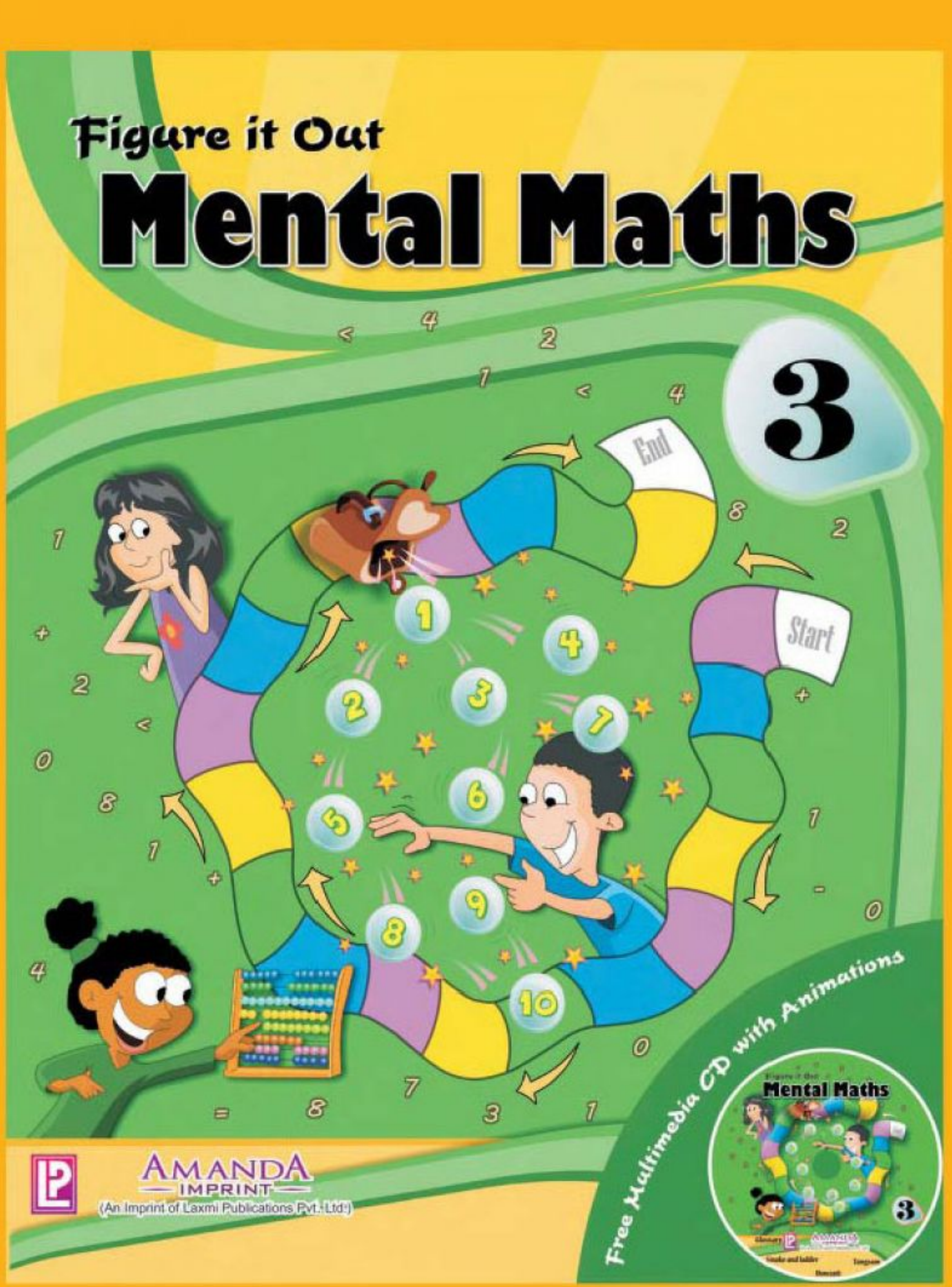
Figure it Out

Mental Maths

3



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Aryaman Gupta

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AN INSIGHT ON MENTAL MATHS

It is a fact that learning is unfolding of inner capacity of a child. This can be enhanced by the parents/ teachers, creating a suitable atmosphere by way of exposure to experiences.

The sense organs of learners, which are processed in the brain and result in learning, are the gateways of experiences. Allow the children's brain to process instead of providing external gadgets or supplements. Allow them to struggle. Give a chance, for their brain to work. Encourage them not to give up and let them try to solve any problem or do any work themselves.

Maths and English form the basic building-blocks for many other important skills in everyday life. Maths helps students to solve any problem themselves—be it academic or in personal life, without asking for any assistance frequently. There is a lot of focus on developing mental maths skills during the early years of learning.

Building of mental capacities and skills is the fundamental purpose of mental mathematics. Teachers and parents have to facilitate in building this capacity. Accept the children under your care and build on their talents. Motivation by the facilitators for logical thinking, connections, pattern recognition, etc., goes a long way in sharpening mental skills of the children.

Talk about maths as much as possible. Try to find examples from everyday life such as using small changes or measuring ingredients, etc., – to make maths relevant and a fun.

ABOUT THE SERIES

Figure it out is a new series of books on Mental Maths along with companion CDs for Grades 1 to 5. This set of books and CDs complements the prescribed maths textbooks to make learning interactive and complete. The books are multi-coloured with child-friendly graphics. The language is simple and easy to understand.

These books fill in the learning gaps and provide fun-based educational material for use at home or in school.

Each book is accompanied by an interactive CD containing game-based mental maths activities. These games provide endless hours of fun and practice. The games help in skill building especially in the areas of the four fundamental operations (addition, subtraction, multiplication, and division) and spatial perception. The animated picture dictionary is an excellent tool to enhance mathematical vocabulary.

Each book is structured into chapters that are further organized into topics. The highlights of the book are:

- A page for snippets of information, things to remember or recap.
- A set of self-contained single-page, topic-wise worksheets designed for drill-work or formative assessment. HOTS (Higher Order Thinking Skills) questions are interspersed with the regular questions to integrate learning and evaluation in a fun and challenging manner. Some of the activities especially in the chapters on Measurement are designed for hands-on, project-based learning incorporating a Maths-lab approach. The picture-based exercises apart from being aesthetic, help sharpen visual interpretation skills.
- 'Up for a challenge?' is a comprehensive revision worksheet covering the concepts learnt in a chapter. You will find this at the end of each chapter.

Together, the books and the CDs energize learning and make excellent tools for formative assessment.

We hope you really like this set of learning material. If you have any feedback, we would love to hear from you. Just send us an email at the following ID.

info@laxmipublications.com

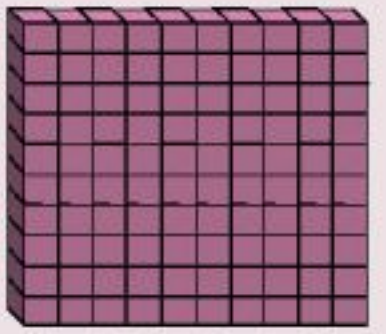
1 Numbers and numeration

Dienes blocks

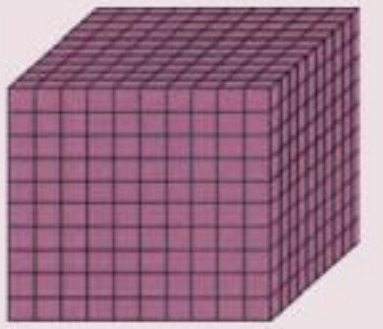
Dienes blocks are blocks in which cubes represent units or ones, rods of ten cubes represent tens, flats of 100 cubes represent hundreds and blocks of 1000 represent thousands.

Cube (1)

Rod/long (10)

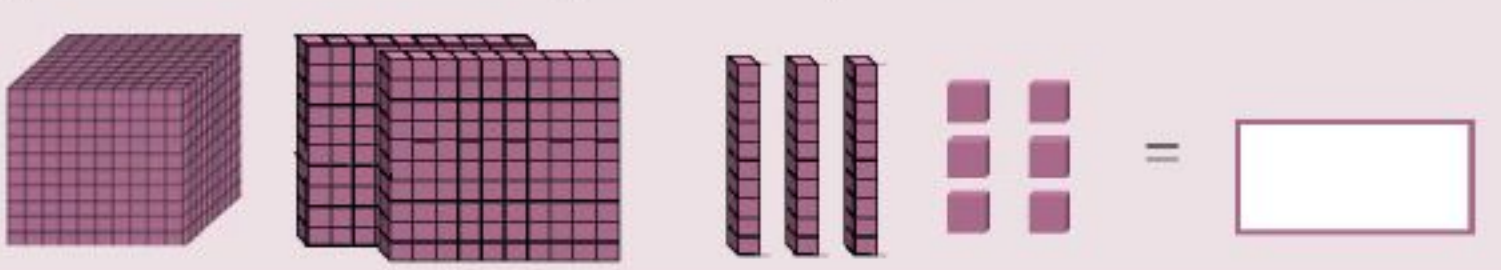


Flat (100)



Block (1000)

Can you write the number represented by the blocks shown below?



= ☐

Place value and face value

- Face value of a digit is the actual value of a digit.
- Place value of a digit is the position value × face value.

Example: 6789

Face value	6	7	8	9
Position value	1000	100	10	1
Place value	6000	700	80	9

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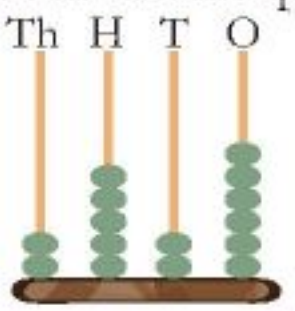
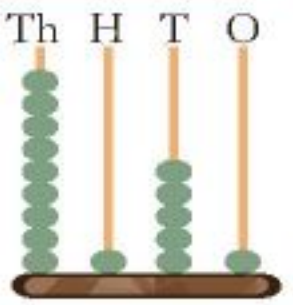
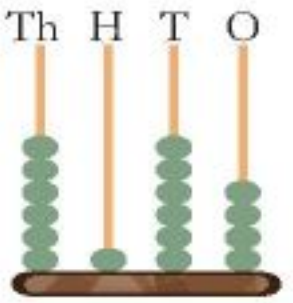
..... Teacher's Sign

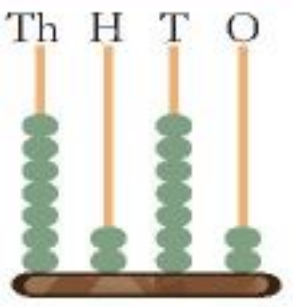
Reading the numbers on an abacus

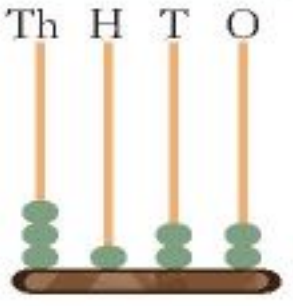
Identify the numbers shown on the abacus. Write the numbers and number names in the space provided.

1. 

2. 

3. 

4. 

5. 

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Place value and number names

I Read the numbers given below and write their digits correctly in the place value chart. The first one has been done for you.

4,563	2,050	9,818	3,175	8,647	5,687	9,687	9,800	4,005	8,546

S.No.	Thousands	Hundreds	Tens	Ones
1.	4	5	6	3
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

II Write numerals for these number names. The first one has been done for you.

1.	Two thousand five hundred twenty-one	2521
2.	Eight thousand one hundred seventy-three	
3.	Four thousand seven hundred eighty-one	
4.	Five thousand four hundred sixty-five	
5.	Nine thousand one hundred eighty-four	
6.	Three thousand five hundred fifty-three	
7.	Seven thousand six hundred forty-three	
8.	One thousand nine hundred ninty-nine	
9.	Nine thousand five hundred ninteen	
10.	Eight thousand four hundred two	

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..... Teacher's Sign

Place values

I I have 500 + 30 + 5 Chota Bheem stickers. How many do I have in all?

500 + 30 + 5 = ☐

II I am a number equal to the number of eyes in the human body. Look at the given numbers and identify my place value and face value in them.

	4209	3092	2357	1328
Face value				
Place value				

III Find the four place values hidden in the following word grid. Use four different colours to locate them.

O	N	S	T	T	F	C	W	S	S
T	W	D	E	R	E	N	U	D	A
E	K	T	H	O	U	S	A	N	D
N	D	H	G	E	I	R	D	E	S
T	N	A	O	O	N	E	S	N	U
H	A	W	B	N	D	F	Z	S	O
O	S	B	U	N	S	H	S	I	H
U	H	S	X	T	D	A	E	X	W
S	O	R	Y	E	A	M	J	N	T
A	H	S	N	N	E	T	L	O	D
N	T	T	H	S	U	O	S	H	D
D	A	N	S	U	O	H	W	S	X

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Fill the missing numbers

I Find the missing numbers in the following sequences.

1.	230	240		260			
2.	25	35			65		85
3.	4800		5000		5200		5400
4.	3210	4210			7210		9210
5.	930		950	960		980	

II Find the missing numbers in the following sequences.

1.

900	800			500		300		100

2.

115		345		575		805		1035

3.

1500			3000		4000			

4.

777				781	782		784	

5.

	4655	4755		4955		5155		

6.

3020			3320		3520		3720	

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Formation of numbers

Solve the following.

1. Using the digits 1, 2 and 6 make all possible 3-digit numbers without repeating any digit.

(a) Which is the largest number formed? ☐

(b) Which is the smallest number formed? ☐

2. Using digits 1, 2, 3 and 4 write the largest number formed. ☐

3. The smallest 4-digit number without repeating digits. ☐

4. The greatest 4-digit even number without repeating digits. ☐

5. The greatest 3-digit number with digits repeating. ☐

6. The greatest 2-digit number with digits repeating. ☐

7. The smallest 2-digit number without repeating digits. ☐

8. The smallest 3-digit number without repeating digits. ☐

9. The greatest 3-digit number without repeating digits. ☐

10. I am a number whose ones place is 2, tens place is 5, hundreds place is nothing and thousands place is the number of legs of a dog.

Who am I?

				–

..... Date

..... Teacher's Sign

Comparing numbers

Put the symbol greater than (>), less than(<) or equal to (=) between each set.

1. 895 ☐ 856
2. 876 ☐ 245
3. 9856 ☐ 8745
4. 756 ☐ 235
5. 178 ☐ 568
6. 5748 ☐ 6857
7. 986 ☐ 986
8. 1120 ☐ 5421
9. 8675 ☐ 2568
10. 451 ☐ 685
11. 1245 ☐ 1245
12. 8974 ☐ 8974
13. 321 ☐ 354
14. 754 ☐ 368
15. 8523 ☐ 3497
16. 895 ☐ 856 ☐ 564
17. 4571 ☐ 3652 ☐ 8457
18. 1245 ☐ 4571 ☐ 2541
19. 2145 ☐ 2451 ☐ 2451
20. 5478 ☐ 5421 ☐ 5421
21. 2547 ☐ 3652 ☐ 7854
22. 2134 ☐ 2314 ☐ 5124
23. 2547 ☐ 9874 ☐ 3145
24. 3124 ☐ 4578 ☐ 3214
25. 8754 ☐ 3214 ☐ 7412
26. 6524 ☐ 7548 ☐ 3215
27. 8567 ☐ 1245 ☐ 3598
28. 3265 ☐ 1245 ☐ 4578
29. 2145 ☐ 2214 ☐ 3356
30. 2541 ☐ 2541 ☐ 3625
31. 2210 ☐ 4001 ☐ 3201

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Ordering numbers

The scores of the top ten ODI batsmen of a season are given below.

Score	Batsman	Score	Batsman
744	Trott	729	Hussey
711	Dhoni	867	Amla
694	Tendulkar	747	Sangakkara
804	A.B.deVilliers	730	Clarke
738	Kohli	760	Yuvraj Singh

Arrange the rank of players in the descending order. One has been done for you.

Score	Ranking	Batsman
694	10	Tendulkar

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Even and odd numbers

Look at the given number grid.

1. Identify all the boxes with even numbers below 500 and colour them in light green.
2. Identify all the boxes with odd numbers below 500 and colour them in orange.

3. Choose and add all odd numbers below 100 = ____

4. Choose and add all even numbers below 100 = ____

101	302	503	408	654	568	789	158	987	459
456	987	465	756	598	782	159	765	468	397
151	223	899	788	255	466	889	229	998	222
666	555	777	987	154	695	775	994	885	778
665	985	256	737	50	105	209	809	798	302
155	335	771	987	545	999	112	123	465	985
456	716	765	468	985	486	288	391	337	654
444	980	990	883	953	761	958	869	467	953
573	189	200	900	450	550	551	995	198	11
44	283	435	75	405	440	660	773	459	789

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Up for a challenge?

I Rahul is looking for a four digit number. Help him to find the number. These clues will help you.

1. The thousands place is equal to the number of legs a tiger has. ☐
2. The hundreds place is equal to the number of tail a monkey has. ☐
3. The tens place is equal to half a dozen. ☐
4. The ones place is equal to the number of tyres a bike has. ☐
5. Write the number. ☐
6. Write the number name for the same. ☐
7. Write the expanded form of the same number. ☐
8. Which number will you get if you add 100 to this number? ☐
9. Which is the predecessor of this number? ☐
10. What number will you get if you arrange the digits of this number in ascending order? ☐

II Form the greatest three-digit number without repeating any digit. ☐

III Form the smallest three-digit number without repeating any digit. ☐

IV Form the greatest four-digit number without repeating any digit. ☐

V Form the smallest four-digit number without repeating any digit. ☐

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2 Roman numerals and ordinals

Origin of roman numerals

- Roman numerals originated in Rome. It was used by the ancient Romans almost 2000 years ago.
- Roman numerals were originally independent symbols and in this system seven symbols are used.

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

- When smaller numerals are on the right of larger ones, add them.
  CL = 100 + 50 = 150 , CC = 100 + 100 = 200, XVI = 10 + 5 + 1 = 16,
  MD = 1000 + 500 = 1500.
- When smaller numerals are on the left of the larger ones, subtract them.
  IX = 10 – 1 = 9, XL = 50 – 10 = 40.

Some interesting facts

- There is no zero in Roman numerals.
- Traditionally Roman numerals were used to indicate the order of family offspring of the same name.
  For example, II was used instead of junior, III for the third and IV for the fourth, etc.
- In England, this system was used to name their Kings that carried the same surname.
  Example, King Henry VIII (pronounced as King Henry, the eight).

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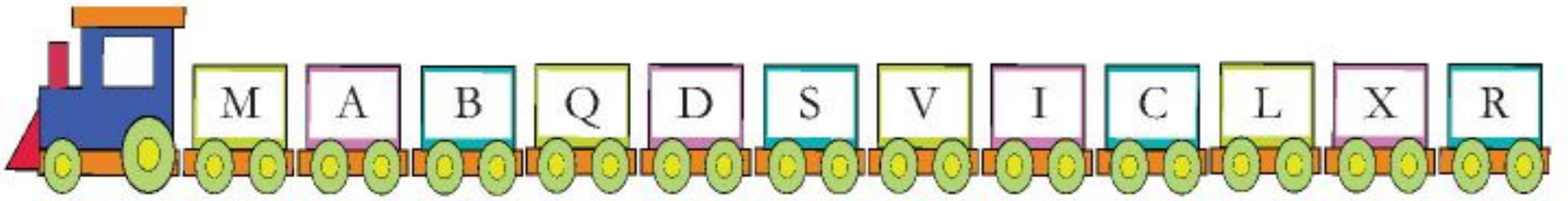
Identifying and writing Roman numerals

I Circle the seven symbols of the Roman numerals in the following list.



II Write the Hindu-Arabic numbers for the following.

1.	X =		2.	L =		3.	XV =	
4.	IV =		5.	M =		6.	XXV =	
7.	V =		8.	VII =		9.	XIIX =	
10.	C =		11.	XV =		12.	XC =	
13.	VI =		14.	XXII =		15.	CXX =	

III Write the Roman numbers for the following Hindu-Arabic numbers.

1.	18 =		2.	154 =				
3.	16 =		4.	124 =				
5.	35 =		6.	11 =				
7.	89 =		8.	60 =				
9.	90 =		10.	32 =				
11.	67 =		12.	41 =				
13.	56 =		14.	98 =				
15.	107 =		16.	490 =				

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More on Roman numerals

I Fill in the blanks with the correct signs (<, > or =).

1.	XXIV	☐	XXVII	2. LXII ☐ M	
3.	LX	☐	LXI	4. XXV ☐ XXVI	
5.	VIII	☐	IX	6. VII ☐ X	
7.	XXXVI	☐	XXXVI	8. XI ☐ IX	
9.	XVIII	☐	XV	10. XX ☐ VIII	

II Fill the correct Roman numerals in the blanks.

1. III + ☐ = 5
2. C – ☐ = XXXVI
3. L – ☐ = XX
4. VIII + ☐ = 16
5. L – XXXV = ☐
6. IX + ☐ = X
7. VII + II = ☐
8. IX + IX = ☐
9. L + V = ☐
10. V + IX = ☐

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Fun with ordinals

I Recollect the positions of the letters of the alphabet and fill in the blanks. The first one has been done for you.

S.No.	Letter	Position	S.No.	Letter	Position
1.	Y	Twenty-fifth	11.	K	
2.	F		12.	L	
3.	B		13.	A	
4.	Q		14.	C	
5.	W		15.	G	
6.	R		16.	Z	
7.	E		17.	I	
8.	T		18.	P	
9.	V		19.	S	
10.	M		20.	X	

II Write the succeeding ordinal number in words and in numerals.

S.No.		Words	Numerals
1.	Fifty-fifth		
2.	Thirty-first		
3.	Twenty-seventh		
4.	Eighty-ninth		
5.	Thirteenth		

III Write the preceding ordinal number in words and in numerals.

S.No.		Words	Numerals
1.	Seventy-fourth		
2.	Twenty-fifth		
3.	Eleventh		
4.	Eighty-seventh		
5.	Ninety-first		

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Up for a challenge?

The ages of some Roman soldiers have been given below in Roman numbers. Can you write down their ages in the Hindu Arabic form?

S.No.	Roman soldiers	Age in Roman numbers	Age in Hindu-Arabic numbers
1.	Marcus	XLIX	
2.	Lucius	XLIV	
3.	Pontius	XXXIX	
4.	Titus	XLVI	
5.	Decimus	XXVI	

All of them have sons twenty years younger to them. How old would their sons be?

S.No.	Sons	Age in Hindu-Arabic numbers	Age in Roman numbers
6.	Marcus Junior		
7.	Lucius Junior		
8.	Pontius Junior		
9.	Titus Junior		
10.	Decimus Junior		

11. Who among the sons was born last? ☐

12. The Chariot Race in Rome is meant only for men above 18 years of age. Who among the sons will not be able to participate in the race?

☐

13. Pontius Junior finished the race at the 56th position. What is Lucius Junior's position if he reached just before Pontius Junior? ☐

14. Titus Junior reached five positions after Pontius Junior and came last in the race. What was his position? ☐

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3 ddi ion

Adding makes more

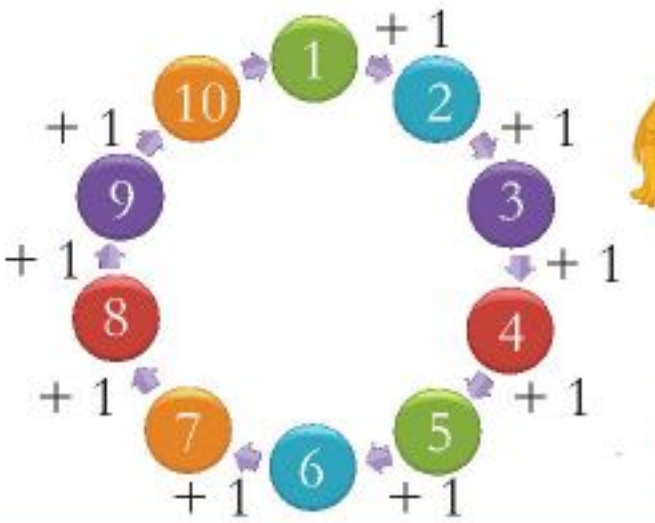
Addition is putting the things together, finding the total or sum by combining two or more numbers. Addend means things to be added and the result obtained after addition is called the sum.

5 + 9 = 14
(addend) + (addend) = (sum)

When we say sum of, plus, increase, total we mean addition.

Check it out

Repeated addition of 1 is same as counting.



Addition of 0 does not change a number

 1 candy bar + 0 more is still 1 

 2 candy bars + 0 more is still 2 

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3-digit addition with regrouping

Here's a story. Read and answer the questions that follow.

It was "Counting Day" at Jumbo Jungle. All the animals had to report to the lion's den before noon. There was a lot of excitement in the air. The deer, the wolves, the rabbits, the squirrels, the snakes and even the crows, pigeons and the butterflies showed up. King Simba the lion, was waiting for them all in front of his den. "Excellent, every one's here" he exclaimed. Let the counting begin! Can you help Simba count the animals in the jungle?

Total

1. There were 191 brown rabbits and 249 white rabbits.
2. There were 352 yellow deer and 163 brown deer.
3. There were 481 owls and 272 sparrows.
4. There were 372 green frogs and 284 brown frogs.
5. There were 255 grey monkeys and 186 brown monkeys.
6. There were 639 green snakes and 599 yellow snakes.
7. There were 256 brown turtles and 124 green turtles.
8. There were 278 grey squirrels and 323 brown squirrels.
9. There were 369 brown wolves and 373 black wolves.
10. There were 239 brown bears and 172 grey bears.

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4-digit addition without regrouping

Find the sum of the numbers given on each apple.

1. 

2. 

3. 

4. 

5. 

6. 

7. 

8. 

9. 

10. 

11. 

12. 

13. 

14. 

15. 

16. 

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4-digit addition with regrouping

Jane has lost her bag and her room keys. The bag is with a froggie where addends add up to 4122. The keys are with a froggie where the addends add up to 8310.

Find Jane's  and  by calculating the sum of the addends.

1.

Th	H	T	O
	1	9	3 1
+	4	1	9 9

2.

Th	H	T	O
	3	2	3 5
+	4	2	7 9

3.

Th	H	T	O
	5	5	4 5
+	3	1	8 8

4.

Th	H	T	O
	7	9	9 4
+	1	4	3 8

5.

Th	H	T	O
	1	5	9 1
+	2	5	3 1

6.

Th	H	T	O
	5	4	3 5
+	3	8	7 9

7.

Th	H	T	O
	6	5	5 3
+	1	2	7 8

8.

Th	H	T	O
	2	9	1 8
+	1	3	9 8

9.

Th	H	T	O
	6	3	5 4
+	2	8	8 7

10.

Th	H	T	O
	4	8	3 5
+	3	4	7 5

11.

Th	H	T	O
	5	4	6 9
+	1	6	6 7

12.

Th	H	T	O
	4	9	8 7
+	1	3	4 7

The bag is with froggie number _____ and the keys are with froggie number _____ .

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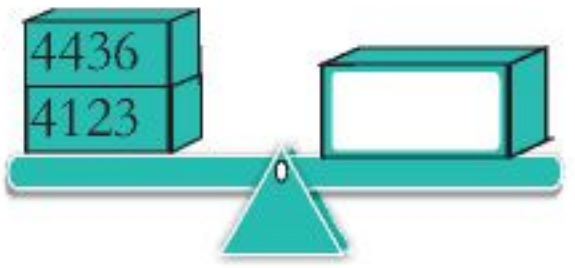
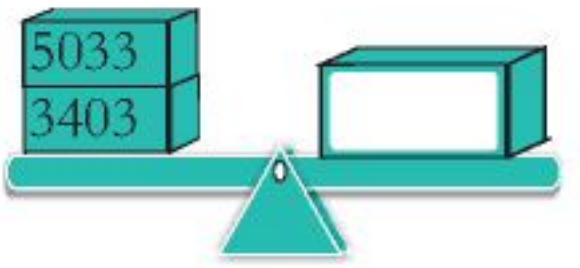
Balance the scale

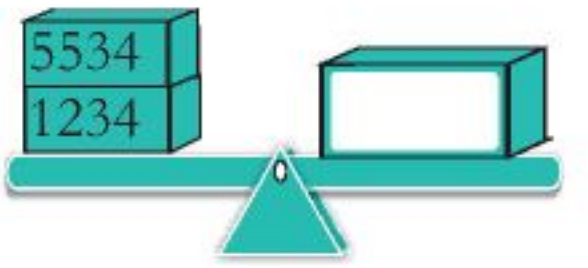
Balance the scale by filling the correct sum. Circle your answer on the Bingo board.

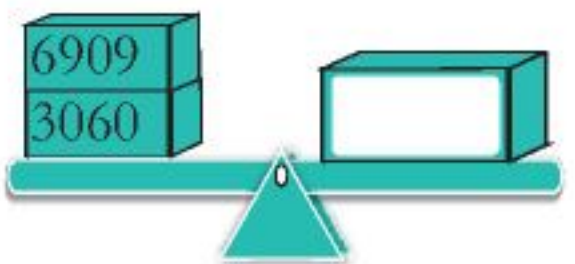
Bingo board

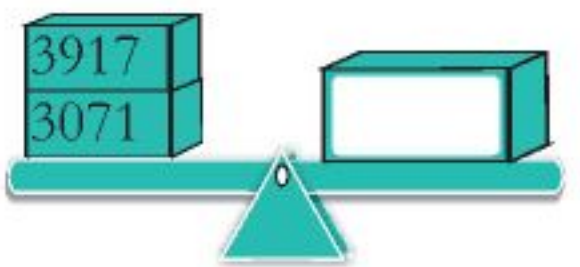
8559	7599	4889	8679	9977
6768	6700	6988	6699	8877
8877	8436	9969	2468	8999
2749	5467	9767	2457	3245

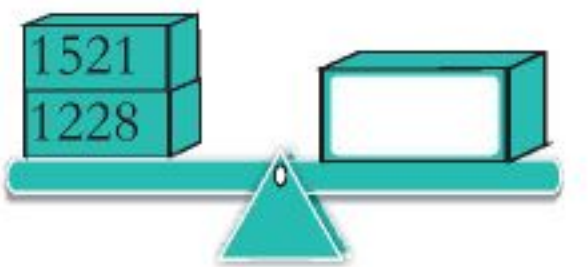
1. 

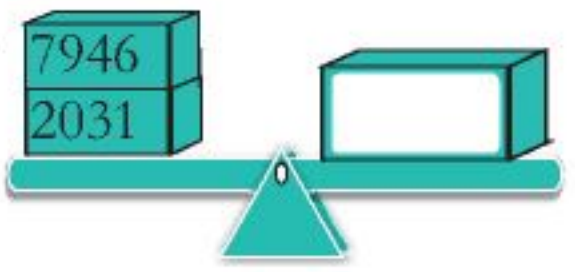
2. 

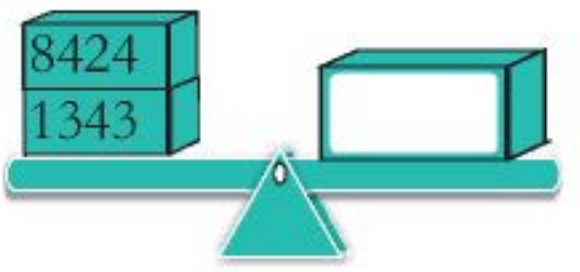
3. 

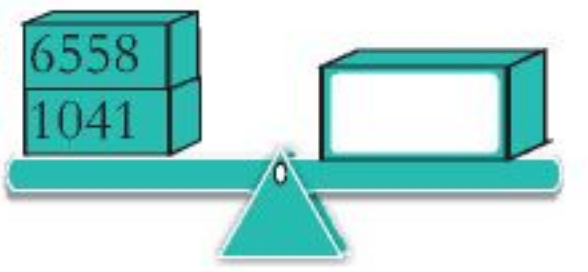
4. 

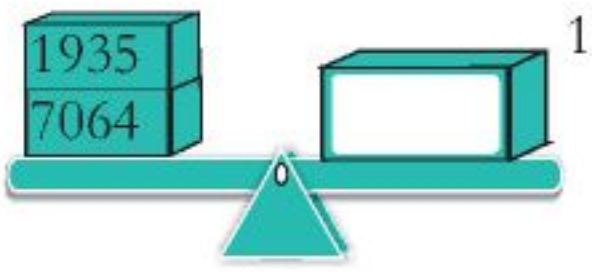
5. 

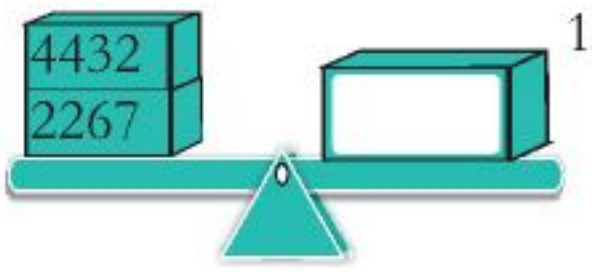
6. 

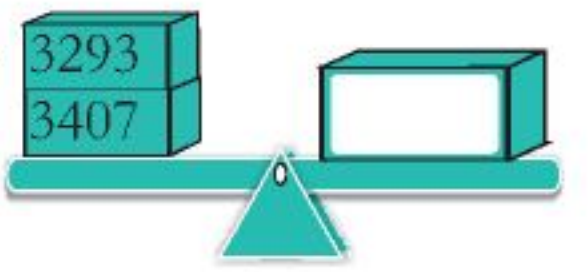
7. 

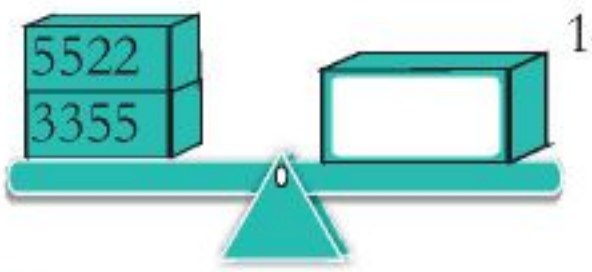
8. 

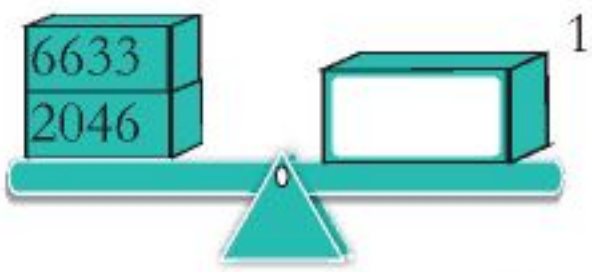
9. 

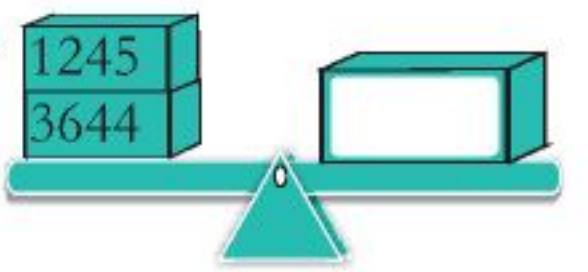
10. 

11. 

12. 

13. 

14. 

15. 

..... Date

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Solve the number puzzle

Add the numbers given below and fill in the boxes to complete the number puzzle.

Across

1. 1263 + 1335 = ☐

3. 3374 + 1423 = ☐

6. 2732 + 6140 = ☐

8. 2255 + 5142 = ☐

9. 2084 + 1915 = ☐

Down

2. 7736 + 2142 = ☐

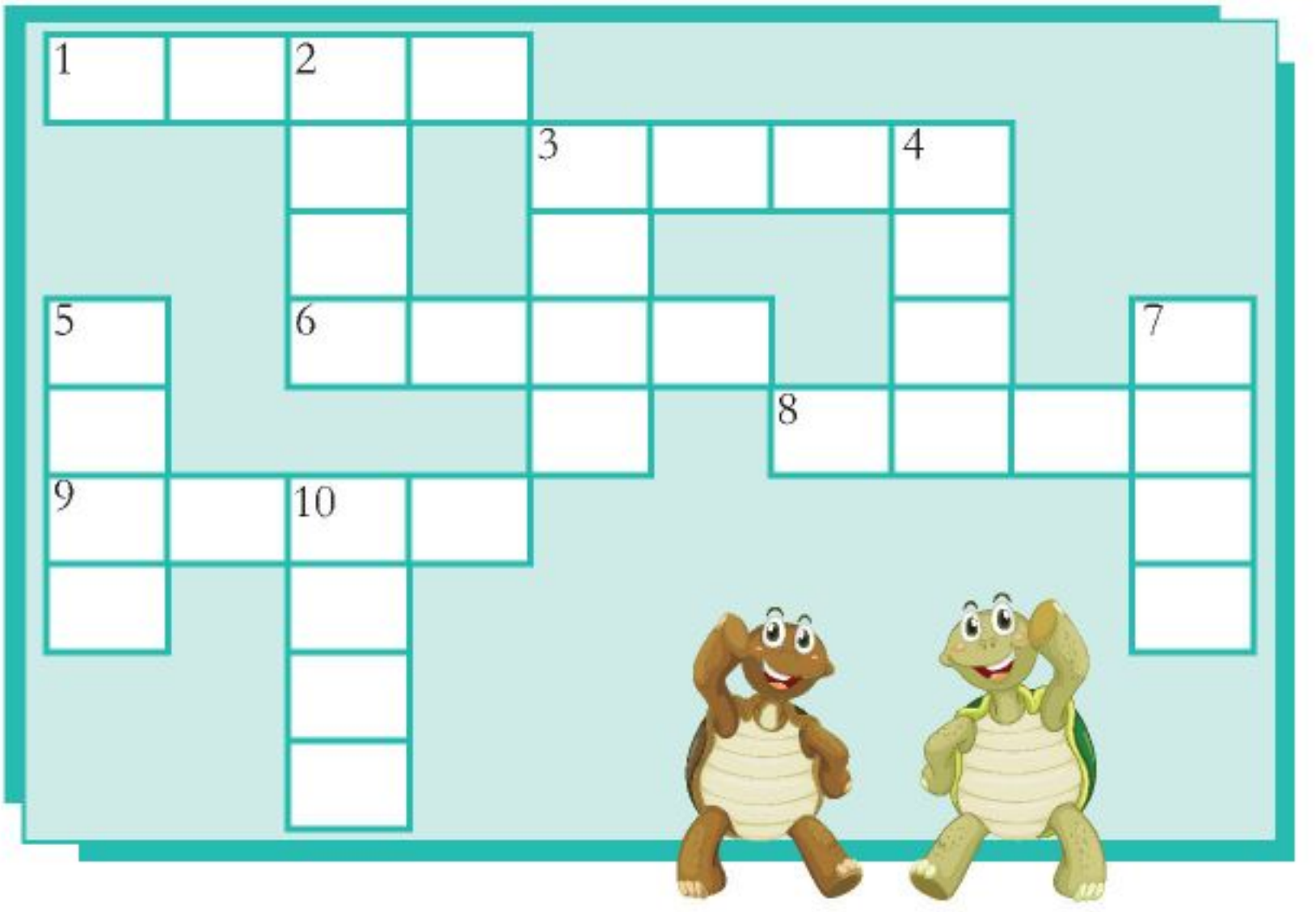
3. 3124 + 1855 = ☐

4. 2531 + 5332 = ☐

5. 1128 + 1111 = ☐

7. 1494 + 1305 = ☐

10. 3272 + 6621 = ☐



Date .....

Teacher's Sign .....

Story problem

Solve the following problems.

Answer

1. James bought a camera. He took pictures of birds and rabbits at the park. He took 576 pictures of birds and 623 pictures of rabbits. How many pictures did he take in all?

2. Leena's candy jar had 218 candies in it. She added 1026 candies to the jar. How many candies did she have in all?

3. Amar read 1042 pages of a book in 2 months. He read 3063 pages in next 2 months.What was the total number of pages he had read ?

4. At her lemonade stand, Rimmi sold lemonade for ₹ 4 per glass. On Saturday, Rimmi made ₹ 720. On Sunday, Rimmi made ₹ 2016. How much money did Rimmi make during the weekend?

5. Kiran and Joshi were plucking mangoes. Kiran plucked 1284 mangoes. Joshi plucked 2110 mangoes. How many mangoes did they pluck together?

6. Sahil's mother planted 1076 tulip bulbs and 555 daffodil bulbs. How many bulbs did she plant in all?

7. Amar, Neha and Sham were collecting stamps. Amar collected 1109 stamps. Neha collected 387 stamps and Sham collected 2132 stamps.What is the total number of stamps collected by Amar and Sham?

8. Jaya, Maya and Suri were playing a video game. Jaya's score was 2345, Maya's score was 1150 and Suri's score was 3350. Find the sum of their scores.

9. A shopkeeper has 1500 red pencils, 3124 green pencils and 2150 black pencils. How many pencils does he have in all?

10. Ravi had 260 coins. His father gave him 380 coins and his mother gave him 3100 coins. He kept all the coins in his piggy bank. What is the total number of coins in the piggy bank?

..... Date

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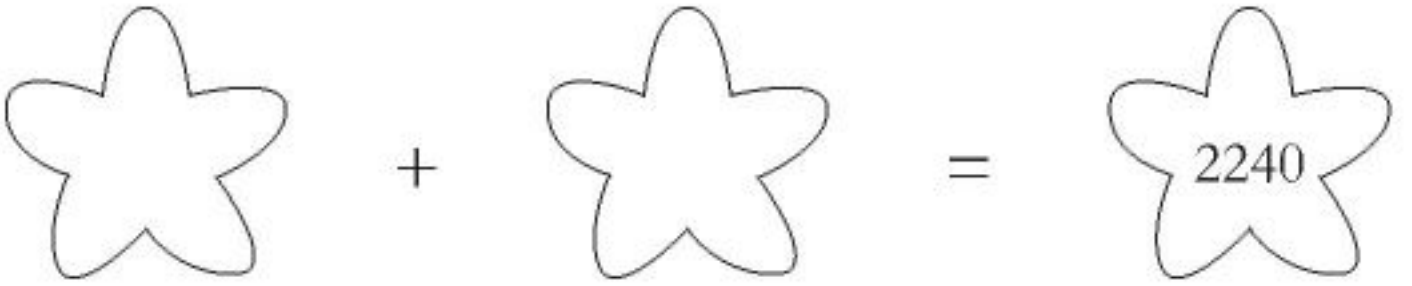
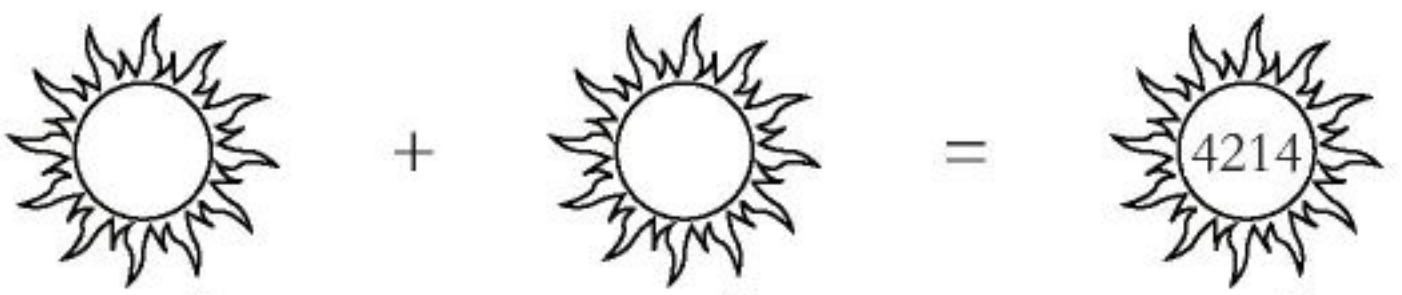
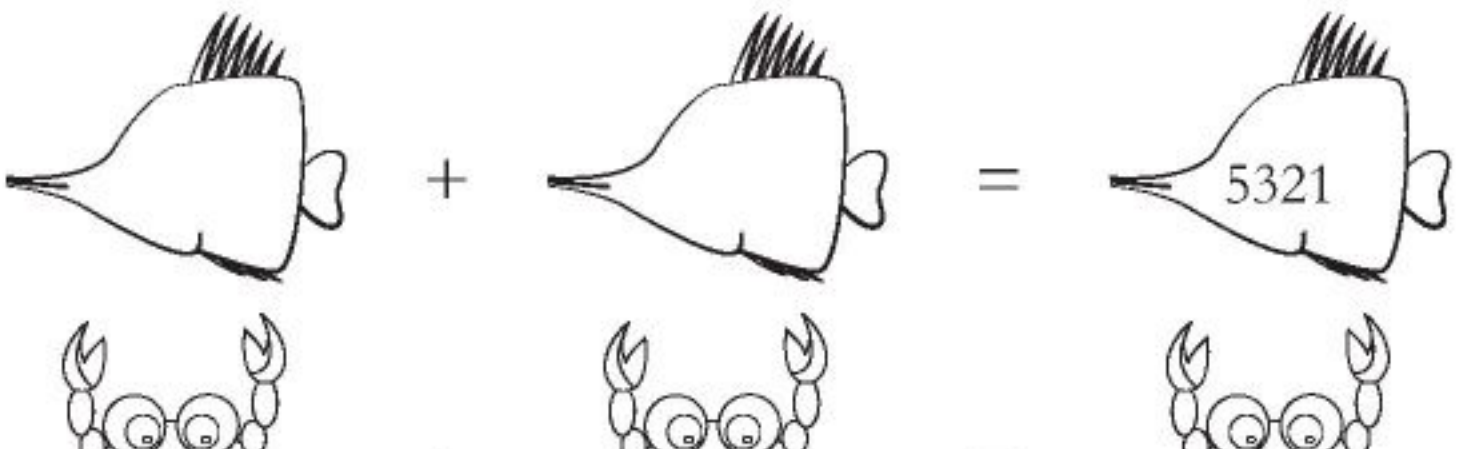
Framing questions

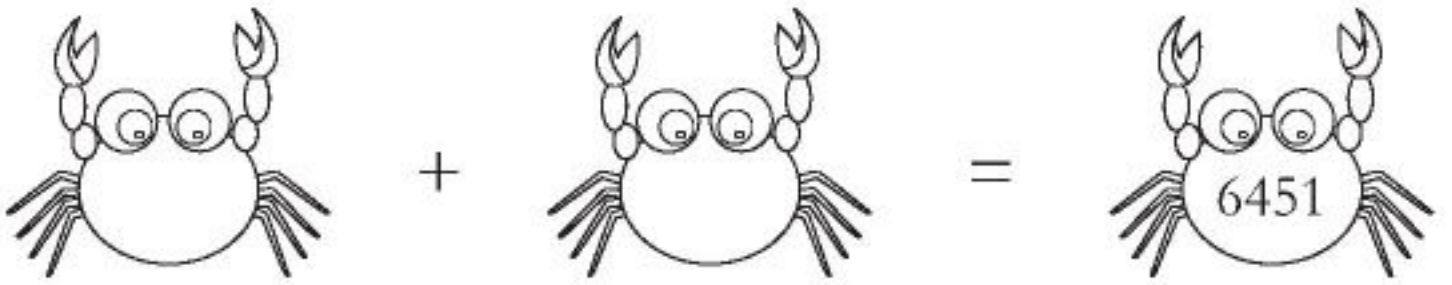
Write the addends for the following answers given below.

1. 

2. 

3. 

4. 

5. 

6. 

7. 

Date ..... Teacher's Sign .....

Up for a challenge?

This building has 3200 flats on each floor

Floor	Flats occupied	Number of people living
ground floor	1198	876
1st floor	3177	750
2nd floor	2168	2695
3rd floor	1485	2378
4th floor	1397	1429

Read the table carefully and answer the following:

1. Total number of people that are living on 2nd and 3rd floor. ☐
2. How many total flats are occupied on ground floor and 4th floor? ☐
3. How many total flats are there on 1st and 4th floor? ☐
4. On which floor maximum number of people are living? ☐
5. On which floor minimum number of flats are occupied? ☐
6. Total number of people living on all floors. ☐

..... Date ..... Teacher's Sign

4 Subtraction

Riddle

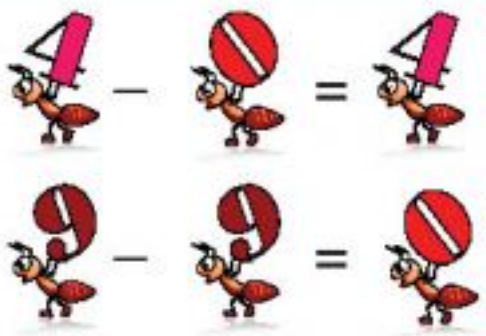
The more you take, the more you leave behind.

What are they? ☐

Clue: Think what you leave when you walk.

Know this !

- Any number minus zero is the number itself.
- Any number minus the number itself is zero.
- Subtraction is the opposite of addition.



Humour

Teacher : John, if your father had ten rupees and you asked him for five rupees, how many rupees is your father left with?

John : Ten.

Teacher : You do not know your maths.

John : You do not know my father !

..... Date

..... Teacher's Sign

Subtraction without regrouping

Jojo was searching for his missing dog and found that the dog was stuck in a magical pond. A voice asked Jojo to solve these problems and save his dog. Help Jojo to save his dog by solving the problems.

1. Th H T O
   3 5 6 4
 − 1 3 2 1

2. Th H T O
   5 6 9 5
 + 2 3 8 2

3. Th H T O
   3 6 2 3
 − 1 3 1 2

4. Th H T O
   4 9 9 6
 + 1 9 9 6

5. Th H T O
   7 9 8 7
 − 2 7 6 3

6. Th H T O
   4 3 6 7
 − 2 2 6 5

7. Th H T O
   8 4 9 8
 − 4 4 9 4

8. Th H T O
   4 7 7 6
 − 2 7 7 5

9. Th H T O
   8 8 8 9
 − 7 8 8 2

10. Th H T O
    6 7 8 2
  − 5 5 7 1

11. Th H T O
    9 9 9 7
  + 9 8 6 2

12. Th H T O
    7 2 8 4
  − 3 2 8 1

13. Th H T O
    7 9 7 5
  − 5 9 6 3

Date ..... Teacher's Sign .....

Subtraction with regrouping

Subtract the following:

1. Th H T O
   9 5 3 2
 − 2 9 8 3

2. Th H T O
   8 5 9 2
 − 4 6 6 5

3. Th H T O
   9 3 2 1
 − 5 6 3 2

4. Th H T O
   3 5 2 9
 − 2 9 6 5

5. Th H T O
   3 5 2 9
 − 2 9 6 5

6. Th H T O
   9 8 6 2
 − 3 2 9 9

7. Th H T O
   7 7 7 2
 − 5 9 9 6

8. Th H T O
   8 9 6 2
 − 2 5 7 9

9. Th H T O
   9 3 2 5
 − 6 7 7 8

10. Th H T O
    8 9 6 5
  − 2 9 0 9

11. Th H T O
    7 5 3 2
  − 1 9 9 9

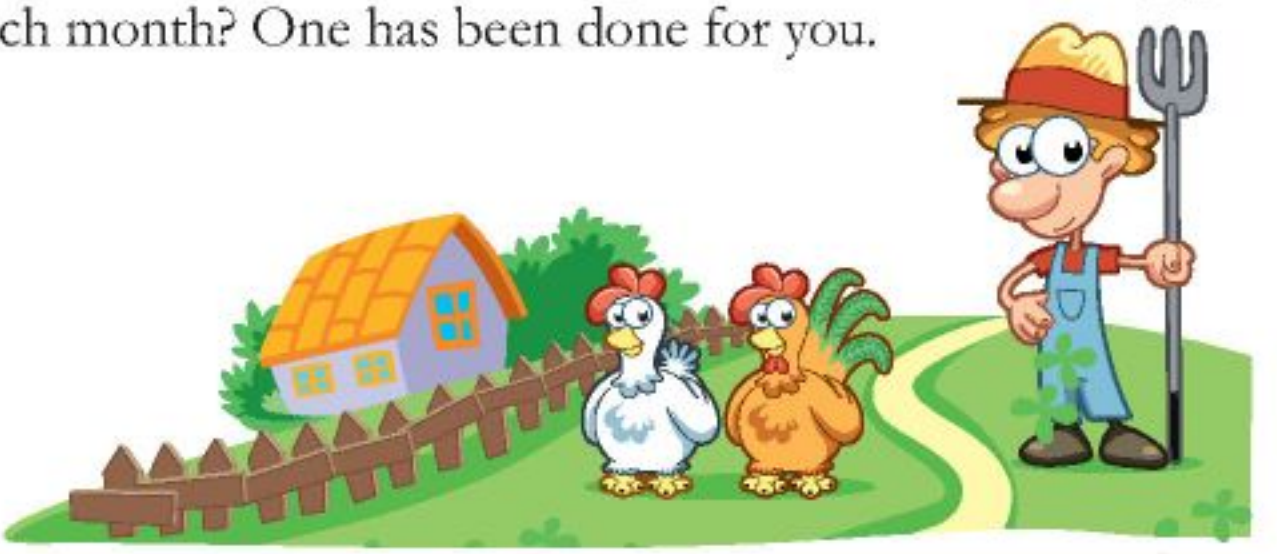
12. Th H T O
    8 8 9 4
  − 7 7 2 9




Date ..... Teacher's Sign .....

Poultry farm problem

Eddy has a poultry farm. He has made a chart for the number of eggs laid and the eggs spoiled for each month of the year. Can you help him find out how many good eggs were available in each month? One has been done for you.



Month	Eggs laid	Spoiled eggs	Good eggs
January	6523	256	6267
February	7534	265	
March	8443	366	
April	6514	56	
May	5733	468	
June	6724	366	
July	2732	66	
August	1233	108	
September	3724	537	
October	2413	28	
November	4567	458	
December	8900	511	

..... Date

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Subtraction using place value

A parking zone has a space for two wheelers and four wheelers. Find out how many two wheelers and four wheelers were parked from Monday to Friday by subtracting the following.

1. Monday: The number of four wheelers parked =

	Th	H	T	O
	3	1	3	2
−	2	0	2	3

2. Tuesday: The number of four wheelers parked =

	Th	H	T	O
	6	9	5	7
−	4	5	2	9

3. Wednesday: The number of four wheelers parked =

	Th	H	T	O
	8	0	7	7
−	5	0	2	4

4. Thursday: The number of four wheelers parked =

	Th	H	T	O
	7	0	2	5
−	7	0	1	4

5. Friday: The number of four wheelers parked =

	Th	H	T	O
	6	9	6	8
−	5	3	4	5

Total number of four wheelers parked =

6. Monday: The number of two wheelers parked =

	Th	H	T	O
	5	3	3	8
−	4	1	2	9

7. Tuesday: The number of two wheelers parked =

	Th	H	T	O
	9	4	2	8
−	7	2	2	9

8. Wednesday: The number of two wheelers parked =

	Th	H	T	O
	7	2	3	9
−	3	1	5	0

9. Thursday: The number of two wheelers parked =

	Th	H	T	O
	3	9	7	5
−	2	7	4	5

10. Friday: The number of two wheelers parked =

	Th	H	T	O
	6	7	2	8
−	5	7	1	5

Total number of two wheelers parked =

Date ..... Teacher's Sign .....

Word problems

Solve the following.

		Answer
1.	A school library has 2500 books. 895 books are issued to students. How many books are left in the library?	
2.	In a school, there were 2009 students. 1013 of them had worn red T-shirts and the rest blue T-shirts. How many had worn blue T-shirts?	
3.	A bookseller had 1019 comic books. He sold 315 of them. How many were left with him?	
4.	Minnie need ₹ 4932 to buy a TV. She has ₹ 3959 with her. How many rupees does she need more?	
5.	There are 3010 students in a school. 1517 of them are boys. Find out how many girls are there in the school.	
6.	There are 2500 roses in a garden. 203 of them are red roses and the rest are yellow roses. Find out the number of yellow roses.	
7.	Mr. Sharma has ₹ 9873 in his bank account. He made the payment of ₹ 6650 by cheque. How much he has in the bank now?	
8.	There were 1850 mangoes in a basket Raman ate 679 mangoes. How many mangoes were remaining in the basket?	
9.	There were 2018 toys in a store. Out of these 1516 got sold. How many toys were left?	
10.	Sunny scores 3015 points in a game. Rohit scores 199 points less than Sunny. How many marks did Rohit get?	










..... Date

..... Teacher's Sign

Up for a challenge?

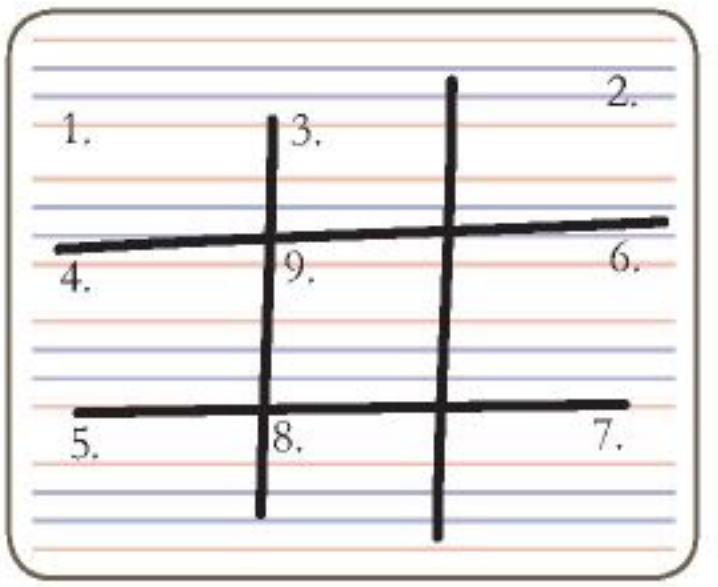
Rick and Myrah are playing Nought and Crosses. Rick is making crosses (X) and Myrah is making noughts (O).

Use the decoder to the answers to find out who won the game.

Decoder

X	149	356	11	326	
O	109	871	298	340	1028

1. Fill in the blanks to make the sequence true.
   456 – 65 = ☐ + 65



2. John and Ron collected 832 stamps together. If John collected 492, how many did Ron collect? ☐

3. How much is 28 less than 1056? ☐

4. Raghu has a 900 pages note book. He writes on 29 pages. How many pages are left for him to write? ☐

5. Samridhi took 345 candies to school on her birthday. 47 of them were eaten in the bus. How many were left? ☐

6. What is the approximate price difference between the pens Riddi and Shakti bought? Shakti's pen was ₹ 76 and Riddi's was ₹ 87. ☐

7. Ali is going to a village fair that is 146 km away from his village. How much more will he have to travel if he has already covered a distance of 37 km? ☐

8. There are 298 children in Grade 3. If 149 of them can swim, how many of them cannot swim? ☐

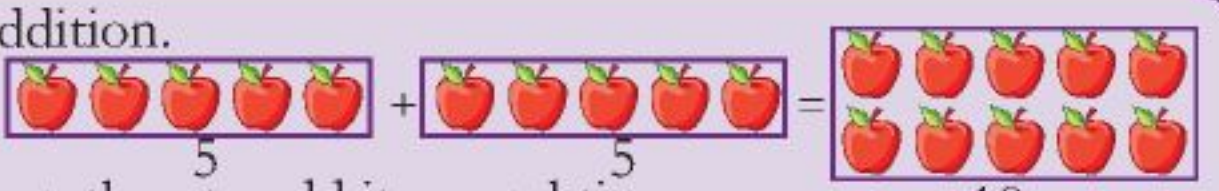
9. Out of 785 Christmas lights, only 429 were working. How many were not? ☐

..... Date ..... Teacher's Sign

5 Multiplication

Did you know

Multiplication is a repeated addition.



It is faster to multiply a number, than to add it several times.

5 × 2 = 10

Multiplication facts

Zero multiplied by any number is zero.
Example: 5 × 0 = 0

One multiplied by any number is the number itself.
Example: 14 × 1 = 14

The order does not matter in multiplication tables.
5 × 6 = 30 and 6 × 5 = 30.
If you can't remember 9 × 3, try 3 × 9.

You have already learnt to skip counting. Skip counting by 2's, 3's, 4's or 5's helps you learn those tables.

When you multiply by 5 the answer will always end in 5 or 0.

5 × 5 = 25
5 × 2 = 10

..... Date

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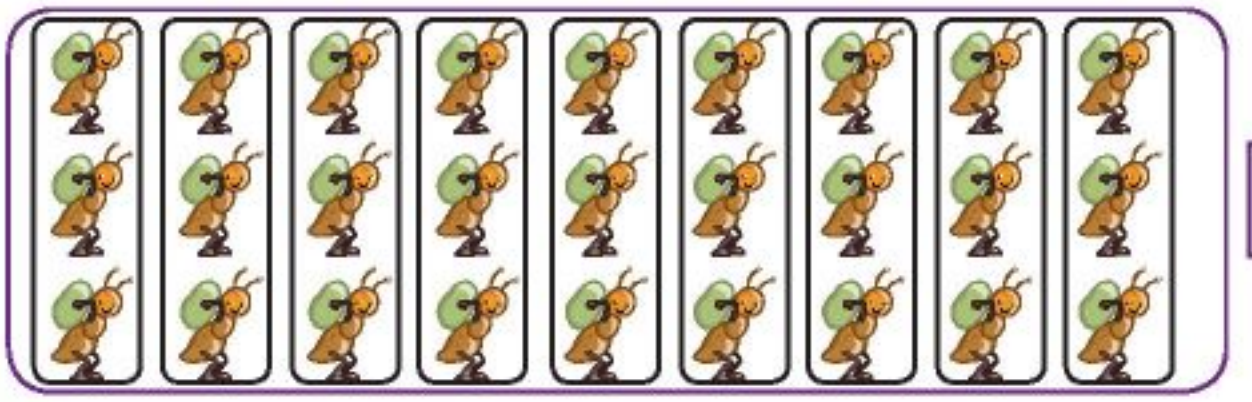
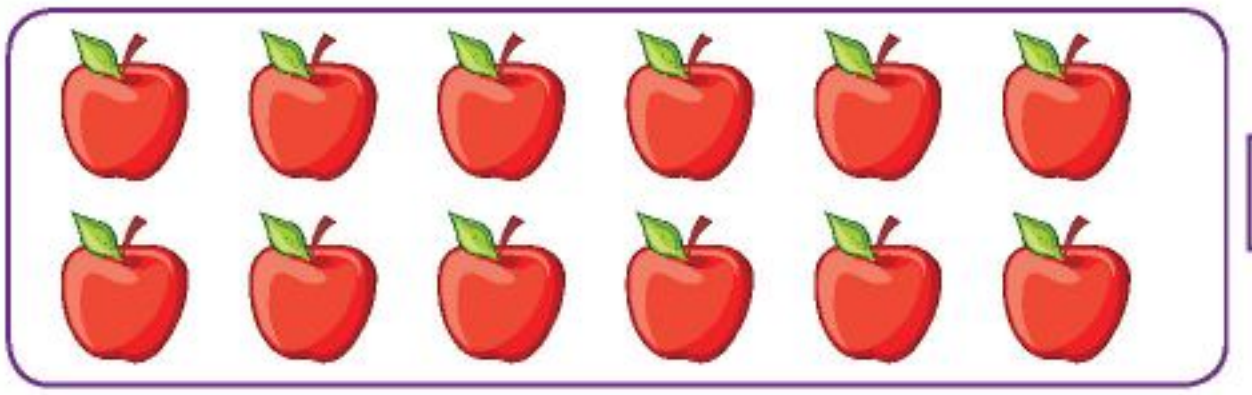
Multiplication as a repeated addition

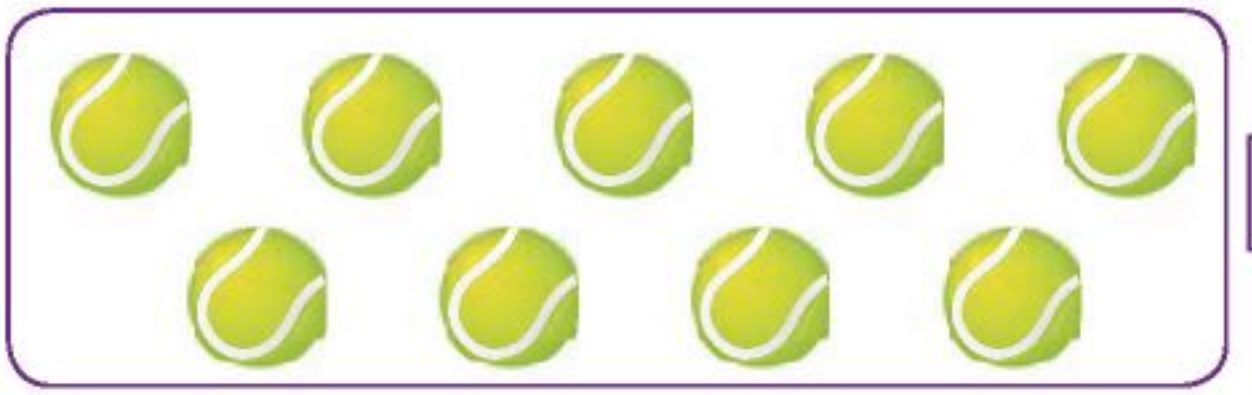
Make in group of 3 and write the multiplication fact. One has been done for you.



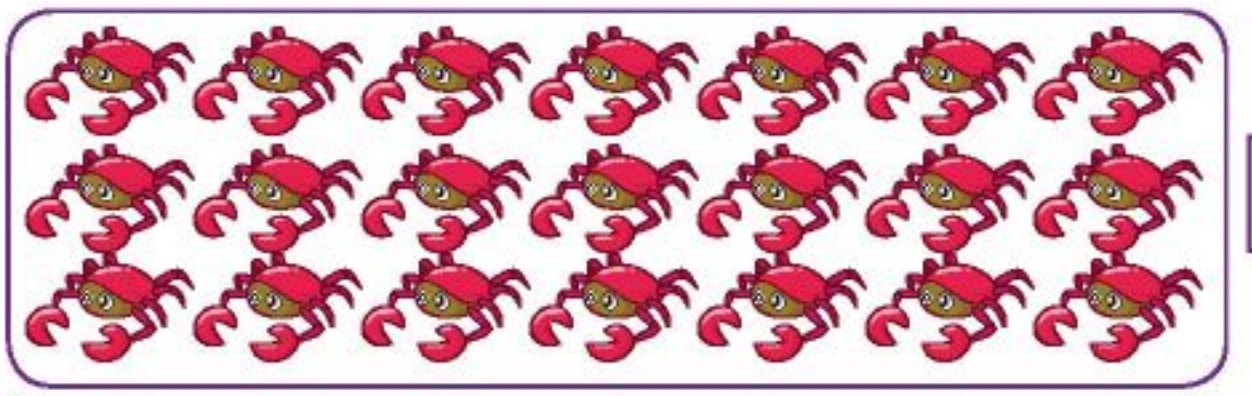
3 × 9 = 27



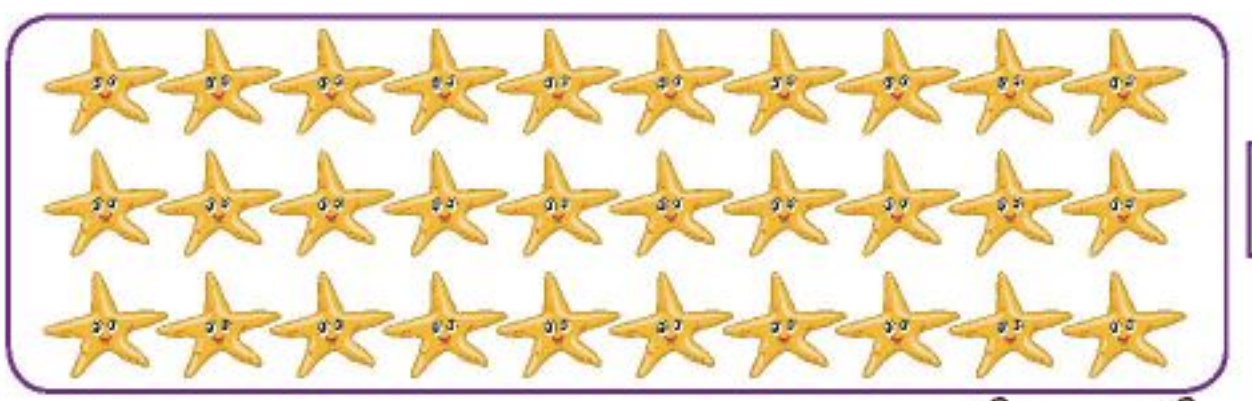
□ × □ = □



□ × □ = □



□ × □ = □



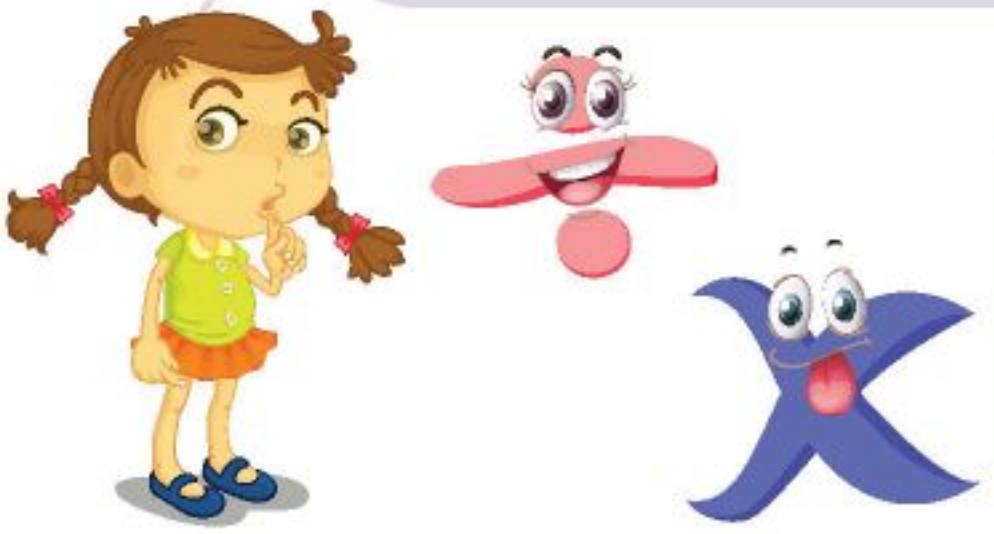
□ × □ = □

Date ..... Teacher's Sign .....

Multiplication of 2-digit by 1-digit number without regrouping

Here is a riddle.
What kind of pliers do you use in arithmetic?

Multiply and use the decoder given at the bottom of the page to answer the riddle.



1.

	T	O
	1	2
×		3

2.

	T	O
	2	1
×		4

3.

	T	O
	2	4
×		2

4.

	T	O
	3	3
×		3

5.

	T	O
	2	2
×		4

6.

	T	O
	4	3
×		2

7.

	T	O
	1	2
×		4

8.

	T	O
	1	1
×		8

9.

	T	O
	1	0
×		6

10.

	T	O
	4	0
×		2

Decoder

T	U	M	L	P	E	I	R
99	84	36	48	86	60	88	80

Answer : | | | | | | | | | | | S |

..... Date

..... Teacher's Sign

Multiplication tables

Draw lines to match the following. One has been done for you.

S.No.	Column A
1.	2 × 6
2.	5 × 6
3.	2 × 9
4.	10 × 10
5.	7 × 5
6.	10 × 4
7.	10 × 8
8.	5 × 9
9.	5 × 3
10.	3 × 7
11.	4 × 5
12.	3 × 9
13.	2 × 7
14.	4 × 6
15.	3 × 3
16.	5 × 9
17.	4 × 8
18.	2 × 8
19.	3 × 6
20.	4 × 5
21.	5 × 10
22.	10 × 9
23.	3 × 8
24.	4 × 7
25.	5 × 7

Column B
80
18
20
12
45
21
14
27
40
100
24
15
9
35
30
90
24
28
35
32
18
16
20
50
45

Date ..... Teacher's Sign .....

Multiplying by counting in groups

Count in groups and write the multiplication sentence and the answer in each case.
One has been done for you.

1. An ant has 6 legs.
   7 ants have [42] legs.
   [6 × 7] = [42]

2. There are 7 crayons in each box.
   5 boxes have [ ] crayons.
   [ ] = [ ]

3. There are 6 beads in each box.
   4 boxes have [ ] beads.
   [ ] = [ ]

4. 1 matchbox has 7 sticks.
   4 match boxes have [ ] sticks.
   [ ] = [ ]

5. How much money do I have if
   I have 6 five-rupee notes? [ ]
   [ ] = [ ]

6. 1 biscuit packet has 8 biscuits.
   8 packets have [ ] biscuits.
   [ ] = [ ]

7. How many fingers in 9 hands of people?
   [ ]
   [ ] = [ ]

8. There are 9 spokes in a wheel.
   9 wheels have [ ] spokes.
   [ ] = [ ]

9. There are 9 leaves in a branch.
   6 branches have [ ] leaves.
   [ ] = [ ]

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Multiplying by 10s and 100s

Multiply the following in one step.

1.

Th	H	T	O
	4	3	6
×		5	0

2.

Th	H	T	O
		6	6
×	6	0	0

3.

Th	H	T	O
		3	6
×		2	0

4.

Th	H	T	O
	2	6	7
×		3	0

5.

Th	H	T	O
	9	3	3
×		1	0

6.

Th	H	T	O
		3	6
×	4	0	0

7.

Th	H	T	O
		3	0
×	1	0	0

8.

Th	H	T	O
	1	2	6
×		4	0

9.

Th	H	T	O
		6	8
×	7	0	0

10.

Th	H	T	O
		1	6
×		7	0

11.

Th	H	T	O
		2	4
×		8	0

12.

Th	H	T	O
		5	6
×		5	0

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Multiplication of 3-digit by 1-digit with regrouping

Multiply the following in one step.

1. H T O
   1 3 6
   × 4

2. H T O
   6 4 1
   × 3

3. H T O
   2 9 7
   × 7

4. H T O
   1 1 6
   × 2

5. H T O
   1 3 9
   × 8

6. H T O
   5 7 6
   × 9

7. H T O
   5 7 7
   × 7

8. H T O
   1 2 6
   × 4

9. H T O
   6 1 2
   × 1

10. H T O
    3 1 7
    × 3

11. H T O
    8 9 9
    × 6

12. H T O
    1 3 4
    × 4

13. H T O
    1 2 3
    × 4

14. H T O
    8 7 9
    × 6

15. H T O
    1 1 1
    × 8

16. H T O
    9 9 0
    × 8

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Multiplication of 2-digit by 2-digit without regrouping

Find the products of the following.

1. H T O
   3 2
   × 2 4
   ☐

2. H T O
   6 1
   × 3 1
   ☐

3. H T O
   1 3
   × 2 2
   ☐

4. H T O
   2 4
   × 2 1
   ☐

5. H T O
   7 1
   × 2 3
   ☐

6. H T O
   2 2
   × 4 0
   ☐

7. H T O
   1 1
   × 3 1
   ☐

8. H T O
   3 2
   × 2 3
   ☐

9. H T O
   2 3
   × 2 2
   ☐

10. H T O
    4 2
    × 1 0
    ☐

11. H T O
    2 7
    × 1 1
    ☐

12. H T O
    1 1
    × 1 2
    ☐

13. H T O
    3 3
    × 3 3
    ☐

14. H T O
    2 1
    × 4 4
    ☐

15. H T O
    6 6
    × 1 0
    ☐

16. H T O
    1 1
    × 2 9
    ☐

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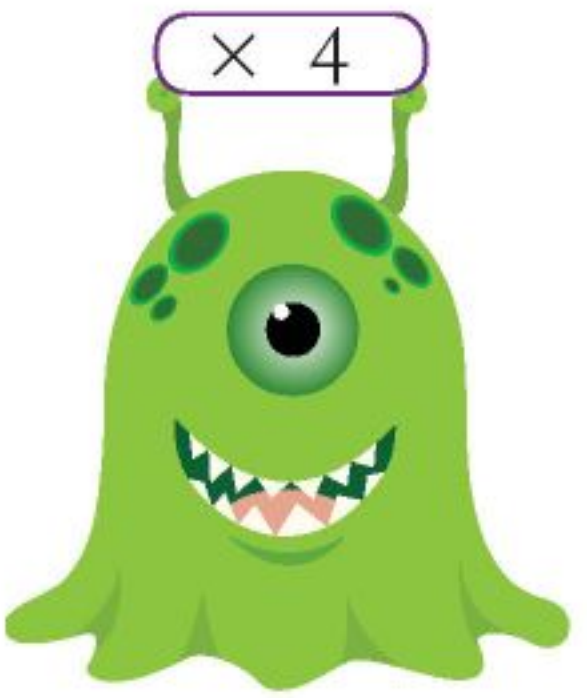
Multiple puzzle

Follow the path shown and move one square at a time. Move up, down, diagonally left or right and count in order of the multiples of 4. (Count up to 80)

52	48	40	34	64	56	64	28	44	60
50	44	22	52	32	60	58	68	34	64
40	32	48	9	56	26	62	54	72	24
38	36	56					24	60	76
44	48	32					60	80	88
28	30	28					12	64	72
32	24	16					8	28	32
40	32	20	24	8	4	14	24	20	12
16	12	32	16	12	20	10	8	12	26



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Use of multiplication

Elsa's school wants to order some tiles for their new building. These are of different size and design. How many boxes should be ordered and how many tiles will be left over? One has been done for you.

S.No.	Type of tiles	Number of tiles required	No. of tiles in each box	Boxes to order	Left over
1.	Clay tiles	525	12	44	3
2.	Glazed tiles	210	14		
3.	Roofing tiles	640	10		
4.	Big floor tiles	364	15		
5.	Marble tiles	122	13		
6.	Mosaic tiles	48	12		
7.	Border tiles	90	12		
8.	Granite tiles	100	24		
9.	Square clay tiles	230	50		

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Multiplication in daily life

Solve the following problems.

1. Sham wanted to buy 253 bars of chocolate. Each bar of chocolate costs ₹ 8. How much money does he need to buy the chocolates?

2. An egg carton contains 60 eggs. How many eggs are there in 80 egg cartons?

3. In a toy shop there are 60 boxes, each box has 17 toys. How many toys are there altogether?

4. Ryan watches Television for 2 hours every day. How many hours does he watch TV in a week?

5. A labour works for 8 hours every day. How many hours does he work in a year?

6. Mrs. Sharma has five children. She gives each one of them 254 as pocket money for a week. How much does she spend on pocket money every week?

7. Deepa's mother buys a dozen bananas a day. How many bananas does she buy in 60 days?

8. Mr. Reddy has 4 children. Each one eats an apple every day. How many apples does he need to buy for 83 days?

9. There are 6 helpers in Mr. Salim's house. If he pays each ₹ 612 a week, how much money does he spend on helpers every week?

10. I have 8 mango trees in my garden. If each tree gives 931 mangoes in a season, how many mangoes will I get in a season from my garden?

..... Date

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Shopping

Imagine that you have shopped for the following items. Find out how much you would have to pay if you had purchased the quantities mentioned below.

1.	Cookies	₹ 8 per piece
2.	Ice cream	₹ 9 a stick
3.	Pencil	₹ 7 per piece
4.	Sharpener	₹ 6 per piece
5.	Ball	₹ 10 per piece
6.	Movie tickets	₹ 150 for one
7.	Apples	₹ 76 per kg
8.	A bottle of fruit juice	₹ 67
9.	A packet of biscuits	₹ 25
10.	Cotton candy	₹ 9 per piece







1. 90 ice creams ☐ × ☐ = ₹ ☐
2. 85 cookies ☐ × ☐ = ₹ ☐
3. 112 pencils ☐ × ☐ = ₹ ☐
4. 110 sharpeners ☐ × ☐ = ₹ ☐
5. 112 balls ☐ × ☐ = ₹ ☐
6. 215 cotton candies ☐ × ☐ = ₹ ☐
7. 70 packets of biscuits ☐ × ☐ = ₹ ☐
8. 35 kg of apples ☐ × ☐ = ₹ ☐
9. 6 movie tickets ☐ × ☐ = ₹ ☐
10. 62 bottles of fruit juice ☐ × ☐ = ₹ ☐

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Estimating the product

Estimate the product in each case and get the exact answer by multiplication.

Hint: Break up the multiplicand or the multiplier into tens and ones and then guess the answer by multiplying the tens. The first one has been done for you.

1. $17 \times 4 =$ ☐

$17 = 10 + 7$
$= 10 \times 4 + 7 \times 4$
$= 40 + 28$
$= 68$

2. $5 \times 15 =$ ☐

3. $8 \times 25 =$ ☐

4. $17 \times 9 =$ ☐

5. $14 \times 12 =$ ☐

6. $91 \times 11 =$ ☐

7. $15 \times 13 =$ ☐

8. $31 \times 17 =$ ☐

9. $11 \times 12 =$ ☐

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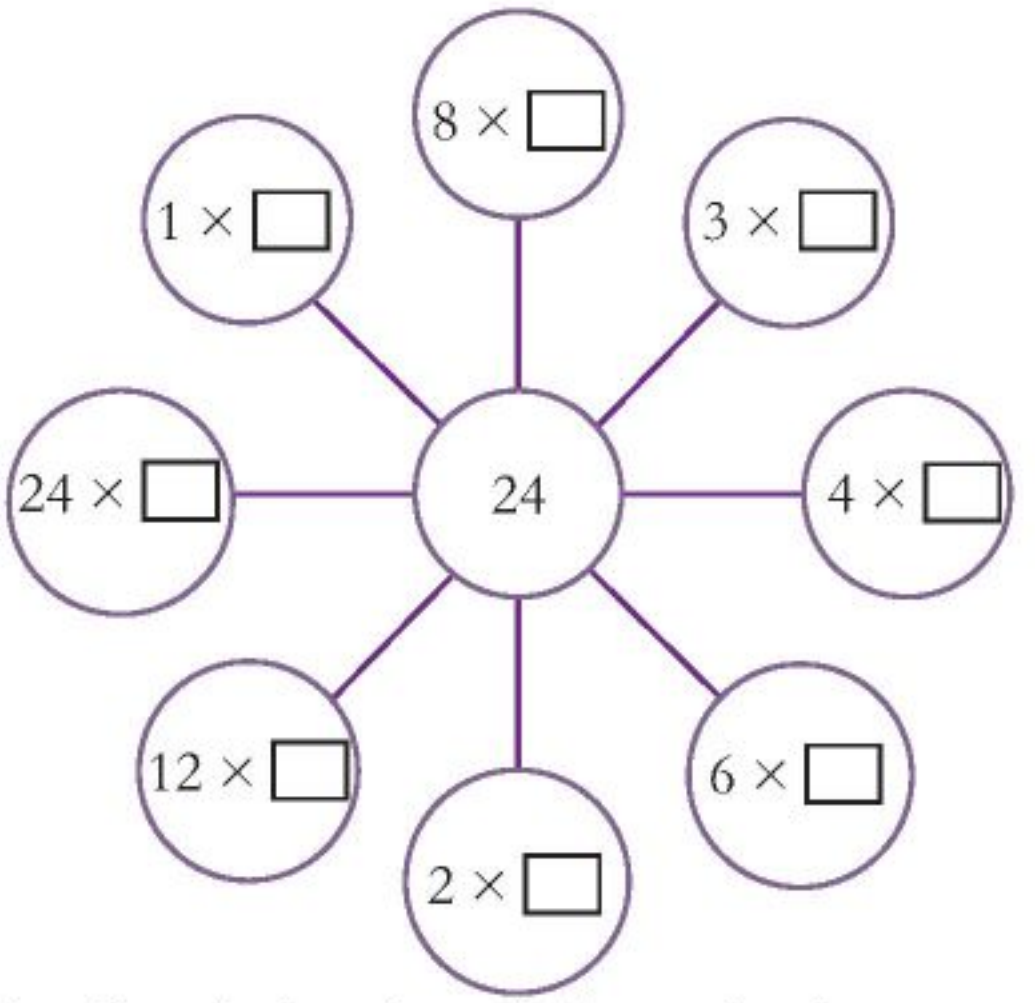
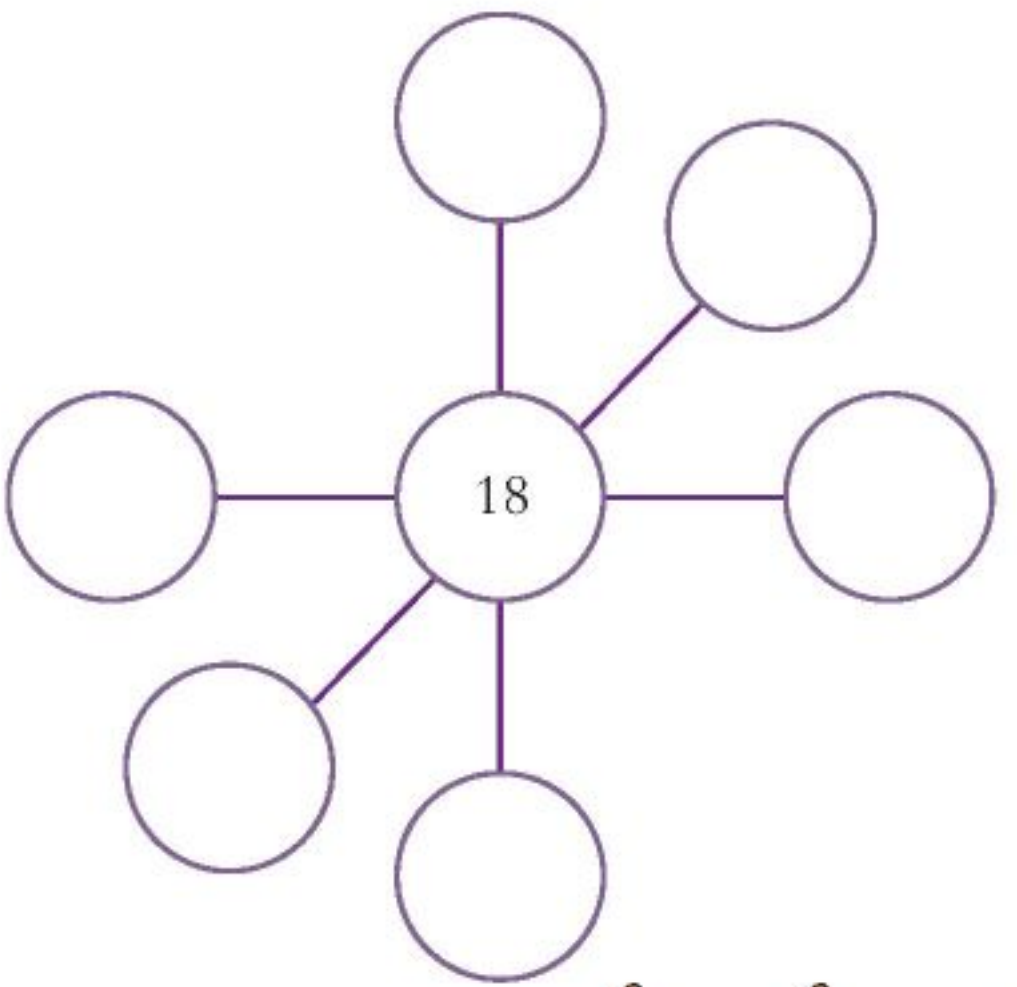
Different ways of getting a number

I Fill the correct number in the boxes to get the middle number.



II Write multiplication facts in the given circles to give the answer 18 each time.



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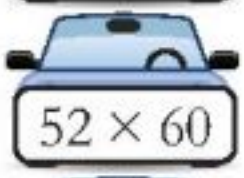
Up for a challenge?

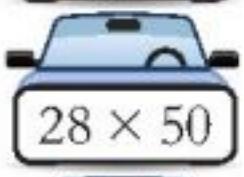
I Match these cars with their owners by multiplying the numbers given on the cars.

1. ☐

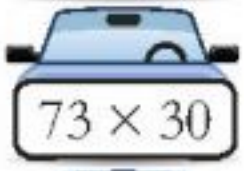
2. ☐



3. ☐

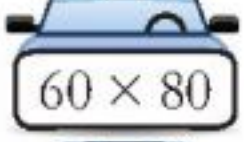


4. ☐

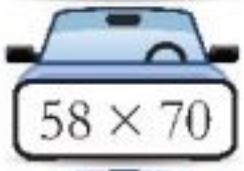


5. ☐

6. ☐



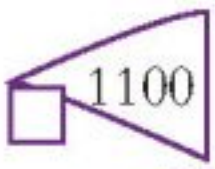
7. ☐



8. ☐

9. ☐

10. ☐



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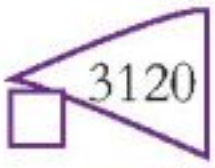

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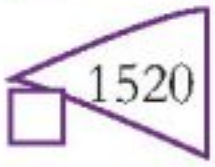

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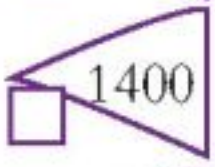

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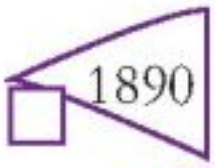

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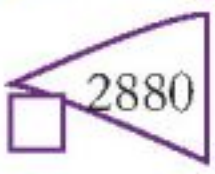

☐

II Which number should appear in all the three boxes?

1.	☐	×	3	=	9
2.	☐	×	30	=	90
3.	☐	×	300	=	900

III With what should you multiply 24 to get the same answer? ☐

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6

i i ion

History

Division was invented or used thousands of years ago, but it was used in the early days mostly by the Egyptians.

Division–sharing equally

Division is used to share things into equal portions. If you want to divide 25 chocolates between 5 children, you will do it like this.

Division – with remainders

Add the following facts also.

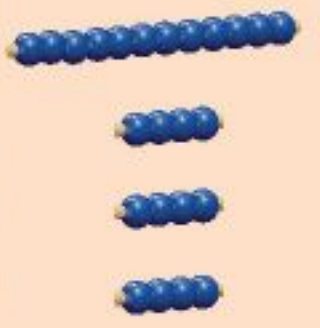
10 Apples = 3 apples × 3 children + 1

Dividend = Divisor × Quotient + Remainder

Division – repeated subtraction

If you know the multiplication tables, it is easy to divide.

Just like multiplication is a repeated addition, division is a repeated subtraction. Check this out using an abacus with colourful beads. If you want to divide 12 by 4, you need to keep 12 beads on the left hand side. Now take away 4 beads at a time and move it to the right hand side. Do it again and again till there are no beads left from the 12 you had kept on the left hand side. You have subtracted four beads for 3 times. Hence the answer is 3.



$12 \div 3 = 4$

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Division – sharing equally

Share equally.

1. 9 bananas between 3 monkeys. Each monkey gets ☐ bananas.


2. 16 chocolates between 8 children. Each child gets ☐ chocolates.


3. 20 coins in 5 piggy banks. Each piggy bank has ☐ coins.


4. 42 balloons between 7 children. Each child gets ☐ balloons.


5. Make 4 garlands with 32 flowers. Each garland has ☐ flowers.

6. 20 cup cakes between 4 children. Each child gets ☐ cup cakes.


7. 63 stars in 7 groups. Each group has ☐ stars.

8. 15 balls between 5 children. Each child gets ☐ balls.


9. 28 apples between 7 plates. Each plate has ☐ apples.

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Dividing by grouping

Draw circles to divide the objects into the numbers of groups mentioned.
How many in each group? What is the remainder?

1. Divide into 3 groups

Number in each group = ☐ Remainder = ☐

2. Divide into 4 groups

Number in each group = ☐ Remainder = ☐

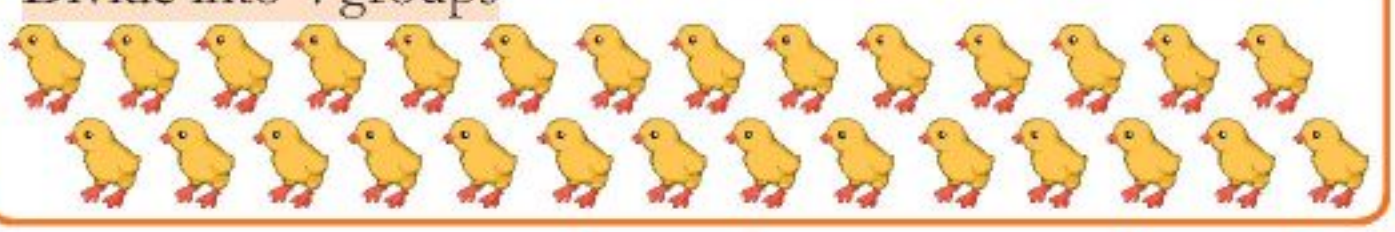
3. Divide into 6 groups

Number in each group = ☐ Remainder = ☐

4. Divide into 3 groups

Number in each group = ☐ Remainder = ☐

5. Divide into 4 groups



Number in each group = ☐ Remainder = ☐

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Division by repeated subtraction

Divide by repeated subtraction. One has been done for you.

1. $50 \div 5 = \boxed{10}$

$50-5=45-5=40-5=35-5=30-5=25-5=20-5=15-5=10-5=5-5=0$

2. $12 \div 2 = \square$

3. $21 \div 7 = \square$

4. $64 \div 4 = \square$

5. $33 \div 3 = \square$

6. $72 \div 12 = \square$

7. $81 \div 9 = \square$

8. $22 \div 2 = \square$

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Terms used in division

I Division can be written in three different ways. Identify the dividend, divisor, quotient and the division sign in each of the divisions shown below.

1. $3\overline{)15}$ (5)

2. $35 \div 5 = 7$

3. $\frac{54}{6} = 9$

S.No.	Dividend	Divisor	Quotient	Division sign
1.				
2.				
3.				

II Tick the one that is not used as a division sign.

1. $\overline{}$ ☐

2. ÷ ☐

3. > ☐

4. — ☐

III Find the missing number.

1. ☐ ÷ 3 = 99

2. 90 ÷ ☐ = 18

3. 40 ÷ ☐ = 1

4. 500 ÷ 10 = ☐

5. 30 ÷ ☐ = 10

6. 49 ÷ ☐ = 7

7. 27 ÷ 9 = ☐

8. 200 ÷ 10 = ☐

9. 75 ÷ ☐ = 3

10. 700 ÷ ☐ = 70

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Division and verification

I Divide and verify.

S.No.	Division	Verification
1.	10 ÷ 5 = 2	5 × 2 = 10
2.	24 ÷ 4 =	
3.	36 ÷ 6 =	
4.	72 ÷ 12 =	
5.	55 ÷ 5 =	
6.	96 ÷ 12 =	
7.	81 ÷ 9 =	
8.	66 ÷ 3 =	
9.	26 ÷ 13 =	
10.	84 ÷ 12 =	

II Divide and verify. Match the division statements with their verification. One has been done for you.

S.No.	Division
1.	25 ÷ 5 = 5
2.	49 ÷ 7 =
3.	27 ÷ 3 =
4.	66 ÷ 11 =
5.	28 ÷ 7 =
6.	96 ÷ 12 =

Verification
11 × 6 =
4 × 7 =
7 × 7 =
3 × 9 =
12 × 8 =
5 × 5 = 25

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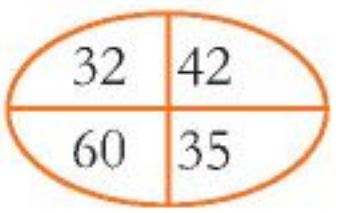
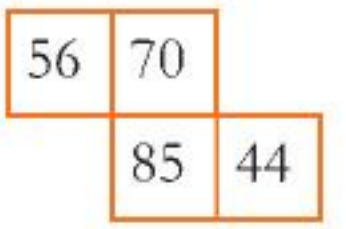
Divisibility test

I Test the divisibility of the following.

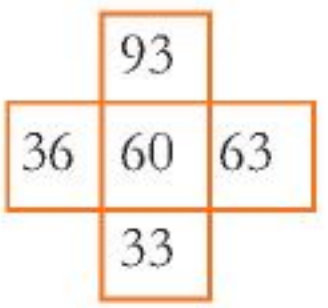
1. Colour the numbers which are divisible by 3.



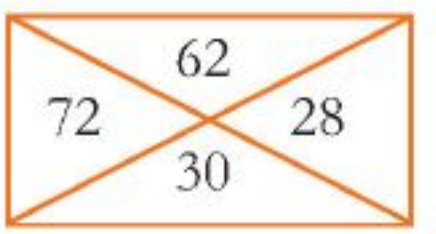
2. Circle the numbers that are not divisible by 5.



3. Circle the numbers which are divisible by both 3 and 6.



4. Circle the numbers which are divisible by 4.



II Who am I?

1. I am an odd number between 13 and 16. I am divisible by 3. I am ☐
2. I am an even number between 16 and 24. I am divisible by both 5 and 10. Who am I? ☐
3. I am the same whether you read me forward or backward. I am divisible by 3 and occur between 30 and 36. Who am I? ☐
4. I am an odd number between 5 and 8. Who am I? ☐ Am I divisible by 2 ☐ ?
5. I am an even number between 34 and 41 and I am divisible by 5. Who am I? ☐

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Division in daily life

Solve the following.

1. Shane arranged 36 books in 4 shelves. How many were there in each shelf?

2. Kelly divided 45 chocolates between 9 friends. How many chocolates did each one get?

3. Paul's mother arranged 21 cookies on 3 plates. How many were there on each plate?

4. Ravi's little sister arranged her 27 building blocks equally in 3 stacks. How many were there in each stack?

5. Mrs. Roy bought 28 apples for her family for the whole week. How many apples did they eat each day?

6. 49 bananas were arranged in 7 plates. How many were there in each plate?

7. In a toy shop 63 teddy bears were arranged in 7 shelves. How many were there in each shelf?

8. Rima has 24 fish. She has to put an equal number of fish in her 4 fish tanks. How many should she put in each one?

9. Ankit has 30 cherries which he wants to share with his 6 friends. How many cherries does each one get?

10. A zoo has 40 birds and 4 bird feeders. Each bird feeder has equal number of birds. How many birds are there in each feeder?

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Division by 0, 10 and 100

- When 0 is divided by any number, it gives 0 as the quotient. for example, $0 \div 5 = 0$
- When a number is divided by 10, it removes one zero from the right end.
  for example, $500 \div 10 = 50$
- When a number is divided by 100, it removes two zeroes from the right end.
  for example, $500 \div 100 = 5$

I Ram has been promised a reward if he divides the following numbers by 0, 10 and 100 and finish all the sums within ten minutes. Help him to solve these?

1. 60 ÷ 10 = ____
2. 2500 ÷ 10 = ____
3. 0 ÷ 10 = ____
4. 6000 ÷ 100 = ____
5. 140 ÷ 10 = ____
6. 2560 ÷ 10 = ____
7. 500 ÷ 10 = ____
8. 4700 ÷ 100 = ____
9. 6540 ÷ 10 = ____
10. 5000 ÷ 100 = ____

II Solve the following.

Knowing half and double of numbers is useful in division.
Half of 26 is 13; Double of 50 is 100

1. Double of 1000 ____
2. Half of 90 ____
3. Double of 260 ____
4. Half of 3600 ____
5. Double of 400 ____
6. Half of 5600 ____
7. Double of 450 ____
8. Half of 7000 ____
9. Double of 80 ____
10. Half of 8800 ____
11. Half of 240 ____
12. Half of 900 ____

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Division puzzle

Find the correct path to get out of this maze. If the quotients are correct, move ahead. If not, find an another path to finish.

START

$8 \overline{)32}$

$15 \overline{)45}$

$3 \overline{)117}$

$10 \overline{)55}$

$8 \overline{)72}$

$6 \overline{)24}$

$13 \overline{)60}$

$9 \overline{)36}$

$16 \overline{)306}$

$4 \overline{)32}$

$11 \overline{)55}$

$18 \overline{)828}$

$4 \overline{)12}$

$12 \overline{)60}$

$7 \overline{)45}$

$8 \overline{)24}$

$4 \overline{)8}$

FINISH

Date ..... Teacher's Sign .....

Up for a challenge?

I Do the following sums.

1. 67 chairs are to be arranged in equal rows for a school function. Help Minal, to arrange them in equal rows. Use as many chairs as possible. The number of chairs left must be minimum. Using small circles to represent chairs, show the seating arrangement you made. One chair  = One circle ◯

Number of rows made = ☐
Number of chairs in each row = ☐
Number of chairs left = ☐

2. Students of class III have been given 144 roses to make bouquets for the function. They have to use only 12 roses per bouquet. How many bouquets can they make?

Number of bouquets = ☐ Number of roses left = ☐

3. Students of class X are in-charge of sweet distribution at the end of the function. There are 820 sweets in the sweets box. The total number of people present at the function is 400. How many sweets can each person be given, equally? How many will be left over?

Number of sweets per head = ☐ Number of sweets leftover = ☐

II Now, identify the dividend, divisor, quotient and remainder in each of cases above. Complete the given table.

S.No.	Dividend	Divisor	Quotient	Remainder
1.				
2.				
3.				

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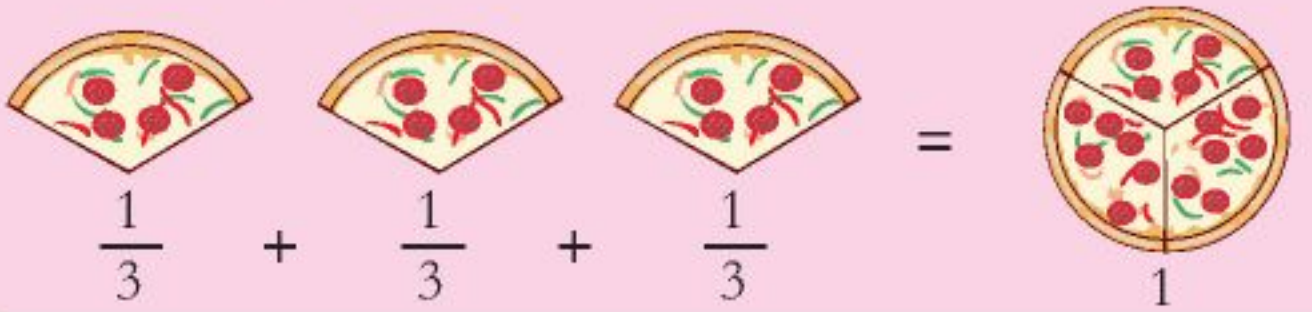
7

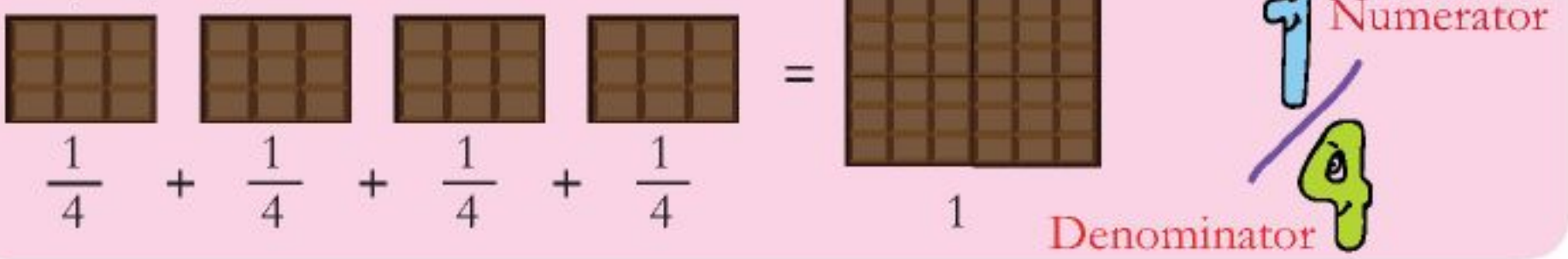
action

Fraction – a part of whole number

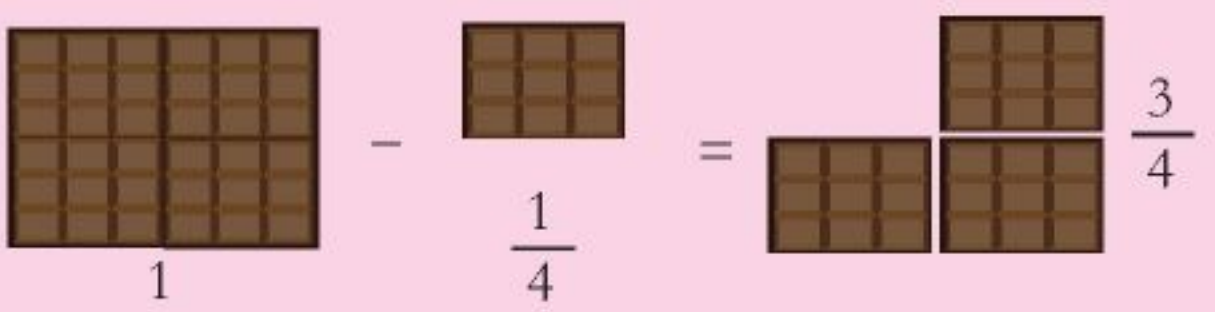
A whole pizza is divided into 3 equal parts. It is written as a fraction $\frac{1}{3}$ and is read as one by three or one-third. 3 one-thirds make a whole.



A chocolate is divided into 4 equal parts (quarters). It is written as $\frac{1}{4}$ and read as 1 by 4. Here 1 is called the numerator and 4 is the denominator. 4 shows how many equal parts there are.



Seema ate one-fourth of the chocolate. 3 one-fourths are remaining. It is written as $\frac{3}{4}$. $\frac{3}{4}$ is the number of equal parts that are left out.



..... Date

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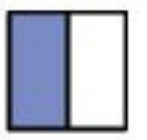
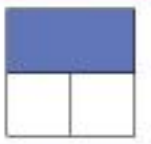
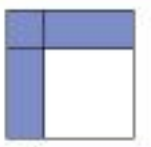
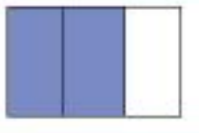
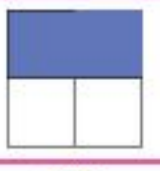
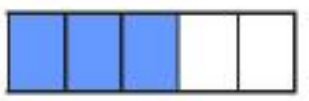
Identifying fractions

I Tick (✓) the correct box which shows the given fraction. One has been done for you.

1.	$\frac{1}{2}$		 ✓
2.	$\frac{1}{4}$		
3.	$\frac{1}{3}$		
4.	$\frac{3}{4}$		
5.	$\frac{1}{2}$		
6.	$\frac{1}{3}$		

II Write the value of the shaded region. One has been done for you.

1.		$\frac{1}{2}$	One-half
2.			
3.			
4.			
5.			
6.			

..... Date

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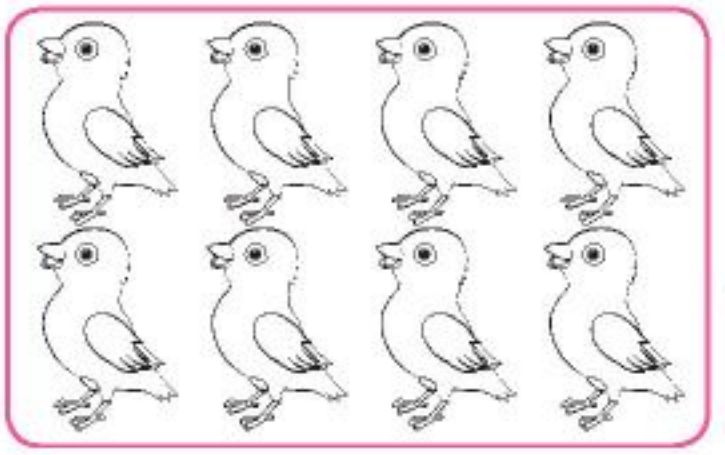
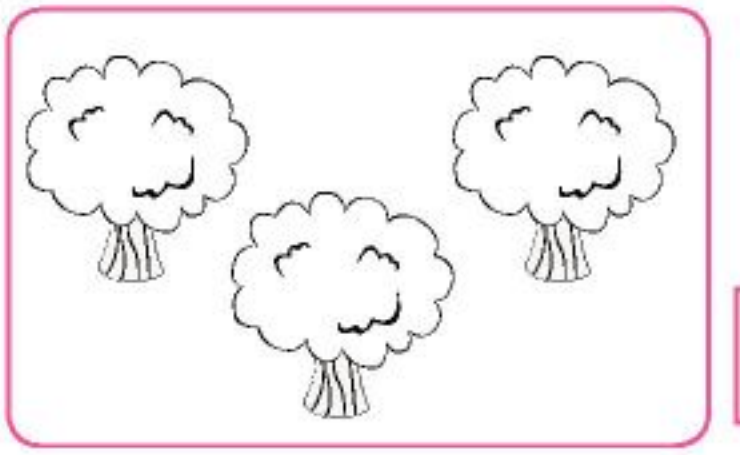
Colouring fraction

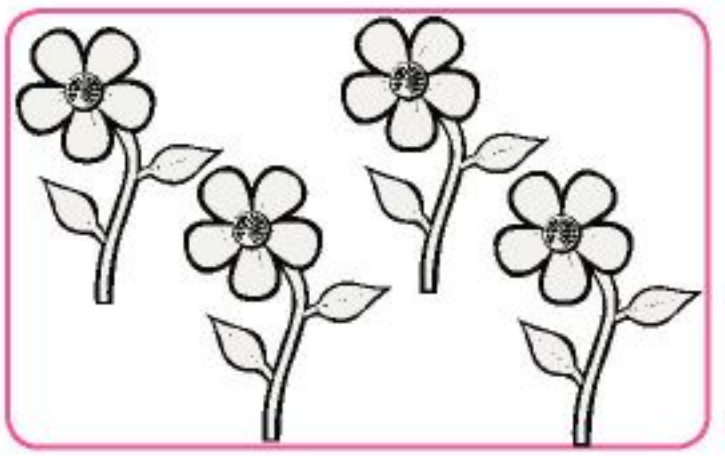
Colour the pictures to show the fraction.

1. 

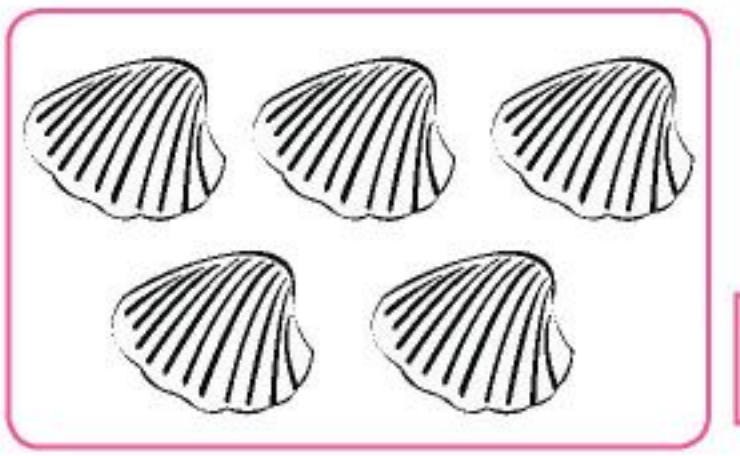
$\frac{1}{4}$

2. 

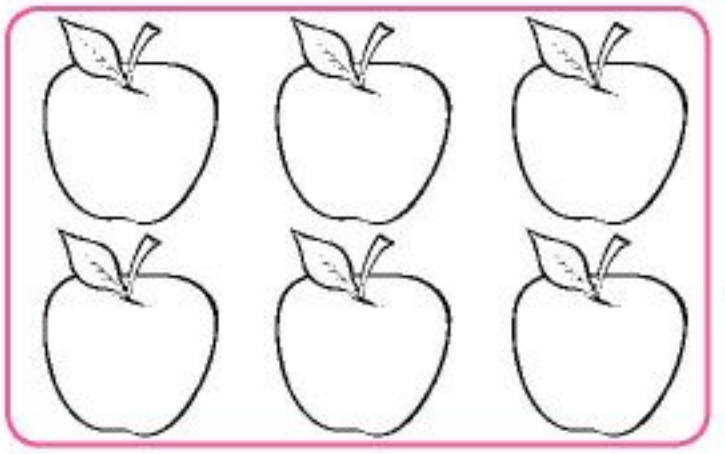
$\frac{1}{3}$

3. 

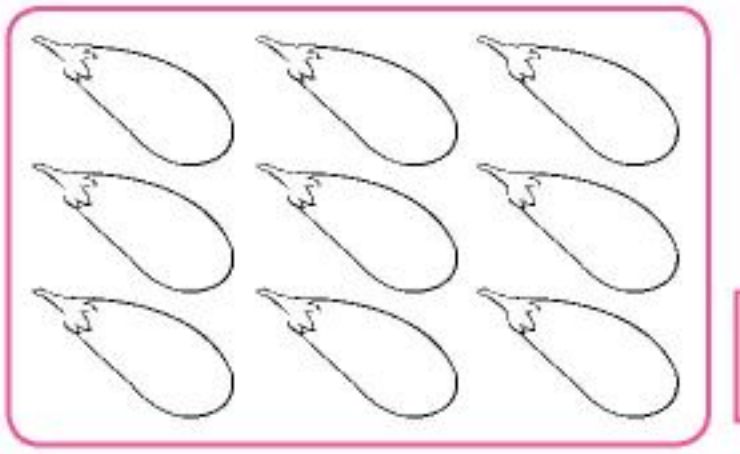
$\frac{1}{2}$

4. 

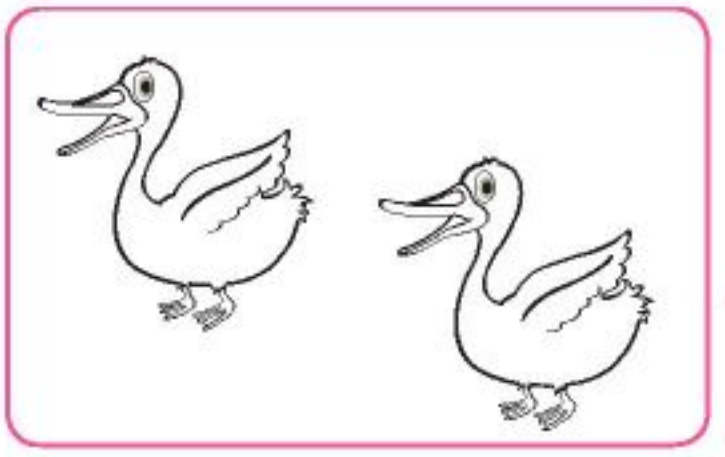
$\frac{2}{5}$

5. 

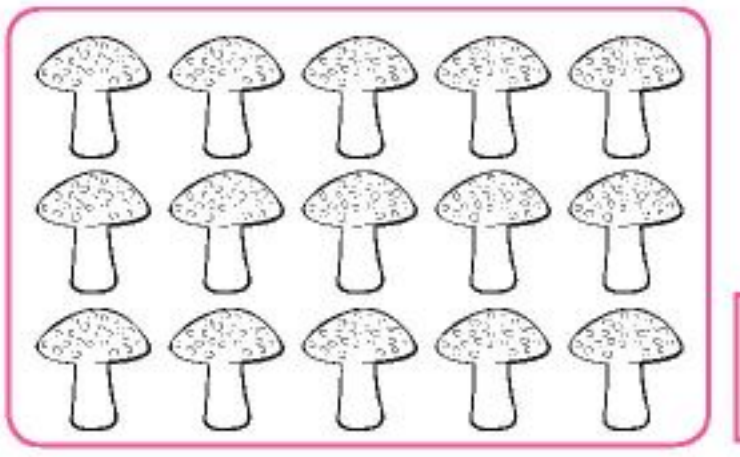
$\frac{1}{6}$

6. 

$\frac{1}{3}$

7. 

$\frac{1}{2}$

8. 

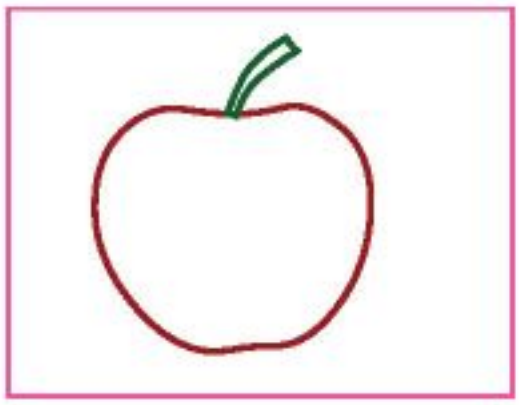
$\frac{2}{3}$

Date ..... Teacher's Sign .....

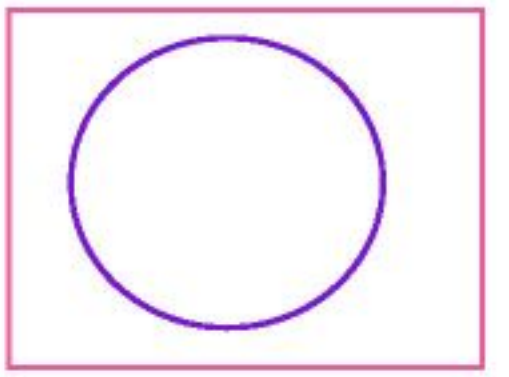
One-half and one-fourth fractions

1. Divide each of these items into 2 halves.

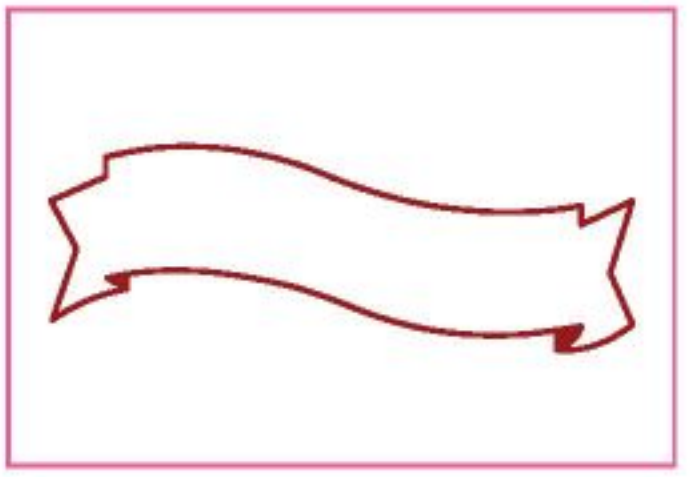
(a)



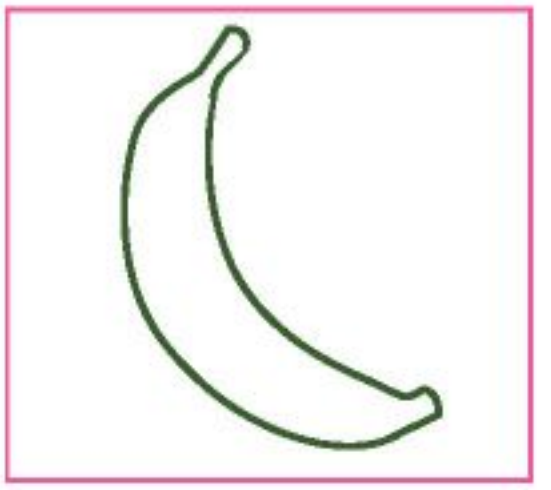
(b)



(c)

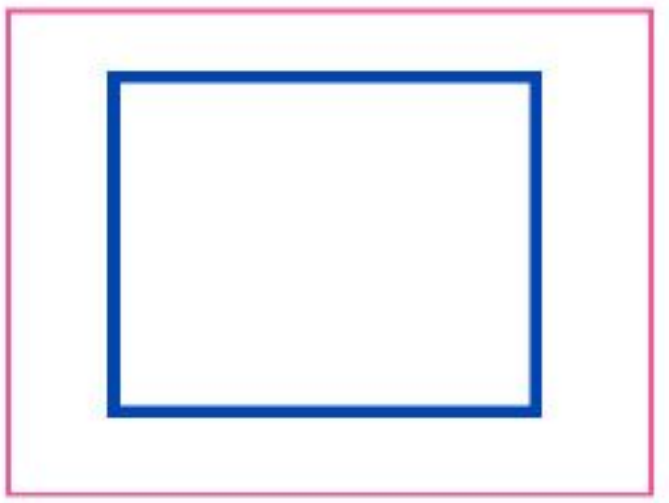


(d)

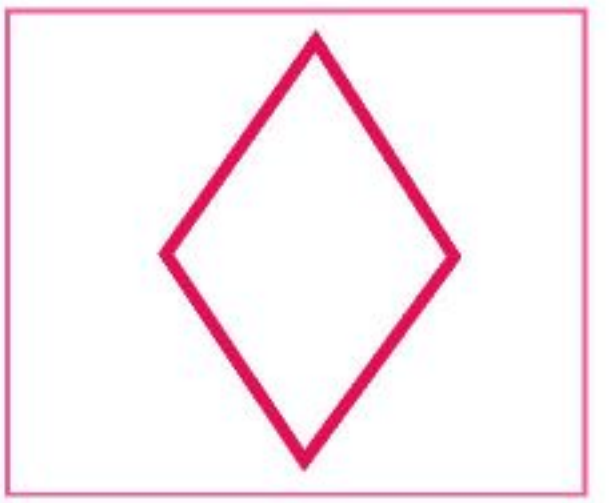


2. Divide each of these into four equal parts.

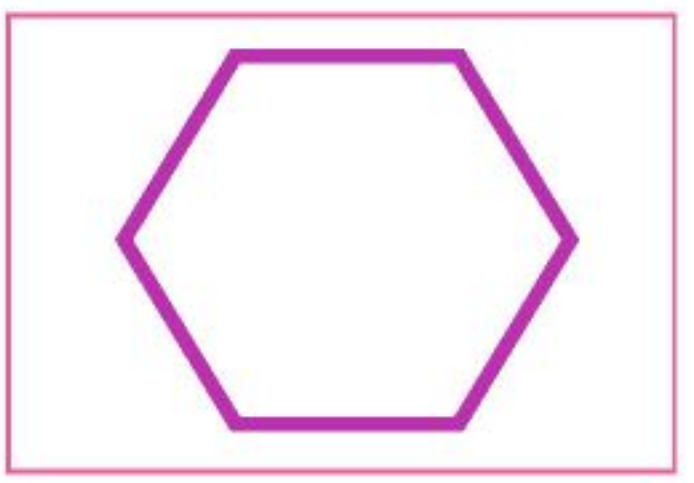
(a)



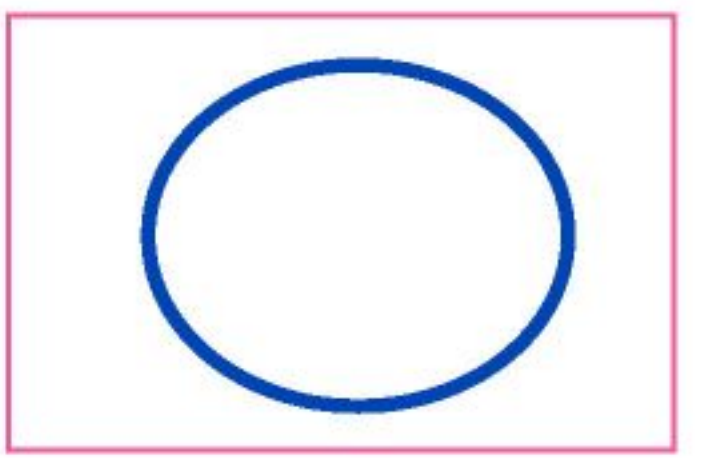
(b)



(c)



(d)



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Date

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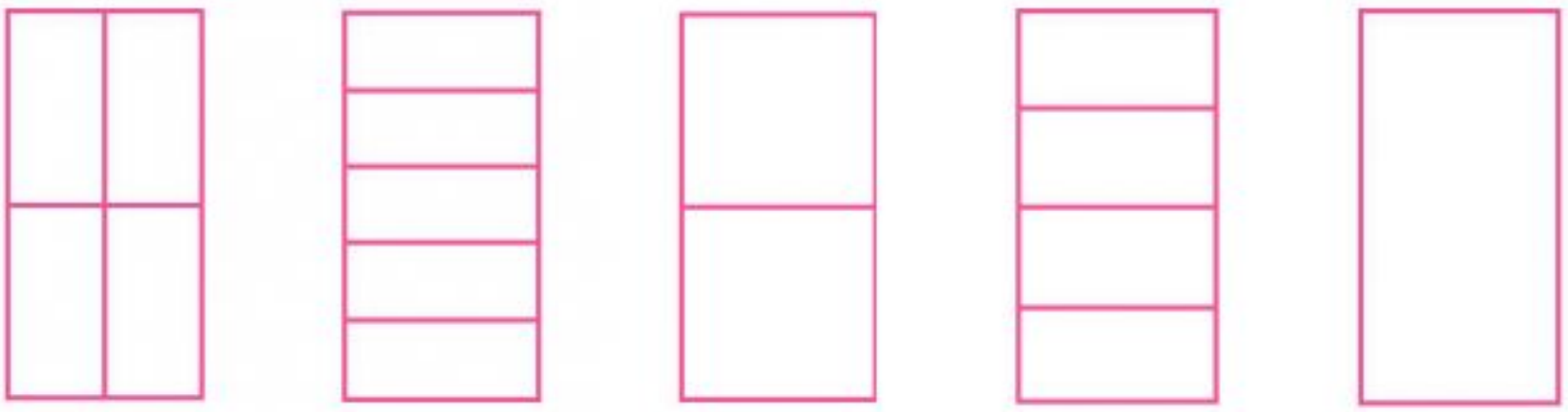
Ordering fractions

I Colour the parts of each rectangle as shown in the box given below.

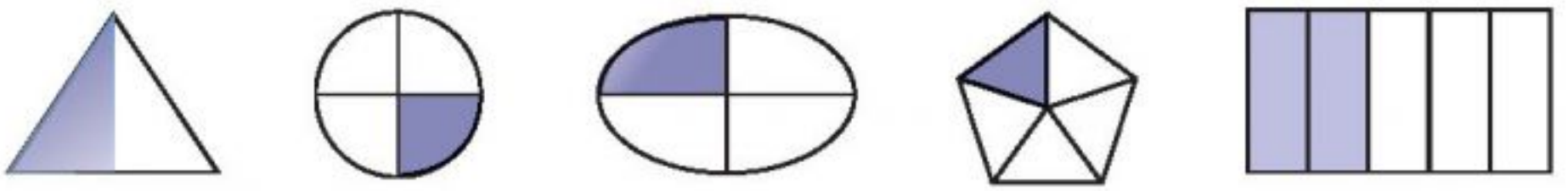


$\frac{1}{4}$	$\frac{2}{5}$	$\frac{1}{2}$	$\frac{3}{4}$	1

II Arrange the fractions in the parts shown above from the smallest to the biggest.

III Write the value of the shaded region in the form of a fraction. One has been done for you

1. 2. 3. 4. 5.



$\frac{1}{2}$				

IV Arrange the fractions in the parts shown above from the biggest to the smallest.

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Numerator and denominator

I Aarya and Aadya are playing Fraction game. They are trying to identify the numerator and denominator of fractions. Aarya is fine but Aadya needs some help. Write the numerator and denominator as shown in the example for each of the three fractions given.

Example

Numerator = 3
Denominator = 4 → $\frac{3}{4}$

1. → $\frac{2}{5}$

2. → $\frac{1}{7}$

3. → $\frac{5}{8}$

II Study the pictures given below, and complete the following table. One has been done for you.

S.No.	Picture	Shaded number	Denominator	Shaded fraction	Fraction which is not shaded
1.		4	6	$\frac{4}{6}$	$\frac{2}{6}$
2.					
3.					
4.					
5.					

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Up for a challenge?

Rahul was a great cook. He offered to make vegetable dish for all the students of Grade 3. Salim, Megan and Rohan offered to bring the vegetables. Check out their expenses!

Price List

Item	Price ₹/kg
Tomato	– ₹ 12
Potato	– ₹ 16
Carrot	– ₹ 20
Peas	– ₹ 40
Capsicum	– ₹ 24
Cauliflower	– ₹ 15

1. Salim bought 2 kg of potatoes. Find the cost. =
2. Rohan bought $\frac{1}{4}$ kg of carrot. Find the cost. =
3. Find the cost of $\frac{1}{4}$ kg green pea, which Megan wanted to buy. =
4. Find the cost of $\frac{1}{2}$ kg of capsicum. =
5. Capsicums are shared by all three. Find the amount to be paid by each. =
6. 1 kg tomato was shared by the three of them. Find each one's share of the cost. =
7. Total amount paid by Salim =
8. Total amount paid by Rohan =
9. Total amount paid by Megan =
10. Total cost of vegetables =

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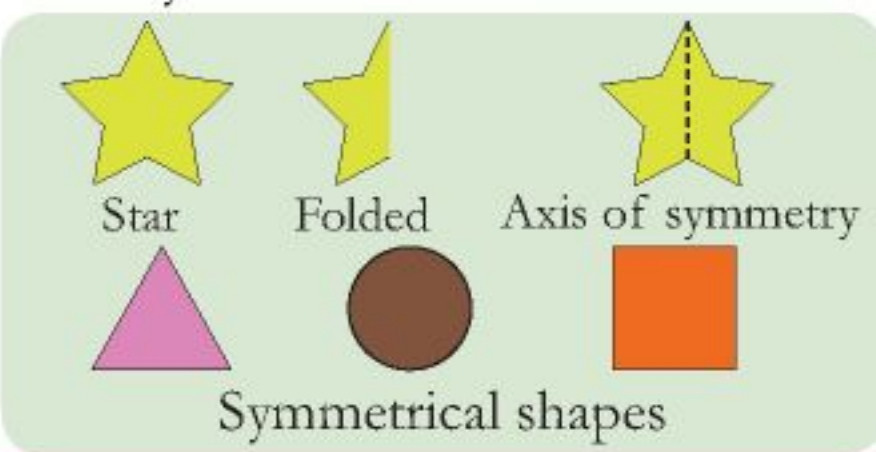
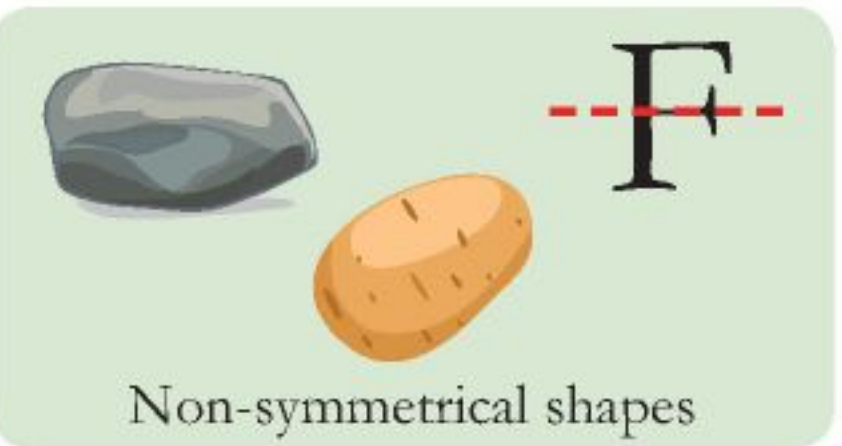
8 patial un tan in

Symmetry

Spatial understanding is necessary for studying our geometric world. When you can fold a shape in half and one half exactly covers the other half, we can say that the shape is symmetrical. The folding line is the axis of symmetry. Some of shapes are not symmetrical at all.



Symmetrical shapes


Non-symmetrical shapes

Point, Line, Plane and Solid

Look at the following figures:

A Point has no dimensions but, only position.

A Line is one-dimensional.

Two-Dimensional Shapes

A shape that only has two dimensions (such as width and height or length and width) and no thickness. Squares, Circles, Triangles, etc. are two dimensional objects. They are also known as "2D". A Plane is two-dimensional (2D).

Three-Dimensional Shapes

An object that has height, width and depth or length, width and depth, like any object in the real world. Example: your body is three-dimensional. They are also known as "3D". A Solid is three-dimensional (3D).

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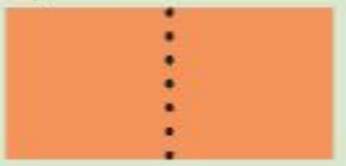
Formation of shapes by folding papers

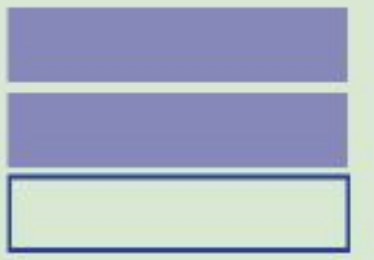
I Take two rectangles shaped papers. Cut them across right in the middle, in two different ways along the dotted lines. Name the shapes you get. One has been done for you.

Paper A



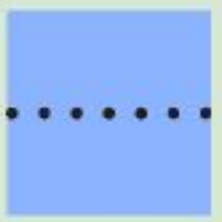
Two squares

Paper B



II Take 3 square-shaped papers. Draw dotted lines as shown. Cut along dotted lines. Draw the new shapes and name them. One has been done for you.

Paper A



New shape formed

Two rectangles

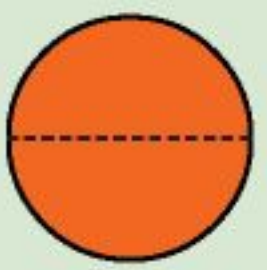
Paper B

New shape formed

Paper C

New shape formed

III Draw a circle on a paper and cut it out. Draw a dotted line right in its centre. Fold it along the dotted line. Draw the new shape and name it.



..... Date

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Identifying shapes

I Draw lines to match the 2-D shapes with their names.

S.No.	Column A
1.	
2.	
3.	
4.	
5.	
6.	

Column B
Triangle
Square
Oval
Semicircle
Rectangle
Circle

II Who am I?

1.	I am a 3-D shape with eight corners, twelve edges and six square faces.
2.	I am a 3-D shape having one plane face, one curved face and one vertex.
3.	I am a flat shape with four sides and four corners, with two sides longer than the other two sides.
4.	I am a flat shape with one curved edge and no sides or corners.
5.	I am a 3-D shape with no corners and sides.
6.	I am a 3-D shape with three faces – two plane and one curved.

..... Date

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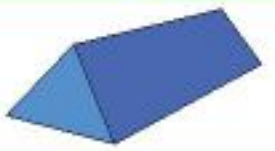
Edges and corners of objects

Write the number of edges and corners for each figure.

S.No.	Shapes	No. of edges	No. of corners
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

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Straight and curved edges

Look at these pictures and state whether they have straight or curved edges by putting tick mark in the right columns.

S.No.	Objects	Straight edges	Curved edges
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

..... Date

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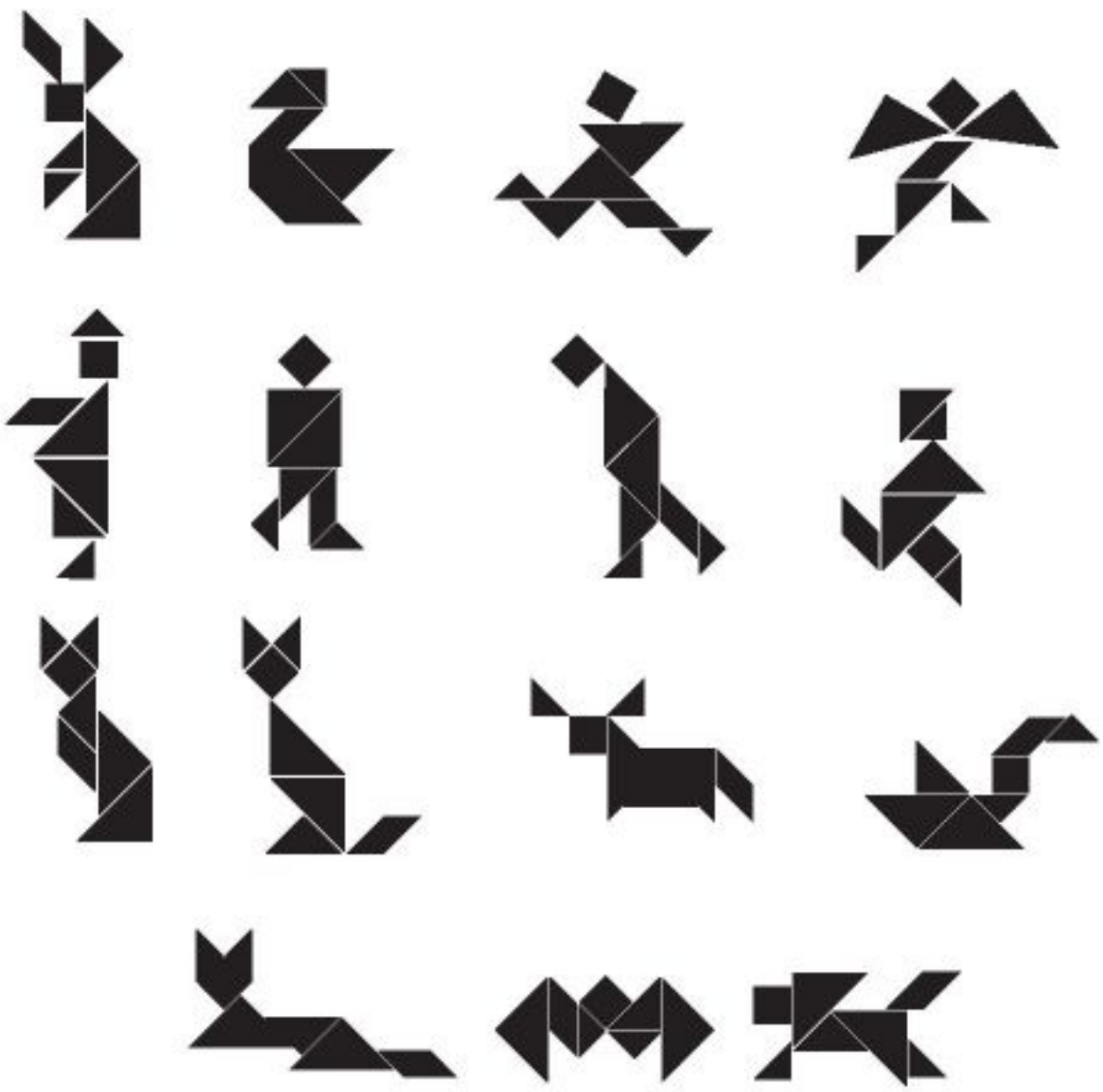
Tangram

Tangrams are made up of seven movable geometrical shapes called 'tans'. We can create thousands of pictures and designs using the seven tans.

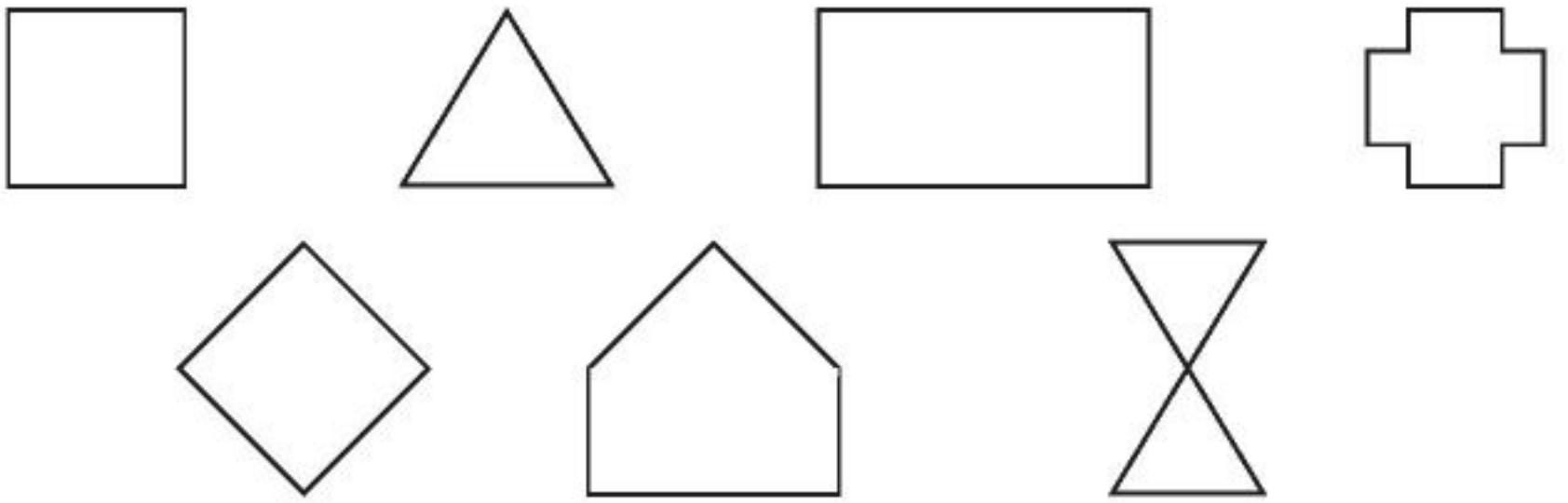
Take a square card paper and cut it into shapes exactly as shown here. Now using your seven tans, create patterns of your own. Some patterns have been given below.



Date ..... Teacher's Sign .....

Drawing shapes using dot

Join the dots in the grid and draw the given shapes. One has been done for you.



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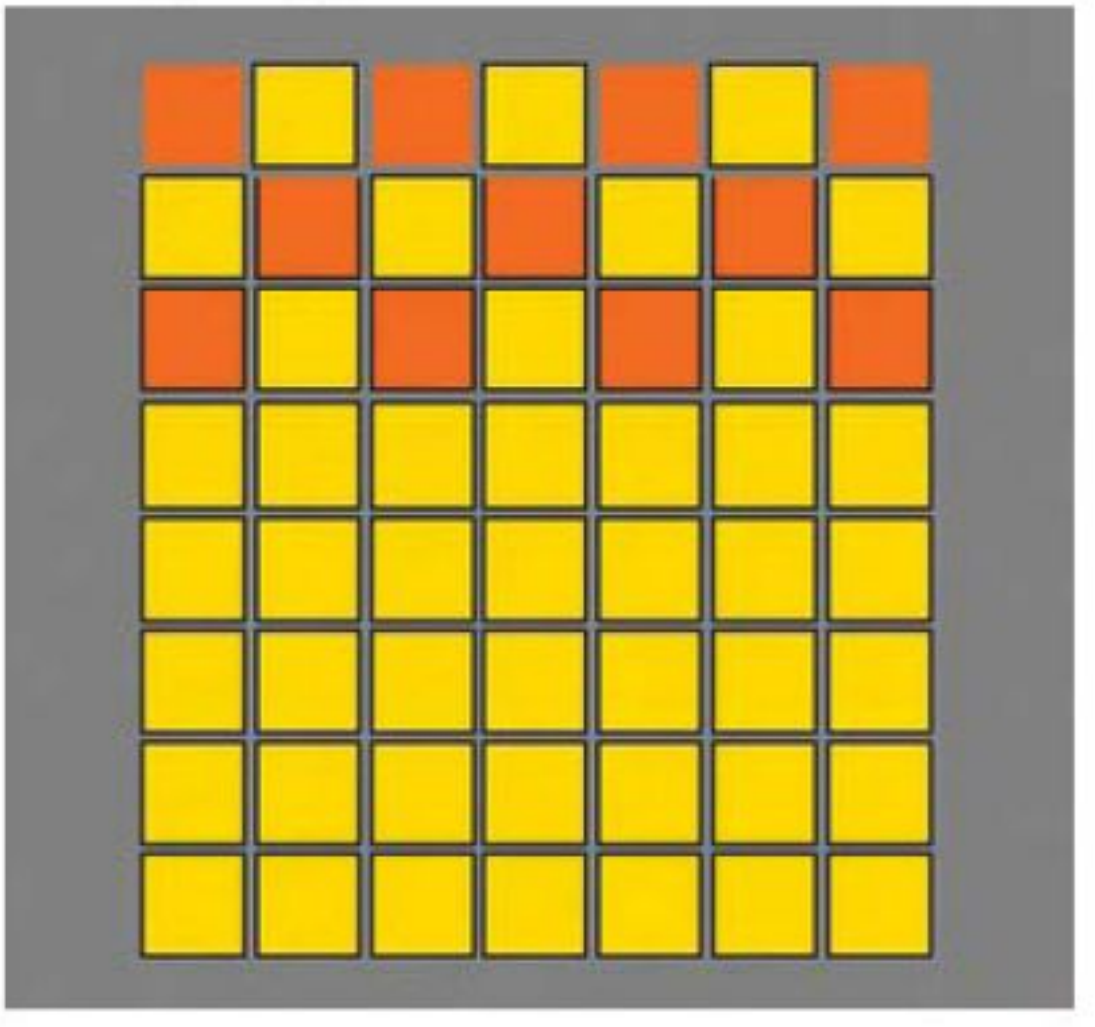
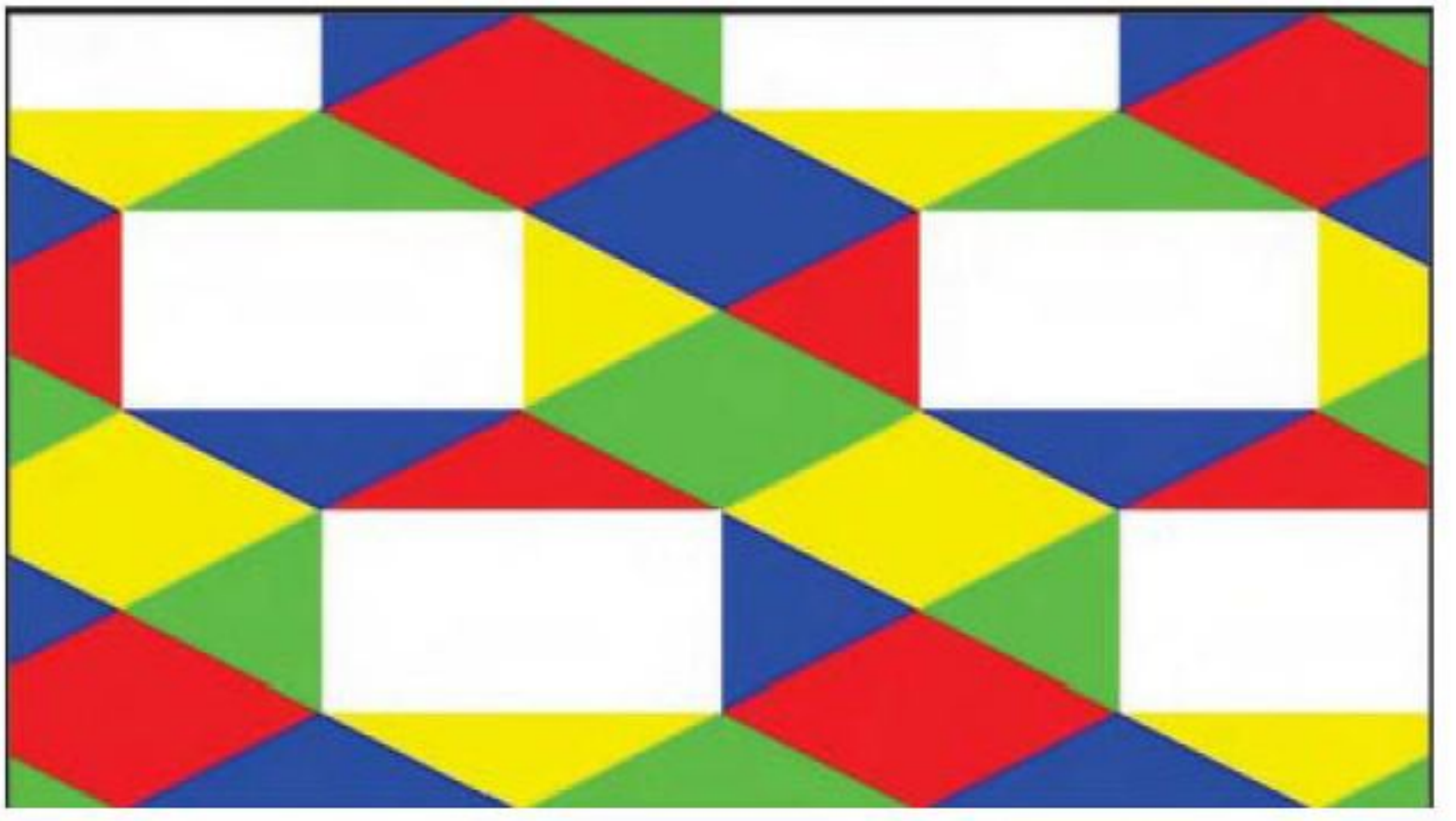
Tiling pattern

1. Colour the following tilling pattren.



2. Complete and colour the following floor pattern.



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Map Reading

Mohan is going to Delhi with his friends. They take an auto rickshaw to go India gate from Domestic airport. After that they move to Qutub minar by Metro and after spending about 2 hours they take a bus for Lotus temple. In the evening they take a bus to go to Rohtak.

Now observe at the distances given in kilometres.

Domestic Airport to India gate – 15 km

India gate to Qutub minar – 10 km

Qutub minar to Lotus temple – 7 km

Lotus temple to Rohtak – 60 km

Now answer the following questions:

1. Which is farther from domestic airport – India gate or Rohtak?
2. Which of these is closer to Yamuna river:
   - Humayun's tomb or Jama masjid?
   - Red fort or Lotus temple?
3. Which of these is nearer to Qutub minar:
   - Lotus temple or India gate?
   - Jama masjid or Red fort?

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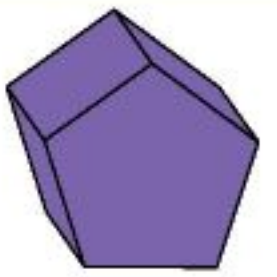
Up for a challenge?

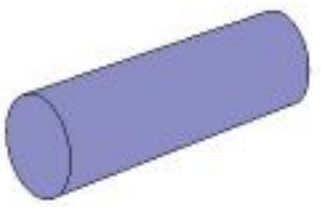
I The students of Class 3 are visiting the Shapes Museum today. Can you write down the names of the shapes they see?

1. _____

2. _____

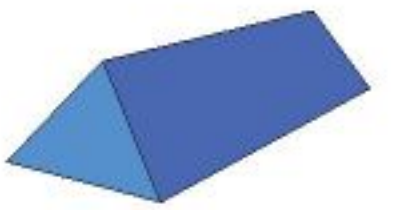


3. _____

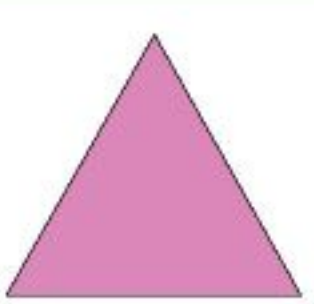


4. _____

5. _____



6. _____



7. _____

8. _____

9. _____

II Excited by the shapes around them, they played a riddle game and asked questions to each other. Do you know the answers?

1. Name a 3-D shape with no corners or sides. _____
2. Which is the 3-D shape that has one plane face, one curved face and one vertex? _____
3. Name the 3-D shape that has two plane faces and one curved face. _____

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Symmetry around us

There is a symmetry and pattern all around us.

The ability to recognise, compare and manipulate patterns is the basis for understanding maths.

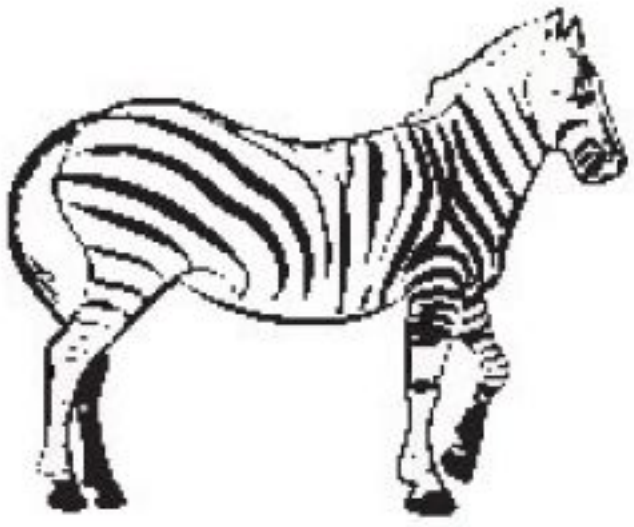






Know this !

Every zebra has a unique pattern of black and white stripes. Zebra crossings (Pedestrian crossings) are named after the black and white stripes of zebras.

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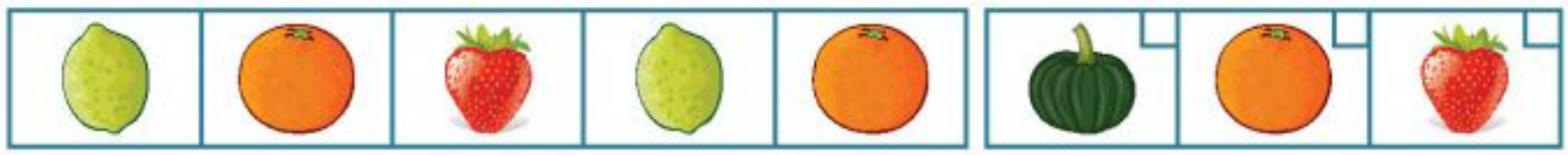
Identifying the patterns

Identify the pattern and tick on correct option to extend the pattern.

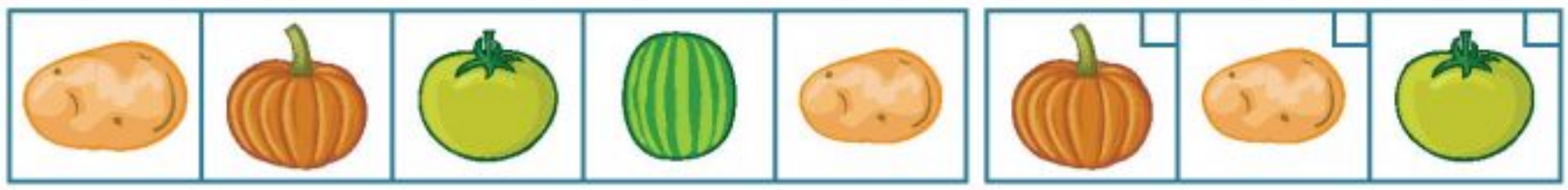
1. 

2. 

3. 

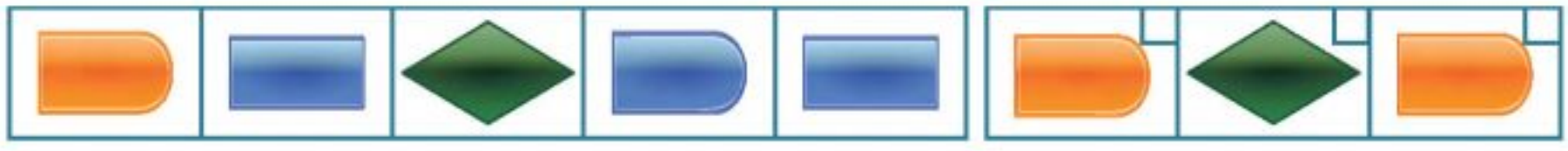
4. 

5. 

6. 

7. 

8. 

9. 

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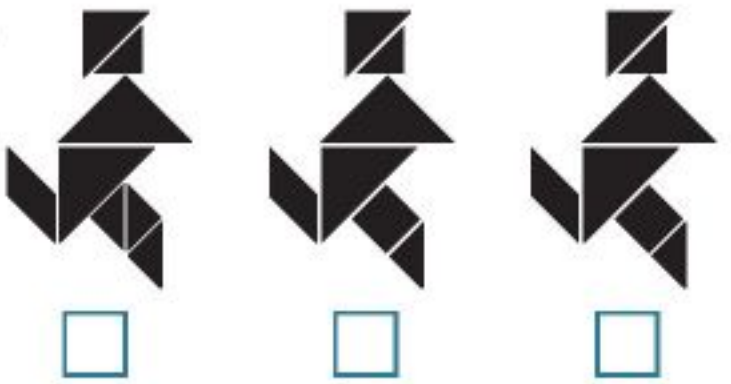
Odd one out

Tick the odd one in the following patterns.

1.

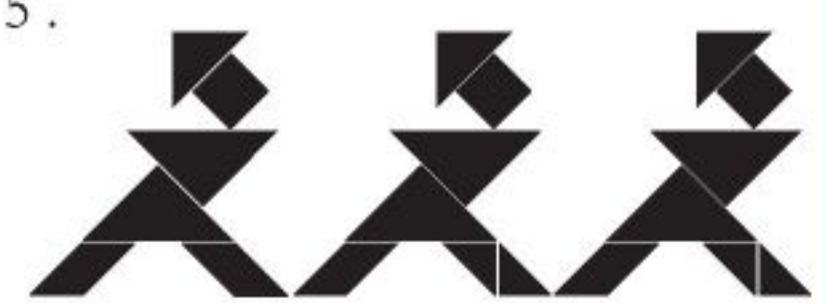
2.

3.



4.

5 .



6.

7.

8.

9.

10 .

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Number patterns

Colour all multiples of 7 in blue. Colour all multiples of 4 in red. Circle the common multiples of 4 and 7.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150

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Complete the sequence pattern

Study the patterns and complete the sequences. Add two more numbers to each series.

1.	5	10	15	20	25		
2.	2	7	12	17	22		
3.	1	3	5	7	9		
4.	12	20	28	36	44		
5.	5	9	13	17	21		
6.	2	12	22	32	42		
7.	7	13	19	25	31		
8.	9	18	27	36	45		
9.	14	23	32	41	50		
10.	12	24	36	48	60		
11.	13	28	43	58	73		
12.	0	15	30	45	60		
13.	17	34	51	68	85		
14.	13	18	23	28	33		
15.	6	12	18	24	30		

Date ..... Teacher's Sign .....

Up for a challenge?

This cloud is raining numbers! Raj, Tom, Ali, Ben and Ram have fun in picking them. Help them collect the numbers such that they form a number pattern. Each one must get three numbers.

150 350 250 444 240

123 333 222 450 280

100 200 223 320 323

Raj

Ben

Tom

Ram

Ali

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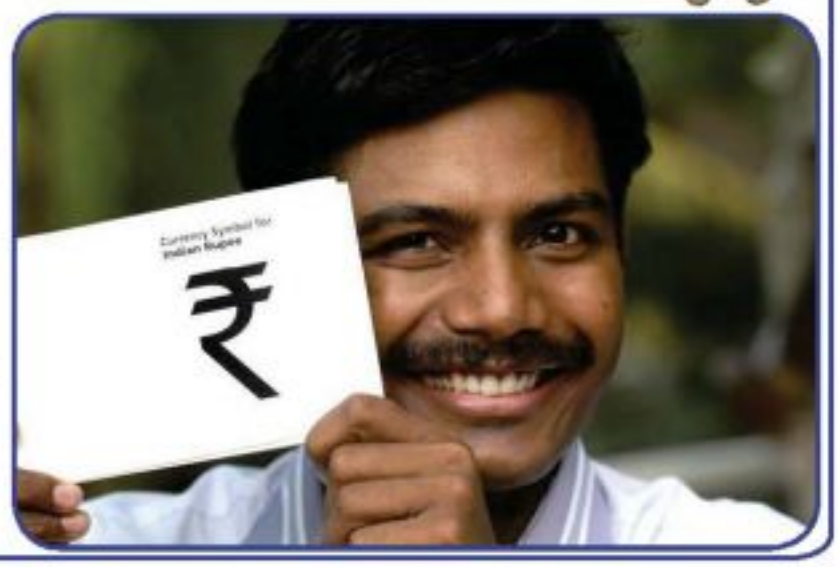
10 on

Do you know?

We express a price of a thing in rupees and paise for example ₹ 80 and 50 p can be expressed as ₹ 80.50. In words we write as: Rupees eighty and paise fifty.

A change is the money you get back after paying for something.

Indian Rupee symbol was designed by IIT post-graduate D. Udaya Kumar.



Remember

1 rupee = 100 paise

To convert rupees into paise, multiply the amount in rupees by 100 for example: 5 rupees = (5 × 100) paise = 500 paise

To convert 'rupees and paise' into paise, we multiply the amount in rupee and by 100 and add it to the number of paise.

For example: 18 rupees 50 paise = (18 × 100) paise + 50 paise
= (1800 + 50) paise
= 1850 paise.

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Expressing money in symbolic form

Express money in figures. One has been done for you.

1.  +  = ₹1.50

2.  +  +  =

3.  +  +  =

4.  +  +  =

5.   +  +  =

6.  +  +  =

7.  +  +  =

8.  +  +  =

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Cash bill

Pam went to Pappa's Bakery. Her father had given ₹ 300 for her birthday. The bakery had displayed the rate list. Pam bought the following items. Prepare a bill for this.

1.	4 Pineapple cakes
2.	2 Chocolate cakes
3.	12 Plain buns
4.	4 Doughnuts
5.	2 Strawberry cakes

Rate per piece		
1.	Vanilla cake	₹ 10.00
2.	Strawberry cake	₹ 13.00
3.	Chocolate cake	₹ 16.00
4.	Plain cake	₹ 6.50
5.	Pineapple cake	₹ 12.00
6.	Doughnut	₹ 15.00
7.	Plain bun	₹ 2.00

1.

BILL

Pappa's Bakery

Date : _____

Name : _____

S.No.	Item	Quantity	Rate	Amount	
				₹	Paise
			Total		

2. How much money does Pam have to pay to the shopkeeper? ☐

3. If she gives ₹ 300 to the shopkeeper, how much change will she get back from the shopkeeper? ☐

..... Date

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Train fare and tickets

A metro rail route starts from MG Road and ends at the Railway station.

Use the table and answer the following questions.

	Distance from MG Road	Fare from MG Road
Nehru Road	5 km	₹ 15.50
JC Road	10 km	₹ 20.50
Shastri Road	15 km	₹ 30.00
Railway Station	25 km	₹ 40.00
Indira Nagar	32 km	₹ 50.00
Vivekanand Circle	40 km	₹ 60.00

1. Cost of 3 tickets from MG Road to Shastri Road

2. Cost of 4 tickets from MG Road to Railway station

3. Change returned from ₹ 50 for 1 ticket from MG Road to JC Road

4. One week's travel from MG Road to Nehru Road

5. Cost of 2 tickets from MG Road to Railway Station

Date ..... Teacher's Sign .....

Addition and subtraction of money

I Add the following amount of money:

1.
	₹	P
	19	25
+	15	50

2.
	₹	P
	16	35
+	29	40

3.
	₹	P
	10	20
+	51	35

4.
	₹	P
	19	50
+	16	16

5.
	₹	P
	21	35
+	29	75

6.
	₹	P
	17	75
+	18	75

7.
	₹	P
	15	50
+	18	95

8.
	₹	P
	16	00
+	15	65

II Subtract the following amount of money:

1.
	₹	P
	100	55
–	65	65

2.
	₹	P
	39	65
–	23	75

3.
	₹	P
	29	15
–	15	75

4.
	₹	P
	55	25
–	52	20

5.
	₹	P
	320	20
–	298	30

6.
	₹	P
	421	50
–	322	75

7.
	₹	P
	223	75
–	205	85

8.
	₹	P
	340	20
–	250	20

..... Date

..... Teacher's Sign

Up for a challenge?

I Write the costs of these toys in words.

1.  ₹ 275.75 _____

2.  ₹ 185.50 _____

3.  ₹ 425.25 _____

4.  ₹ 526.60 _____

5.  ₹ 364.55 _____

II Find the cost of the following sets of toys.

 ₹ 275.75  ₹ 185.50  ₹ 425.25  ₹ 526.60  ₹ 364.55

1.  +  = ₹ _____

2.  +  = ₹ _____

3.  +  = ₹ _____

4.  +  = ₹ _____

5.  +  = ₹ _____

6.  +  = ₹ _____

7.  +  = ₹ _____

8.  +  = ₹ _____

9.  +  = ₹ _____

10.  +  = ₹ _____

..... Date ..... Teacher's Sign

11 i

Interesting facts

- A clock is divided into 12 equal parts. When the time is quarter hours, the minute hand is at either 3 or 9.

Quarter past six

Quarter to six

- A half year may run from January to June or July to December.

- Fortnight is a collection of fourteen nights.

- We do not add am or pm to 12'O' clock. It is read as 12 noon or 12 midnight. A day begins at midnight and ends at the next midnight.

- The Indian National Anthem has to be sung in 52 seconds.

- The hourglass uses the flow of sand to measure the flow of time.

..... Date

..... Teacher's Sign

Daily routine activities

Shreya's activities for a day have been listed below.

Morning		Afternoon		Evening	
Wake up	6:00 am	Lunch time	12:30 pm	Play time	5:00 pm
Breakfast	7:30 am			Dinner	7:00 pm
Go to school	8:00 am			Go to bed	8:15 pm

Look at the pictures shown below. Is Shreya early, on time, or late? Tick the correct answer.

1.

Wake-up

Late	☐
Early	☐
On time	☐

2.

Breakfast

Late	☐
Early	☐
On time	☐

3.

Dinner

Late	☐
Early	☐
On time	☐

4.

Lunch time

Late	☐
Early	☐
On time	☐

5.

Sleep

Late	☐
Early	☐
On time	☐

6.

Playtime

Late	☐
Early	☐
On time	☐

..... Date

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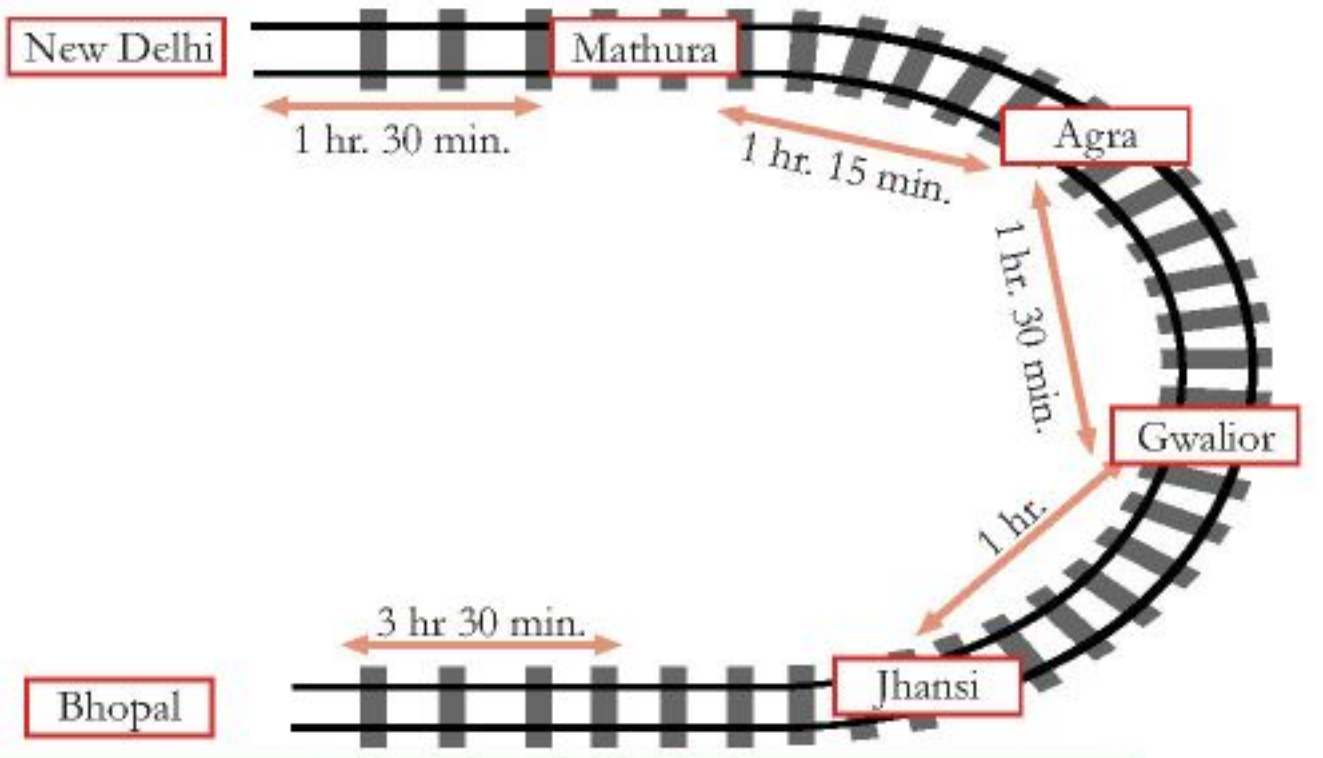
Time stories

I A car starts from Delhi to Chandigarh at 9:30 am. Another car also starts at 9:30 am from Chandigarh to Delhi. Both cars meet at Karnal at 12 noon. How much time have they taken to meet?

Time taken by the cars to meet = ☐ hours ☐ minutes

Time taken by the cars to meet = ☐ minutes

II The time taken by an express train running from New Delhi to Bhopal via different stations has been shown here. Suppose it stops for 5 minutes at each station, find its arrival time at each station.



S.No.	Station	Arrival	Departure
1.	New Delhi		6:30 am
2.	Mathura		
3.	Agra		
4.	Gwalior		
5.	Jhansi		
6.	Bhopal		

..... Date

..... Teacher's Sign

Calendar reading

Calendar for the month of July 2014 has been given here. Use the calendar and fill in the blanks.

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6 Mona' s Birthday	7	8	9	10 Sonu's Birthday	11	12 Full Moon day
13	14	15	16 Music day	17	18	19
20	21	22	23	24	25	26
27 Amy's Birthday	28	29	30	31 Picnic		

1. The date of Mona's Birthday is [D][D][M][M][Y][Y][Y][Y].
2. There are [ ] Mondays in this month.
3. The date on which we celebrate music day is [D][D][M][M][Y][Y][Y][Y].
4. The picnic is on [ ] day and the date is [D][D][M][M][Y][Y][Y][Y].
5. The first day of the month is a [ ] day.
6. Sonu's Birthday is on [ ] day and the date is [D][D][M][M][Y][Y][Y][Y].
7. The last day of the month is Saturday [ ] /Sunday [ ].
8. Today is Amy's Birthday. Tomorrow's day is [ ].
9. There are [ ] days in a week.
10. Full moon is on [D][D][M][M][Y][Y][Y][Y].

..... Date

..... Teacher's Sign

Estimation - Days and months

How long does it take for the following to occur? Cross out the incorrect option.

1. An egg to become a chick

Days/Months

2. To grow your hair long

Days/Months

3. For a seed to become a plant

Days/Months

4. For monsoon to change to winter



Days/Months

5. To build a house

Days/Months

Date ..... Teacher's Sign .....

Up for a challenge?

I The Elms school celebrated its 5th annual day on the first day of February 2013. The program list was as follows. Read the time from the clock and write it in the box provided.

1. 

Prayer

pm

2. 

Chief-guest's speech

pm

3. 

Cultural programme

pm

4. 

Annual report

pm

5. 

Prize distribution

pm

II However, all of the programs got delayed by 10 minutes. Fill in the starting time of each of the programs after the delay.

1. 

Prayer

pm

2. 

Chief-guest's speech

pm

3. 

Cultural programme

pm

4. 

Annual report

pm

5. 

Prize distribution

pm

III Fill in the blanks.

1. On what day was the Annual Day held? _____
2. The last day of the month is a _____
3. On what day will the next month begin? _____
4. If today is the 18th of February, what will be the tomorrow's date? _____

February 2013

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

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12 a ur nt o n t

Need for standard unit to measure lengths

We have learnt to measure the length of objects roughly by using parts of our body. These are cubit, handspan, foot step, arm length and paces. These are non standard units to measure lengths. These units are not uniform and accurate.
So, to measure the length of objects accurately we use some standard units.

Some of standard units are:

1. Metre: We use metre to measure length of a wall, height of a pillar etc. It is denoted by m.
2. Centimetre: Small lengths like length of a pen, books, pencil box etc. are measured in centimetres. It is denoted by cm.
3. Kilometre: Bigger lengths like distance between two places are measured in kilometres. It is denoted by km.

Look at the instruments used in measuring the length.

Ruler

Measuring tape

Remember

1. To convert metres into centimetres, we multiply the number of metres by 100
2. To convert kilometres into metres, we multiply the number of kilometres by 1000.

..... Date

..... Teacher's Sign

Addition and subtraction of length

Note

100 centimetres	=	1 metre
1000 metres	=	1 kilometre

I Add the following.

1. m cm
   25 93
+ 15 65

2. m cm
   13 18
+ 56 82

3. m cm
   171 20
+ 14 89

4. m cm
   223 57
+ 46 77

5. m cm
   372 86
+ 241 11

6. m cm
   429 45
+ 385 63

7. km m
   396 10
+ 85 90

8. km m
   435 651
+ 225 982

II Subtract the following.

1. m cm
   76 20
− 55 30

2. m cm
   54 962
− 19 653

3. m cm
   246 24
− 232 11

4. m cm
   195 68
− 76 65

5. m cm
   846 56
− 216 21

6. m cm
   291 76
− 137 54

7. km m
   356 56
− 332 41

8. km m
   546 35
− 23 78

..... Date

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Conversion and estimation

I Fill in the blanks with the appropriate units of length.

1. The height of a tower is 400 ☐
2. The length of Sara's ruler is 30 ☐
3. The distance between Kashmir and Delhi is 1800 ☐
4. The height of a mango tree is 12 ☐
5. The length of Ravi's table is 50 ☐

II Convert the following.

1. 150 cm = ☐ m
2. 1500 cm = ☐ m
3. 720 cm = ☐ m
4. 3000 cm = ☐ m
5. 450 cm = ☐ m
6. 250 cm = ☐ m
7. 3.5 km = ☐ m
8. 90 m = ☐ cm
9. 1 km = ☐ m
10. 1000 m = ☐ km

III If you were to see these objects around you, what unit would you use to measure their length? Use your logic and tick mark the unit.

1. 

m	
cm	

2. 

m	
cm	

3. 

m	
cm	

4. 

m	
cm	

5. 

m	
cm	

6. 

m	
cm	

7. 

m	
cm	

8. 

m	
cm	

Date ..... Teacher's Sign .....

Problems on measurement of length

Solve the following and write your answer with the correct unit.

1. Mira is 120 cm tall. She grew 15 cm over the past few months. How tall is she now?

2. Sara has to travel 120 km by train to reach Mysore. She has covered 97 km. How many more kilometres should she travel to reach Mysore?

3. Enaz had 220 cm of cloth. She used half of it to make dresses for her dolls. How much cloth is left with her?

4. Raju has 3 rulers. Each ruler is 15 cm long. He sticks all of them together using a tape. How long is the ruler now?

5. M.G Road is 92 km long out of which 59 km has been repaired. How many kilometres are yet to be repaired?

6. Mother had 16 m of cloth. She used 3.5 m of it to make a dress. How much is left with her?

7. Mallika's hair is 30 cm long. She got 11 cm of her hair cut. How long is her hair now?

8. Aman has 300 m of rope. If he cuts 73 m of the rope, then how much is left with him?

9. Ravi has to travel 500 km to reach his hometown by bus. He has travelled 342 km. How much more he has to travel to reach his hometown?

..... Date

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Length of body parts

I Measure the approximate length of your body part listed below. Use a measuring tape to measure yourself.
Take help from your teacher or parents.

1. Waist ☐
2. Arms ☐
3. Legs from waist ☐
4. Chest ☐
5. Shoulders ☐

II Measure the length of fingers by using a scale and write their lengths.

1. Thumb ☐ cm
2. Fore finger ☐ cm
3. Middle finger ☐ cm
4. Ring finger ☐ cm
5. Little finger ☐ cm

III Measure your foot using a scale and write their lengths below.

1. Foot print ☐ cm
2. Big toe ☐ cm
3. Heel ☐ cm
4. Little toe ☐ cm
5. Third toe ☐ cm

IV How long is your nose from tip to eyebrows? ☐ cm

V Measure your arm from shoulder to the tip of your middle finger and leg from waist to the toe, which one is longer?

Arm length ☐ Leg length ☐ Which is longer ☐

VI Raghu measures 85 cm from his foot to his waist. Estimate his total height.

1. 100 cm ☐ 2. 120 cm ☐ 3. 170 cm ☐ 4. 140 cm ☐

..... Date ..... Teacher's Sign

Up for a challenge?

I Convert the following as directed.

1. 740 cm (Convert to m) ☐
2. 39000 cm (Convert to m) ☐
3. 15 km (Convert to m) ☐
4. 23 m (Convert to cm) ☐
5. 45 m (Convert to cm) ☐
6. 142 cm (Convert to m) ☐

II Solve the following problem.

1. Dora bought a curtain cloth 500 m long for some of the rooms at the castle. After the curtains were made 36 m of cloth was left. How much cloth did Dora use for the curtains? ☐

2. Princess Nila is 130 cm tall. She grew 12 cm in five months. How tall is she? ☐

3. The King's sword is 1650 cm long. During a battle the sword broke into two pieces. One piece was 1080 cm long. How long was the other? ☐

4. Alex was on his way to the castle from his village that was 350 km away from the castle. He has reached half the way. How many kilometres more will he have to travel to reach the castle? ☐

5. The King asked the carpenter to make a throne for his son, the Prince. He wanted a throne that is half the size of his 4 m throne. The carpenter made a throne which was only 1 m and 75 cm long. How much short was the throne?

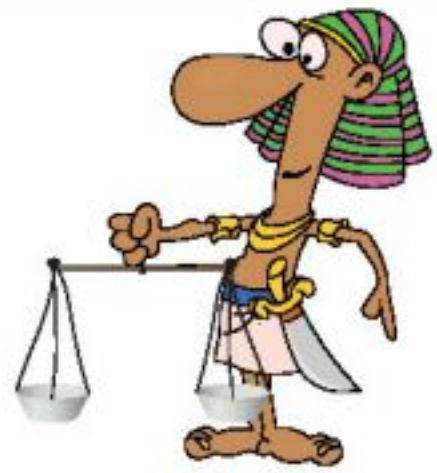
☐

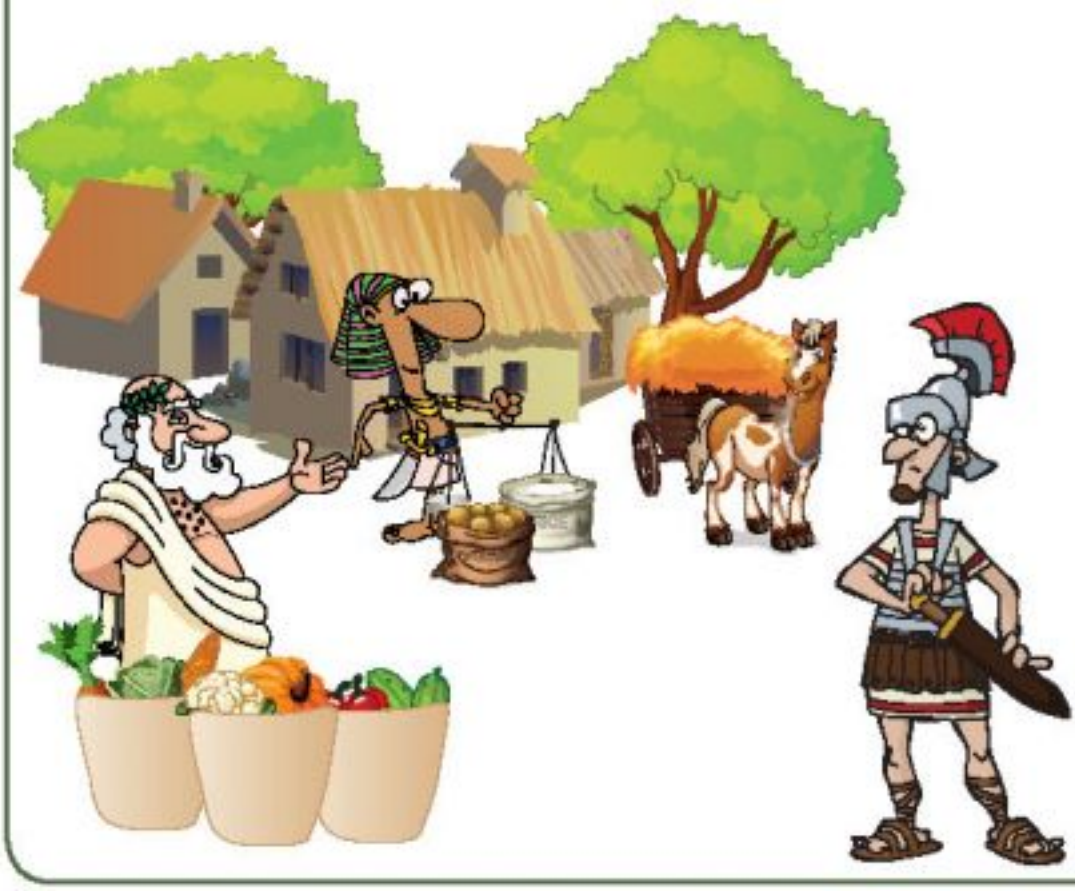
..... Date ..... Teacher's Sign

13 a ur nt o i t

History

The earliest known uniform systems of weights and measures seem to have been in use among the ancient people of Egypt, Mesopotamia and the Indus valley civilization.

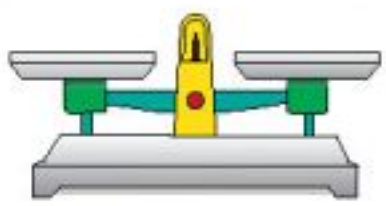


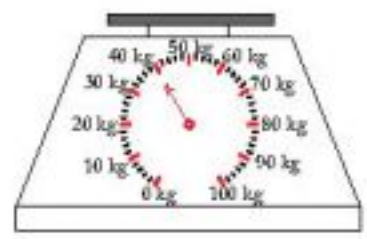


People have always needed to trade with each other. Fair and honest trade needs accurate weights and measures. Seeds, grains and stones were used for weights but since they were of different sizes, it became necessary to make weights and measures standard so that people did not get cheated.

Do you know?

Indian government adopted the International system of units (SI) on April 1, 1957.





..... Date

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Measurement of weight in kilograms and grams

Note

1 kilogram – 1000 grams
1 gram – 1000 milligrams

I Complete the following table. One has been done for you.

Gram(g)	1000								
Kilogram(kg)	1	2				6			

II Which unit would you use to weigh the objects given below? Tick 'g' for grams and 'kg' for kilograms.

1. 
kg ☐ g ☐

2. 

kg ☐ g ☐

3. 
kg ☐ g ☐

4. 
kg ☐ g ☐

5. 
kg ☐ g ☐

6. 

kg ☐ g ☐

7. 
kg ☐ g ☐

8. 
kg ☐ g ☐

9. 
kg ☐ g ☐

10. 
kg ☐ g ☐

..... Date

..... Teacher's Sign

Addition and subtraction of weights

I Add the following.

	kg	g
1.	12	56
+	14	474

	kg	g
2.	10	425
+	65	212

	kg	g
3.	17	991
+	23	690

	kg	g
4.	92	221
+	13	410

	kg	g
5.	78	291
+	36	614

	kg	g
6.	93	93
+	41	465

	kg	g
7.	29	756
+	49	422

	kg	g
8.	81	36
+	27	951

	kg	g
9.	74	164
+	14	445

	kg	g
10.	18	154
+	73	562

	kg	g
11.	65	118
+	12	465

	kg	g
12.	24	187
+	79	258

II Subtract the following.

	kg	g
1.	71	420
−	45	112

	kg	g
2.	12	114
−	10	153

	kg	g
3.	78	720
−	25	180

	kg	g
4.	76	865
−	25	456

	kg	g
5.	78	478
−	56	868

	kg	g
6.	13	111
−	11	750

	kg	g
7.	34	344
−	76	666

	kg	g
8.	75	750
−	35	152

	kg	g
9.	96	968
−	86	130

	kg	g
10.	79	246
−	78	717

	kg	g
11.	78	999
−	23	199

	kg	g
12.	53	174
−	51	730

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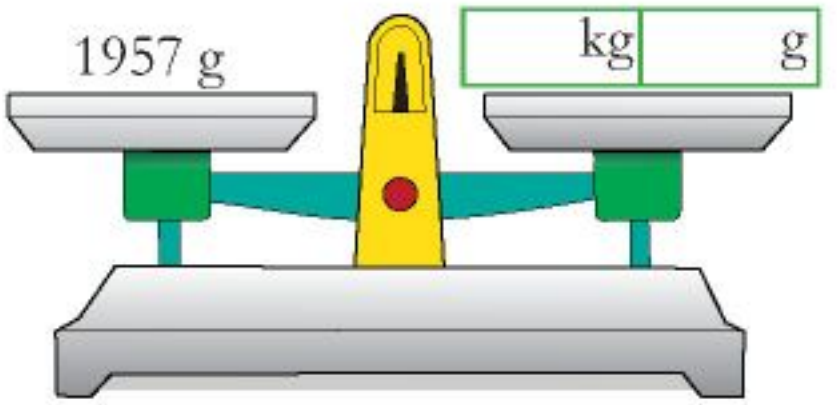
Conversion of weights

Convert the weight on the left pan of the balance as directed on the right pan.

1.



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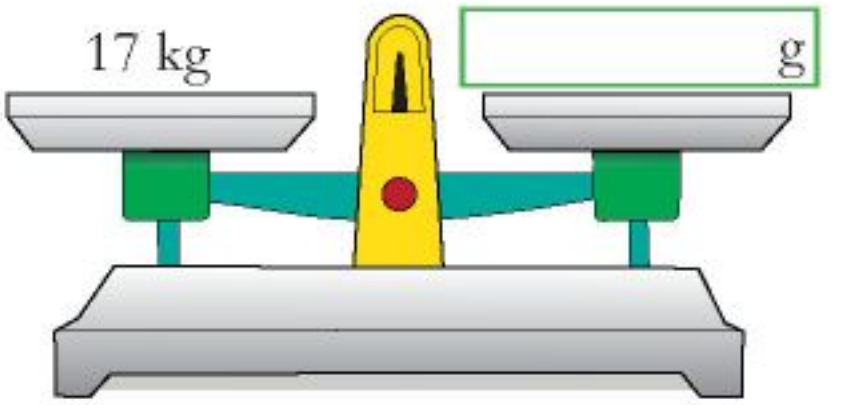

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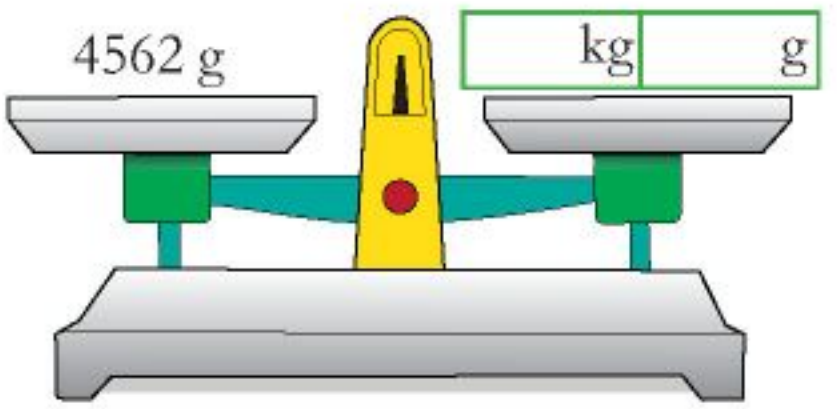

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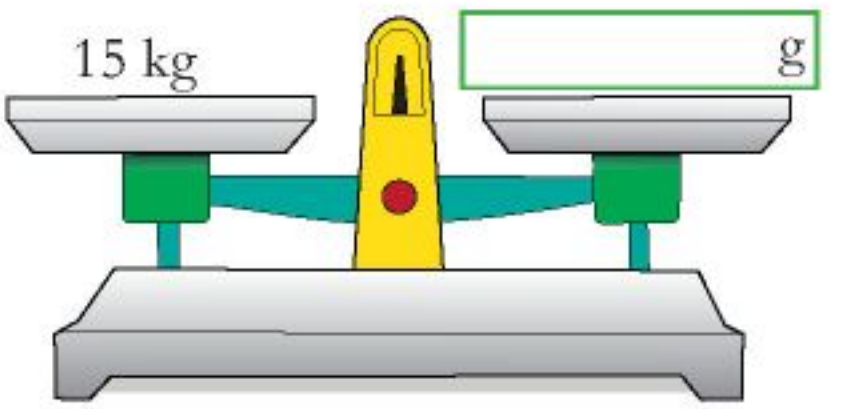

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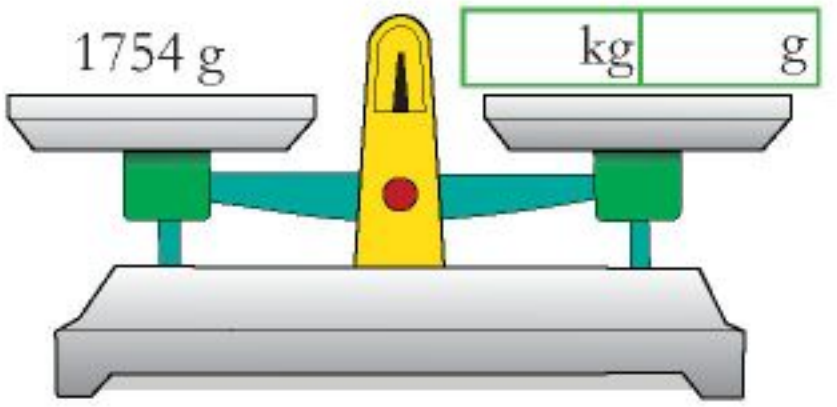

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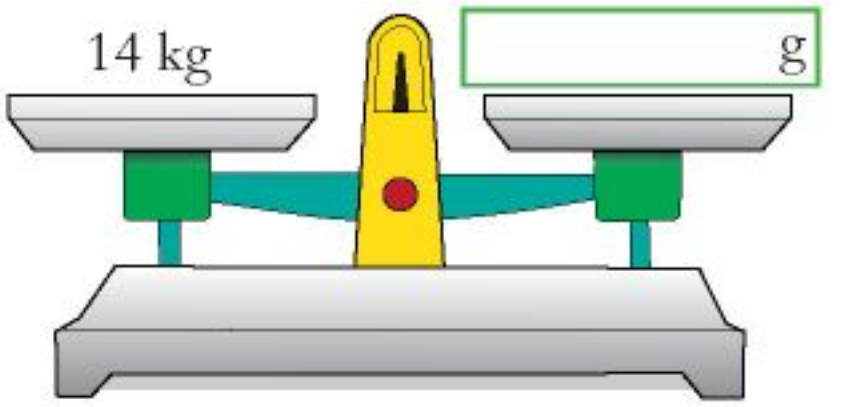

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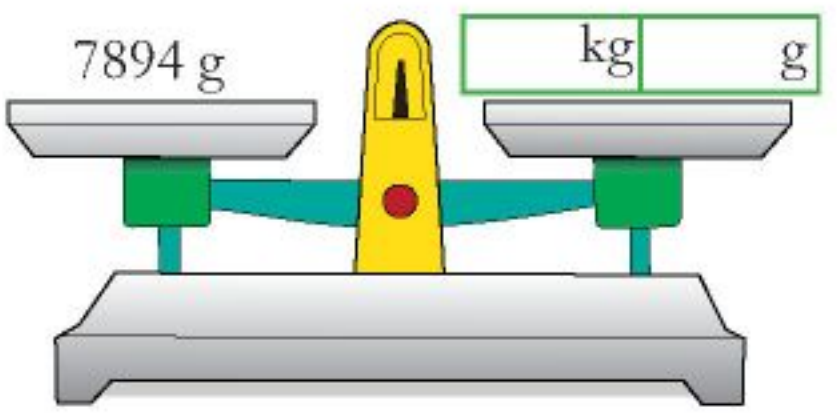

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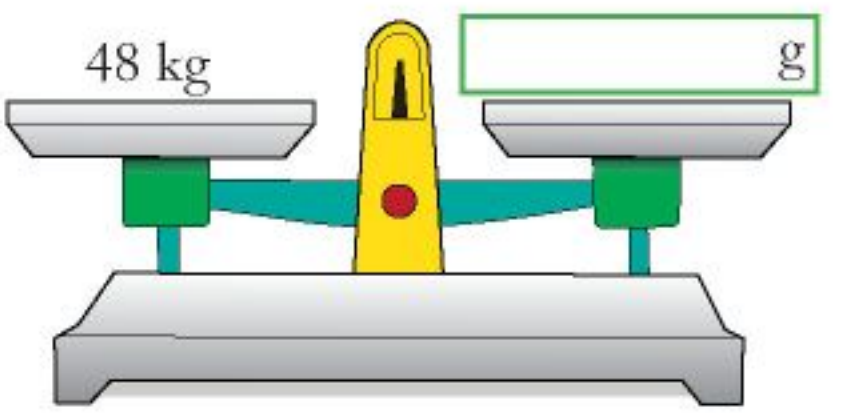

Date ..... Teacher's Sign .....

Balancing weights

I In a see-saw, one end has a weight of 65 kg. There are three girls weighing 15 kg each. There are two boys who weighing 20 kg each. What combination of boys and girls will make the see-saw balance?

(a) 3 girls of 15 kg and 2 boys of 20 kg ☐

(b) 2 girls of 15 kg and 2 boys of 20 kg ☐

(c) 1 girl of 15 kg and 2 boys of 20 kg ☐

(d) 3 girls of 15 kg and 1 boy of 20 kg ☐

II Fill in the empty boxes

(a) 200 g + ☐ g = 2 kg

(b) ☐ g + 500 g = 2 kg

(c) 650 g + 830 g = ☐ kg ☐ g

(d) 220 g + ☐ g = 1 kg + 20 g

(e) 320 g + 290 g = ☐ kg ☐ g

(f) 1 kg + ☐ g = 1500 g

(g) 450 g + ☐ kg = 3450 g

(h) 500 g + ☐ g 4 kg

III Divide the following articles into three groups of equal weights.Write the article numbers under each group below. Each article must be used only once. One has been done for you.

1.  Pumpkin 2 kg	2.  Football 500 g	3.  Jam 3 kg
4.  Book 1 kg	5.  Abacus 2 kg	6.  Body Cream 1 kg
7.  Vegetable 2 kg	8.  Popcorn 500 g	9.  Table Lamp 3 kg

Group A = 5 kg			
2	3	4	8
Group B = kg			
Group C = kg			

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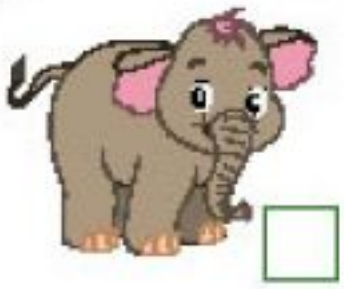
..... Teacher's Sign

Guessing weights

I Draw lines to match the objects with their approximate weight.



More than 100 kg

Between 50 kg - 100 kg

Between 1 kg - 50 kg

Less than 1 kg

II Shan goes to a Food Court, where he sees many eatables. Help him estimate and write their weights in grams. Arrange the items in the descending order of their weights in the table given below.

Eatables	
1. 	5. 
2. 	6. 
3. 	7. 
4. 	8. 

Order	Weight

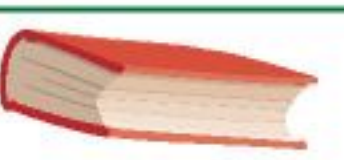
Date ..... Teacher's Sign .....

Measuring and matching

I Check the weights of your family members and record them in the table given below.

Family member	Weight in kg
Father	
Mother	
Sister	
Brother	
Yourself	

II Draw lines to pair the objects that have approximately the same weight. One has been done for you.

S.No.	Column A		Column B
1.		□	
2.		□	
3.		□	
4.		□	
5.		□	

Date ..... Teacher's Sign .....

Up for a challenge?

Dev has a vegetable farm. Every day he sells vegetables at the farmer's market. Find the weight of the bags containing 2 different types of vegetables.

1. 20 kg 35 g  + 13 kg 45 g  = 
2. 4 kg 120 g  + 38 kg 10 g  = 
3. 87 kg 455 g  + 28 kg 350 g  = 
4. 18 kg 991 g  + 36 kg 690 g  = 
5. 28 kg 876 g  + 40 kg 180 g  = 

Dev took out some vegetables from these bags. What is the weight of the bags, now?

S.No.	Weight of the bag	Weight of the vegetables removed	Weight of the bag now
1.	95 kg 150 g	15 kg 130 g of carrots	
2.	78 kg 288 g	78 kg 246 g of radish	
3.	48 kg 380 g	44 kg 395 g of potato	
4.	68 kg 111 g	11 kg 200 g of radish	
5.	56 kg 990 g	25 kg 187 g of brinjal	

Convert the weight of these vegetables to kilograms and grams.

1. 4567 g of pumpkin ☐ kg ☐ g
2. 5670 g of bitter gourd ☐ kg ☐ g
3. 2000 g of ladies Finger ☐ kg ☐ g
4. 1500 g of potato ☐ kg ☐ g

..... Date ..... Teacher's Sign

14 a ur nt o ca acit

History

In the olden days when it was necessary to compare the capacities of containers such as gourds or clay or metal vessels, they were filled with plant seeds that were then counted to measure the volumes.

Metal vessel

Gourds vessels

Clay vessels

Some interesting facts

Metric units of capacity
One litre (l) = 1000 Millilitres

A small pitcher has a capacity of about a litre.

An eye dropper holds about one millilitre of liquid in one drop.

Date ..... Teacher's Sign .....

Measurement of capacity in litres and millilitres

Note

1 Litre = 1000 Millilitres

I Fill in the blanks.

1. ☐ is the standard unit for measuring capacity.
2. The short form of millilitre is ☐.
3. ☐ is the smallest unit for measuring capacity.
4. 3 litres = ☐ millilitres.
5. 2 litres 450 millilitres = ☐ millilitres.

II Convert the following.

1. 4820 mL = ☐ l ☐ mL.
2. 15 l = ☐ mL.
3. 17 l = ☐ mL.
4. 39 l = ☐ mL.
5. 4245 mL = ☐ l ☐ mL.
6. 7201 mL = ☐ l ☐ mL.
7. 5008 mL = ☐ l ☐ mL.
8. 56 l = ☐ mL.
9. 8673 mL = ☐ l ☐ mL.
10. 71 l = ☐ mL.
11. 96 l = ☐ mL.
12. 4820 mL = ☐ l ☐ mL.
13. 5478 mL = ☐ l ☐ mL.
14. 8 l = ☐ mL.
15. 23 l = ☐ mL.

..... Date ..... Teacher's Sign

Addition and subtraction of litres and millilitres

I Add the following.

1. l mL
   32 65
   + 87 456

2. l mL
   23 32
   + 45 468

3. l mL
   241 12
   + 352 784

4. l mL
   98 46
   + 123 578

5. l mL
   265 321
   + 45 234

6. l mL
   347 698
   + 31 235

7. l mL
   478 852
   + 31 321

8. l mL
   589 245
   + 30 111

9. l mL
   236 326
   + 142 115

10. l mL
    212 22
    + 317 555

11. l mL
    454 235
    + 213 102

12. l mL
    220 103
    + 128 108

II Subtract the following.

1. l mL
   13 156
   − 10 130

2. l mL
   66 123
   − 55 111

3. l mL
   940 919
   − 710 920

4. l mL
   489 717
   − 222 213

5. l mL
   30 203
   − 20 365

6. l mL
   630 196
   − 218 147

7. l mL
   87 450
   − 63 630

8. l mL
   134 723
   − 122 578

9. l mL
   72 530
   − 35 180

10. l mL
    962 162
    − 571 154

11. l mL
    483 723
    − 263 156

12. l mL
    393 999
    − 246 456

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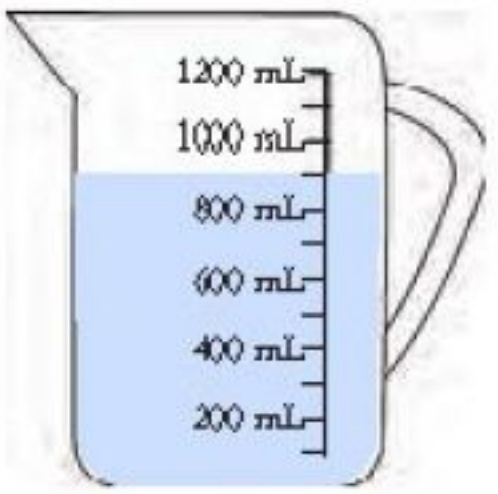
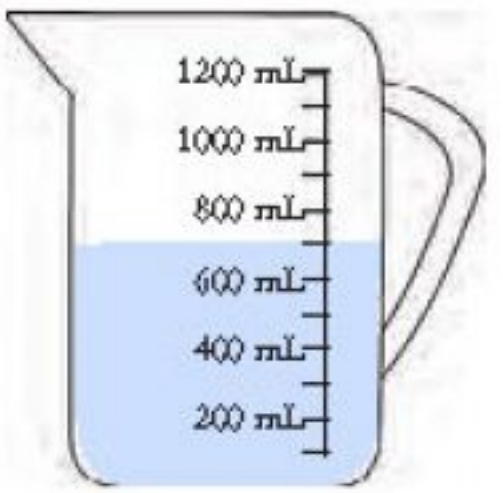
Capacity measurement

I What is the amount of liquid in these jugs?



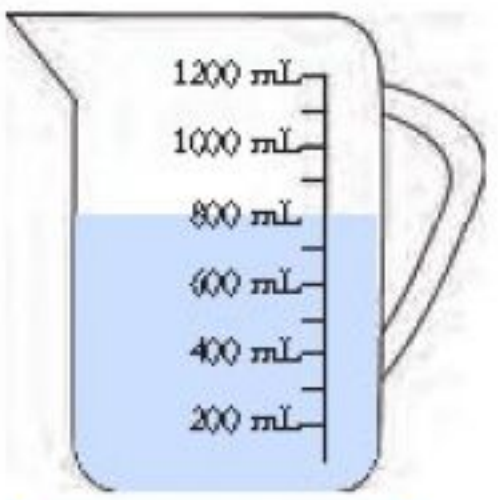
mL



mL

mL

II How much liquid is needed to fill each jug to 1 litre?



mL

mL

mL

III How many full glasses could you fill from each jug?

Date ..... Teacher's Sign .....

Up for a challenge?

Ben and his friend are making the perfect health soup for all at the camp. They poured 4 litres of water into a saucepan.

1. Convert 4 litres into millilitres. ☐

2. What is the total amount of liquid on adding 1 litre and 650 mL more water milk ? ☐ l ☐ mL.

3. Now convert it into millilitres. ☐

4. After adding all the ingredients the soup was 6 l and 100 mL. Write the volume of the soup in millilitres. ☐

5. The soup was poured equally into 2 vessels. How much soup did each of the vessels have? ☐ mL.

6. That equals ☐ litres and ☐ mL.

7. When the soup was divided equally among 20 people, each one of them got to drink ☐ mL.

   The soup was a big hit! Ben was asked to make it again the next day.

8. How much water did Ben use to make the soup twice? Write in millilitres. ☐

..... Date ..... Teacher's Sign

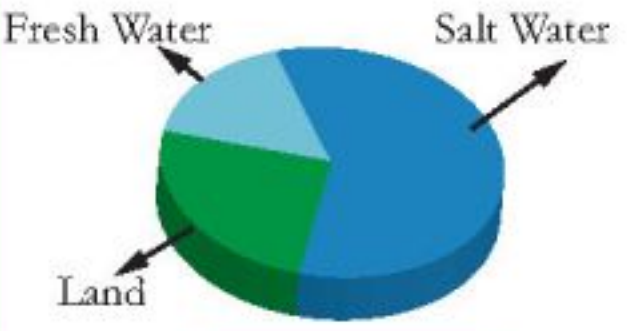
15 ata an lin

Know this !

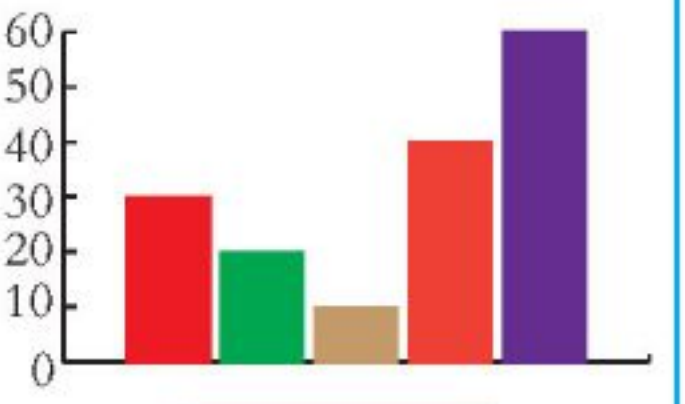
Data handling is associated with statistics which is a part of mathematics.

Number	Tally marks
3	III
5	𝍸
7	𝍸 II
4	IIII

Tally marks



Pie chart



Bar graph

Analysing data and looking for patterns and generalities in the data collected is important. Pie charts and bar graphs are the ways of presenting the collected data pictorially.

An interesting fact

Florence Nightingale, the famous nurse developed the Pie chart and used them to persuade the government of the importance of healthcare and medical facilities.

Find out

Find out the number of boys and girls in your class who are left-handed. Then with the data collected find out how many boys and girls are right-handed.

Left handed	Numbers
Boys	
Girls	

Right handed	Numbers
Boys	
Girls	

Tally marks

I In a Mango eating contest, tally marks for the number of Mangoes eaten by five students have been given below. Write the number of Jalebis eaten by each student.

S.No.	Student	Tally marks	Number of Mangoes
1.	Arun 	𝍸 𝍸 𝍸 ||	17
2.	Mark 	𝍸 𝍸 𝍸 𝍸 ||||	
3.	Neha 	𝍸 𝍸 |||	
4.	Diana 	𝍸 ||	
5.	Salim 	𝍸	

II The number of different vegetables in a shop has been given in the following table. Put the tally marks for each of them.

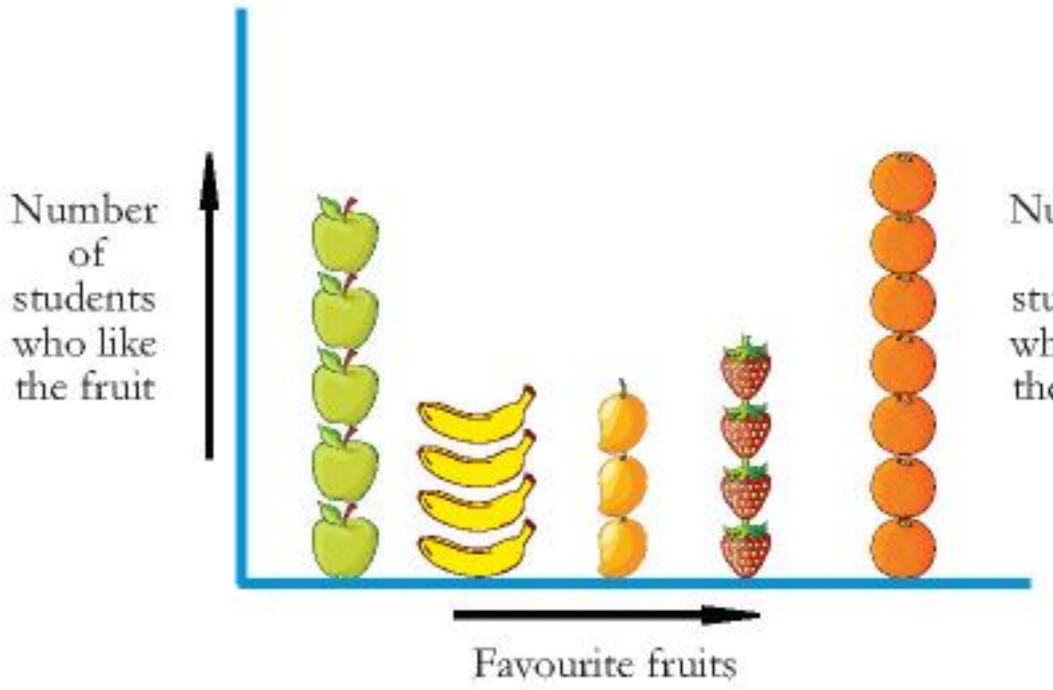
S.No.	Vegetables	Number	Tally marks
1.	 Cauliflower	21	
2.	 Bell pepper	16	
3.	 Cucumber	27	
4.	 Corn	35	
5.	 Potato	13	
6.	 Pumpkin	19	
7.	 Tomato	25	

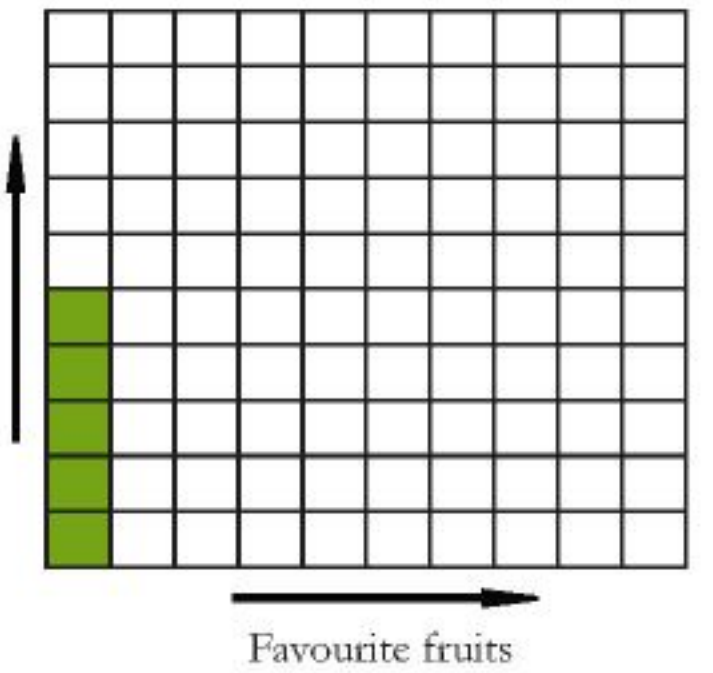
..... Date

..... Teacher's Sign

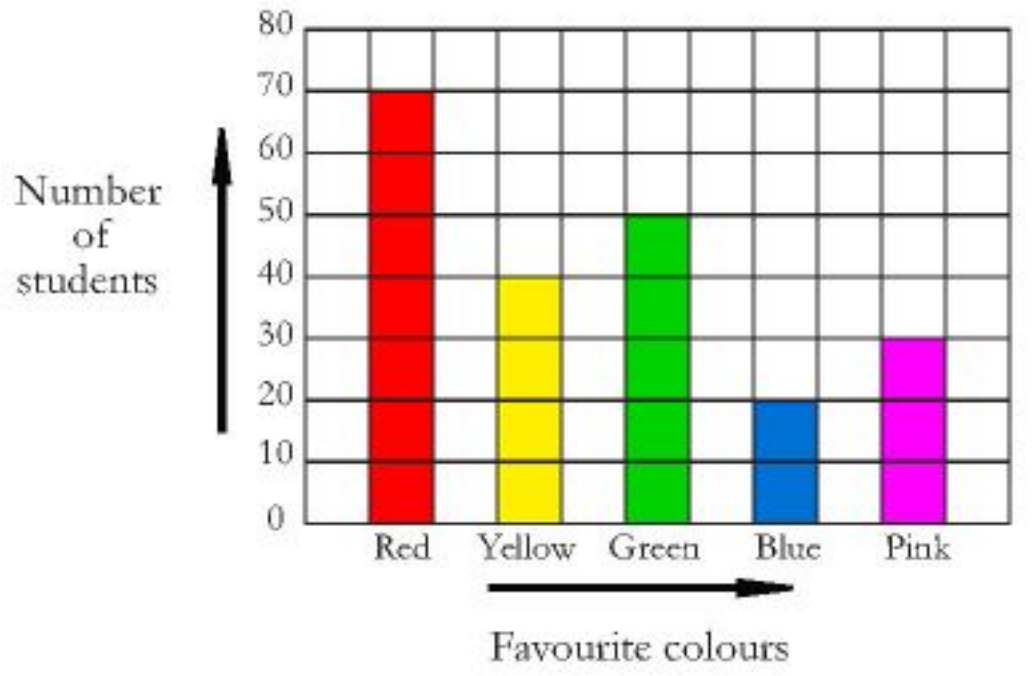
Picture graph and bar graph

I Use the data from the picture graph to draw a bar graph. One has been done for you.





II Observe the graph and answer the following questions.



1. How many students like green colour?
2. How many students like red colour?
3. How many students like yellow colour?
4. How many more students like green than blue?
5. How many more students like pink than blue?

..... Date

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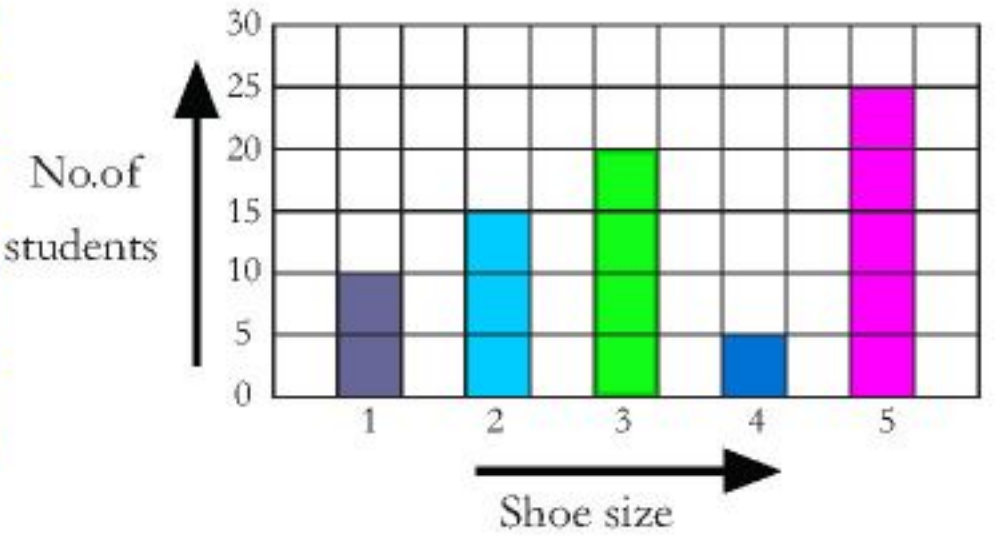
Problems on bar graph

I Use the bar graph to complete the following table.

Shoe Size	Frequency
5	
4	
3	
2	
1	

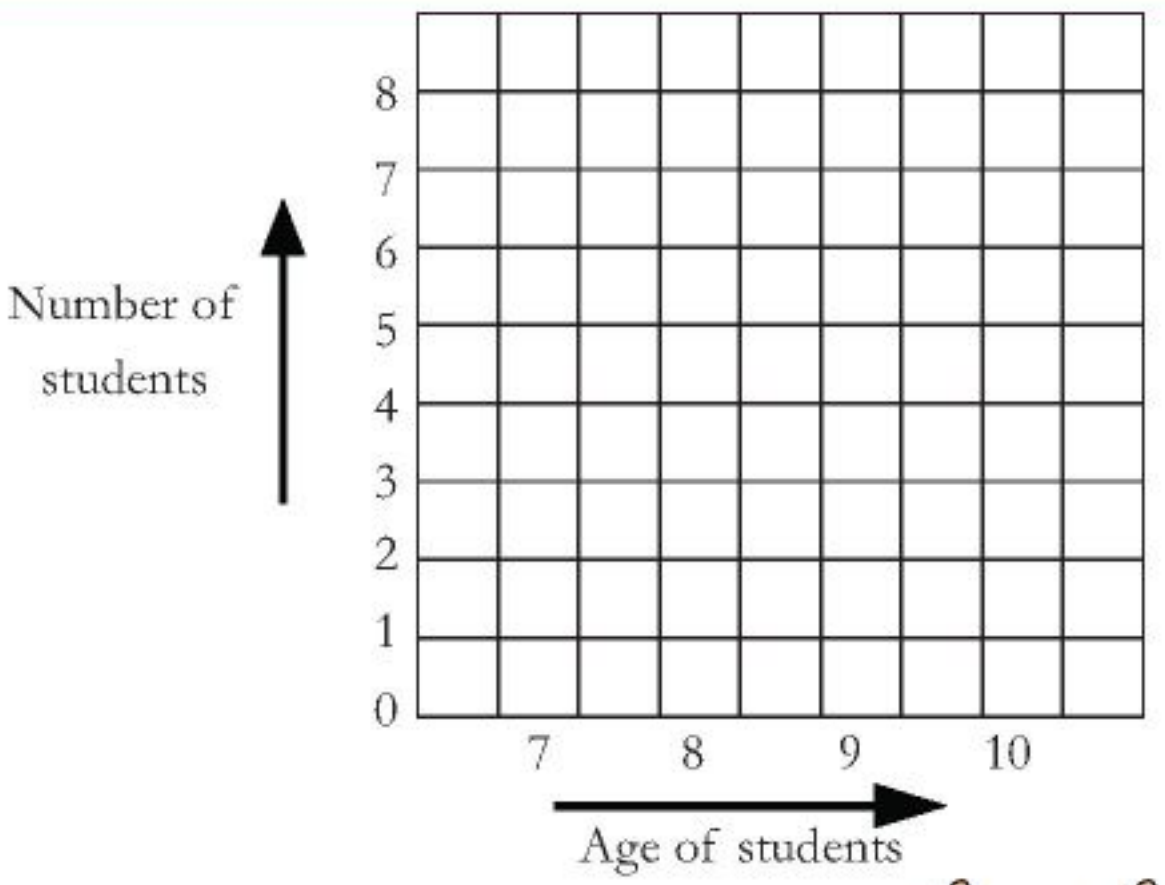


II The following are the ages of students of Grade 3.

8	9	7	7	8	8	8	7	7	7	9	10	7	8	9	8	8	9	9	7	10	9	8

Use these data to complete the following table and draw the bar graph.

Age	Tally marks	Frequency
7		
8		
9		
10		



Date ..... Teacher's Sign .....

Up for a challenge?

The Annual Carnival was a big hit. The table below shows the number of people that entered different stalls in just one hour. Put tally marks for each of them.

S.No.	Stalls	Number	Tally marks
1.	Cotton candy and ice-cream	32	
2.	Mini Pool	15	
3.	Go fishing	22	
4.	Bingo	16	
5.	Artifacts	28	
6.	Snack bar	37	
7.	Hoops	15	

Round the number of people given in the table to the nearest tens and draw a pictograph where  = 5 people. One has been done for you.

S.No.	Stalls	Number	Rounding	Pictograph
1.	Cotton candy and ice-cream	32	30	
2.	Mini Pool	15		
3.	Go fishing	22		
4.	Bingo	16		
5.	Artifacts	28		
6.	Snack bar	37		
7.	Hoops	15		

..... Date

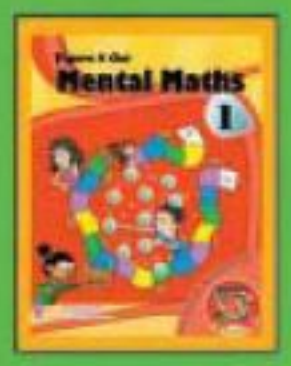
..... Teacher's Sign

Figure it Out

Mental Maths 3

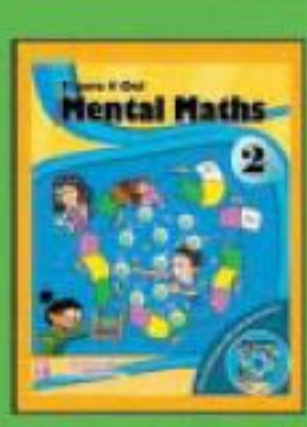
ABOUT THE BOOK

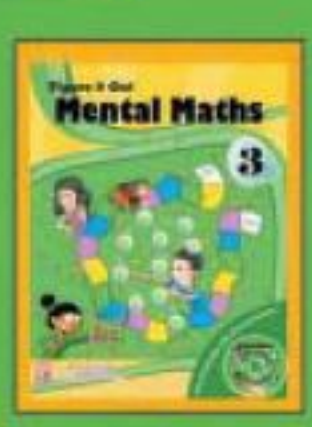
Figure it Out Mental Maths is a set of five books along with companion CDs for students of classes 1 to 5. Each book in this series is accompanied by interactive CD and helps students understand mathematical concepts in a joyful as well as meaningful way. Together, the books and the CDs energize learning and make excellent tools for formative assessment.

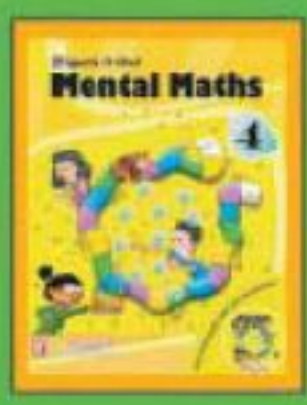


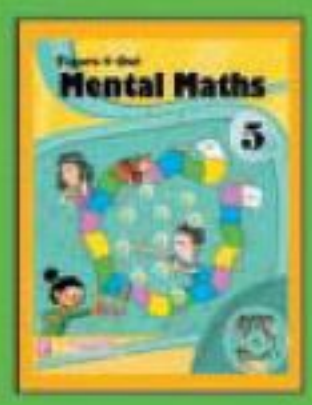
Key Features

- Multi-coloured books with child-friendly graphics.
- The language of books is simple and easy to understand.
- Each chapter in the book starts with a page containing snippets of information, things to remember or recap.
- A set of adequate practice questions based on computational skills with topic-wise worksheets has been given to impart the different mathematical concepts.
- At the end of each chapter a comprehensive revision worksheet has been given as a **'Up for a challenge?'** covering the concepts learnt.
- CD includes game-based mental maths activities. These games provide endless hours of fun and practice.









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