Standard IV

MATHEMATICS

Part - 2

Government of Kerala
Department of Education
2015

State Council of Educational Research and Training (SCERT)

JT 523-1/Maths 4(E)Vol-2

THE NATIONAL ANTHEM

Jana-gana-mana adhinayaka, jaya he
Bharatha-bhagya-vidhata.
Punjab-Sindh-Gujarat-Maratha
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
Uchchala-Jaladhi-taranga
Tava subha name jage,
Tava subha asisa mage,
Gahe tava jaya gatha.
Jana-gana-mangala-dayaka jaya he
Bharatha-bhagya-vidhata.
Jaya he, jaya he, jaya he,
Jaya jaya jaya, jaya he!

PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give respect to my parents, teachers and all elders and treat everyone with courtesy.

I pledge my devotion to my country and my people. In their well-being and prosperity alone lies my happiness.

Prepared by :
State Council of Educational Research and Training (SCERT)
Poojappura, Thiruvananthapuram 695 012, Kerala

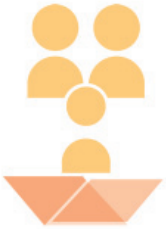
Website : www.scertkerala.gov.in
E-mail : scertkerala@gmail.com
Phone : 0471-2341883, Fax : 0471-2341869
Typesetting and Layout : SCERT
Printed at : KBPS, Kakkanad, Kochi-30

Dear children,

We have learnt many basic ideas
Of Mathematics
There is much more to learn
Laughing and playing
Drawing and do calculating
And solving problems
Let's learn Math
Thinking, enquiring
And finding out
Let's go ahead...

Dr. S. Raveendran Nair
Director
SCERT

TEXTBOOK DEVELOPMENT TEAM



Participants

Suresh C.
GMLPS, Cherumukku, Kozhikkode

Ashraf C. V.
Vanimel MUPS, Nadapuram, Vatakara

Sasidharan V. P.
BRC Iritty

Prasanth K. P.
Devadhar UPS, Nediyirippu
Malappuram

Manikandan K. O. V.
Pattiyama AUPS
Karivellur, Kannur

Thulaseedharan Pillai K. G.
GUPS Charipparamb, Kollam

Shajahan V.
GMUPS Melmuri, Malappuram

Jabir K.
GVHSS Kunjathur, Kasaragode

Muhammed Nasser
GHS Koduvayur, Palakkad

Unnikrishnan V. T.
Ponnani Girls HSS, Malappuram

Artist

Hari Kumar

Cover

Rakesh P. Nair

Experts

Dr. Radhakrishnan Chettiar S.
Prof. (Rtd), University College, Thiruvananthapuram

Venugopal C.
Asst. Professor, Govt. College
of Teacher Education, Thiruvananthapuram

Academic Co-ordinator
Sujith Kumar G.
Research Officer, SCERT

ENGLISH VERSION

Dr. E. Krishnan
Prof.(Rtd), University College,
Thiruvananthapuram

Venugopal C.
Asst. Professor,
Govt. College of Teacher Education,
Thiruvananthapuram

Academic Co-ordinator
Sujith Kumar G.
Research Officer, SCERT

State Council of Educational Research and Training (SCERT)
Vidya Bhavan, Thiruvananthapuram

Contents

Certain icons are used in this textbook for convenience

Additional activity/ Extended activity

How I did it

How my friends did it

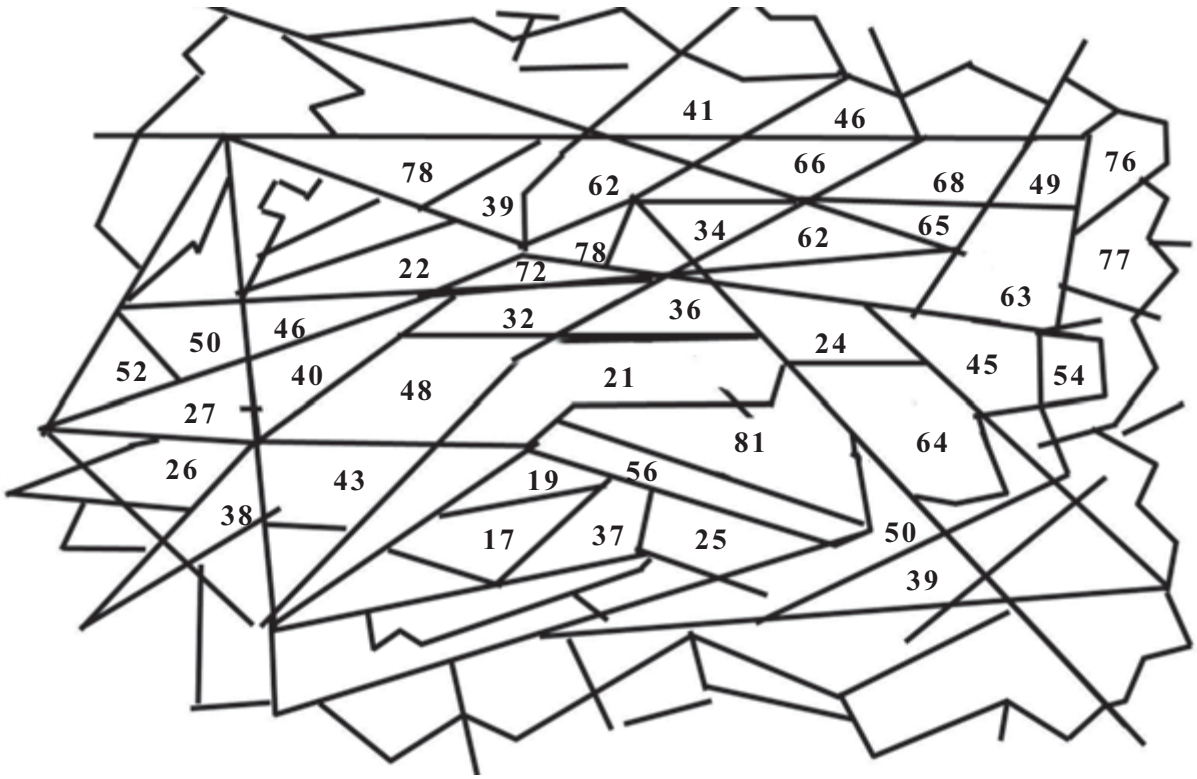
Assessment

ICT activity

Project

6 Adding Without Adding

What is hidden?



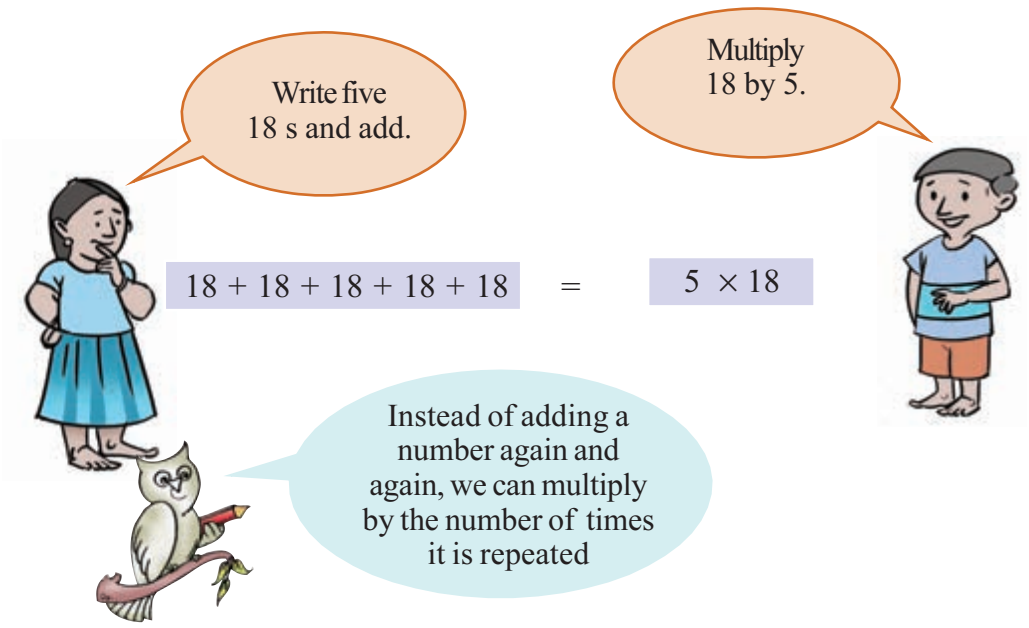
Something is hidden in the picture above. To find it, first find the products below. Then colour each part of the picture which has an answer with the same colour as the question.

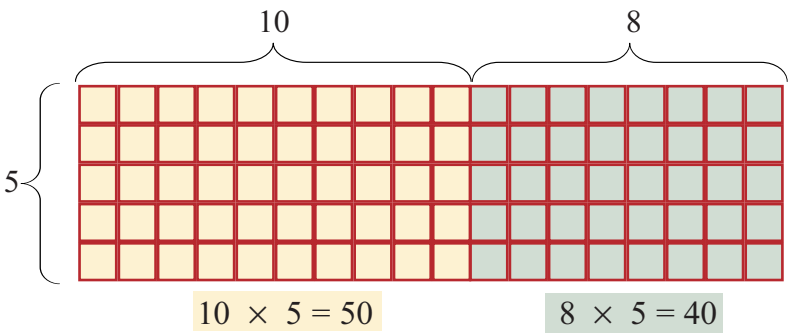
$7 \times 7 =$ ☐	$5 \times 8 =$ ☐	$8 \times 8 =$ ☐	$6 \times 4 =$ ☐	$9 \times 8 =$ ☐
$8 \times 6 =$ ☐	$7 \times 3 =$ ☐	$9 \times 9 =$ ☐	$9 \times 3 =$ ☐	$9 \times 7 =$ ☐
$6 \times 9 =$ ☐	$9 \times 4 =$ ☐	$8 \times 7 =$ ☐	$8 \times 4 =$ ☐	$5 \times 9 =$ ☐

Birthday

Today is Manu's birthday. 5 packets of milk were bought to make *payasam*. The price of one packet is 18 rupees. What is the total price?

How do we find it?





18 × 5 means 10 × 5 and 8 × 5 added together

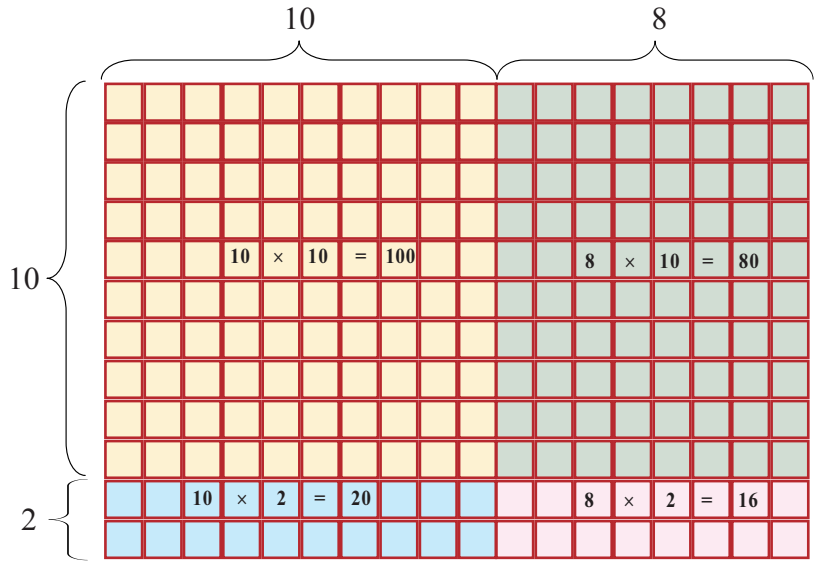
$$18 \times 5 = (10 \times 5) + (8 \times 5)$$
$$= 50 + 40$$
$$= 90$$

How we do

$$\begin{array}{r} 18 \times \\ 5 \\ \hline 8 \times 5 \rightarrow \quad 40 \\ 10 \times 5 \rightarrow \quad 50 \\ \hline 90 \end{array}$$

Suppose instead of 5 packets of milk 12 packets of milk were bought?

How do we find 18×12?



$$18 \times 12 = (10 \times 10) + (10 \times 2) + (8 \times 10) + (8 \times 2)$$
$$= 100 + 20 + 80 + 16$$
$$= 216$$

To find 18×12, we can also multiply 18 by 2 and 10 and add

So, $18 \times 12 = (18 \times 10) + (18 \times 2)$

$$= 180 + 36$$
$$= 216$$

How we do

$$\begin{array}{rr} & 18 \times \\ & 12 \\ \hline 18 \times 2 \rightarrow & 36 \\ 18 \times 10 \rightarrow & 180 \\ \hline & 216 \end{array}$$

Brain work

$25 \times 12 = 300$

$25 \times 24 =$

$25 \times 48 =$

$25 \times 6 =$

$17 \times 12 = 204$

$18 \times 12 =$

$19 \times 12 =$

$16 \times 12 =$

Gift

Manu's friends gave a dozen colour pens as gift. The price of one pen is 26 rupees. How much did they spend to buy the pens?

A dozen means 12.

$$26 \times 12 = (26 \times 10) + (26 \times 2)$$
$$= 260 + 52$$
$$= 312$$

How we do

$$\begin{array}{rl} & 26 \times \\ & 12 \\ \hline 26 \times 2 \rightarrow & 52 \\ 26 \times 10 \rightarrow & 260 \\ \hline & 312 \end{array}$$

$$\begin{array}{r} 26 \times \\ 12 \\ \hline 52 \\ 26 \\ \hline 312 \end{array}$$

First multiply 26 by the digit 2 in one's place of 12.

Next multiply 26 by the digit 1 in ten's place of 12 and write to the left starting from ten's place.

? 3 kilograms of sugar were bought to make *payasam* .The price of one kilogram of sugar is 34 rupees. What is the total price?

? One packet of vermicelli costs 24 rupees. How much do 6 packets cost?

? Manu bought 7 cakes for his friends. The price of a cake is 89 rupees. He gave 7 hundred rupee notes. How much will he get back?

Multiplication by 10

$5 \times 10 = 50$

$8 \times 10 = 80$

$12 \times 10 =$

$14 \times 10 =$

$27 \times 10 =$

What if multiplied by hundred

Circus

Manu and friends went to the circus. They bought 13 first class tickets, each of 25 rupees. How much did they spend?

TICKETS

First class (chair)
Adult 45 Rs
Children 25 Rs
(Below 10 years)
Gallery (bench)
Adult 30Rs
Children 15 Rs

? 120 first class tickets were sold .Of these 21 were children's tickets. How much did they get from children's tickets?

? How much from adult's tickets?

? 132 gallery tickets were sold. Of these 50 were children's tickets. How much in all from gallery tickets?

? How much money did they get in all that day?

To multiply 97 by 45, we need only subtract three 45's.

Quick calculations

$12 \times 3 = 36$
$12 \times 30 = 360$
$120 \times 3 =$
$120 \times 30 =$
$12 \times 300 =$

$100 \times 18 = 1800$
$50 \times 18 =$
$25 \times 18 =$
$200 \times 18 =$

Magic show

There are 25 rows in the hall. Each row has 24 chairs.

How many chairs are there in all?

The price of ticket is 20 rupees. All tickets were sold. How much money was collected from a row? How much from 25 rows?

Multiplication by 20

$12 \times 10 = 120$ $12 \times 20 = 240$

$32 \times 10 =$ $32 \times 20 =$

$44 \times 10 =$ $44 \times 20 =$

$24 \times 20 = ?$

What is a quick method to multiply by 20?

Class library

Manu's school bought pocket dictionaries to use in class libraries. 44 for class three and 56 for class 4. The price of a dictionary is 25 rupees.

How much was spent in all?

Brain work

$(15 \times 98) + (15 \times 2) = 1500$

$(25 \times 92) + (25 \times 8) =$

$(45 \times 88) + (45 \times 12) =$

$(12 \times 998) + (12 + 2) =$

$(26 \times 992) + (26 \times 8) =$

$(125 \times 98) + (125 \times 2) =$

How I did

Think and find out

To multiply 13 by 12, how much should we add to 13 multiplied by 10?

To multiply 18 by 12, how much should we add to 18 multiplied by 2?

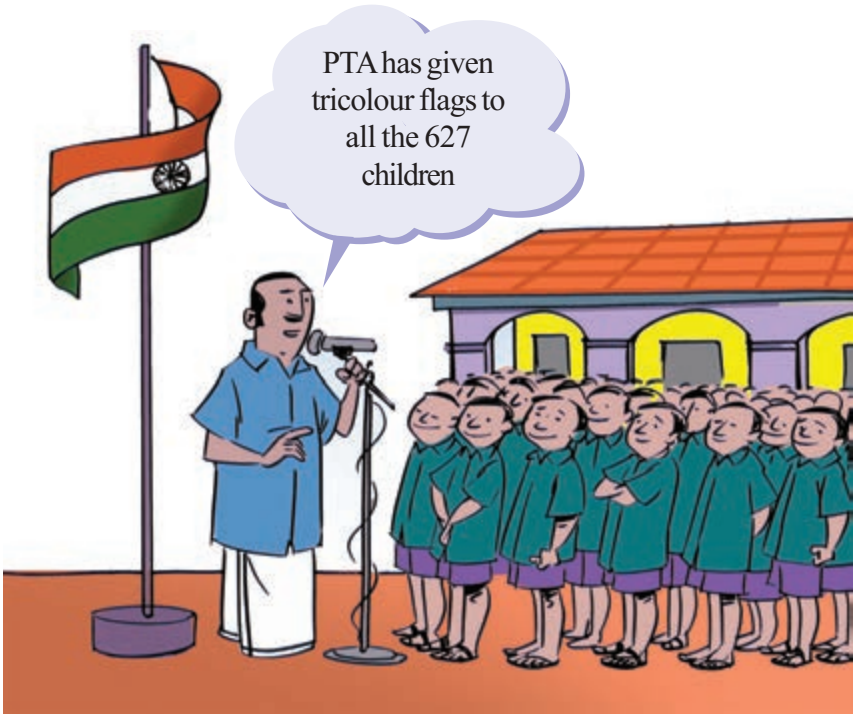
$24 \times 15 = 240 + 120 = 360$

$36 \times 15 = 360 + 180 = 540$

To multiply by 15,
we find the product by 10
and add half of it.

$18 \times 15 = ?$ $22 \times 15 = ?$

Independence Day



Did you note what the Headmaster said?

? Each flag given to children costs 7 rupees. How much did the PTA spend for this?

- How do we find it?

  To find the cost of 627 flags at 7 rupees each, we must calculate 627×7.

$$\begin{aligned} 600 \times 7 &= 4200 \\ 20 \times 7 &= 140 \\ 7 \times 7 &= 49 \\ &\hline \\ &\mathbf{4389} \end{aligned}$$

$$\begin{array}{r} 627 \times \\ \hline 7 \\ \hline 49 \\ 140 \\ 4200 \\ \hline 4389 \\ \hline \end{array}$$

How we do

$$\begin{array}{r} {\scriptstyle 14} \\ 627 \times \\ \hline 7 \\ \hline 4389 \\ \hline \end{array}$$

Reading room

The PTA gave a contract to get benches at 1657 rupees each and tables at 2395 rupees each.

How much money is needed?

- How do we calculate?
- What are the details given?
  -
  -
- Let's calculate the total cost of benches.

  6 benches, each of 1657 rupees.

  That is 1657×6

$$
\begin{aligned}
1000 \times 6 &= 6000 \\
600 \times 6 &= 3600 \\
50 \times 6 &= 300 \\
7 \times 6 &= 42 \\
&\hline \\
&9942
\end{aligned}
$$

$$
\begin{array}{r}
1657 \times \\
\quad 6 \\
\hline
\quad 42 \\
\quad 300 \\
3600 \\
6000 \\
\hline
9942
\end{array}
$$

1657 means	1000	600	50	7	
Multiplying by 6	6000	3600	300	42	= 9942

$$
\begin{array}{r}
3\ 3\ 4 \\
1\ 6\ 5\ 7 \times \\
\quad\quad 6 \\
\hline
9\ 9\ 4\ 2
\end{array}
$$

Calculate the total cost of tables.
Then add to get the total cost.

How I did

Join hands

627 children donated 8 rupees each to the *Nanma* fund.

How much was received from the children?

23 teachers of the school gave 325 rupees each to the fund.How much money was collected from the teacher?

- How do we calculate?
-

325 × 23

300 × 23

300 × 20 = 6000

300 × 3 = 900

6900

+

20 × 23

20 × 20 = 400

20 × 3 = 60

460

+

5 × 23

5 × 20 = 100

5 × 3 = 15

115

325 × 23 = 7475

325 × 23

300 × 23 =	6900
20 × 23 =	460
5 × 23 =	115
	7475

325 × 23

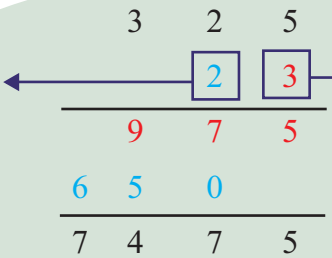
325 × 20 + **325 × 3**

300 × 20	=	6000		300 × 3	= 900
20 × 20	=	400	+	20 × 3	= 60
5 × 20	=	100		5 × 3	= 15
		6500	+		975
			7475		

This can be shortened as below.

325 →	300	20	5	
Multiplying by 20	6000	400	100	
Multiplying by 3	900	60	15	
Multiplying by 23	**6900**	**460**	**115**	= 7475

Next multiply 325 by the 2 in ten's place of 23 and write to the left, starting from ten's place.



First multiply 325 by the 3 in one's place of 23.

How we do

325 ×
23
975
650
7475

Multiply and fill

37 × 3 = 111

37 × 6 = 222

37 × 9 = 333

.....

.....

1089 × 1 = 1089

1089 × 2 = 2178

1089 × 3 = 3267

.....

.....

.....

1089 × 9 = ...

Pen problem

My India Club in school gave pens and notebooks to 248 children of the LP Section, on Independence Day.

The price of a pen is 25 rupees and the price of a notebook is 30 rupees. How much did the club spend in all?

Reverse and add

23 + 54 = 77	32 + 45 = 77
42 + 46 =	24 + 64 =
67 + 98 =	76 + 89 =
86 + 35 =	68 + 53 =

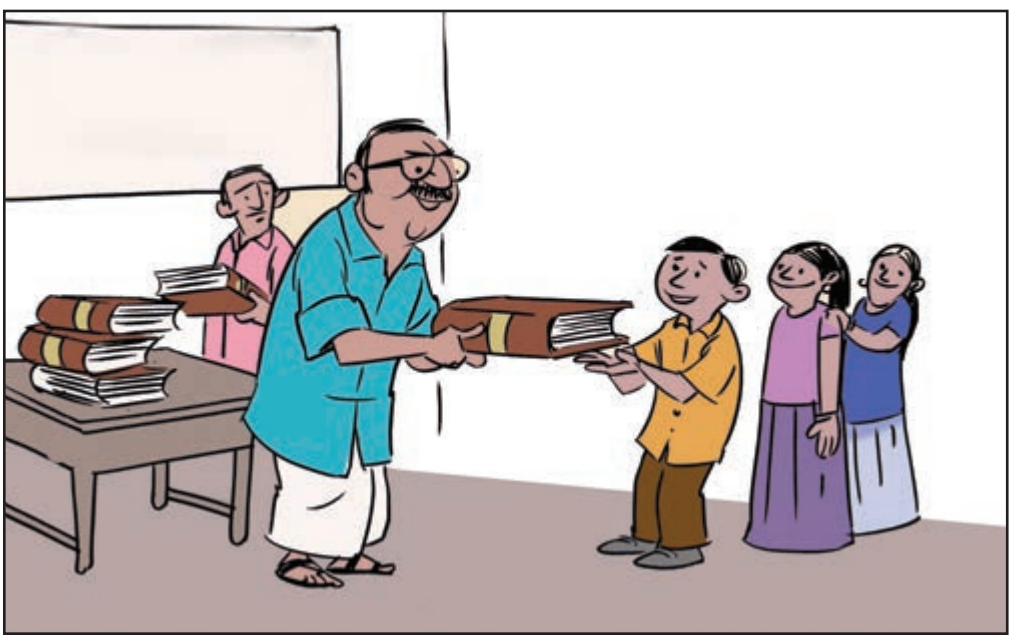
Reverse and multiply

23 × 64 = 1472	32 × 46 = 1472
13 × 93 =	31 × 39 =
26 × 93 =	62 × 39 =
42 × 36 =	24 × 63 =

Can you find other such pairs?

Dictionary

In Manu's school, the Gramaseva Club gave dictonaries to the 124 children of class 7. The price of a dictionary is 125 rupees. How much did the club spend?

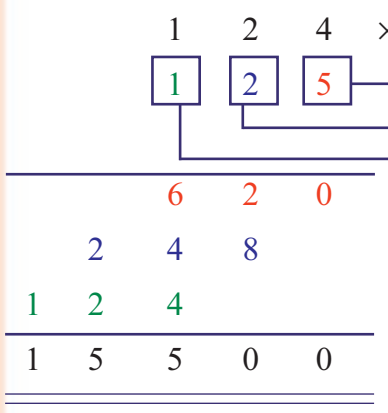


124 × 125

124 × 100	+	124 × 20	+	124 × 5
100 × 100 = 10000		100 × 20 = 2000		100 × 5 = 500
20 × 100 = 2000	+	20 × 20 = 400	+	20 × 5 = 100
4 × 100 = 400		4 × 20 = 80		4 × 5 = 20
12400	+	2480	+	620 = **15500**

124 means	100	20	4
Multiplying by 100	10000	2000	400
Multiplying by 20	2000	400	80
Multiplying by 5	500	100	20
Multiplying by 125	**12500**	**2500**	**500**

124 × 125 = 12500 + 2500 + 500 = **15500**



First multiply 124 by the 5 in one's place of 125.

Multiply by the 2 in ten's place of 125 and write to the left, starting from ten's place.

Multiply by the 1 in hundred's place of 125 and write to the left, starting from hundred's place.

How we do

```
  124 ×
  125
 ----
  620
 248
124
 ----
15500
```

Felicitation

The panchayat held a felicitation meeting for school children .The 36 students who got A+ grade for all subjects in the SSLC exam were given yearbooks worth 375 rupees each. The 9 girls who got the first prize for group dance in the state *Kalolsavam* were given bags worth 325 rupees each. The 102 children who took part in art and sport competitions were given trophies worth 105 rupees each. The 100 children who did various scholarship exams were given books worth 150 rupees each.

? How much did the panchayat spent for each item?

? How much did they spend in all?

- How do we find out?
- What all things do we know?
- How about making a table?

Me on myself	Yes	No
Found out the right way to solve the problem		
Decided on what to put in the table		
Got the correct answer		
Could explain the table and the method of finding the answer.		

Multiply and add

1	×	9	+	2	=	11		
12	×	9	+	3	=	111		
123	×	9	+	4	=	1111		
1234	×	9	+	5	=	11111		
.....	×	...	+	...	=	.....		
.....	×	...	+	...	=	.....		
.....	×	...	+	...	=	.....		
.....	×	...	+	...	=	.....		
.....	×	...	+	10	=	.....		

21	×	9	=	189				
321	×	9	=	2889				
4321	×	9	=	38889				
54321	×	9	=	488889				
.....	×	9	=	.....				
.....	×	...	=	.....				
.....	×	...	=	.....				
.....	×	...	=	.....				
.....	×	...	=	.....				

Addition and Multiplication

Look at the table Manu made for the Math board. What is its speciality?

- $1 + 3 = 2 \times 2$
- $1 + 3 + 5 = 3 \times 3$
- $1 + 3 + 5 + 7 = 4 \times 4$
- $1 + 3 + 5 + 7 + 9 = 5 \times 5$

Write the next four lines.

What is $1 + 3 + 5 + \ldots + 19$

- $1 + 3 = 2 \times 2$
- $3 + 5 = 2 \times 4$
- $5 + 7 = 2 \times 6$
- $7 + 9 = 2 \times 8$

Write the next four lines.

What is 17+19? And 31+33?

- $1 + 2 + 1 = 2 \times 2$
- $1 + 2 + 3 + 2 + 1 = 3 \times 3$
- $1 + 2 + 3 + 4 + 3 + 2 + 1 = 4 \times 4$

Write the next four lines.

What is the sum with 16 in the middle?

Brain work

$2 \times 5 \times 13 =$

$2 \times 25 \times 5 =$

$25 \times 16 \times 4 =$

$13 \times 50 \times 2 =$

Increasing and unchanging

$24 \times 25 = 600$ $32 \times 50 = 1600$

$24 \times 50 =$ $16 \times 100 =$

$24 \times \ldots = 2400$ $8 \times \ldots = 1600$

$24 \times \ldots = 4800$ $4 \times \ldots = 1600$

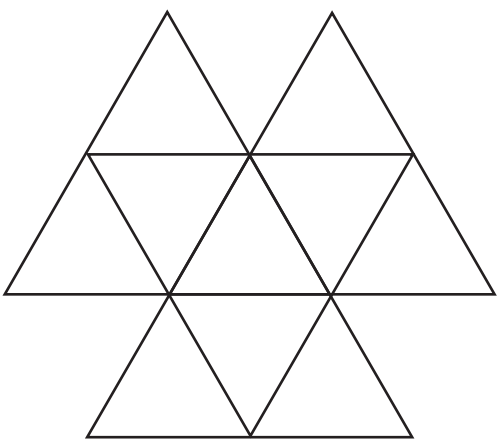
Find the pattern

- How many patterns can we make from this square?

		3			6			9	
	12			15			18		
21			24			27			30
		33			36			39	
	42			45			48		
51			54			57			60
		63			66			69	
	72			75			78		
81			84			87			90
		93			96			99	

- Explain your patterns.

Add and see



- How many small triangles?
- Large triangles?
- How many small triangles in each large triangle?
- Write the numbers 6,12,18….60.The sum of the numbers in small triangles in each large triangle must be 150

Training

A two day camp is held for 125 teachers in a district. On the first day they are given 145 rupees for food and 275 rupees for lodging. On the second day only 105 rupees was given for food.

? How much is spent in all for food each day?

? How much is spent in all for lodging each day?

The multiplication of four-digit number by 9 is shown below with some numbers missing. Find them.

$$\square\,\square\,\square\,\square \times 9 = \square\,\square\,6\,1$$

? Akshara Book Stall gives a reduction in price for a dictionary worth 850 rupees. We can get it for a single payment of 600 rupees. Or we can pay two instalments 325 rupees each or three instalments of 240 rupees each. 29 persons paid a single payment, 32 persons paid two instalments and 38 persons paid three installments. How much did the book shop get in all? How much less, if all had made a single payment?

? In an LP School, the PTA gave a math-kit worth 125 rupees for each of the 134 children in class 4. How much did the PTA spend for this?

? The fare between different places in an express bus from Thiruvananthapuram to Kozhikode are given below.

Thiruvananthapuram – Ernakulam	Rs.260
Thiruvananthapuram – Thrissur	Rs.375
Thiruvananthapuram – Kozhikode	Rs.475
Ernakulam – Kozhikode	Rs.227
Thrissur – Kozhikode	Rs.118

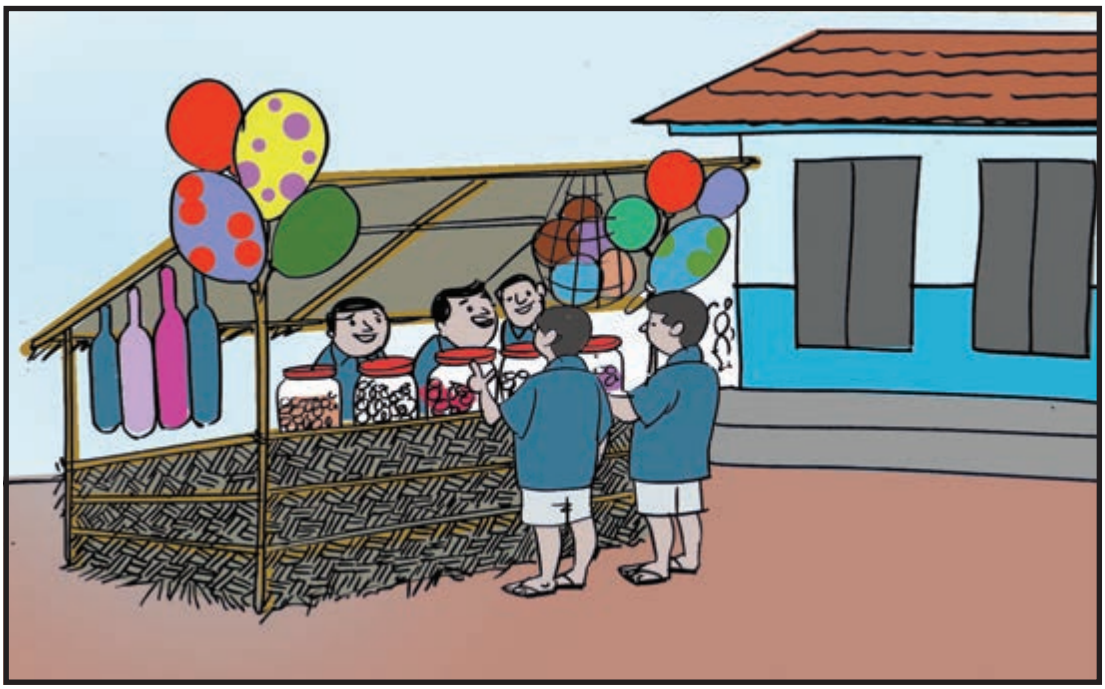
48 travellers boarded the bus from Thiruvananthapuram .36 of them bought tickets to Kozhikode and the rest to Ernakulam.8 persons boarded at Ernakulam and bought tickets to Kozhikode. How much is the total collection for the trip?

Equal Shares and What is Left

7

Business

During Onam holidays, Raju, Abu and John built a shack and started a shop.



How much does each get?

Divide the amount equally for 3.

If each takes one rupee first, what remains is	18 – 3 = 15
Again, if each takes one rupees, what remains is	15 – 3 = 12
Once again, if each takes one rupee, what remains is	12 – 3 = 9
Continuing like this	9 – 3 = 6
	6 – 3 = 3
	3 – 3 = 0

How many times did each take one rupee? ( )

So, each got ( ) rupees

Let's explain this.

Rupees / Name	18	15	12	9	6	3	What each gets
							
Raju							
Abu							
Johny							
What remains	18 – 3 = 15	15 – 3 = 12	12 – 3 = 9	9 – 3 = 6	6 – 3 = 3	3 – 3 = 0	

When 18 rupees is shared equal among 3, each gets

( ) rupees

That is, 18 ÷ 3 = ( )

How we do

$$3\overline{)18}\ 6,\quad 18,\quad 0$$

On the second day, they had 21 rupees left.

If this is shared equally,
how much would each get?

21 – 3 = 18
18 – 3 = 15
.....
.....
.....

How many times can we take away 3 from 21?

If this is continued, how much would each get? ☐

We can write this as 21 ÷ 3 = ☐

How we write

$$3\overline{)21}\quad 7$$
$$21$$
$$0$$

On the third day, they had 27 rupees left.

If this is shared equally, each gets.

☐ ÷ ☐ = ☐

$$3\overline{)27}$$

Art festival

Raju, Abu and Johny were back in school after the Onam holidays.

Nandapuram LP School

Notice

The school Arts Festival during the last week of November. Students in each class may be divided into four houses, Ragam, Talam, Layam, Shruti for the competitions,

Nandapuram Headmaster

Have you seen the notice about the art festival?

The table gives the number of children in each class. They must be equally divided among the four houses. How many from each class is to be included in each house?

Class	Number of Children
I	24
II	32
III	36
IV	28

How do we divide the 24 children in class I into 4 houses?

First choose 4 of them and put one in each house.

How many are left?

Next choose 4 from the remaining and put in each house.

Now, how many are now left?

We can continue this

Finally how many children will be there in each house?

12 - 4 = 8

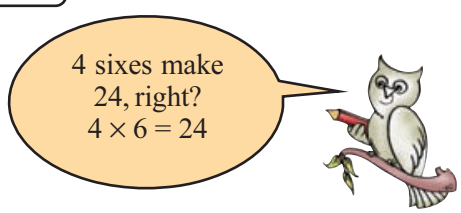
8 - 4 = 4

4 - 4 = 0

$24 \div 4 =$ ☐

How we do

$$4\overline{)24}\quad 6,\ 24,\ 24,\ 0$$



- Let's divide the 32 children of class II into the four houses like this. The number of children is each house is $32 \div 4 =$ ☐

$$4\overline{)32}$$

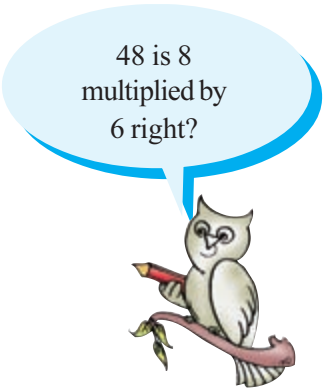
- Number of class III children in each house. ☐ ÷ ☐ = ☐

$$4\overline{)36}$$

- Number of Class IV children in each house. ☐ ÷ ☐ = ☐

$$4\overline{)28}$$

Bangle Problem



For *thiruvathirakkali*, 8 girls bought bangles for 48 rupees. They decided to share the cost equally.

How much should each give? 48 ÷ ☐ = ☐

Group Dance

Suhara and friends bought bangles for group dance. 4 packets of 10 each and 8 more. These are to be shared equally among 4 girls. How many bangles for each?

- How do we find it?
- First each can be given one full packet. How many bangles does each get? ☐
- Next divide the remaining 8 bangles among the 4.

Each gets ☐

So total number of bangles each gets is ..... + ... = ...

What is the connection?

$100 \times 15 = 1500$.

$50 \times 15 =$ ..... $50 \times 30 =$ .....

$25 \times 15 =$ ..... $25 \times 30 =$ .....

$75 \times 15 =$ ..... $75 \times 30 =$ .....

Here, when we divide 48 bangles equally among 4 children, each child gets $48 \div 4 = 12$

$$4\overline{)48} = 4\overline{)\begin{array}{l}40+8\\40\end{array}}\begin{array}{l}10+2\\ \\ \\0+8\\8\\0\end{array} =$$

How we do

$$4\overline{)\begin{array}{l}48\\40\end{array}}\begin{array}{l}12\\ \\8\\8\\0\end{array}$$

Suppose there are 5 packets of 10 bangles each. How do we divide it equally among 4 children?

First let's give one packet to each. Then the number of bangles each gets is ☐

Now one packet of 10 bangles and 2 more are left.

So, the total number of bangles left is ☐.

If this is divided equally among 4, each gets is ☐.

So the total number of bangles each gets is ..... + ... = ...

Let's write these as below.

	Packet of 10	Single
Number of children is 4	5	2
Each of 4 takes 1 packet $4 \times 1 =$	4	
Remaining →	1	2
To bangles in a packet and 2 more		12
This is divided equally among 4.		12
Remaining →		0

```
      10 + 3
  4 | 40 + 12
    | 40
    ---------
       0 + 12
           12
    ---------
            0
```

How we do

```
      13
  4 | 52
    | 4
    -----
      12
      12
    -----
       0
```

Doubles

24 ÷ 3 = 8	24 ÷ 6 =
48 ÷ 3 =	12 ÷ 6 =
48 ÷ 6 =	12 ÷ 12 =

? If 72 gooseberries are divided equally among 6, how many does each one get?

? 75 litres of milk are to be filled in 5 litre bottles. How many bottles are needed?

Chalk Making

■ Children of class 4 made 484 chalks during the Work Experience Fair. 4 packets of 100, 8 packets of 10 and 4 more. These are divided equally among four classes. How many chalks does each class get?

How do we divide?

- First let's divide the packets of 100

  Number of packets each class gets is [1]

  Now the packets of 10

  Number of packets each class gets is [2]

- There are 4 more chalks.
  How about dividing them also?

  Number of chalks each class gets [ ]

Find without dividing

72 ÷ 4 = 18

76 ÷ 4 =

68 ÷ 4 =

64 ÷ 4 =

80 ÷ 4 =

Thus each class gets; 1 packet of 100.

2 packets of 10.

1 more

That is, 100 + 20 + 1 = ☐

We can write it like this:

	Number of packets of 100	Number of packets of 10	Singles	Total
	4	8	4	484
Divided among 4 classes, each class gets.	1	2	1	121

```
   100 +  20 +  1
4 | 400 +  80 +  4
    400 +
    ---
      0 +  80
           80
           --
           0 +  4
                4
                -
                0
```

```
   121
4 | 484
    400
    ---
     84
     80
     --
      4
      4
      -
      0
```

How we do

```
   121
4 | 484
    4
    -
   08
    8
   --
   04
    4
   --
    0
```

Here, 484 is called the **dividend**, 4 is called the **divisor** and 121 is called the **quotient.**

? Rija and four friends bought beads to make necklaces. Beads are sold in packets of 100 or 10. They bought 6 of each. How is it divided among the 5?

If the 6 packets of 100 are shared equally, the number of packets one girl gets is ☐

Remaining packets of 100 iš ☐

This packet of 100 can be split into 10 packets of 10 each.

Now the total number of packets of 10 is 10 + 6 = ☐

If 16 packets are shared among 5,

Each gets ☐ packets

Remaining packets of 10 is ☐

If the beads in the remaining packet of 10 are shared among 5, number of beads each gets is. ☐

So each gets one packet of 100, 8 packets of 10 and 2 more beads, right?

That is 100 + 30 + 2 = ☐

660 ÷ 5 = ☐

```
      100 + 30 + 2
   ______________
5 | 600 + 60
    500
   ______________
    100 + 60 = 160
               150
               ___
                10
                10
               ___
                 0
```

```
     132
   _____
5 | 660
    500
   _____
    160
    150
   _____
     10
     10
   _____
      0
```

How we do

```
     132
   _____
5 | 660
    5
   _____
    16
    15
   _____
     10
     10
   _____
      0
```

? An LP School uses 6 kilograms of mung for lunch. 135 kilograms of mung were bought. For how many days will it last?

- Here we must divide 135 by 6.

  Try it?

  If is enough for 22 days..

  How much will be left after that?

  ☐ Kilograms.

```
      22
    _____
6 | 135
    12
   _____
     15
     12
   _____
      3
   _____
```

What remains after division is, called **remainder.**

How do we split 624 into 6 equal parts?

624 = 600 + 20 + 4

If 600 is divided into 6 equal parts, how much will be there in each part?

That is 600 ÷ 6 = 100

How much 10 left? 24

24 divided into 6 is 24 ÷ 6 = 4

So, 624 ÷ 6 = (600 ÷ 6) + (24 ÷ 6) = 104

```
   100  +   4
6 | 600  +  24
    600
    ---------
          24
          24
          --
           0
```

How we do

```
     104
6 | 624
    6
    --
     24
     24
     --
      0
```

Multiplying the quotient by the divisor and adding the remainder gives the dividend.

480 is to be divided by 4.

For that, we need to divide 400 by 4 and 80 by 4 and add

```
   100  +  20
4 | 400  +  80
    400
    ---------
      0  +  80
            80
            --
             0
```

400 divided by 4 is ☐

80 divided by 4 is ☐

480 divided by 4 is ☐ + ☐ = ☐

How we do

```
     120
4 | 480
    4
    --
     08
      8
      --
      00
```

On the other hand

56 ÷ 7 = 8 8 × 7 = 56

72 ÷ 8 = ...

....

36 ÷ 5 gives quotient 7 and remainder 1

How do we say this in reverse?

7 × 5 = 35

Adding the remainder 1, gives 36

That is (7 × 5) + 1 = 36

45 ÷ 6 gives quotient 7 and remainder 3.

This we can write, (7 × 6) + 3 = 45

(16 × 7) + 4 = 116

What is the remainder on dividing 116 by 7 ?

Digit – Sum

There's an easy way to find the remainder on dividing a number by 9.

Complete the table.

On dividing by 9

Number	Quotient	Remainder	Digit –sum
34	3	7	3 + 4 = 7
42	4	6	4 + 2 = 6
128	14	2	1 + 2 + 8 = 11 1 + 1 = 2
57			
245			
184			

What I found out

? What is the smallest three digit number giving no remainder on dividing by 3?

? The milk society got 282 litres of Milk one day. To fill it in 5 litre cans, how many cans are needed? How more litres of milk are needed to fill one more can?

What do you see?

$7 \times 1 = 7$	$7 \div 1 = 7$
	$7 \div 7 = 1$
$10 \times 1 = 10$	$10 \div 1 = 10$
	$10 \div 10 = 1$
$240 \times 1 = 240$	$240 \div 1 = 240$
	$240 \div 240 =$ ☐

Do some more divisions like this.
What do you get on dividing a number by itself
And on dividing by one?

- Which are the numbers between 10 and 20 which don't leave a remainder on dividing by 6?
- Ramu has some sweets. When these were divided among 6 children, 5 were left. How many more does he need to share without any left over?
- If 12 lemons are shared equally by 2 children, how many would each get? ☐
  What if shared by 4 ? ☐

  $12 \div 2 =$
  $12 \div 4 =$

What is the relation between the shares of 2 and shares of 4 ?

Saying without doing

- Simi divided a number by 2 and got 100 as answer. What would be the quotient on division by 4?
- A number divided by 3 gives quotient 10 and remainder 2. What is the number?
- What is the remainder on dividing 91 by 10?

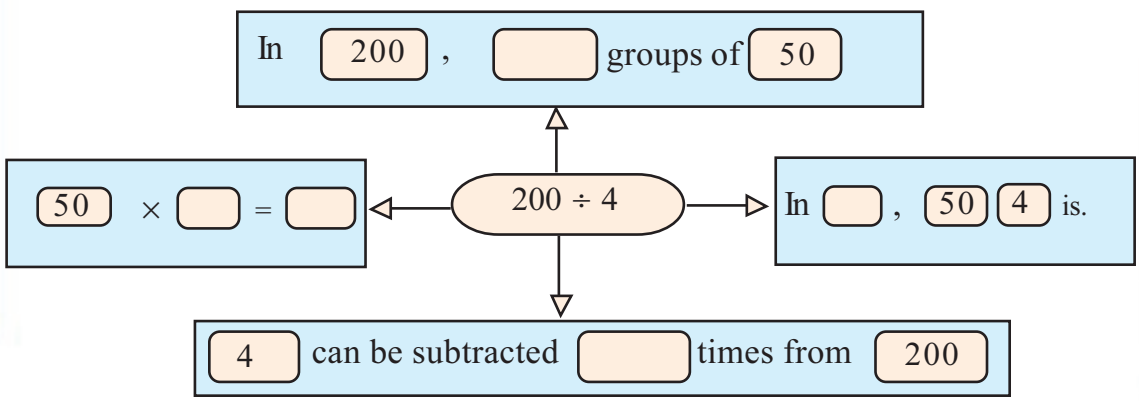
Brain work

$2 \times 5 \times \square = 240$
$2 \times \square \times 5 = 750$
$25 \times \square \times 4 = 2000$
$19 \times 50 \times \square = 1900$
$20 \times 50 \times \square = 5000$

Let'sComplete

$100 \div 4 =$
$200 \div 4 =$
$400 \div 4 =$
$800 \div 4 =$
$1600 \div 4 =$

Let's do



Special numbers

- Among the numbers from 1 to 100, which ones have zero at one's place? Divide them by 2, 5 and 10.
- Divide the numbers 45, 53, 61, 65, 70 by 5 and note the remainders. What is the speciality of numbers leaving no remainder on dividing by 5?

What is left?

Find the remainders on dividing the numbers below by 4

17, 26, 43, 24, 30, 47

- Any thing special about the remainders?

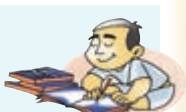
What are the possible remainders on dividing a number by 6?

Divisor and remainder

Complete the table by writing one example each.

	Remainder 5	Remainder 4	Remainder 3	Remainder 2	Remainder 1
Division by 3					
Division by 4					
Division by 5					
Division by 6					

56 new books are divided equally among 7 class libraries. How many does each get?



- A number multiplied by 9 gives 216.
- ? What would we get, if the number is divided by 6 instead?
- ? If the number got on multiplication by 9 is divided by 6, what would be the quotient?
- Ramu bought 5 kilograms of sugar and 5 kilograms of jaggery for 400 rupees. One kilogram of jaggery costs 12 rupees more than one kilogram of sugar. What is the price of each per kilogram?
- ? Divide 421 by each of 2, 3, 4, 5, 6, 7. What is the peculiarity of the remainders? What about dividing 419 by these numbers? and 420?

Fill the bill

Johny's vegetable bill is shown below.

Price per Kilogram	Item	Amount bought	Price
	Cucumber	9	144
	Amaranth	5	90
	Tomato	8	64
	Bitter gourd	6	150
	Banana	8	320
	Moringa	4	160
	Onion	8	128
	Snake gourd	3	75
	Bean	7	105
		Total	

Calculate the price per kilogram of each and write in the table.

On myself	Yes	No
Understood what is to be done		
Found out the calculation needed to get the answer		
Could find the correct answer through right methods		
Could convince others that the answer is correct.		

? 528 kids stand in 8 lines. How many are in each line? What if they stand in 6 lines?

■ 126 children are doing an exam in 7 rooms. The number of children is the same in each room. How many in each room?

■ The school store buys pens from a wholesaler, He has pens of 6 rupees, 7 rupees, 8 rupees and 9 rupees.

? 72 pens of 7 rupees are bought. What is the total cost?

? If pens of 8 rupees are bought for the same amount, how many would be got?

? How many, if pens of 9 rupees are bought?

? If pens of 6 rupees are bought, how many more pens would get than those of 9 rupees?

■ Raju had 140 gooseberries and he sold them at 8 rupees for 5. How much money did he get?

■ Hamsa bought pens for 505 rupees at 5 rupees a piece and sold them at 7 rupees a piece, bought notebooks for 492 rupees at 6 rupees a piece and sold them at 8 rupees a piece; bought pencil boxes for 560 rupees at 8 rupees a piece and sold them at 10 rupees a piece. How much more money did he get?

? A number divided by 4 gives 22 as quotient. What would be the quotient if the number is divided by 2? what would be , if divided by 8 ?

Find the correct ones among those given below.
Correct the wrong ones.

$$\begin{array}{r} 1 \\ 4\overline{)400} \\ 4 \\ \hline 0 \end{array} \qquad \begin{array}{r} 66 \\ 4\overline{)264} \\ 24 \\ \hline 24 \\ 24 \\ \hline \end{array} \qquad \begin{array}{r} 123 \\ 3\overline{)369} \\ 3 \\ \hline 06 \\ 6 \\ \hline 09 \\ 9 \\ \hline 0 \end{array} \qquad \begin{array}{r} 28 \\ 3\overline{)624} \\ 6 \\ \hline 24 \\ 24 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 79 \\ 6\overline{)474} \\ 42 \\ \hline 54 \\ 54 \\ \hline 0 \end{array} \qquad \begin{array}{r} 5 \\ 7\overline{)353} \\ 35 \\ \hline 03 \end{array} \qquad \begin{array}{r} 11 \\ 4\overline{)404} \\ 4 \\ \hline 4 \\ 4 \\ \hline 0 \end{array} \qquad \begin{array}{r} 410 \\ 5\overline{)250} \\ 20 \\ \hline 50 \\ 50 \\ \hline 0 \end{array} \qquad \begin{array}{r} 814 \\ 4\overline{)377} \\ 32 \\ \hline 5 \\ 4 \\ \hline 17 \\ 16 \\ \hline 1 \end{array}$$

At a glance

Teacher asked whether 240 could be completely divided by 2,3, 4, 5 Gautam immediately said "yes". Is he right?

How could Gautam decide without dividing?

Fill in the blanks

$2 \times \square \times 3 = 1212$

$2 \times 4 \times \square = 1840$

$5 \times \square \times 2 = 1600$

$\square \times 2 \times 3 = 756$

Remainder with brain work

What are the remainders got, on dividing the numbers 271, 371, 471, 571, 671, 771, 871, 971 by 9?

How did you find out?

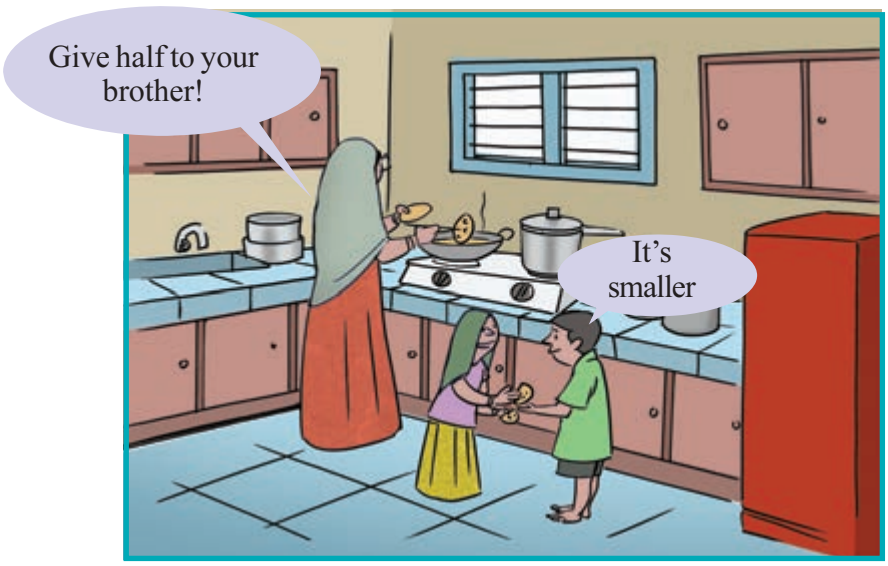
So easy !

396 ÷ 4 = ?	711 ÷ 9 = ?	693 ÷ 7 = ?
396 + 4 = 400	711 + 9 = 720	693 + 7 = 700
400 ÷ 4 = 100	720 ÷ 9 = 80	700 ÷ 7 = 100
100 – 1 = 99	80 – 1 = 79	100 – 1 = 99
396 ÷ 4 = 99	711 ÷ 9 = 79	693 ÷ 7 = 99

8 Half and Quarter

Halving

Mother is frying *Pappad.* Fathima took one.

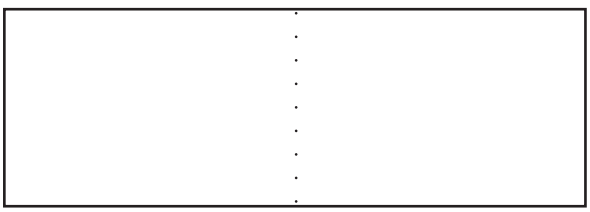


Mother folded and cut a pappad into two halves and fried the pieces for them.

Equal parts

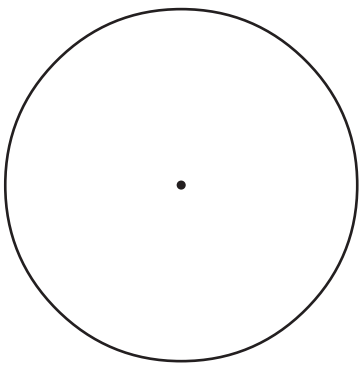
Let's halve!

Draw through the dotted line and split the rectangle into two equal parts. Colour one part.



Draw a line through the point at the centre of the circle and split into two parts.

Aren't they equal?

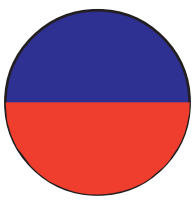


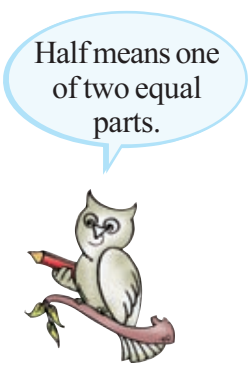
Colour one part

We have divided a circle and a rectangle into two equal parts. Each part is called a half of the whole.

Half means one of two equal parts. We write it as $\frac{1}{2}$.

How many parts?

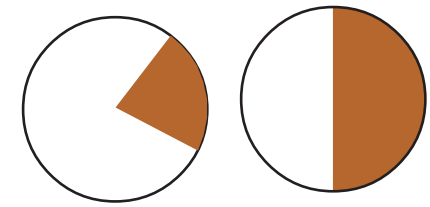


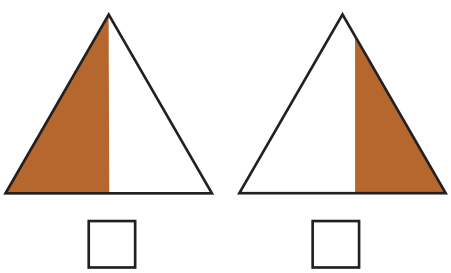


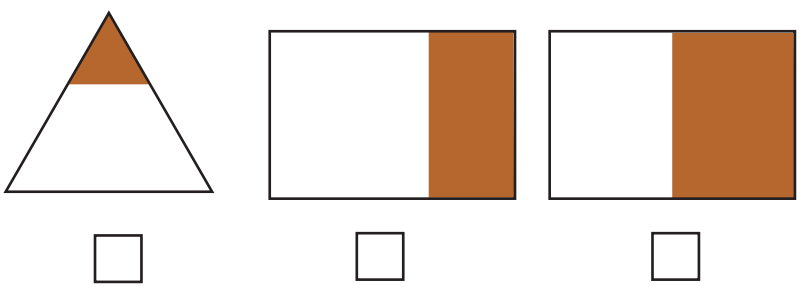
What part of the circle is red? ____

What part of the circle is blue? ____

Which of the pictures below show $\frac{1}{2}$? Put a ✓ mark below them.

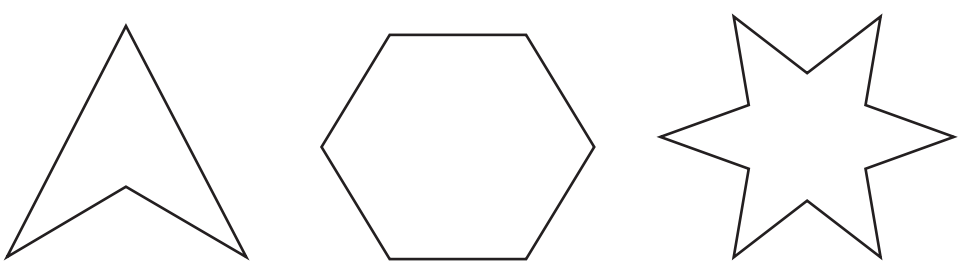




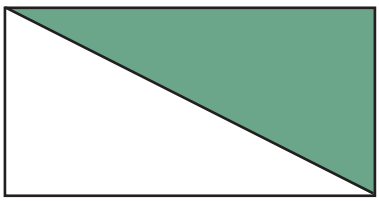


Let's colour!

■ Colour $\frac{1}{2}$ of each picture below:



Different halves



See how $\frac{1}{2}$ of a rectangle is coloured.

Are there other ways to show $\frac{1}{2}$ of a rectangle?

Colour one half.

Sharing sweets

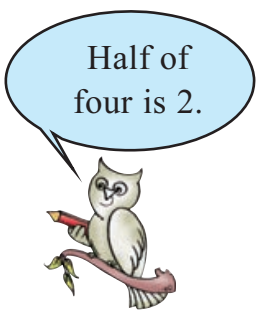
Fathima came home from Theertha's birthday party with four sweets.

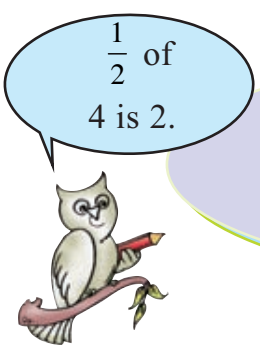
"I want some!" Fawaz said.

Fathima gave him half the sweets.

How many sweets did she give? ☐

What if she had 6 sweets?





Half of 16 eggs hatched.
How many eggs are there?
Half of the chicks are cocks.
How many cocks are there?

■ There are 32 children in Fathima's class. Half of them are girls.
How many girls *are there*?

How many when divided in half?

Bag	2 numbers
Umbrella	2 numbers
Pen	4 numbers
Pencil	2 numbers
Crayon	8 numbers
Colour pen	1 dozen
Eraser	1 dozen

Vegetable garden

Fathima's vegetable garden is rectangular.

It is divided into 4 equal parts.

Beans in one part, pumpkin in one part and amaranth in two parts.

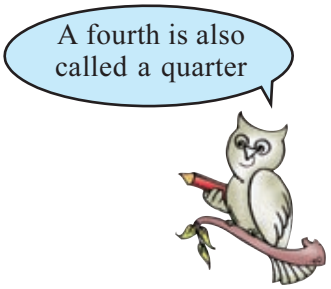
How many parts are there in all? ____

And beans are grown in ____ part

Beans are grown in a fourth of the whole

garden.

One of four equal parts is called a fourth and we write it as $\frac{1}{4}$.



What part of the garden is the pumpkin patch?

How do we write it?

How do we write the part where amaranth is grown?

Pumpkin problem

They plucked a large pumpkin from the garden.

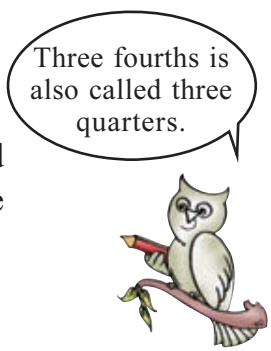
And cut into four equal parts. How much is each part?

One part they put aside for thie use.

How much is the remaining?

3 of four equal parts is called three fourth .

We write it as $\frac{3}{4}$



Fawaz took one piece of pumpkin to Aby's home and Fathima took two pieces, one to Theertha's home and the other to Nandu's home.

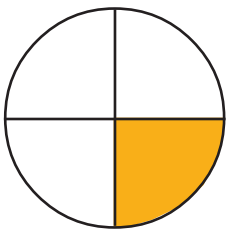
How do we write the part Fawaz took?

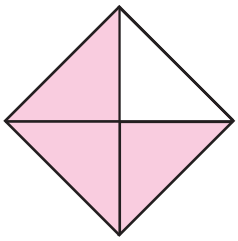
And what part did Fathima take?

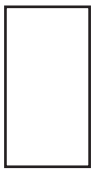
Coloured parts

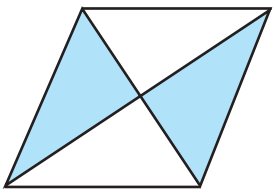
What part of each picture is coloured?

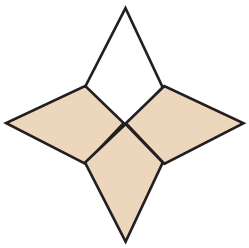
Write in the box on the right.

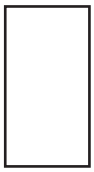








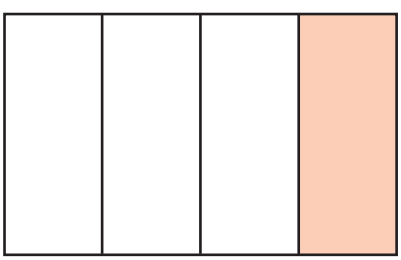


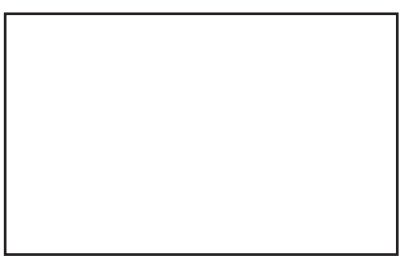


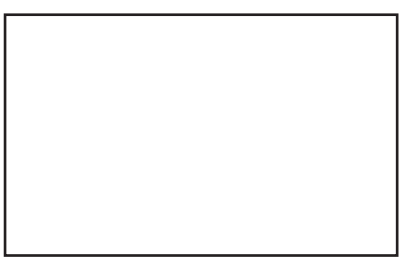
Draw and colour

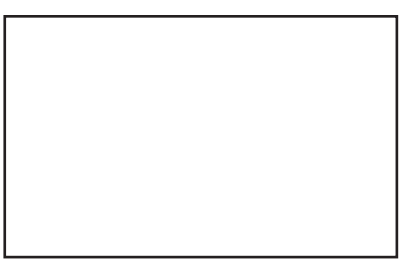
In what all ways can we show $\frac{1}{4}$ of a rectangle?

Do it in different ways and colour a quarter.



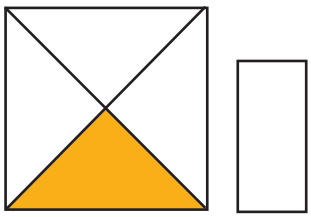


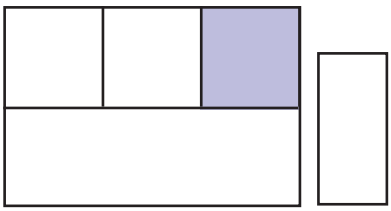


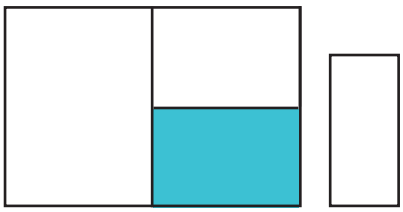


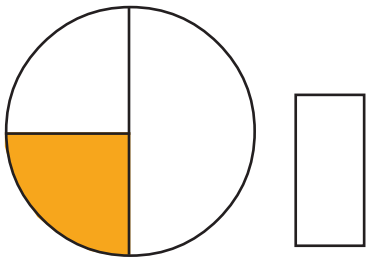
Find quarters

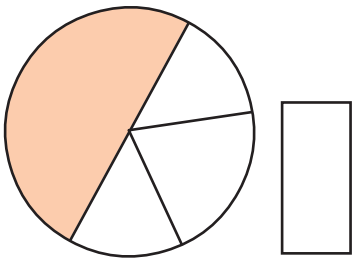
Put ✓ against those pictures with a quarter coloured.











Splitting letters

Divide each letter into two parts and colour one part.

MATHS

Length and Weight

9

Soumya's Diary

2015 **December 28**

Christmas holidays are over. Went to school with a new pencil. Showed it to my friends and my teacher. Can you guess its length, she asked. We all wrote down our gueses. Then we actually measured the length. Only 4 of the 30 got their guesses right. Even I couldn't.....

December 29

Read the diary?

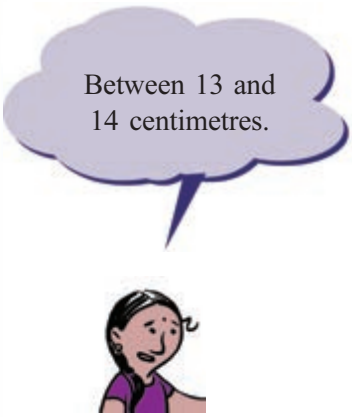
? Guess the length of the pencil the teacher shows and write it down.

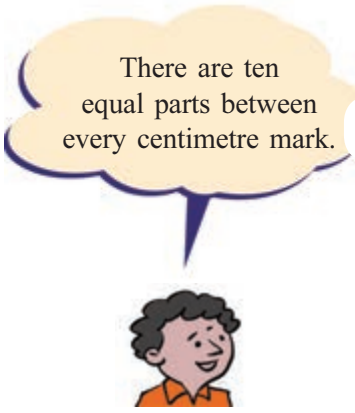
	Mine	**My friends**
Guess	____ cm	____ cm
Actual length by measuring	____ cm	

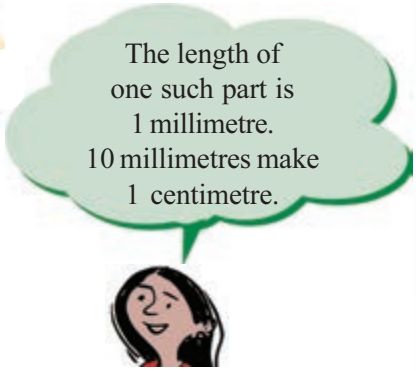
Difference in guessed length and actual length

Mine ____ cm My friend's ____ cm

What is the length?







The length of a ten rupee note is _____ centimetres
_____ millimetres

■ Measure the length of a 50 rupee note and a 100 rupee note.

20 rupee ..... cm. ..... mm.

50 rupee ..... cm. ..... mm.

What I understood

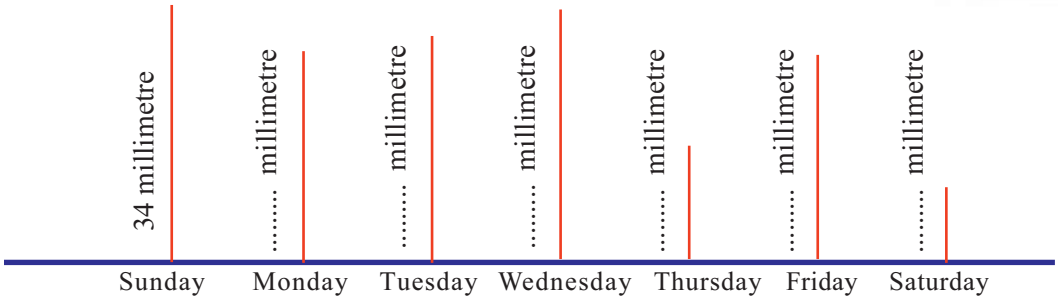
10 millimetres =
100 centimetres =
1000 millimetres =

■ Length of a hundred rupee note. My guess _____

On measuring _____ Difference _____

Measuring rain

The picture below shows the amount of rainfall near Idukki dam for one week in August. Measure each and write down.



Cut out eerkil bits of these lengths. Paste them on a paper, arranged from the shortest to the longest. Write the day of the week against each.

Let's rewrite

36 mm = 3 cm 6 mm	7 cm. 3 mm = 73 mm
25 mm =	8 cm. 9 mm =
104 mm =	10 cm. 8 mm =
50 mm =	5 cm. 1 mm =

Let's measure

Objects	Length on measurement
Notebook	
Math textbook	
Chalk	
Crayon	
Pencil	

Little things

What all things you can think of, shorter than 1 centimetre?

- Rice grain
- Pencil Point
-
-
-
-
-
-
-

? What is the distance between two news columns in a news paper. Is it same for all columns?

Toy Cart

Appu made a toy cart using two medicine cartons.

One box is 9 centimetres and 6 millimetres long and the other is 7 centimetres and 8 millimetres long.

? What is the length of his cart?

How do we find out?

- We know the length of each box.
- Each is in centimetres and millimetres.
- Let's add them

How about changing both to millimetres and adding?

9 centimetres	6 millimetres	+	
7 centimetres	8 millimetres		
16 centimetres	14 millimetres		
16 centimetres		+	
1 centimetres	4 millimetres		
17 centimetres	4 millimetres		

10 millimetres make 1 centimetre. So, 14 miullimetres is 1 centimetre and 4 millimetres.

Length of the cart is _____

Two pieces

A 16 centimetre long string is cut into two pieces. The length of one piece is 8 centimetres and 6 millimetres. What is the length of the other piece?

- What all things are given?
  - Length of full string
  - Length of one piece
- How do we calculate the length of the other piece?
  - We must subtract the given length of a piece from the length of the full string.

    That is subtract 8 centimetres and 4 millimetres from 16 centimetres.

Writing all length in millimetres.

16 cm	=	160 mm −
8 cm 6 mm	=	86 mm
		74 mm

74 millimetres = 7 centimetres + 4 mm.

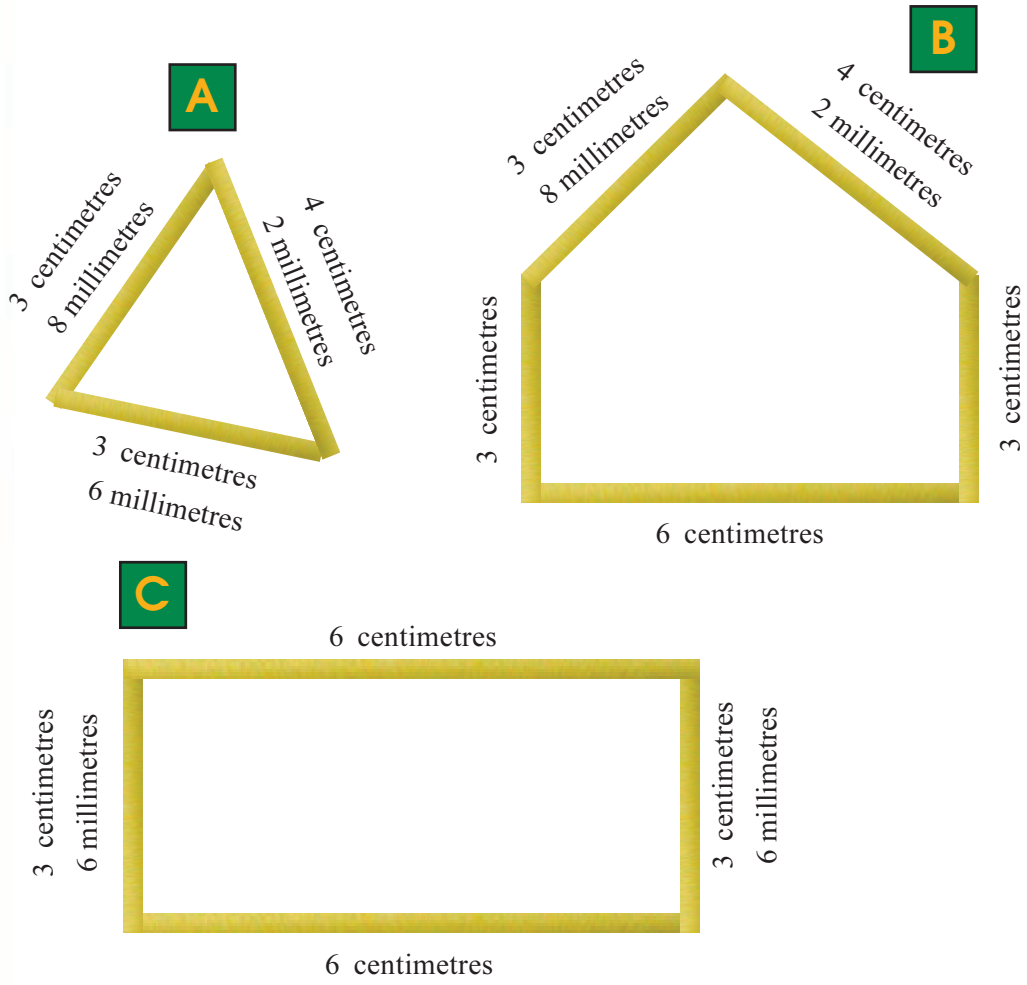
The length of the other piece is ☐ centimetres ☐ millimetres

There is another way to do this:

16 cm	=	15 cm	+	10 mm −
		8 cm	+	6 mm
		7 cm	+	4 mm

Shapes

Look at the shapes Bandhura made using eerkkil bits.



What is the length of eerkkil used to make each shape.

A ..... cm. ..... mm.

B ..... cm. ..... mm.

C ..... cm. ..... mm.

What are the differences in lengths?

between C and A
..... cm ..... mm

between B and A
..... cm ..... mm

between B and C
..... cm ..... mm

- Teacher drew a line on the board, 10 centimetres and 3 millimetres long. Johny extended it by 8 centimetres and 8 millimetres. What is the length of the line now?
- Ramla cut a ribbon into two pieces. One piece is 30 centimetres, 8 millimetres long and the other is 34 centimetres, 2 millimetres. How long was the ribbon?
- The rain gauge showed 6 centimetres, 8 millimetres on Monday and 6 centimetres and 4 millimetres on Tuesday. What is the total rainfall on these days together?
- Jalaja cut a string of length 96 centimetres into two pieces. The length of one piece is 40 centimetres and 8 millimetres. What is the length of the other piece? What is the difference in lengths of the pieces?
- A 50 centimetre long ruler is broken into two pieces. The length of one piece is 23 centimetres and 6 millimetres. What is the length of the other piece?
- A can is 72 centimetres high. It contains water, 53 centimetres and 4 millimetres high. What is the remaining height?

Thousand metres

Meena and Mary went to the school ground for an early morning waik. One round is 150 metres.

How much did each walk?

Meena ____

Mary ____

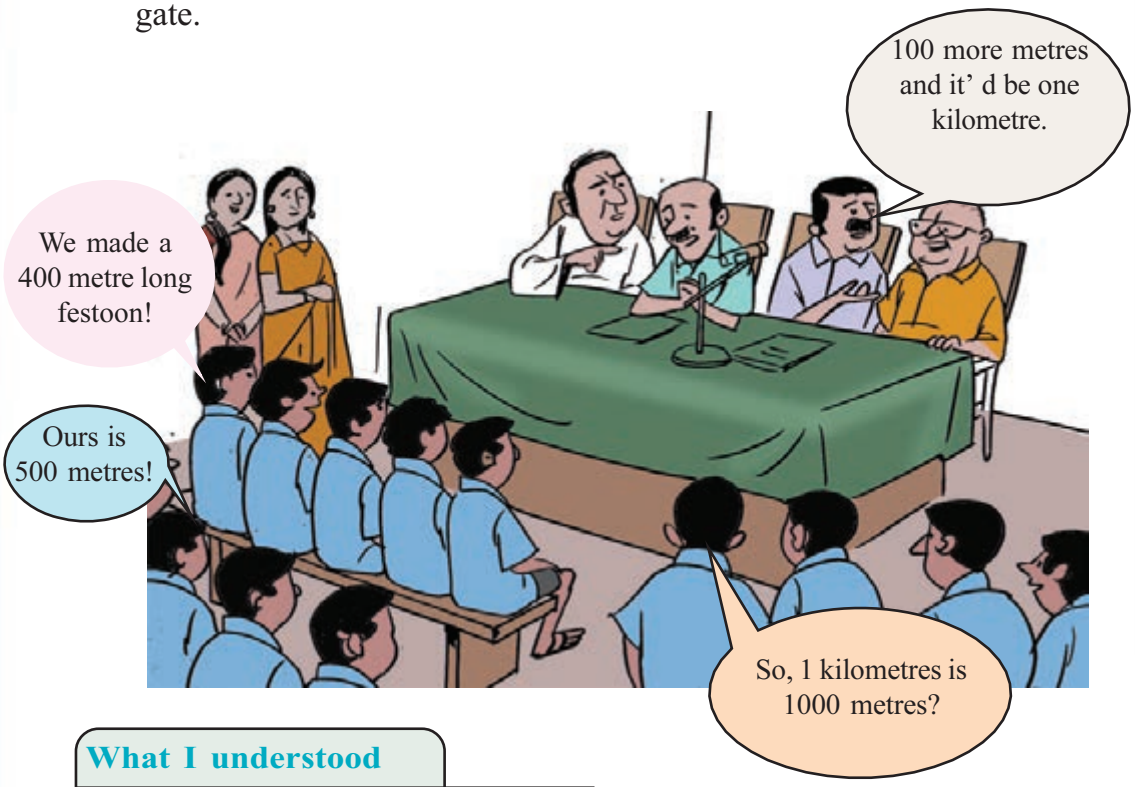
To complete 1000 metres how much more should each walk?

Meena ____

Mary ____

Anniversary

An LP school is celebrating its 90th anniversary.
The PTA decided to hang a 1000 metre long festoon from the gate.



What I understood

100 centimetres =

1000 metres =

500 metres is half a kilometre.

? Which of your classmates travel more than one kilometre to school?

? What is roughly the distance from your school to the panchayat office?

? What are the important places within one kilometre of your school?

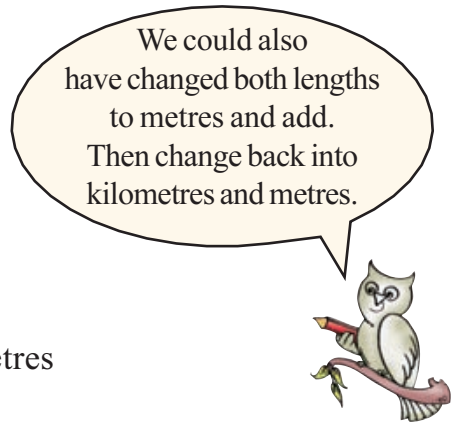
Water tank

The Grama Panchayat decided to lay pipes from the water tank to the school. On the first day, 1 kilometre and 800 metres of pipe was laid and on the second day, 1 kilometre and 500 metres. What is the total length of pipes?

- What all things are given?

First day	1 km	800 m
Second day	1 km	500 m

	1 km	800 metres	+
	1 km	500 metres	
Total	2 km	1300 metres	



1300 metres = 1 km. 300 metres

2 km + 1 km + 300 metres = 3 km 300 metres

Decreasing Distance

The 9 kilometre read from town to school is being tarred. 4 kilometres and 300 metres are done till yesterday. How much more remains now?

- Length of the road
- Length tarred
- We want to find the length of remaining part.
- The length tarred is to be subtracted from the length of the road.

That is, 9 kilometres –
4 kilometres 300 metres

Changing to metres 9000 metres –
4300 metres
4700 metres

4700 metres = 4000 metres + 700 metres
= 4 kilometres and 700 metres

There is another way.

9 kilometres		=	8 kilometres	+1000 metres
4 kilometres	300 metres	=	4 kilometres	+300 metres
			4 kilometres	+700 metres
That is, remaining		=	4 kilometres	700 metres

? To attend the Science Fair, children travelled three and a half kilometres in a bus and then walked 500 metres. How many metres in all ? ____. In kilometres? ____

? Raju travelled 16 kilometres in a bus and 175 kilometres in a train to reach Shoranur. How many kilometres did he travel in all?

? Abu goes for a walk each day morning and evening 800 metres in all. What is the total distance in kilometres, that he walked in January?

? Shyamala walks 800 metres to school, Molly 750 metres and Mubeena 600 metres. How many metres does each walk, to school and back? Write it in kilometres and metres.

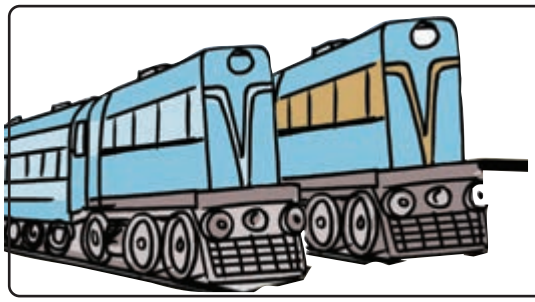
? Stone walls are being built on both sides of a canal, 6 kilometres long. On one side, 3 kilometres and 650 metres are built and on the other, 4 kilometres and 50 metres. How much more is it to be done on each side?

? Pipes are to be laid for 9 kilometres and 500 metres. 7 kilometres and 600 metres are done. How much more to complete the work?

? The 8 kilometres and 200 metres stretch to the factory is to be electrified and 2 kilometres are done. How much more remains?

How far?

See the distance by train from Thiruvananthapuram to various places.



Thiruvananthapuram	**0 kilometres**
Kollam	**65 kilometres**
Kottayam	**161 kilometres**
Shoranur	**327 kilometres**
Kozhikode	**414 kilometres**
Kasaragod	**589 kilometres**

- What is the distance by train from Thiruvananthapuram to Kasaragod?
- How far must one travel from Kottayam to reach Kasaragod by train?
- Ernakulam is 59 kilometres away from Kottayam in the direction of shoranur. How long one must travel from Thiruvananthapuram to reach Ernakulam?
- How many kilometres does a train travel in its journey from Kasargod to Kollam?
- Which is nearer to Ernakulam, Kollam or Kozhikode?

Drinking Water

The Poomana Water Project supplies drinking water to five places. The lengths of pipe laid are as follows.

From tank to Kunnumel	360m.
Kunnumel to Anakkara	630m.
Anakkara to Chillani	440m
Chillani to Kolakam	720 m
Kolakam to Muthamala	850m

? What is the total length of pipe laid?

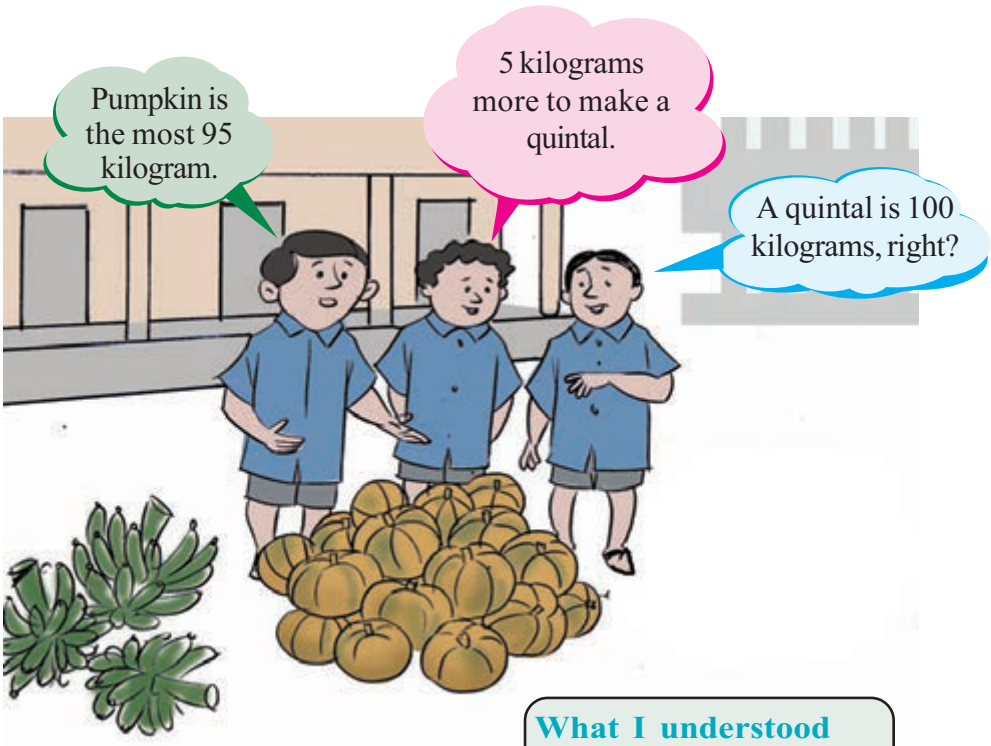
? How many kilometres is this?

? The wages for laying pipes is 69 rupees per metre. How much is spent as wages for laying pipes to each place?
How much is spent in all as wages?

On myself	Yes	No
Understood what is to be found out		
Found out the calculations to solve the problem		
Got the correct answer through right methods		
Could explain the method of solution		

Harvest Time

The Haritha club gathered in their crop of vegetables for Onam.



What I understood

1000 grams =
100 kilograms =

Look at the weights of other vegetables they got.

How many kilograms more for each to make a quintal?

Item	Weight	To make a quintal
Tomato	72 kilograms	28 kilograms
Cucumber	86 kilograms	
Bitter gourd	63 kilograms	
Banana	90 kilograms	
Beans	35 kilograms	

Onam Feast

Haritha Club provided vegetables for the Onam Feast.

Item	Weight (kg)
Tomato	15
Cucumber	10
Bitter gourd	8
Pumpkin	10
Banana	15
Beans	15

- How many kilograms did they give in all?
- Some of the vegetables in the list are such that, if double the weight of any of them is bought, the total would be one quintal. Which are they? How much of each is there now.

What I found

Item	Weight (kg)

What my friend found

Item	Weight (kg)

- The remaining vegetables were sold to the members of the club.

  Tomato, Cucumber and pumpkin at 15 rupees a kilogram bitter gourd and beans at 23 rupees a kilogram, bananas at 28 rupees a kilogram. How much money did the club make?

  How do we calculate?

? What about a table?

? What all things in the table?

?

? In which item they got maximum price? And the least?

Rice Distribution

■ Rice was distributed to170 children of classes 1 and 2 at 5 kilograms each.

? How many kilograms of rice was distributed?

? If one sack contains 50 kilograms of rice, how many sacks are needed?

How many sacks of one quintal are there?

How much rice would be left?

■ For classes 3 and 4, 9 sacks of one quintal and one sack of 50 kilograms were needed.

? How many kilograms of rice in all?

? How many children are there in classes 3 and 4 together?

? How many kilograms of rice was distributed in all four classes together?

? If all of this were in one quintal sacks, how many sacks would have been there?

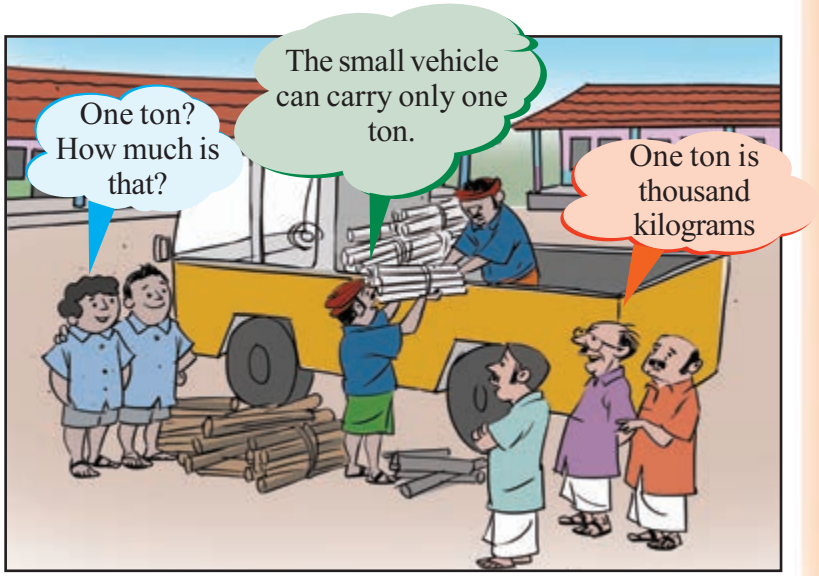
Transport

For the Onam feast, 350 kilograms and 50 kilograms of sugar were brought to the school. The charges for unloading is 15 rupees per quintal. How much must the school pay?

The vehicle fare is 225 rupees for 9 kilometres. How much is it for each kilometre?

Cooking

For cooking, 1500 kilograms of firewood were bought.



1500 kilograms make

- How many quintal? ____
- How many kilograms more of firewood is needed to make 2 tons? ____
- How many quintals is it? ____

What I understood

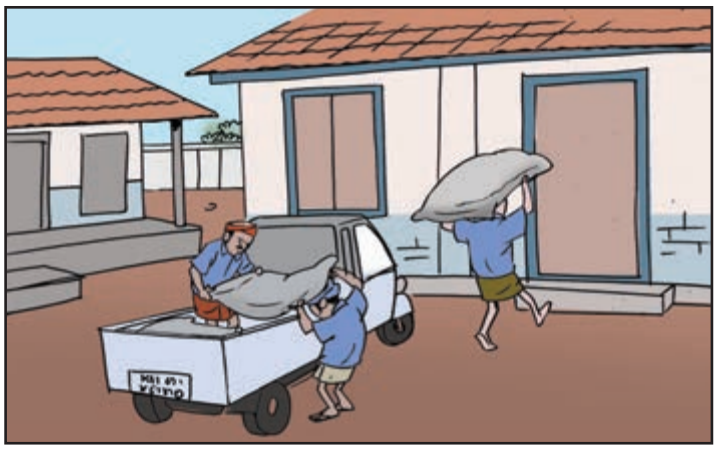
100 kilograms =
1000 kilograms =
10 quintal =

Sovereign

The table below shows the weight of some gold ornaments in a jewellery shop.

Item	Sovereign	Grams
Chain	3	
Bangle	4	
Ring	$\frac{1}{2}$	
Ear rings	$\frac{1}{2}$	
Necklace	2	
Total		

Paddy Collection



See the amount of paddy the society collected during the past five days.

On the first day, they got 1375 kilograms. On the second day they got 150 kilograms loss. On the third day, 325 kilograms less than second day. On the fourth, 100 kilograms more than the third day. They collected 6000 kilogram on all five days together.

? Write the amount of paddy in Kilograms got each day.

1	2	3	4	5

? How many tons of paddy were collected in all?

How many quintals?

? How many quintals were got on the first two days together?

? How many tons were collected on the foruth day?

? How much more is needed to make the collection on the third day one ton?

Kitchen

The school kitchen is being rebuilt. 6 tons of sand, 2 tons of cement and 3 tons of gravel.

? How many kilograms is each of these.

Sand ☐ Cement ☐ Gravel ☐

? In quintals,

Sand ☐ Cement ☐ Gravel ☐

• Two types of metal rods were bought. 1375 kilograms of thick rods and 3625 kilograms of thinner rods.

? How many tons of rods in all? ☐

? What is the difference in the weights of the two types? ☐

Vegetable garden

The table shows the weights of vegetables Ramu got from his garden.

? Fill in the blanks

Item	11/1/2015 (Kg)	18/1/2015 (Kg)	Total (Kg)	Ton	Quintal	Kilogram
Tapioca	980	1040		2	-	20
Banana	620	475				
Yam	190	230			4	
Cucumber	530	470				
Water melon	680	705				
Cabbage	240	320				60

? The price of banana is 29 rupees per kilogram. How much will he get for his bananas?

? All the cabbage were packed into 4 sacks of the same size. How many kilograms are there in each sack?

? What is the difference in the weights of tapioca in the first and second weeks?

Anniversary

For anniversary feast, the old students provided the things needed. Some of the things they bought are these:

Rice	825 Kg.
Sugar	3 quintals
Ghee	5 Kg 500 g.
Cashew nut	2 kg.
Raisin	500 g.

- Rice is in sack of 50, 75 and 100 kilograms. How many of each?
- How much more rice would make one ton?
- How many kilograms of sugar is there?
- How many grams of cashew?
- Ghee, cashew and raisin are in a single bag. What is the weight of the bag?

On myself	Yes	No
Understood what is to be found out		
Found out the calculations needed to get the answer.		
Got the correct answer using right methods.		
Could correctly use the relations between gram, kilogram quintal and ton.		
Could explain the method of solution to others.		

10 Data Collection

National Games

Whose picture is this?

Ammu is the mascot of the 35th National games of India, held in Kerala in 2015.

Now look at the table below:

It shows the top five teams and the number of medals they won.

No.	Team	Gold	Silver	Bronze
1	Services	91	33	35
2	Kerala	54	48	60
3	Haryana	40	40	27
4	Maharashtra	30	43	50
5	Punjab	27	34	32

? Which team won the most number of gold medals?

? Which team won the most number of medals?

Make some questions like this.

- The Kerala team was best in athletics. See how Appu listed the first four in athletics.

No.	Team	Gold	Silver	Bronze
1	Kerala	9	10	8
2	Services	7	1	5
3	Punjab	5	5	5
4	Uttar Pradesh	3	5	2

? Which team won more than five gold medals?

? Which teams won more silver medals than gold medals?

Can't you make some more questions?

Exams

Look at the grades Appu's class got in the math exam.

No.	Name	Grade
1	Aparna	A
2	Appu	B
3	John	C
4	Ijaz	C
5	Mithila	A
6	Adityan	B
7	Jose	B
8	Irfan	B
9	Lissy	D
10	Jasna	C

No.	Name	Grade
11	Akshaya	A
12	Ashwathy	B
13	Theertha	A
14	Anju	B
15	Sarang	B
16	Anujith	C
17	Mahesh	A
18	Fasna	B
19	Nada	C
20	Sreekkuttan	A

? How many got A grade?

? How many got B?

? How many got C?

? How many got D?

Let's make a table to show the number of children who got each grade.

Grade	Number of children
A	
B	
C	
D	
E	

- How many got B grade or higher?
- How many got D or lower?
- Make more questions.

Comparison

The tables below show the grades of children on Appu's bench and Theertha's bench.

Name	Malayalam	English	EVS	Maths
Appu	A	A	A	B
Sreekkuttan	A	A	A	A
Mahesh	A	B	B	A
Sarang	A	A	B	B
Jose	A	B	A	B

Name	Malayalam	English	EVS	Maths
Theertha	A	A	A	A
Athira	A	A	A	B
Anju	A	B	A	A
Fasna	A	B	A	B
Mithila	A	A	A	A

Let's compare them

- Who all on Appu's bench got A grade in all subjects?

- Which are the subjects in which all children on Theertha's bench got A grade?
- Find the number of children on each bench who got A grade in all subjects. On whose bench is this more?
-
-
-

School trip

- Children of class 4 went on an educational trip.18 from A division,12 from B, 15 each from C and D. Make a table showing the divisions and the number of children from each.

In the park

- Appu and his friends are in the park. Beautiful sights all around!

What all things do you see in the picture?

How many of each?

Fill in this table:

Things I saw	Number
Colourful umbrella	
Aquarium	
Swing	

Colour math

What Theertha liked most in the park was the colourful umbrella. What are the colours in them?

Have you seen a rainbow?

How many colours does it have?

Which colour do you like most?

What about your friends?

The table below shows the number of children in Nafia's class who like each colour in a rainbow.

Colour	Number
V	4
I	2
B	5
G	3
Y	4
O	3
R	4

Which colour do most children in Nafia's class like?

Make a table like this for your own class.

Library

On the way back to school, they visited the P.N.Panicker memorial library.

The table below shows the number of books of different types in the library.

Fill in the numbers.

The picture of one book indicates 100 books.

Type	Picture showing number	Actual number
Children's books		
Short story		
Poetry		
Novel		
Biography		

How many?

See the pictures Ravi made for the Math Board using circles, rectangles and triangles.

Figure 1

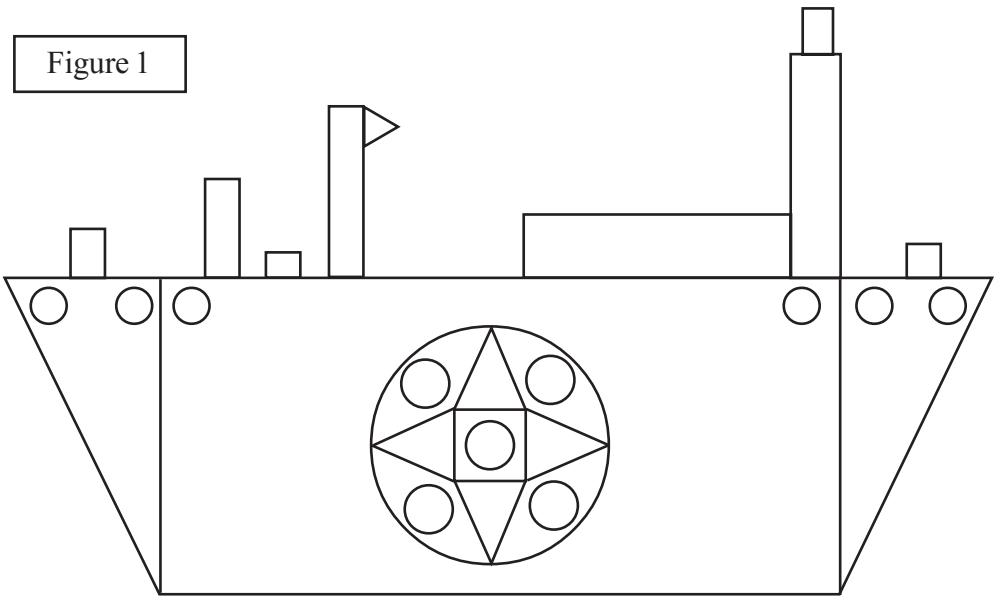


Figure 2

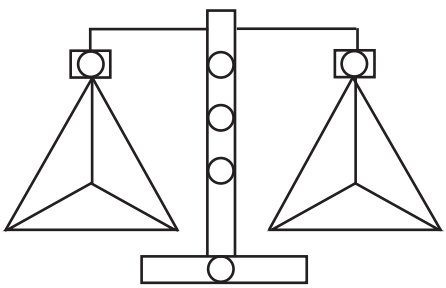
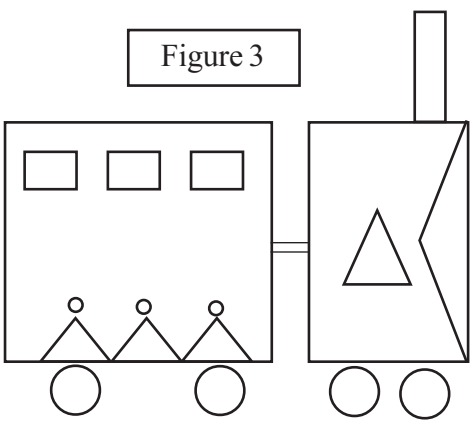


Figure 3

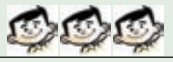
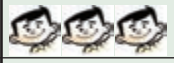


Fill in the following table by writing the number of different shapes in each picture

	▭	△	○
Figure 1			
Figure 2			
Figure 3			
Total			

Class one

The table shows the number of children who joined class 1 in the 6 LP schools of Thirukulam panchayat. (one child in the picture stands for 10 children).

	Boys	Girls
Kozhimala LP school		
Vadapuram LP school		
Mamallapuram LP school		
Pathanakulam LP school		
Palathira LP school		
Thirumala LP school		

How many children are in all? ____

Who are more, girls or boys? ____

How many more? ____

In which school did the most number of children join? ____

How many? ____ The least? ____

The panchayat decided to give free slates for all these kids.

Draw slates in the table to show the number needed in each school, the picture of one slate indicating 10 actual slates.

School	Number	Picture Showing Number
Kozhimala LP school	60	
Vadapuram LP school	60	
Mamallapuram LP school	70	
Pathanakulam LP school	80	
Palathira LP school	40	
Thirumala LP school	110	

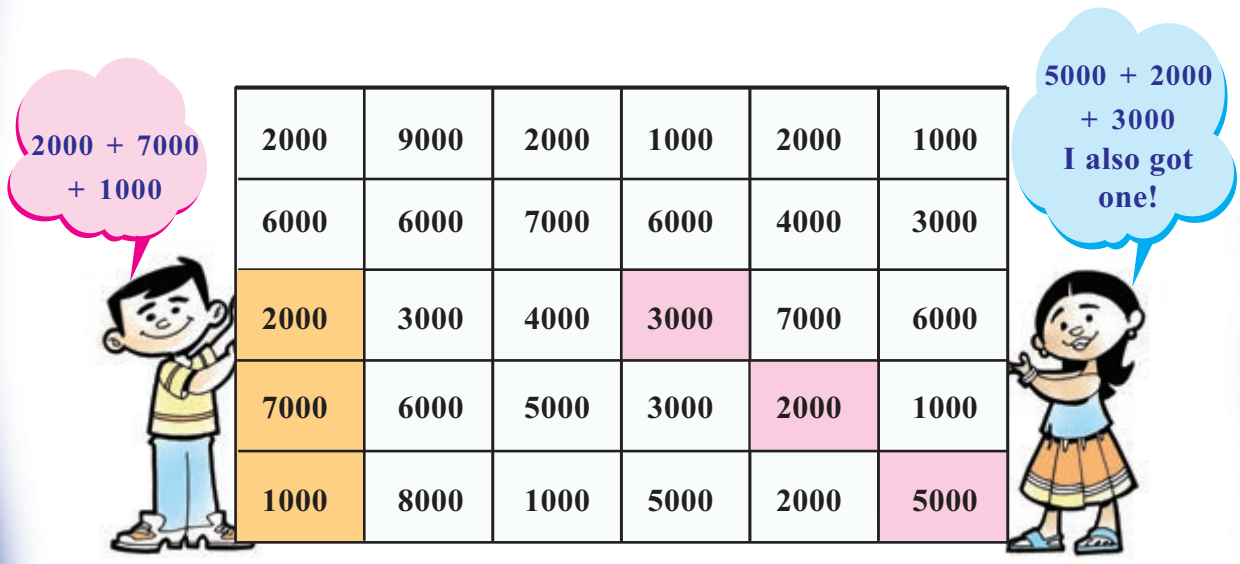
Beyond Ten Thousnd

11

Ten thousand

See the math-board

Choose three number from it – along a row, along a column or diagonally – such that sum is 10000.

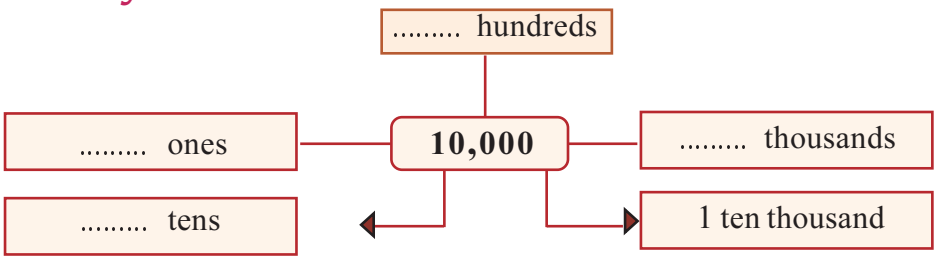


2000	9000	2000	1000	2000	1000
6000	6000	7000	6000	4000	3000
2000	3000	4000	3000	7000	6000
7000	6000	5000	3000	2000	1000
1000	8000	1000	5000	2000	5000

See what Appu and Chinnu got.

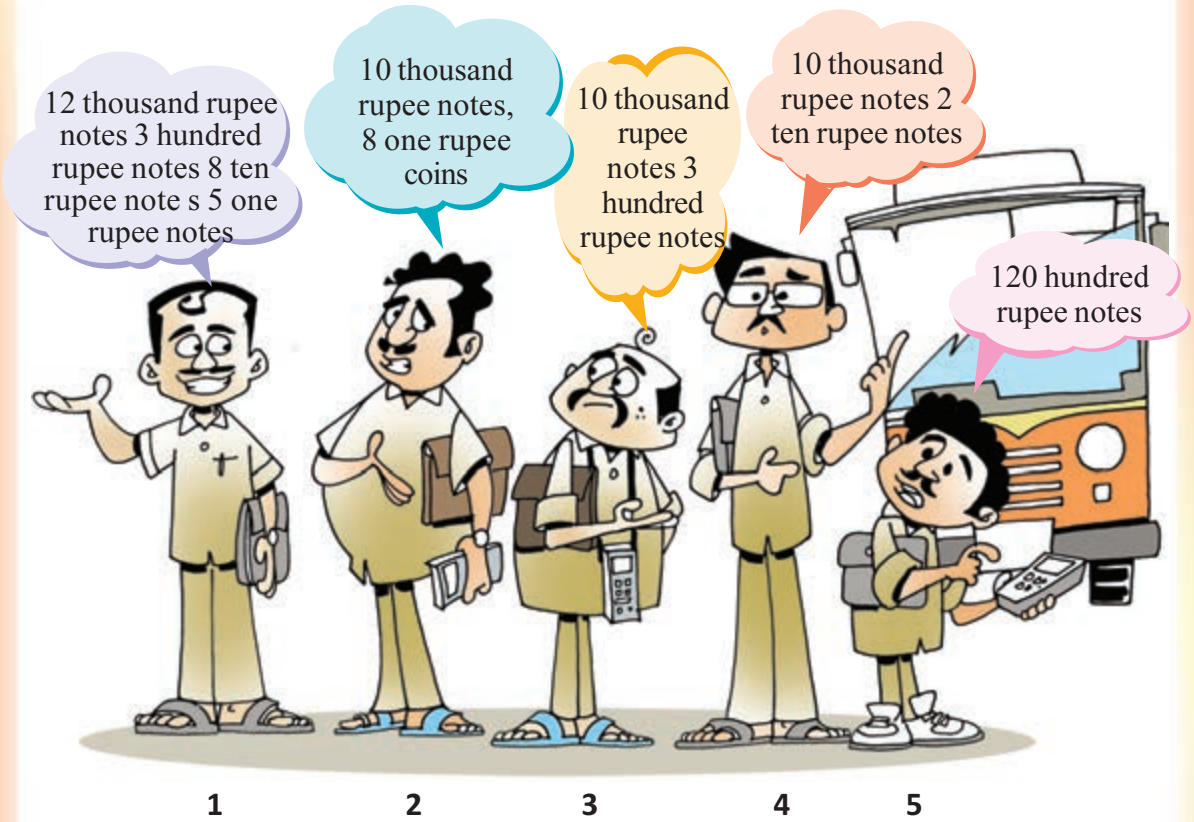
Can you find some more?

How many?



Bus math

Maruthamala punchayat bought five buses. The incomes are as given below:



What is the income from each bus?

1 12385 2 ____ 3 ____ 4 ____ 5 ____

Let's write these in words

12,385	Twelve thousand .....
10,008	Ten thousand .....
10,300	

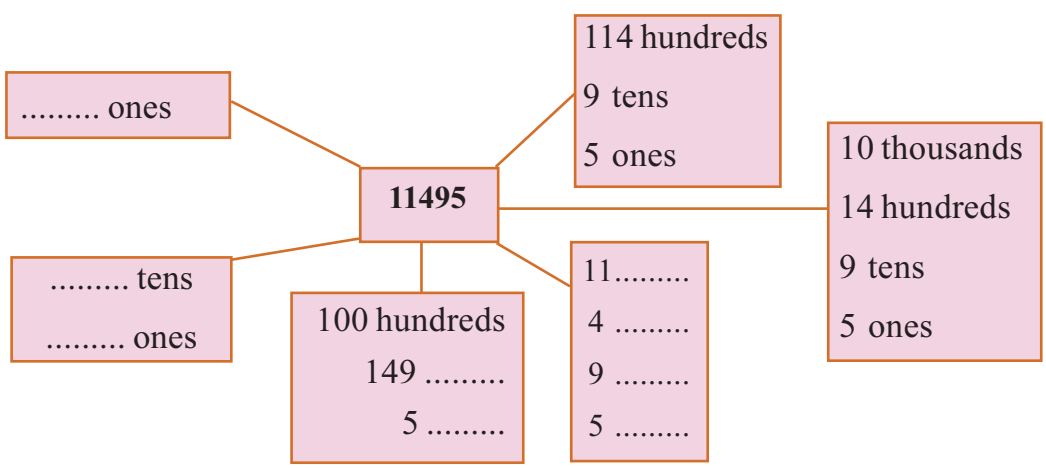
Let's spell them according to place nature

	Ten thousand	Thousand	Hundred	Ten	one
12385	1	2	3	8	5
10008					
10300					
12000					
10020					

Now arrange them from the least to the greatest

Highest income ____ Lowest ____

After all expenses like bank refund, fuel and salary,11495 rupees was left. What are the different ways of splitting this into notes and coins?



Check the other possibilities.

Foot ball

Tickets for the football match are sold through six counters. The table below shows the details of amounts got.

Find the amount got in each counter.

Rupee notes / counter	1000	500	100	50	10	1	Total
1	8	6	10	6	10	–	12400
2	8	5	10	10	2	5	
3	7	8	12	6	2	5	
4	10	–	10	10	32	5	
5	9	4	–	8	12	5	
6	12	–	–	–	5	–	

Write these amounts in order from the least to the greatest in figures and words.

Number	In words
11525	

Now try splitting them according to place value.

	Number	place value				
1		☐ ten thousand	☐ thousand	☐ hundred	☐ ten	☐ one
2		☐	☐	☐	☐	☐
3		☐	☐	☐	☐	☐
4		☐	☐	☐	☐	☐
5		☐	☐	☐	☐	☐
6		☐	☐	☐	☐	☐

Ten thousands together

The grama panchayat gave ten thousand rupees to each of the farmer groups in the wards, for growing vegetables. The number of groups in each ward is given in the table below:

Ward	Number of groups	Amount got (Rs.)	Total (Rs.)
I	3	10000 + 10000 + 10000	30,000
II	6		
III	7		
IV	4		
V	2		
VI	5		
VII	8		
VIII	9		

- Ward IX has 10 groups. How much did they get? ( )

  This number is to be read as **One lakh.**
- How many ten thousands are there in one lakh?
- How many thousands?

? Write the amounts the wards got in order, from the lowest to the highest?

Self employment

Raju and Biju took out loans from the bank, under the self – employment scheme.

- Raju pays back 100 rupees each day.

Pass book — Name : Raju

Date	Depost (Rs.)	Withdrawal (Rs.)	Balance	Balance in words
Previous Balance			22500	
9/11/15	100		22600	Twenty two thousand six hundred
10/11/15	100		22700	
11/11/15				
12/11/15				
13/11/15				
14/11/15				

Adding and Subtracting

9	+	1	=	10	10	–	1	= 9
99	+	1	=	100	100	–	1	= 99
999	+	1	=	.....	1000	–	1	= .....
9999	+	.....	=	.....	10000	–	.....	= .....
.....	+	1	=	.....	100000	–	1	= .....
.....	+	1	=	.....	.....			= .....

- Biju pays back 1000 rupees each day

Pass book			Name : Binu	
Date	**Depost (Rs.)**	**Withdrawal (Rs.)**	**Balance**	**Balance in words**
Previous Balance			17000	
10/10/15	1000		18000	Eighteen thousand
17/10/15	1000		19000	
24/10/15				
31/10/15				
7/11/15				
14/11/15				

- Till 14.11.2015, how much has each paid back?

  Raju ____ Biju ____

- Who has paid back more?
  How much more?

Talent Search

The mathematics talent search exam is held in six centers in the panchayat. The children in each centers are given consecutive natural numbers

? The 24 children in the first centre are numbered from 10326. Write their numbers in order.

? There are 22 children in the second centre and the last number is 26006. Write down the numbers of the others in order.

? There are 18 children in the third centre and the first number is 32008. What is the last number?

? The numbers given in the fourth centre are from 42199 to 42218. How many children are there in this centre?

? The 10th number in the fifth centre is 54038. What is the first number?

? One number in the sixth centre is 66665. It is 8th from the first and 11th from the last. What are the first and the last number? How many children are there in this centre?

Paddy fields

■ The panchayat honoured the 6 paddy field committees which cultivated more than 20 acres. The amount of paddy they produced are given below :

Paddy field	Amount of paddy
1.	13 tons, 4 quintal
2.	Fourteen thousand two hundred and eighteen kilograms
3.	160 quintal, 63 kilogram
4.	12 ton, 9 quintal, 8 kilogram
5.	15 tons, 4 kilogram
6.	11407 kilogram

? What is the total amount produced in kilograms?

? How many tons is it?

? Which field produced the most? How much is it?

■ The committees were ranked according to production. The one ranked first was given a gift of 75000 rupees. Each of lower ranks got 10000 rupees less than the just higher one.

? How much did each committee get?

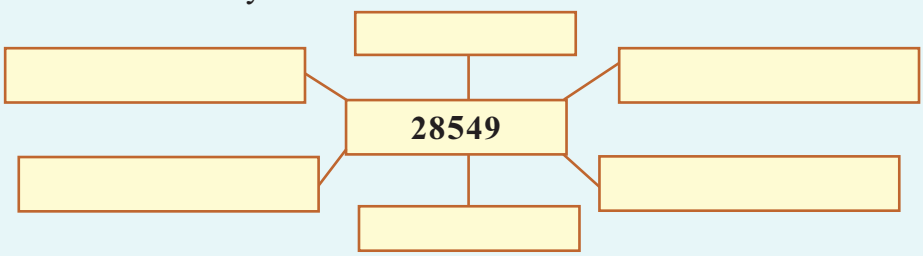
Let's do !

In what all ways can we split 28549 ?

2 ten thousands **8** thousands **6** hundreds **4** tens **9** ones

..... Thousands, 549 ones.

Are there other ways?



Like this write the number 30735, 43087

Five digit numbers

60	70	4000			
2	400	3	4	900	
30	700	2000	30000		
20000	50	3	60000	7	6000

- Choose five numbers from those above and make a five –digit number.

30000 + 2000 + 400 + 2 + 3 = 32405

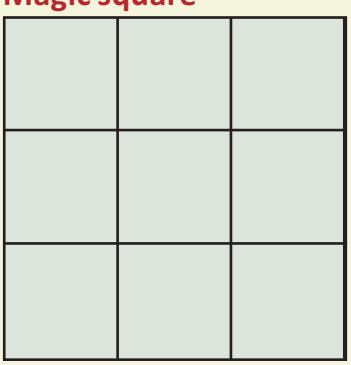
..... =

..... =

..... =

..... =

Magic square



Use the nine numbers 51000, 52000, 53000, ... 59000 to make a magic square.

Splitting up

Choose numbers from the rectangle to split the numbers below it.

30000	3000		200	8000
	500	20		
3	400	5000	60000	
30		5	10	7

35427 = 30000 + 5000 + 400 + 20 + 7

60423 =

80035 =

33020 =

Complete the patterns

1.	24000	25000	26000	--------	
2.	32200	32300	32400	--------	--------
3.	39700	39800	39900	--------	--------
4.	65000	67500	70000	--------	--------
5.	50500	--------	--------	50800	
6.	60700	--------	60900	--------	61100
7.	80000	85000	90000	--------	--------

Let's add !

9 8 7 6 5 4 3 2 1 +
8 7 6 5 4 3 2 1 1
7 6 5 3 3 2 1 1
- - - - - - -
- - - - - -
- - - - -
- - - -
- - -
-

1 0 8 3 6 7 6 2 6 9

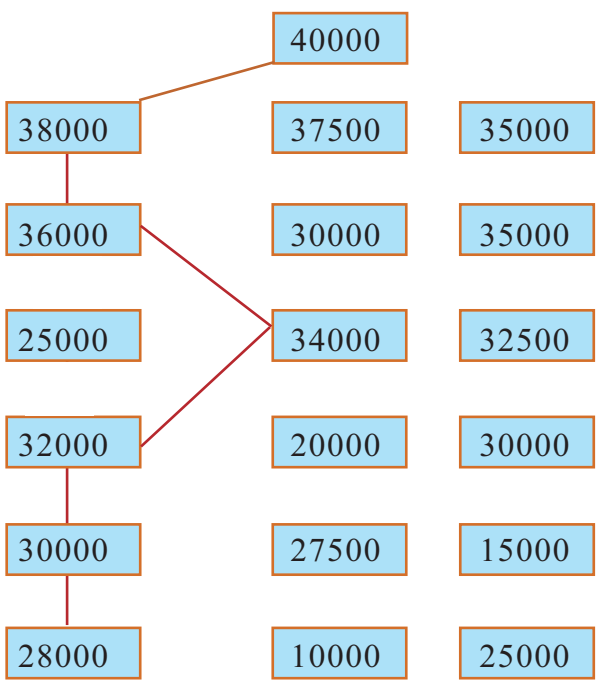
1 2 3 4 5 6 7 8 9 +
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7
- - - - - -
- - - - -
- - - -
- - -
- -

News paper

Given below are the facts Unnikuttan got from the newspaper to read in class. Write in figures, the numbers given in words.

- The stadium was full. **Forty eight thousand two hundred and seventeen** people watched the game. ☐
- Bye-election, majority is **twenty four thousand eight**. ☐
- **Seventy thousand** rupees granted from relief fund. ☐
- For Onam, **thirty two thousand five hundred thirty** kilograms of sugar granted. ☐
- Increase of **eighty four – thousand, nine hundred eighty eight** rupees in tax. ☐

To the top!



See how we start from 28000 and add 2000 again and again to reach 40000.

Starting from 10000, can you add the same number again and again and reach 40000? How about starting from 25000?

Five digit – numbers

- Write the five digit numbers you can make using 2, 6, 7, 9, 3 without repetition?
- How many five digit numbers can be made using 4, 5, 6, 8, 9?
- What if we use 0 instead of 8?

Looking back

Learning outcomes	On my own	With teacher's help	Must imporve
Lesson 6 **Adding without adding** • Writing consecutive numbers from specified number to ten thousand • Solving problems using multiplication • Finding proper methods to multiply a number by another and justifying them • Explaining the easy way to multiply by 10 and 100 • Explaining easy methods to multiply by numbers with zero in one's or ten's place • Finding relations between numbers and explaining them. • Completing number patterns and explaining • Forming new numbers patterns • Estimating results of operations • Calculating in head **Lesson 7** **Equal sharing and what remains** • Solving problems using division • Explaining different contexts where division is needed • Finding different methods of division			

Learning outcomes	On my own	With teacher's help	Must imporve
• Finding number relations involving division and forming conclusions • Finding methods to check division and explaining • Completing number patterns and explaining. **Lesson 8** **Half and quarter** • Explaining the methods to halve an object or collection of objects • Halving geometrical shapes and explaining. • Recognizing $\frac{1}{2}$ of something • Dividing something into $\frac{1}{2}$'s • Dividing a rectangle into $\frac{1}{2}$'s in different ways • Solving practical problems on dividing into $\frac{1}{2}$'s and explaining • Dividing different objects into $\frac{1}{4}$'s • Recognizing $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$ from division of various shapes and explaining **Lesson 9** **Length and weight** • Explaining the relations between various			

Learning outcomes	On my own	With teacher's help	Must imporve
units of length • Measuring small units precisely and correctly • Relating kilometre to smaller units of length • Solving practical problems involving lengths • Explaining the relations between different units of weight, such as quintal and ton • Solving practical problems involving weights. **Lesson 10** **Data collection** • Tabulating available data • Analysing tables and making conclusions • Presenting data collected as pictures or using lines • Analysing data given as pictures and making conclusions **Lesson 11** **Beyond the thousand** • Interpreting ten thousand in various ways. • Forming five digit number using groups of thousand, hundreds • Interpreting five digit numbers according to context and explain • Splitting five digit numbers according to place value.			

Learning outcomes	On my own	With teacher's help	Must imporve
• Explaining methods to compare five digit numbers • Arranging five digit numbers according to magnitude • Writing five digit numbers in figures or words • Completing number patterns, recognizing the relations between the numbers and explaining • Solving problem by arranging five digit numbers • Solving problems involving five digit numbers and explaining			