONS

Converting bigger unit into smaller unit

I. Converting metres into centimetres

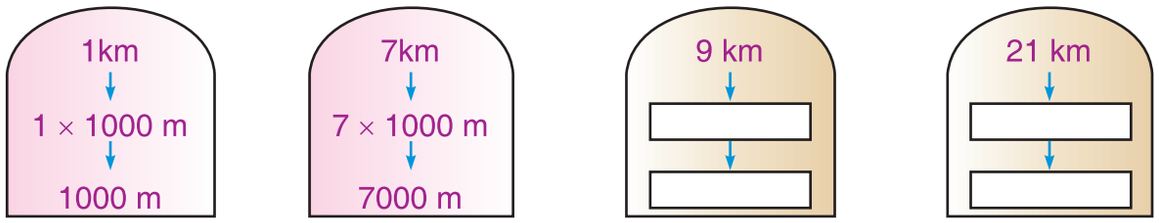
1 m = 100 cm



We multiply number of metres by 100 to convert 'metres' into 'centimetres'.

II. Converting kilometres into metres

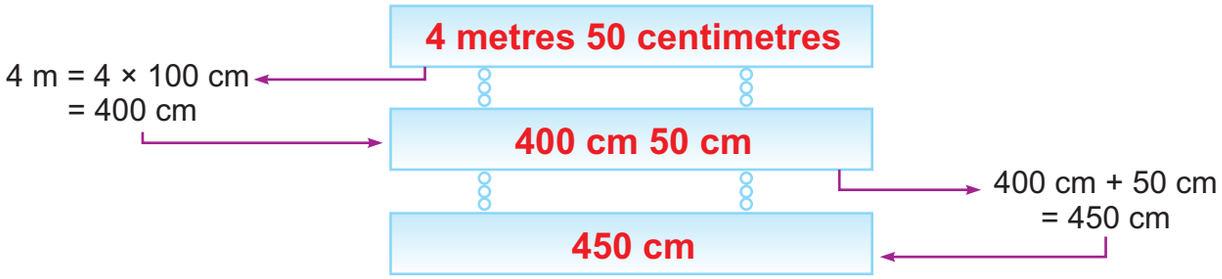
1 km = 1000 m



We multiply number of metres by 1000 to convert 'kilometres' into 'metres'.

III. Converting metres and centimetres into centimetres

Let us now convert 4 metres 50 centimetres into centimetres.



We convert the number of 'metres' into 'centimetres' and add to it the number of 'centimetres'.

IV. Converting kilometres and metres into metres

Similarly, convert 6 kilometres 250 metres into metres.

We convert the number of 'kilometres' into 'metres' and add to it the number of 'metres'.

Worksheet 1

1. Fill in the blanks.

(a) 4 m = ☐ cm (b) 8 m = ☐ cm

(c) 10 km = ☐ m (d) 63 km = ☐ m

2. Convert the following into centimetres.

(a) 3 m 40 cm (b) 19 m 75 cm (c) 8 m 3 cm

(d) 34 m 5 cm (e) 17 m 30 cm (f) 50 m 5 cm

3. Convert the following into metres.

(a) 4 km 315 m (b) 7 km 125 m (c) 25 km 500 m

(d) 19 km 5 m (e) 152 km 35 m (f) 4 km 8 m

4. State 'True' or 'False'.

(a) 6 m 3 cm = 63 cm ☐

(b) 14 m 20 cm = 1420 cm ☐

(c) 9 km 52 m = 952 m ☐

(d) 2 km 2 m = 2002 m ☐

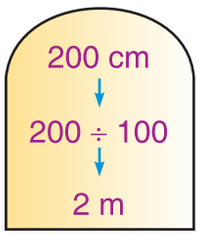
(e) 26 km 516 m = 26516 m ☐

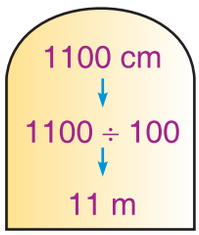
(f) 10000 m = 10 km ☐

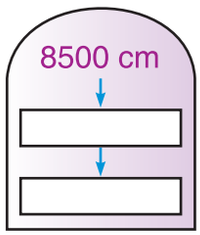
Converting smaller unit into bigger unit

I. Converting centimetres into metres

100 cm = 1 m



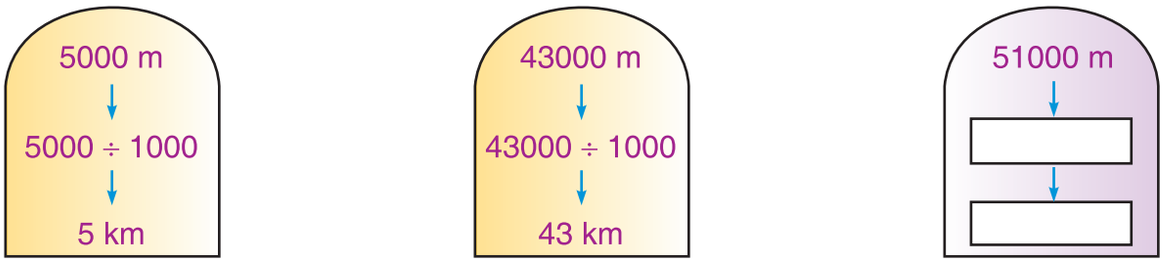




We divide the number of centimetres by 100 to convert 'centimetres' into 'metres'.

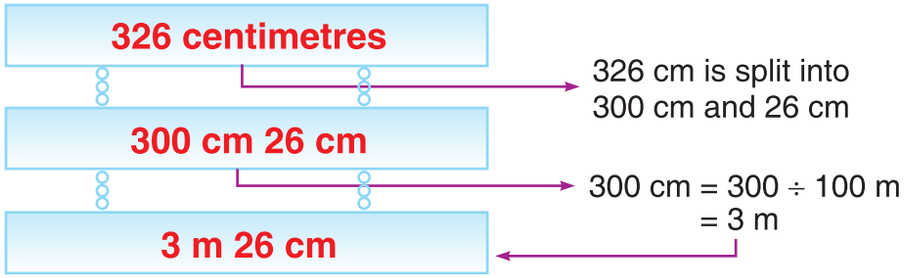
II. Converting metres into kilometres

1000 m = 1 km



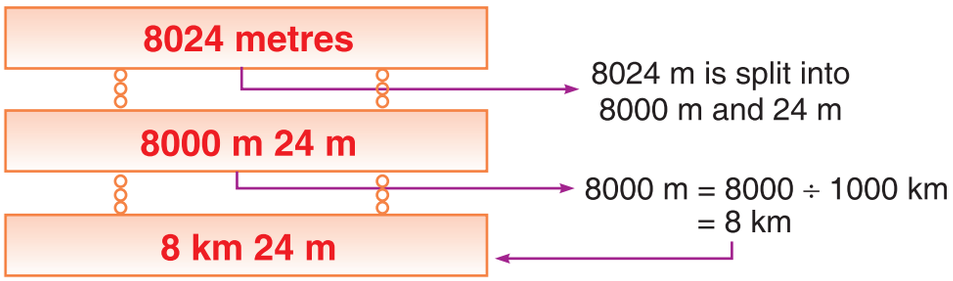
We divide the number of metres by 1000 to convert 'metres' into 'kilometres'.

III. Converting centimetres into metres and centimetres



We divide the number of centimetres by 100 to convert 'centimetres' into 'metres'.

IV. Converting metres into kilometres and metres



We divide the number of metres by 1000 to convert 'metres' into 'kilometres'.

Worksheet 2

1. Convert into metres and centimetres.

(a) 700 cm (b) 3500 cm (c) 750 cm (d) 4444 cm

(e) 625 cm (f) 301 cm (g) 5260 cm (h) 3008 cm

2. Convert into kilometres and metres.

(a) 9000 m (b) 35000 m (c) 2250 m (d) 3009 m

(e) 29056 m (f) 5065 m (g) 15623 m (h) 50005 m

Addition and Subtraction by Regrouping

Let us add 39 m 58 cm and 41 m 71 cm.

m	cm	
1		carry to 'm' column
39	58	129 cm → 1m 29 cm
+ 41	71	
81m	29 cm	keep in 'cm' column

Similarly, let us find the difference between 13 km 355 m and 28 km 175 m.

1 km (1000 m) borrowed from 28 km

km	m		km	m
27				
~~28~~	175	We cannot subtract 355 m from 175 m. Let us borrow 1 km from the 'km' column.	27	1175 (1000 m + 725 m)
– 13	355		– 13	355
			14 km	820 m

Worksheet 3

1. Add.

(a) 3 m 52 cm and 8 m 46 cm

(b) 20 m 78 cm and 15 m 70 cm

(c) 12 m 66 cm, 34 m 23 cm and 42 m 35 cm

(d) 7 km 455 m and 9 km 543 m

(e) 72 km 450 m and 43 km 950 m

(f) 25 km 145 m, 43 km 98 m and 35 km 650 m

2. Find the difference.

(a) 8 m 75 cm and 5 m 53 cm

(b) 71 m 96 cm and 17 m 63 cm

(c) 9 m 25 cm and 3 m 44 cm

(d) 23 m 14 cm and 18 m 23 cm

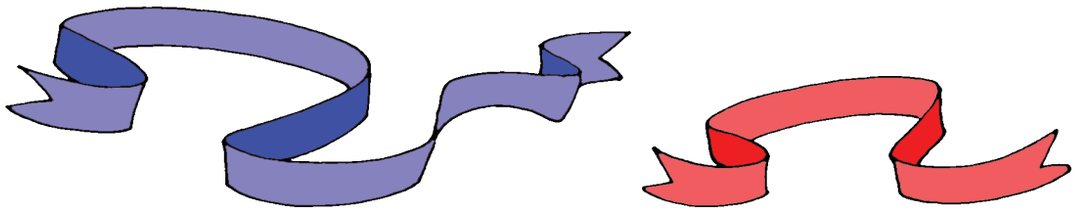
(e) 9 km 200 m and 7 km 450 m

(f) 45 km 525 m and 34 km 614 m

Word Problems

Example 1: Sonu needs 5 m 25 cm of blue ribbon and 2 m 50 cm of red ribbon for her doll. What is the total length of ribbon needed?

Solution:



5 m 25 cm 2 m 50 cm

Here, we add the two lengths to find the total length.

		m	cm
Length of blue ribbon needed	=	5	25
Length of red ribbon needed	=	+ 2	50
Total length of ribbon needed	=	7 m	75 cm

Sonu needs 7 m 75 cm ribbon.

Example 2: A roll of electric wire contains 75 m 50 cm of wire. If 62 m 75 cm of wire is used, how much wire is left on the roll?

Solution:

Here, we subtract two lengths to find out the wire left.

		m	cm	
		74	100	→ We borrow 1 m = 100 cm from metres column
Total length of wire	=	~~75~~	50	
Wire used	=	– 62	75	
Wire left	=	12 m	75 cm	

12 m 75 cm of wire is left on the roll.

Worksheet 4

1. Solve the following word problems.

(a) Neetu bought 3 m 75 cm of cloth for shirt and 2 m 20 cm of cloth for trouser. What is the total length of cloth she bought?

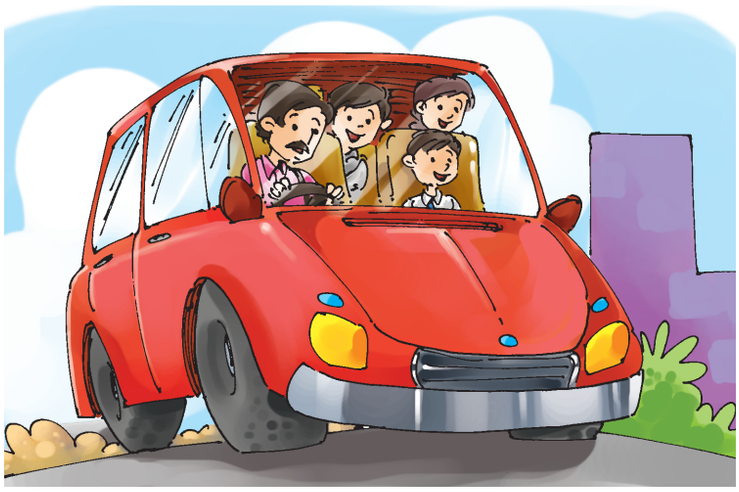
(b) Amit travelled 15 km 550 m by train, 12 km 400 m by bus and 1 km 250 m by scooter. How much distance did he travel in all?

(c) Mrs Renu has a ribbon 16 m 75 cm long. She cuts it into two pieces. One piece is 8 m 90 cm. Find the length of the other piece.

(d) The heights of Ram and Shyam are 1 m 75 cm and 1 m 28 cm respectively. Who is taller and by how much?

(e) An ant climbed 9 m 50 cm on a wall. Then, it came down 4 m 75 cm along the same wall. How far is the ant from the starting point?

Value Based Question

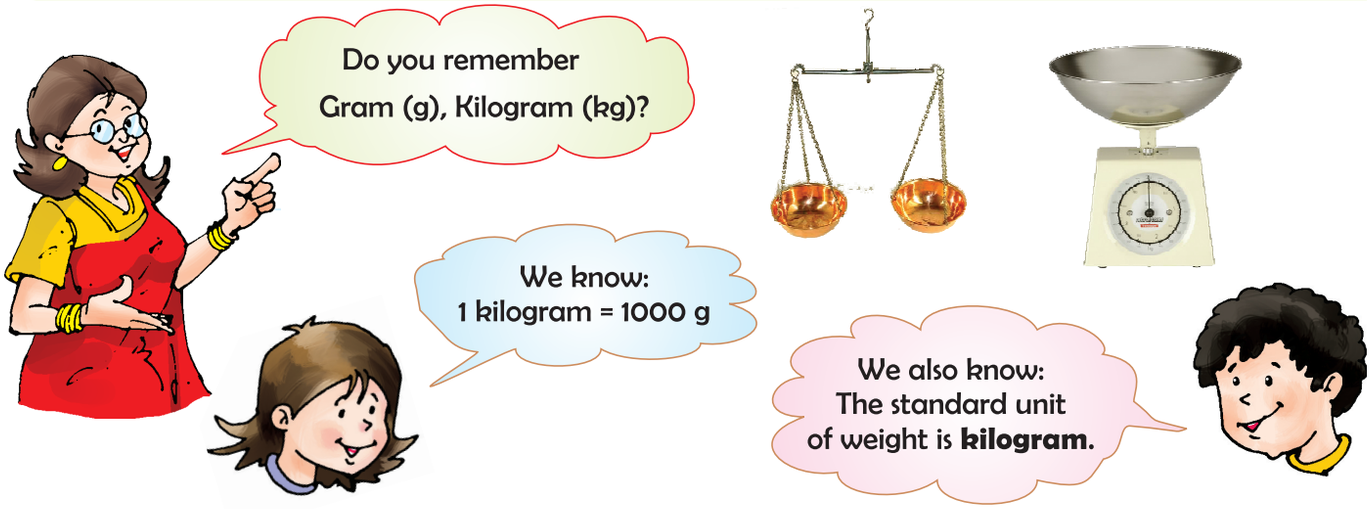


Amit stays in Neelgagan Apartment. His father drops him to school everyday in his car travelling a distance of 9 km 320 m daily. One day his father's friend Mr Kumar visited Amit's house. While conversing, they came to know that his two children Rohan and Sohan also study in Amit's school only. Then they decided to do car pooling. Now Amit's father has to travel a distance of 1 km 130 m more to pick up Rohan and Sohan and drop the three children to school.

1. How much distance will Amit's father travel now for dropping all the children to the school?
2. What are the advantages of car pooling?

Unit – 6

WEIGHT



1. **Name any five things sold by a shopkeeper by measuring weight.**
2. **Which unit will you choose to express the following:**
   - (a) Weight of an orange.
   - (b) Weight of a car.
   - (c) Weight of your pencil box.
   - (d) Weight of a bag of cement.
   - (e) Weight of a gold chain.
   - (f) Weight of a sack of oranges.

Do you know?

1 gram = 100 centigrams

1 centigram = 10 milligrams

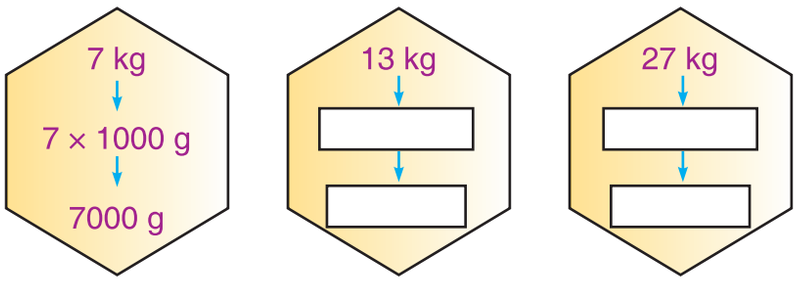
Milligram is the smallest unit of weight.

CONVERSIONS

Converting bigger unit into smaller unit

I. Converting kilograms into grams

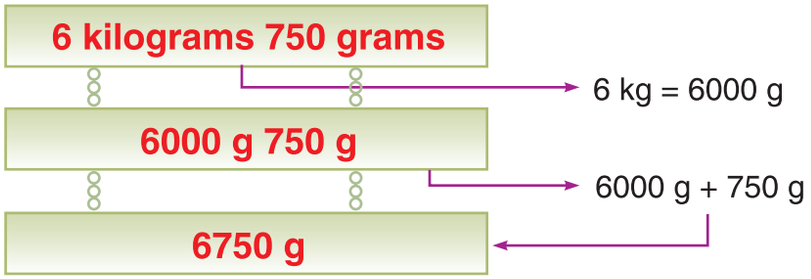
1 kg = 1000 g



We multiply the number of kilograms by 1000 to convert 'kilograms' into 'grams'.

II. Converting kilograms and grams into grams

Let us convert 6 kilograms 750 grams into grams.



We convert the number of 'kilograms' into 'grams' and add to it the number of 'grams'.

Worksheet 1

1. Fill in the blanks.

(a) 4 kilograms = ____ grams (b) 13 kilograms = ____ grams

(c) 10 kilograms = ____ grams (d) 51 kilograms = ____ grams

(e) 29 kilograms = ____ grams (f) 300 kilograms = ____ grams

2. Convert the following into grams.

(a) 7 kg 570 g (b) 11 kg 910 g

(c) 23 kg 56 g (d) 74 kg 3 g

(e) 105 kg 75 g (f) 10 kg 10 g

(g) 329 kg 923 g (h) 100 kg 5 g

(i) 3 kg 15 g (j) 24 kg 95 g

3. State 'True' or 'False'.

(a) 2 kg 340 g = 2340 g ____

(b) 6 kg 52 g = 652 g ____

(c) 190 kg = 19000 g ____

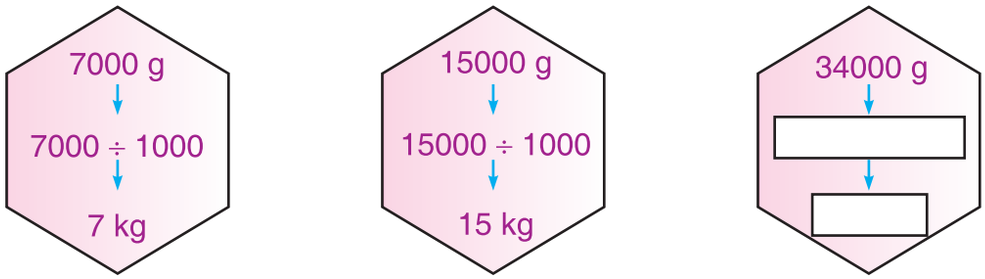
(d) 61 kg 8 g = 6108 g ____

(e) 342 kg 9 g = 3429 g ____

Converting smaller unit into bigger unit

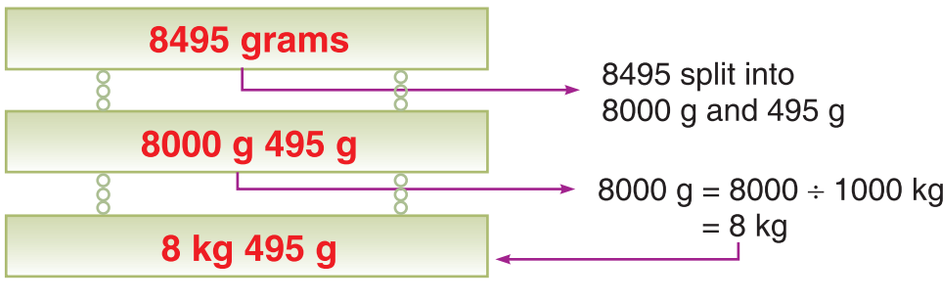
I. Converting grams into kilograms

1000 g = 1 kg



We divide the number of grams by 1000 to convert 'grams' into 'kilograms'.

Let us also convert 8495 grams into kilograms and grams.



Worksheet 2

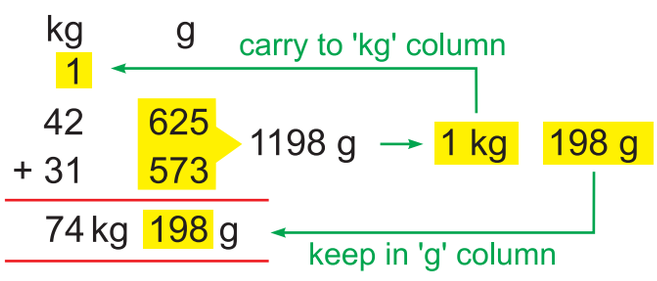
1. Convert the following into kilograms and grams.

(a) 2000 g (c) 5620 g (e) 9206 g (g) 10001 g

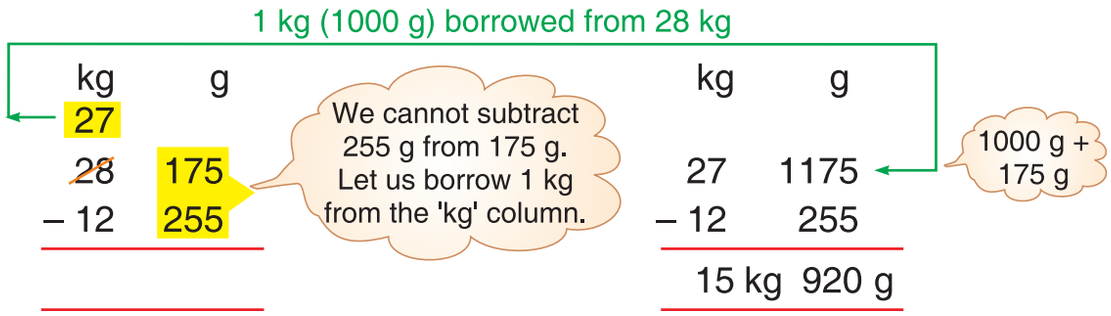
(b) 8000 g (d) 6005 g (f) 11035 g (h) 72565 g

Addition and Subtraction by Regrouping

Let us add 42 kg 625 g and 31 kg 573 g



Similarly, let us find the difference between 12 kg 255 g and 28 kg 175 g.



Worksheet 3

1. Add.

(a) 7 kg 325 g and 9 kg 414 g

(b) 19 kg 298 g and 31 kg 635 g

(c) 42 kg 634 g and 51 kg 523 g

(d) 37 kg 86 g and 29 kg 894 g

(e) 2 kg 310 g, 5 kg 426 g and 6 kg 485 g

(f) 62 kg 5 g, 71 kg 52 g and 11 kg 529 g

2. Find the difference.

(a) 8 kg 475 g and 3 kg 162 g

(b) 13 kg 95 g and 31 kg 296 g

(c) 42 kg 675 g and 26 kg 439 g

(d) 9 kg 439 g and 12 kg 178 g

(e) 99 kg 561 g and 120 kg 372 g

(f) 150 kg 750 g and 110 kg 950 g

Word Problems

Example 1: A shopkeeper had 32 kg 500 g of apples, 25 kg 225 g of oranges and 9 kg 710 g of pears in his shop. What is the total quantity of fruits in his shop?

Solution:

32 kg 500 g

25 kg 225 g

9 kg 710 g

Here, we add all the quantities to get the total quantity.

			kg	g
Quantity of apples	=		32	500
Quantity of oranges	=		25	225
Quantity of pears	=	+	9	710
Total quantity of fruits	=		67 kg	435 g

67 kg 435 g fruits are there in the shop.

Example 2: John's mother used 28 kg 700 g of ghee out of a container of 50 kg of ghee. How much ghee is left in the container?

Solution:

Ghee container

Ghee used

Here, we subtract the two weights in order to get the ghee that is left in the container.

			kg	g
			49	1000
Total Ghee in the container	=		~~50~~	000
Ghee used	=	–	28	700
Ghee left in the container	=		21 kg	300 g

21 kg 300 g of ghee is left in the container.

Worksheet 4

1. Solve the following word problems.

(a) Two baskets contain 8 kg 650 g and 5 kg 550 g of tomatoes. How much is the total quantity of tomatoes?

(b) A family consumed 40 kg 800 g flour in the month of December, 25 kg 500 g in the month of January and 38 kg 750 g in the month of February. What was the total consumption of flour for the three months?

(c) In a ration shop, there was 1250 kg 875 g of wheat in the morning. During the day, 1080 kg 250 g of wheat was sold out. By the evening how much of wheat was left in the shop?

(d) The weight of one watermelon is 5 kg 350 g and that of another is 4 kg 945 g. Which watermelon is of more quantity and by how much?

Unit – 7

CAPACITY

Do you remember
Millilitres (ml), Litres (l)?

We know:
1 l = 1000 ml

We also know:
The standard unit
of capacity is **litre.**

1. **Name five things which are sold by measuring capacity.**
2. **Which unit will you choose to express the following:**

(a) Milk in a cup. (b) Petrol in a car. (c) Water in a bottle.

(d) Medicine in a small bottle. (e) Oil in a can. (f) Ink in an inkpot.

(g) Water in a bucket. (h) Juice in a bottle.

Do you know?

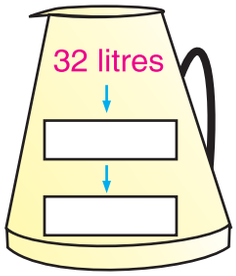
1 kilolitre = 1000 litres
The biggest unit of capacity is **kilolitre.**

CONVERSIONS

Converting bigger unit into smaller unit

I. Converting litres into millilitres

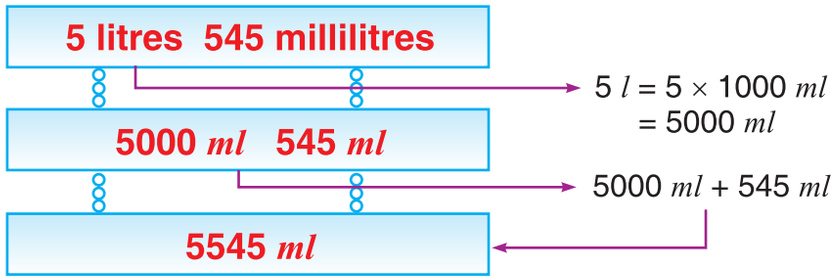
1 l = 1000 ml



We multiply the number of litres by 1000 to convert 'litres' into 'millilitres'.

II. Converting litres and millilitres into millilitres

Let us convert 5 litres 545 millilitres into millilitres.



We convert the number of 'litres' into 'millilitres' and add to it the number of 'millilitres'.

Worksheet 1

1. Convert the following into millilitres.

(a) 7 *l* (b) 200 *l* (c) 92 *l*

(d) 8 *l* 750 *ml* (e) 11 *l* 925 *ml* (f) 23 *l* 65 *ml*

(g) 215 *l* 15 *ml* (h) 10 *l* 10 *ml* (i) 252 *l* 525 *ml*

2. State 'True' or 'False'.

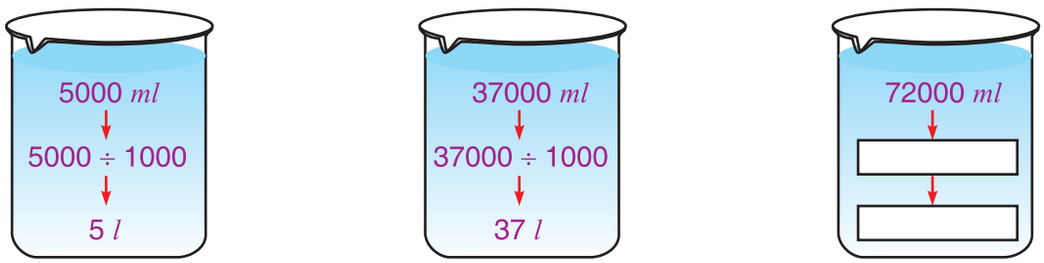
(a) 3 *l* 430 *ml* = 3430 *ml* ☐ (b) 7 *l* 25 *ml* = 725 *ml* ☐

(c) 150 *l* = 15000 *ml* ☐ (d) 16 *l* 8 *ml* = 1608 *ml* ☐

Converting smaller unit into bigger unit

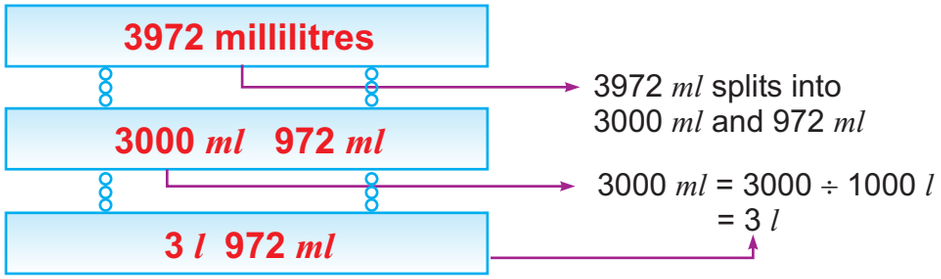
I. Converting millilitres into litres

1000 *ml* = 1 *l*



We divide the number of millilitres by 1000 to convert the 'millilitres' into 'litres'.

Let us convert 3972 millilitres into litres.



Worksheet 2

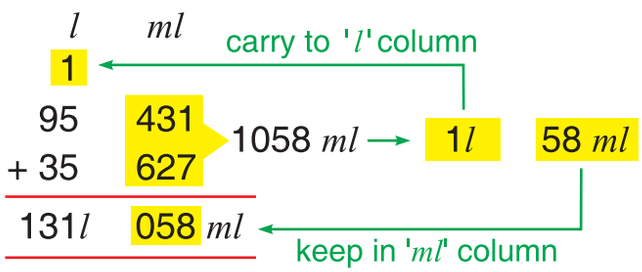
1. Convert the following into litres.

(a) 9000 *ml* (c) 7530 *ml* (e) 6902 *ml* (g) 10001 *ml*

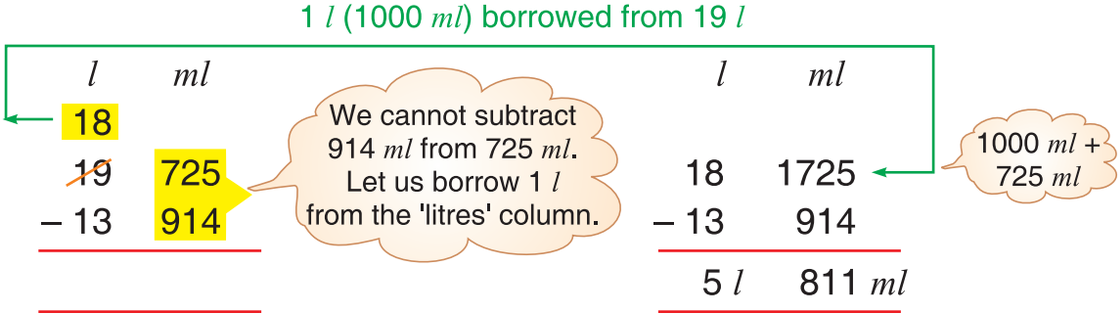
(b) 74000 *ml* (d) 8008 *ml* (f) 14098 *ml* (h) 91313 *ml*

Addition and Subtraction by Regrouping

Let us add 95 *l* 431 *ml* and 35 *l* 627 *ml*.



Similarly, find the difference between 19 *l* 725 *ml* and 13 *l* 914 *ml*.



Worksheet 3

1. Add.

(a) 3 l 436 ml and 7 l 563 ml

(b) 13 l 685 ml and 31 l 135 ml

(c) 49 l 634 ml and 94 l 523 ml

(d) 11 l 86 ml and 29 l 894 ml

(e) 21 l 310 ml, 38 l 426 ml, 16 l 485 ml

(f) 60 l 5 ml, 73 l 52 ml and 11 l 529 ml

2. Find the difference.

(a) 6 l 475 ml and 3 l 162 ml

(b) 15 l 95 ml and 51 l 296 ml

(c) 36 l 675 ml and 26 l 439 ml

(d) 9 l 439 ml and 12 l 178 ml

(e) 156 l 750 ml and 114 l 950 ml

(f) 99 l 561 ml and 120 l 372 ml

Word Problems

Example 1: A milkman sold 26 l 595 ml of milk on the first day, 35 l 700 ml on the second day and 42 l 560 ml milk on the third day. What is the total quantity of milk sold on three days?

Solution:

26 l 595 ml

35 l 700 ml

42 l 560 ml

Here, we add all the quantities to get the total quantity.

		l	ml
		11	1
Quantity of milk sold on first day	=	26	595
Quantity of milk sold on second day	=	35	700
Quantity of milk sold on third day	= +	42	560
Total quantity of milk sold	=	104 l 855 ml	

104 l 855 ml is the total quantity of milk sold.

Example 2: There was 2 l 750 ml of oil in a can. Reena used 1 l 900 ml of oil for cooking. How much oil is left in the can?

Solution:

2 l 750 ml

1 l 900 ml

Here, we subtract the two capacities to get the oil left.

		l	ml
Oil in can	=	2	750
Oil used	=	– 1	900
Oil left	=	0 l	850 ml

850 ml of oil is left in the can.

Worksheet 4

1. Solve the following word problems.

(a) Three milkmen are separately carrying 36 l 250 ml, 58 l 396 ml and 66 l 324 ml of milk in their containers. Find out what is the total quantity of milk with them.

(b) A shopkeeper purchased 45 l 500 ml of mineral water. During the day, he sold out 28 l 755 ml water. How much mineral water was left with him?

(c) Raju mixes 2 l 750 ml of cow's milk in 7 l 5 ml of buffalow's milk. How much milk did Raju have in all?

(d) A barrel can hold 29 l 55 ml of oil. 12 l 94 ml oil was taken out. What is the remaining quantity of oil in the barrel?

(e) Ramu's bucket holds 9 l 350 ml of water and Shalu's bucket holds 8 l 455 ml of water. Whose bucket holds more water and by how much?

Value Based Question

There was shortage of water in a village of Rajasthan. The authorities decided to provide 15,000 l of water everyday through a tanker. On a particular day, the village received only 13,200 l 500 ml of water. The children who were playing near the tanker, spotted a leakage in the tanker. They informed the authorities and got the tanker repaired. The children spread the message in the village not to waste water and use it in the proper way.

1. How much water was wasted due to leakage in the tanker?
2. Suggest any two ways by which you can avoid wastage of water in your house.

Brain Teasers (Length, Weight, Capacity)

1. Tick (✔) the correct answer.

(a) The unit to measure the length of a railway track is—

(i) metre (ii) centimetre (iii) kilometre (iv) gram

(b) 3 m 3 cm = _____ cm

(i) 33 (ii) 303 (iii) 330 (iv) 3300

(c) For a family of three, rice needed for one meal is—

(i) $4\frac{1}{2}$ kg (ii) 1500 g (iii) $\frac{1}{4}$ kg (iv) 1000 g

(d) Which of the following is not sold by measuring capacity?

(i) milk (ii) petrol (iii) apples (iv) oil

(e) The smallest unit of weight is—

(i) milligram (ii) gram (iii) centimetre (iv) millimetre

2. Which unit of measurement will you choose to express the following:

(a) Length of a railway track. (b) Weight of an apple.

(c) Ink in a pen. (d) Height of a 10-year old boy.

3. Fill in the blanks.

(a) 7 kg = _____ g (b) 10 m = _____ cm

(c) 72 *l* = _____ *ml* (d) 2 kg 5 g = _____ g

(e) 3 m 3 cm = _____ cm (f) 9 *l* 352 *ml* = _____ *ml*

(g) 7050 *ml* = _____ *l* _____ *ml* (h) 325 cm = _____ m _____ cm

(i) 1575 g = _____ kg _____ g (j) 7 km = _____ m

4. Find the sum of:

(a) 3 kg 520 g, 7 kg 95 g and 11 kg

(b) 11 m 70 cm, 9 m 95 cm and 16 m 2 cm

5. Find the difference of:

(a) 49 kg and 31 kg 286 g (b) 13 *l* 479 *ml* and 9 *l* 293 *ml*

6. A basket contained 65 kg 750 g of fruits. Out of which 42 kg 150 g are apples, 9 kg 750 g are pears and the rest are mangoes. Find the weight of mangoes.

7. A tall tower is painted in red, white and black colour. 25 m 50 cm is painted black, 15 m 75 cm is painted red and 10 m 25 cm is painted white. Find the height of the tower.

8. For a family of three, how much of each given item would you buy for one meal? Circle your answer.

Paneer	7 kg	4 kg	600 g
Potatoes	4½ kg	400 g	50 g