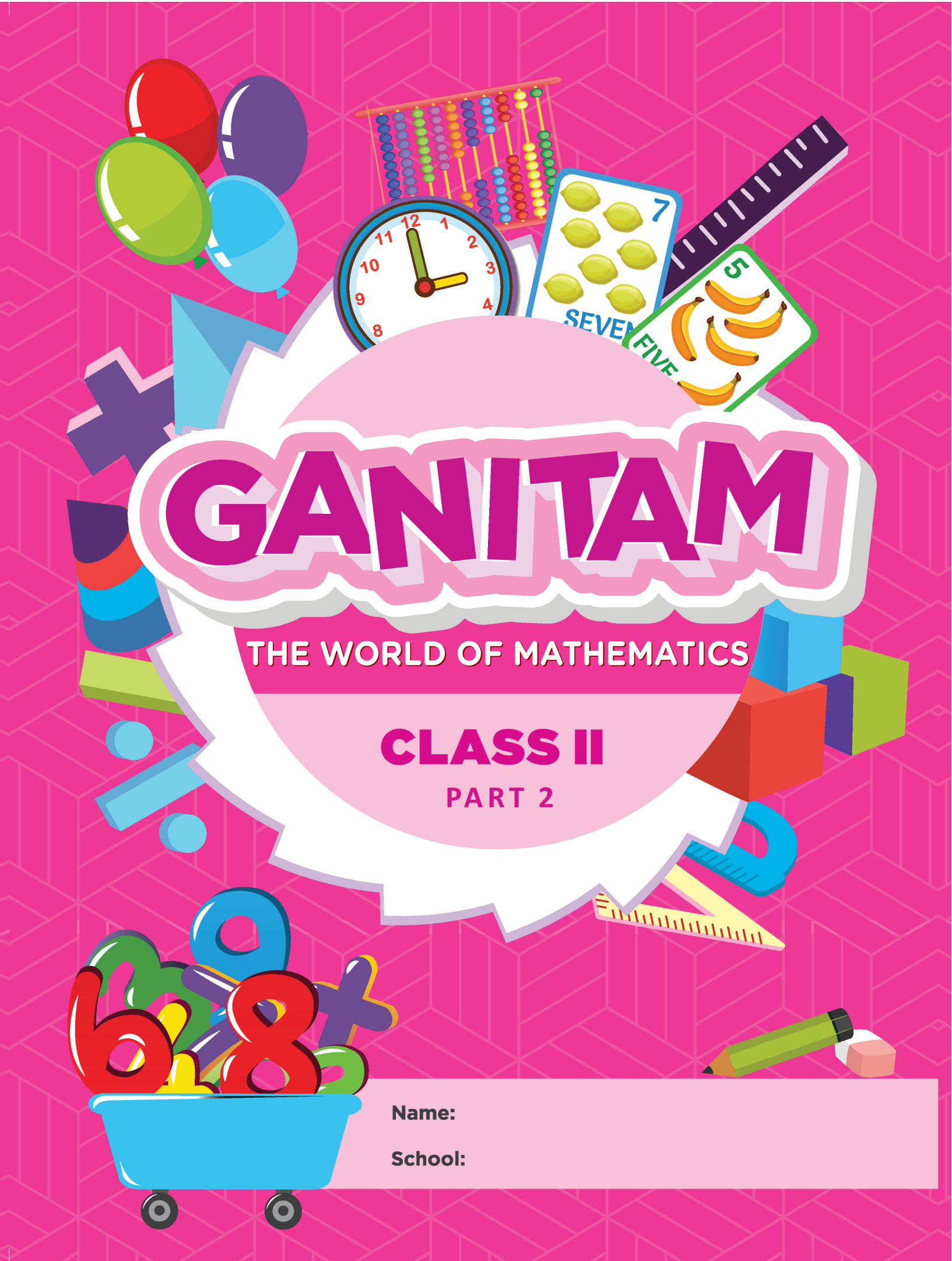

GANITAM

THE WORLD OF MATHEMATICS

CLASS II

PART 2

Name:

School:

Ganitam

The World of Mathematics

PART II

Ganitam

The World of Mathematics

Third Edition published in 2024

MRP ₹ 180/-

Preface

Ganitam – The World of Mathematics

Mathematics builds hope. It helps us believe that every problem has a solution.

Education imparted in classrooms should be linked to life outside school. Hence the knowledge and skills acquired in school should help children understand the world around them better, and thereby contribute towards its betterment. This series of books on Mathematics titled "Ganitam-The World of Mathematics", has been prepared with that thought on our minds. The book has been designed in such a way that it enhances inquisitiveness in children by encouraging them to ask questions and seek answers rather than just learn what is listed in the books.

The content has been carefully curated, so that it reflects the rich cultural diversity of our motherland Bharat, enabling the child to intuitively understand the unifying values that bond the citizens of this great country together. Thus, the book will help a child gain various skills required for the 21st century and be a universal citizen with a passion for following Indian values.

The core content of the book originates from the Vedas which provide the key concepts of Mathematics. For example, the sutra एकाधिकेन पूर्वेण(Ekaadhikena Purvena) indicates an interesting mathematical application. Great ancient Indian scholars like Acharya Aryabhatta, Brahmagupta, Bhaskaracharya, Pingala, Mahavira, and more contemporary ones like Srinivasa Ramanujan along with their counterparts from other parts of the world, have further developed this body of knowledge. Numerous teachers from the DAV Group of Schools, with their decades of rich experience, have compiled the existing knowledge in a child-friendly form.

Therefore, there is no copyright on the content of this book. One can seek permission and print all or only certain chapters of the book. However, no unauthorized modification is permitted in any chapter. Considering the social orientation of the organization, we have consciously ensured that cost of the textbook is affordable

without compromising on the quality of paper/print. Also, the e-copy of the entire book will always be downloadable for free from our website – davchennai.org/publications.

This is the first version of the book and could contain not only omissions, but also areas of improvement. We request the reader to excuse us for the omissions, but please do bring to our notice any feedback for correction and improvement in subsequent versions. We will remain grateful to you for your support and feedback.

Lastly, before signing off, we would like to express our profound gratitude to God Almighty for the guidance and encouragement in this endeavour. As the great mathematician, Srinivasa Ramanujan, rightly said - **"An equation for me has no meaning unless it expresses a thought of God."**

Chennai | June 2024

Secretary
Tamil Nadu Arya Samaj Edu. Society

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Lead Content Developer

Smt. S. Charumathy B.Sc., B.Ed.

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Content Developers/Editors

Smt. Jayashree Ajayakumar, M.Sc., B.Ed.,

Smt. Sucharitha, M.Sc., M.Ed.,

Smt. Sudha Narayanan, B.com., B.Ed.,

Smt. Uma Sathyanandan, B.Sc., M.C.A, NTT

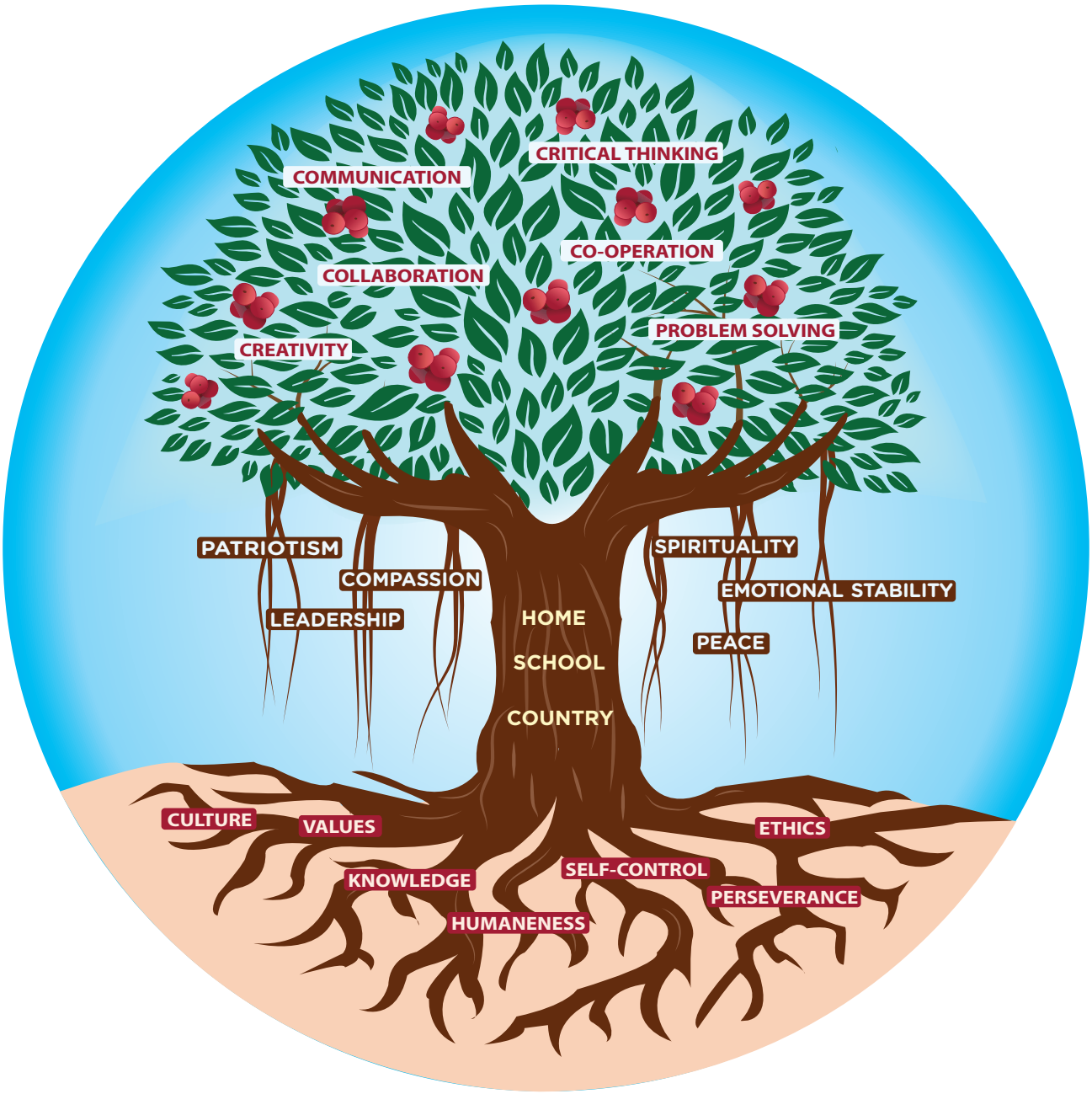
Smt. V. Kanchanamala, B.Sc., B.Ed.,

Smt. Geetha. R, B.Sc., B.Ed., PGDCA

Wrapper Design

Ms. Hamsavani Raman & Team

The Learning Tree



Contents

MORE MULTIPLICATION

Learning Outcomes:

At the end of the lesson, children will be able to

- Multiply up to 3 digit numbers by 1 digit number using multiplication tables
- Understand the concept of multiplication
- Apply the concept of multiplication to solve real life problems

Check what you know!

1. Write the following addition facts as multiplication facts.

a. 3 + 3 + 3 + 3 = _____

b. 5 + 5 = _____

c. 9 + 9 + 9 = _____

d. 15 + 15 + 15 + 15 + 15 = _____

2. Skip count and fill in the boxes

a. 4, 6, 8, _____, _____, _____, 16

b. 15, 20, _____, _____, 35, _____, 45

c. 30, _____, 50, _____, 70, _____, 90

3. Multiply

a. 4 x 5 = _____

b. 5 x 10 = _____

c. 6 x 2 = _____

d. 7 x 10 = _____

e. 8 x 2 = _____

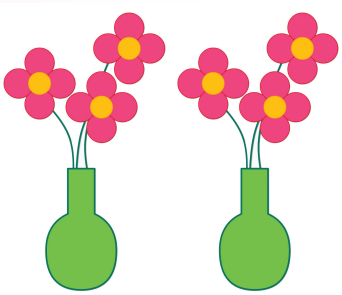
f. 9 x 5 = _____

4. Multiply by 0 and 1

a. 10 x 0 = _____ b. 8 x 1 = _____ c. 19 x 1 = _____

EXERCISE 7.1

1) Multiplying by 3



2 groups of 3 are _____

2 x 3 = _____

3 groups of 3 are _____

3 x 3 = _____

Count the diamonds to build the three times table.

	1 x 3 = 3
	2 x 3 = 6
	3 x 3 = _____
	4 x 3 = _____
	5 x 3 = _____
	6 x 3 = _____
	7 x 3 = _____
	8 x 3 = _____
	9 x 3 = _____
	10 x 3 = _____

2) Multiplying by 4

3 groups of 4 are _____

3 x 4 = _____

4 groups of 4 are _____

4 x 4 = _____

Count the stars to build the four times table.

★	1 x 4 = 4
★★	2 x 4 = 8
★★★	3 x 4 = _____
★★★★	4 x 4 = _____
★★★★★	5 x 4 = _____
★★★★★★	6 x 4 = _____
★★★★★★★	7 x 4 = _____
★★★★★★★★	8 x 4 = _____
★★★★★★★★★	9 x 4 = _____
★★★★★★★★★★	10 x 4 = _____

3) Multiplying by 6

2 groups of 6 are _____ 2 x 6 = _____

3 groups of 6 are _____ 3 x 6 = _____

Count the petals in each flower to get 6 times table.

	1 x 6 = 6
	2 x 6 = 12
	3 x 6 = ____
	4 x 6 = ____
	5 x 6 = ____
	6 x 6 = ____
	7 x 6 = ____
	8 x 6 = ____
	9 x 6 = ____
	10 x 6 = ____

Teacher's Sign & date_____

EXERCISE 7.2

1) Complete the pattern to form the multiplication tables

+1 +1 +1 +1 +1 +1 +1 +1 +1

1 → 2 → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐

+2 +2 +2 +2 +2 +2 +2 +2 +2

2 → 4 → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐

+3 +3 +3 +3 +3 +3 +3 +3 +3

3 → 6 → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐

+4 +4 +4 +4 +4 +4 +4 +4 +4

4 → 8 → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐

+5 +5 +5 +5 +5 +5 +5 +5 +5

5 → 10 → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐ → ☐

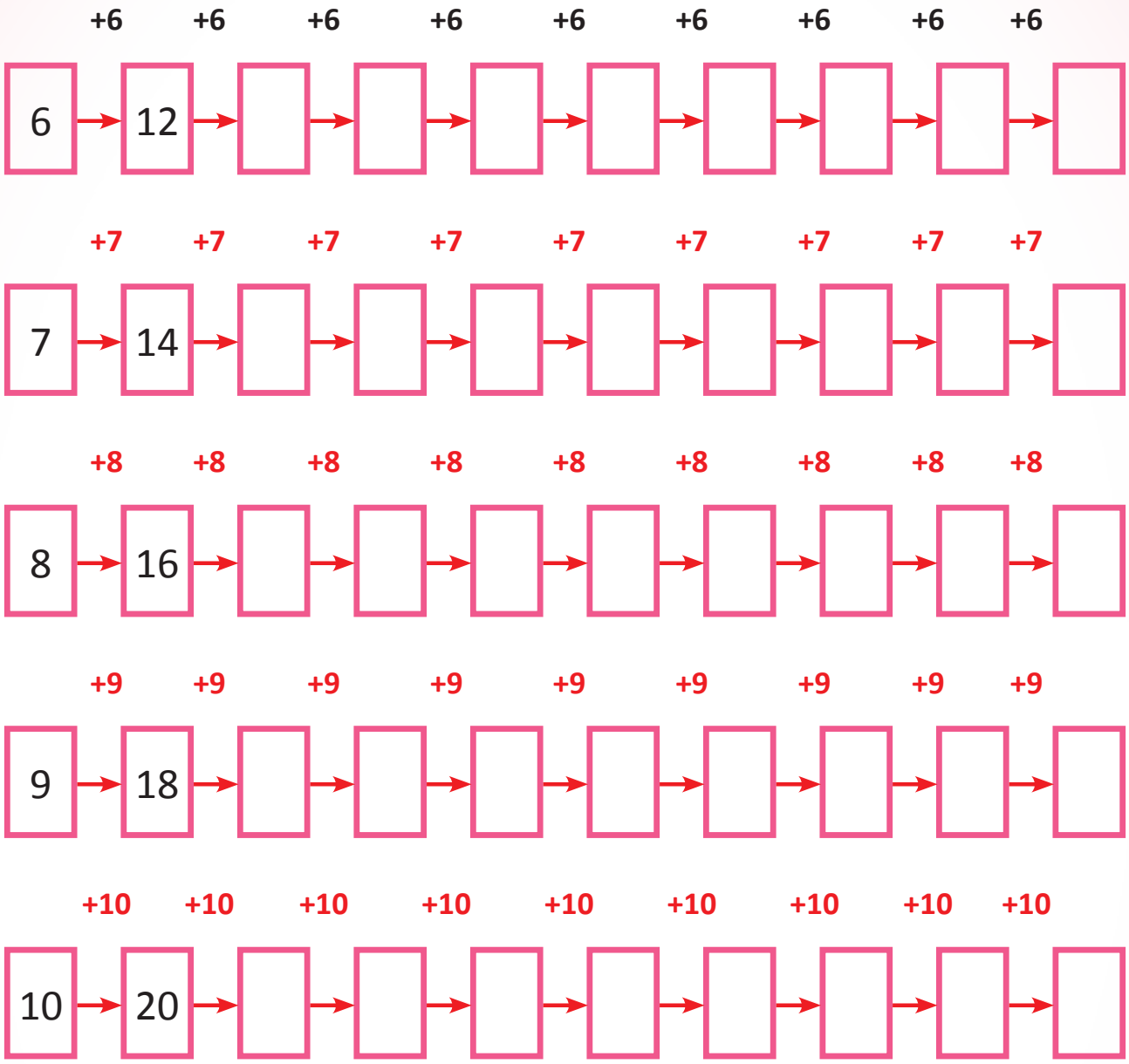
2) Fill in the blanks

a. 4 groups of 4 stars are _____

b. 8 groups of 3 bottles are _____

c. 7 times 5 is _____

3) Complete the pattern to form the multiplication tables



4) Fill in the blanks

a. 10 times 7 is _____

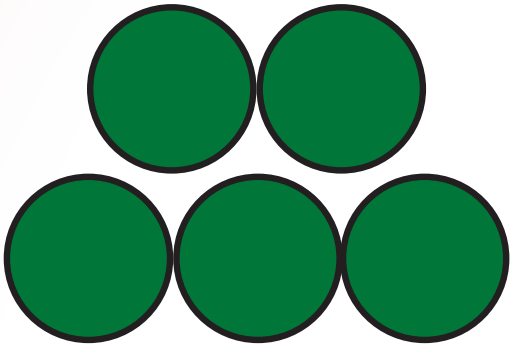
b. 6 times 9 is _____

c. 8+8+8+8= _____ x _____ = _____

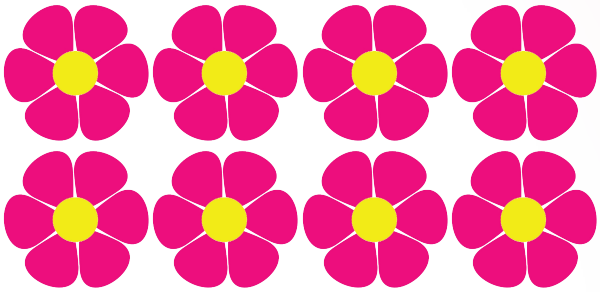
Teacher's Sign & date_____

EXERCISE 7.3

1) Count and fill



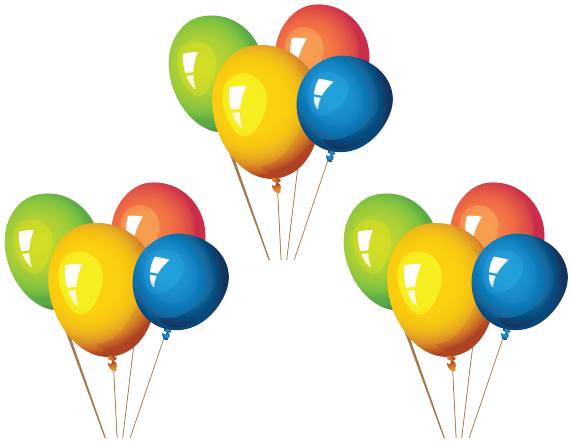
5	x		=		circles



8	x		=		petals

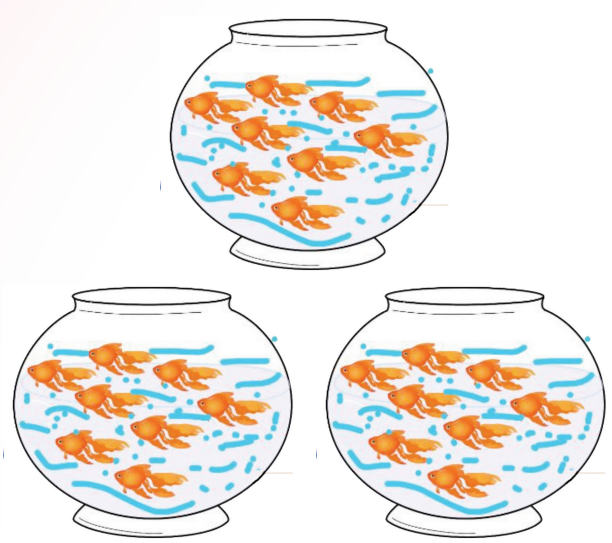
	x	4	=		wheels

4	x		=		peanut candies



3	x		=		balloons

2) Count and fill



3	x		=		fish

	x	6	=		brownies

	x	5	=		pencils

10	x		=		Ice cream scoops

	x	2	=		Shoes

Teacher's Sign & date_____

Order property in Multiplication

Aarav collects coins. He arranges them in a page of a plastic folder row wise. His sister arranges the same number of coins column wise in a page of another plasitc folder. How many coins are there on one page of his folder?

Aarav's folder

4 x 5 = 20

or

His sister's folder

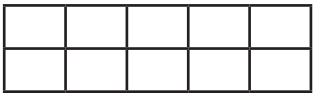
5 x 4 = 20

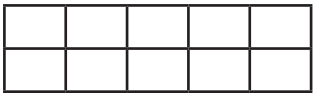
You can change the order of the numbers you are multiplying but the product remains the same.

Lab Activity

1) To show 2 x 5 is same as 5 x 2

Draw two rectangles of the same size on a sheet of squares as shown.

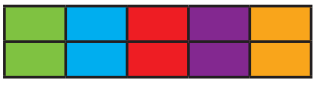




Colour the squares with different colours to show that 2 x 5 is the same as 5 x 2 and the order of multiplication does not matter. Paste them in your notebook.

2 groups of 5

2 x 5 = _____

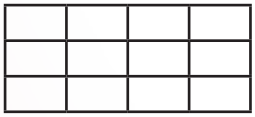


5 groups of 2

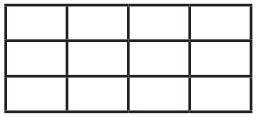
5 x 2 = _____

Do the same to show the order property in other multiplication facts such as 4 x 3 and 6 x 2. Try 5x4 in your notebook.

a)

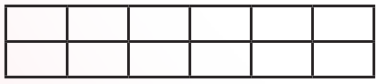


4 groups of 3

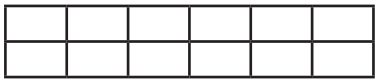


3 groups of 4

b)



6 groups of 2



2 groups of 6

EXERCISE 7.4

1. Fill in the blanks:

a) 5 x 6 = 30; what is 6 x 5? _____

b) 4 x 2 = 8; what is 2 x 4? _____

c) 6 x 10 = 60; what is 10 x 6? _____

d) 3 x 5 = 15; what is 5 x 3? _____

e) 7 x 5 = _____ x 7 = _____

f) 3 x _____ = 6 x 3 = _____

2. Find the product:

a) 3 x 6 = _____ b) 4 x 3 = _____ c) 6 x 5 = _____

d) 7 x 2 = _____ e) 9 x 4 = _____ f) 5 x 4 = _____

g) 10 x 6 = _____ h) 9 x 3 = _____ i) 3 x 5 = _____

Multiplication can be done by vertical arrangement of numbers

a) 4 x 3 = 12

T	O
	4
x	3
1	2

b) 8 x 4 =

T	O
	8
x	4

c) 9 x 5 =

T	O
	9
x	5

d) 7 x 8 =

T	O
	7
x	8

e) 9 x 6 =

T	O
	9
x	6

f) 5 x 7 =

T	O
	5
x	7

The answer that we get when we multiply is called the **product.**

Multiplying 2 digit numbers

Multiplication of a 2 digit number by a 1 digit number (without regrouping)

Multiply 14 by 2

Step 1 : Arrange the numbers in columns.

T	O
1	4
x	2

Step 2 : First multiply the ones digit by 2.

4 x 2 = 8. So, write 8 in the ones column.

T	O
1	4
x	2
	8

In multiplication the number being multiplied is called the multiplicand and the number by which it is multiplied is called multiplier.

Step 3 : Next multiply the tens digit by 2.

1 x 2 = 2. So, write 2 in the tens column.

T	O
1	4
x	2
2	8

Hence, 14 x 2 = 28

EXERCISE 7.5

1. Find the product

a)

T	O
	8
x	2

b)

T	O
	5
x	7

c)

T	O
	9
x	4

d)

T	O
	3
x	8

e)
T	O
	7
x	3

f)
T	O
	4
x	6

g)
T	O
	6
x	7

h)
T	O
	9
x	8

2. Multiply

a)
T	O
2	2
x	4

b)
T	O
1	3
x	3

c)
T	O
7	5
x	1

d)
T	O
1	1
x	9

e)
T	O
4	2
x	2

f)
T	O
3	3
x	3

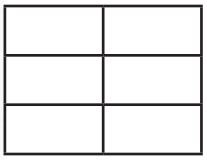
g)
T	O
2	4
x	2

h)
T	O
2	0
x	3

3. Applications in real life

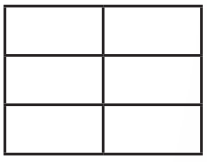
a) A building has 6 floors. Each floor has 11 flats. How many flats are there in all?

Answer : _____flats



b) A small bus can carry 24 children. How many children can 2 such buses carry?

Answer : _____ children



c) An autorickshaw has 3 wheels. How many wheels do 9 such autorickshaws have?

Answer : _____ wheels

d) There are 6 boxes of diyas. Each box has 4 diyas. How many diyas are there in all?

_____ *x* _____ = _____

Answer :_____ diyas

Teacher's Sign & date_____

Multiplying a 2 digit number by a 1 digit number (with regrouping)

Multiply 25 x 3

Step 1: Write the numbers in columns

T	O
2	5
x	3

Step 2: First multiply the ones digit by 3. 5 ones x 3 = 15 ones = 1 tens + 5 ones. So, write 5 in the ones column and carry over 1 to the tens place.

(1)	
T	O
2	5
x	3
	5

Step 3: Next multiply the tens digit by 3. 2 tens x 3 = 6 tens. Add 1 tens (carried) to 6 tens. 6 tens + 1 ten = 7 tens. We write 7 in the tens column.

T	O
2	5
x	3
7	5

Hence 25 x 3 = 75

EXERCISE 7.6

1. Multiply the following

a)

T	O
1	6
x	4

b)

T	O
1	8
x	5

c)

T	O
1	7
x	3

d)

T	O
3	5
x	2

e)

T	O
2	4
x	3

f)

T	O
1	5
x	5

g)

T	O
1	6
x	6

h)

T	O
3	6
x	2

i)
T	O
4	7
x	3

j)
T	O
7	3
x	5

k)
T	O
8	2
x	7

l)
T	O
7	1
x	6

2. Applications in real life

a. There are 5 flowers in a bunch. How many flowers are there in 12 such bunches?

T	O

_____ ***flowers***

b. 45 children are to be given 2 colouring books each. How many colouring books are needed in all, to give to the children?

T	O

_____ ***colouring books***

c. Seema makes 6 bouquets. In each of these bouquets there are 7 flowers. How many flowers did Seema use to make the bouquets?

T	O

_____ ***flowers***

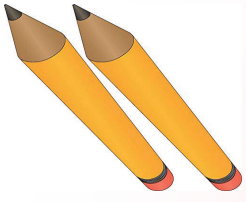
d. Rashi has 3 kittens. Richa has 4 times the number of kittens that Rashi has. How many kittens does Richa have?

T	O

_____ ***kittens***

e. There are 39 students in a class. Each student was given 2 pencils on children's day. How many pencils were distributed to the class on that day.

T	O



_____ ***pencils***

Teacher's Sign & date_____

Multiplication of a 3-digit number by a 1-digit number (without regrouping)

Multiply 124 by 2

Step 1: Write the numbers in columns

H	T	O
1	2	4
x		2

Step 2 : First multiply the ones digit by 2

4 x 2 = 8. So write 8 in the ones column.

H	T	O
1	2	4
x		2
		8

Step 3 : Next multiply the tens digit by 2

2 x 2 = 4. So write 4 in the tens column.

H	T	O
1	2	4
x		2
	4	8

Step 4 Finally multiply the hundreds digit by 2.
1 x 2 = 2. So write 2 in the hundreds column.

H	T	O
1	2	4
x		2
2	4	8

Hence 124 X 2 = 248

EXERCISE 7.7

1. Multiply the following

a) 3 1 3 x 3

b) 2 0 0 x 4

c) 2 1 3 x 2

d) 4 1 4 x 2

e) 3 3 1 x 3

f) 1 1 1 x 7

Multiplication of a 3-digit number by a 1-digit number (With Re-grouping)

Multiply 142 by 5

Step 1 : Write the numbers in columns

H	T	O
1	4	2
x		5

Step 2 : First multiply the ones digit by 5

2ones x 5 = 10 ones

(1 tens + 0 ones)

So write 0 in the ones column and carry over 1 tens to the tens column.

H	T	O
1	4	2
x		5
		0

Step 3 : Next multiply the tens digit by 5

4 tens x 5 = 20 tens. Add 1 ten (carried over) to 20 tens.

20 tens + 1 tens = 21 tens (2 hundred + 1 tens).

So write 1 in tens column and carry over 2 to the hundred column.

H	T	O
2	1	
1	4	2
x		5
	1	0

Step 4 Finally multiply the hundreds digit by 5.

1 hundred x 5 = 5 hundreds.

Add 2 hundreds (carried over to 5 hundreds).

5 hundreds + 2 hundreds = 7 hundreds.

So write 7 in the hundreds column.

H	T	O
2	1	
1	4	2
x		5
7	1	0

Hence, 142 X 5 = 710

EXERCISE 7.8

1. Multiply the following

a) 2 9 7 x 3

b) 2 4 8 x 4

c) 1 1 7 x 8

e) 1 5 4 x 6

f) 3 3 6 x 2

g) 1 2 5 x 7

2. Find the product

a. 255 x 3

b. 198 x 4

c. 3 0 6 x 2

d. 107 x 6

e. 109 x 9

f. 189 x 5

3. Applications in real life

a. Komal's father worked for 2 hours for 10 days in an orphanage. How many hours did he work in the orphanage in those 10 days?

b. In a biscuit factory 125 biscuit packets were packed in 7 cartons each and transported to a bakery. Find the number of biscuit packets transported.

Higher Order Thinking Skills:

1. Viswak has 7 tennis balls. Sharmila has thrice the number of tennis balls as Viswak. How many tennis balls does Sharmila have?

   a. 14 b. 21 c. 28 d. 10

2. The product two numbers is 36. The numbers are equal. What is the number?

   a. 8 b. 7 c. 6 d. 4

3. The product of two numbers is 24 and their difference is 10. What are the two numbers?

   a. 4,6 b. 3,8 c. 1,24 d. 2,12

4. There were 10 x 3 chocolates in a box out of which 10 x 2 were eaten. How many chocolates were left in the box?

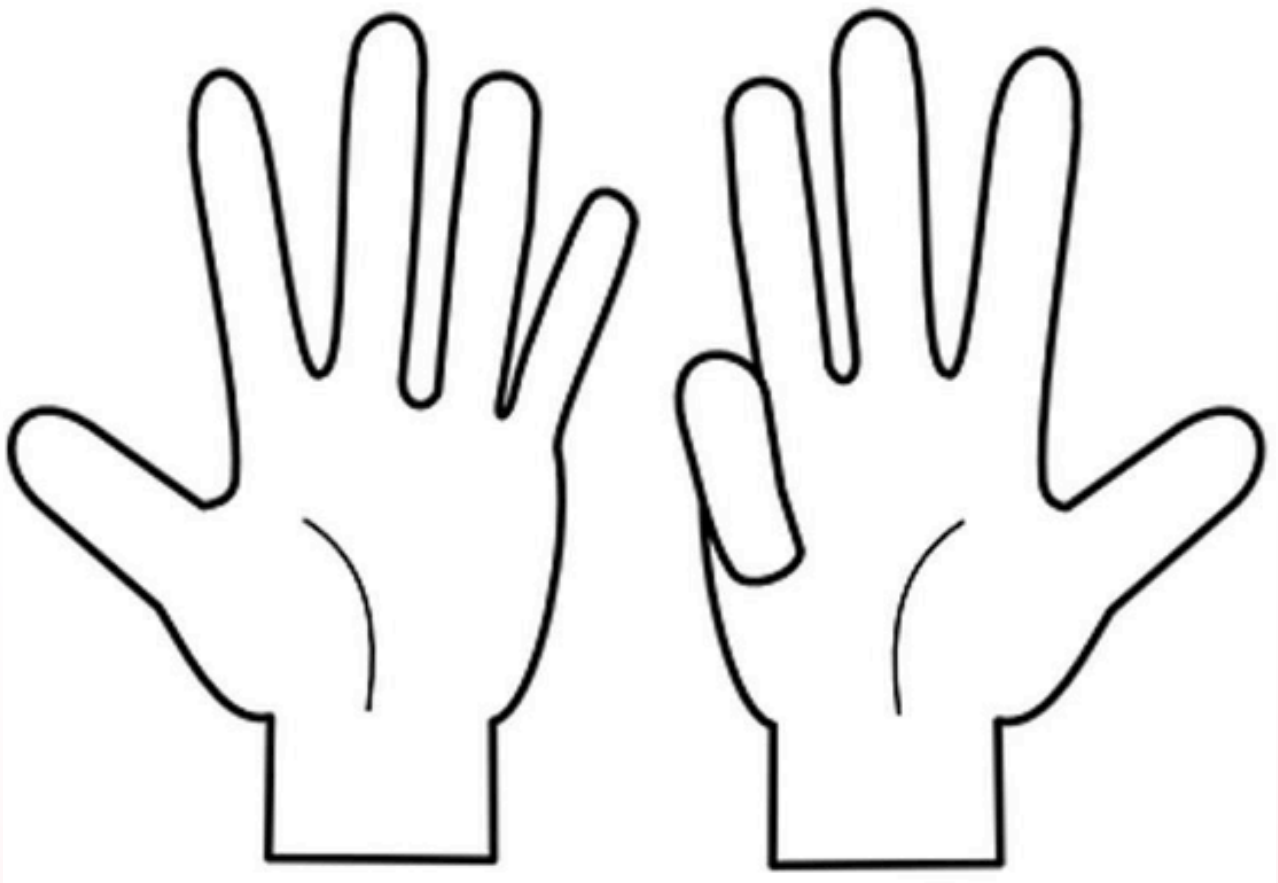
   a. 0 b. 15 c. 20 d. 10

Value based question:

a. In a flood relief camp 210 chapattis were packed in a box. If there were 4 such boxes, how many chapattis were packed for distribution?

Fun Activity:

1. Learn the fun way to multiply by nine.
2. Hold up all the ten fingers, if you want to multiply 9 x 6.
3. Starting from the left count 6 fingers over and put that finger down.
4. The answer is shown on the fingers.
5. The number of fingers before the folded finger shows the tens place and the number of fingers after that shows the ones place.



Arts Integration Activity

Write the products:

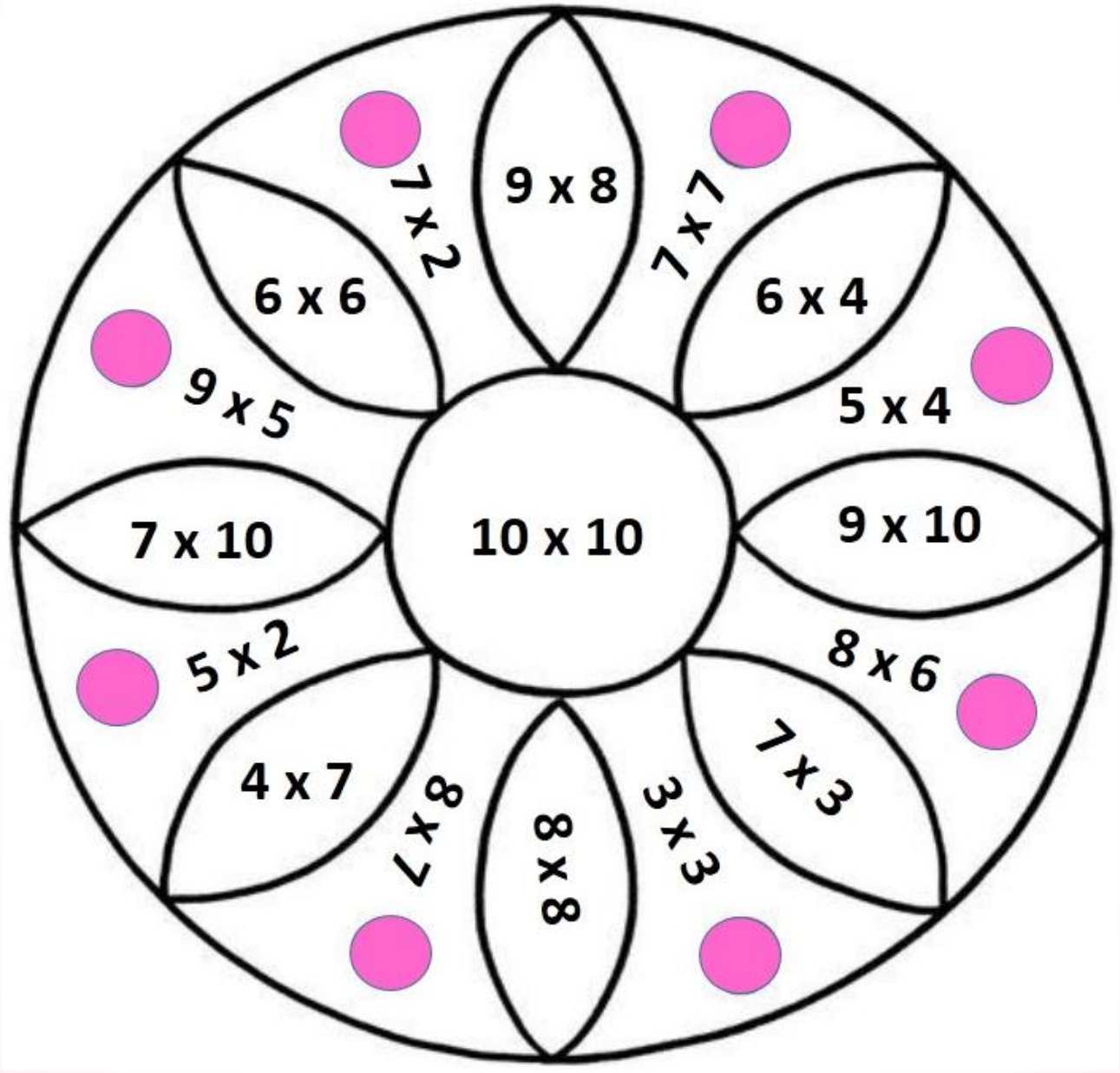
Colour the products less than 20 with blue.

Colour the products from 20 to 39 with green.

Colour the products from 40 to 60 with orange.

Colour the products from 61 to 99 with yellow.

The greatest product in red.



Teacher's Sign & date_____

8 TIME & CALENDAR

Learning Outcomes:

At the end of this lesson, children will be able to:

- Read the clock to the nearest quarter hour.
- Write the names of the days of the week and months of the year in order.
- State the number of days in each month.
- Read the calendar to tell the date and day of the week.

1. Write the time:

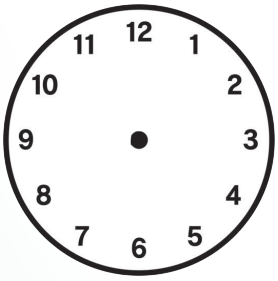
_____

_____

_____

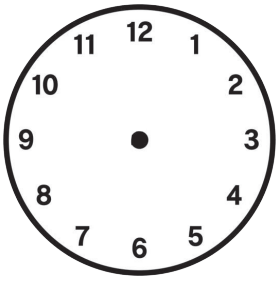
2. Draw the hands of the clock to show the time.

4:00



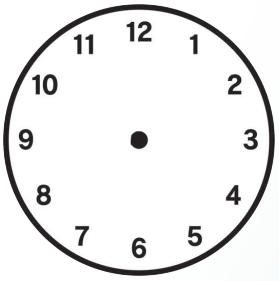
_____

9:00



_____

2:00



_____

3. Fill in the blanks:

a) There are _____ days in a week.

b) A day has _____ hours

c) One year has _____ months

d) The day just after Saturday is _____.

Reading time in half hour

The clock has two hands

The **short hand** is the **hour** hand. The **long hand** is the **minute** hand.

Hour Hand

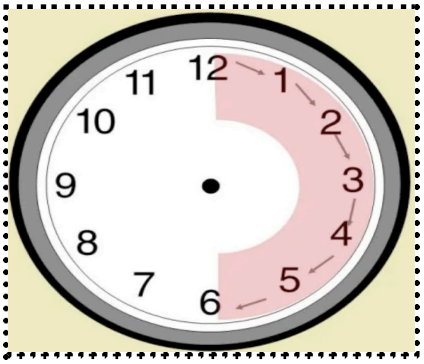
The hour hand takes one hour (60 minutes) to move from one number to the next.

If it has gone from one number to the next number it means one hour has passed.

1 hour = 60 minutes

Minute Hand

- The minute hand moves faster.
- It takes one hour to go around the clock.
- When the minute hand starts at 12 and goes around to get back to 12, It means ***one hour*** has passed.



When the minute hand goes from 12 to 6, it means ***half an hour*** has passed.

Minute hand is at 6

Hour hand is in between 4 and 5

The time is read as **"four thirty"**

or "half past four".

We write the time as **4:30**

Minute hand is at 6

Hour hand is in between 10 and 11

The time is read as **"ten thirty"**

or "half past ten".

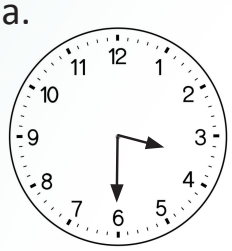
We write the time as **10:30**

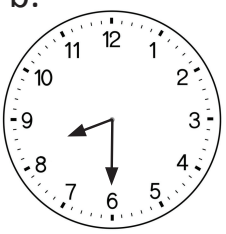
FACT

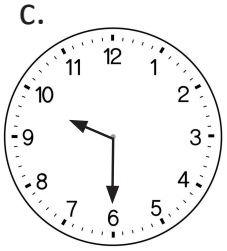
To know the minutes, multiply the number pointed by the minute hand by 5

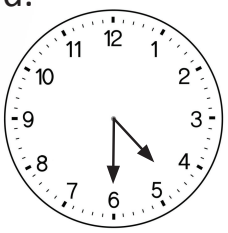
EXERCISE 8.1

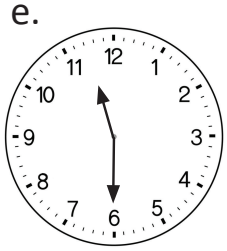
1. Write the correct time.

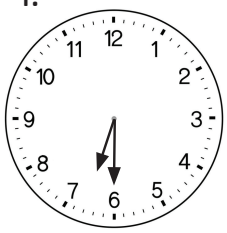
a. 

b. 

c. 

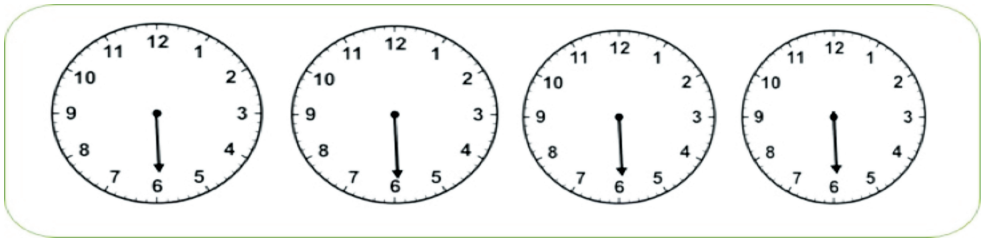
d. 

e. 

f. 

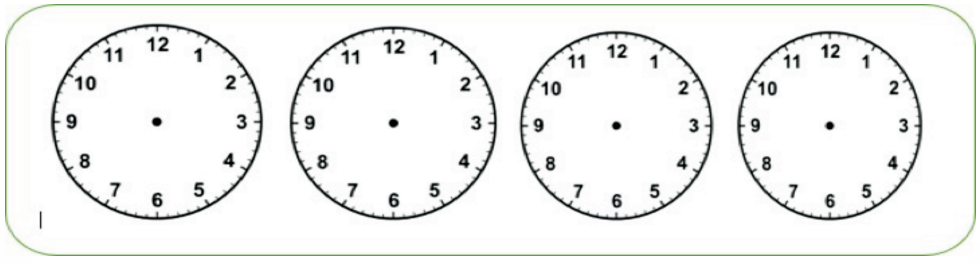
2. Draw the hour hand. The minute hand has been drawn for you.

a) **12:30** b) **3:30** c) **1:30** d) **10:30**

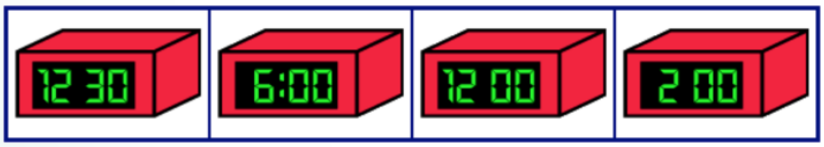


3. Draw the hands of the clock to show the time.

a) **7:30** b) **5:30** c) **6:30** d) **2:30**



4. Name the kind of clock that is represented.



5. It is picnic time! Fill in the boxes according to the time shown on the clock.











Teacher's Sign & date_____

Reading time in quarter hour

Manav started eating lunch at 1 O' clock. He ate his lunch quickly because he wanted to play.

When he finished his lunch, the clock showed.

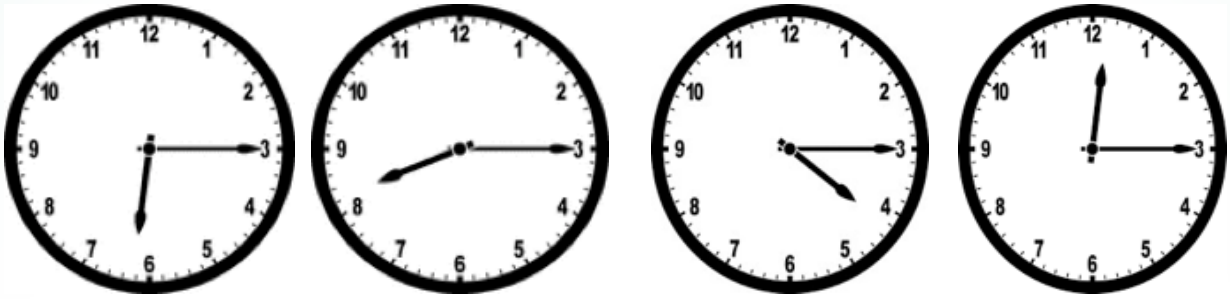
The hour hand is just after 1. The minute hand is at 3. It is a quarter hour past 1.00.

The time is read as **"quarter past 1".** We write the time as **1: 15.**

The hour hand of these two clocks has fallen off. Draw the hour hand, so that it represents 3 O' clock and 9 O' clock.

EXERCISE 8.2

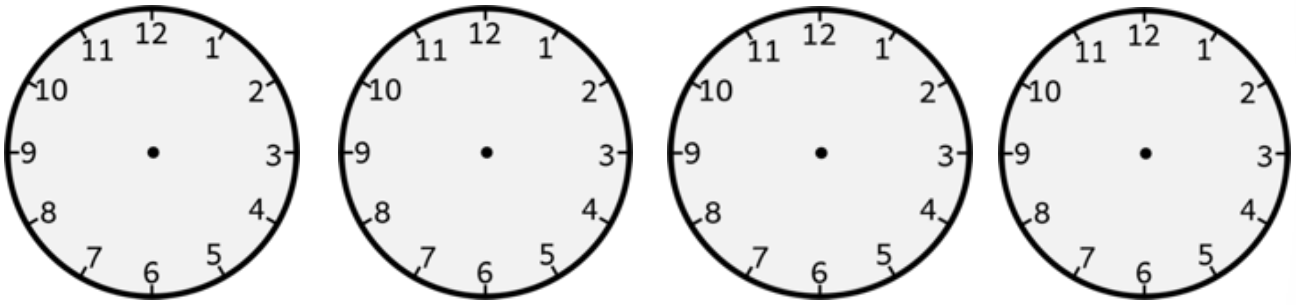
1. Write the time shown on the clocks in two different ways.



_____ _____ _____ _____

_____ _____ _____ _____

2. Draw the hands to show the given time.



11 : 15 **Quarter past 3** **10 : 15** **2 : 15**

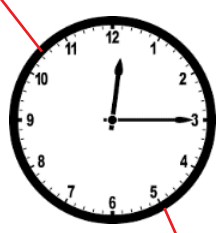
Higher Order Thinking Skills

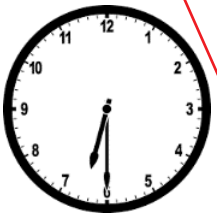
These clocks have only the hour hand. Guess what hour it could be?

_____ _____ _____ _____

Match the correct time

One is done for you





6:30

Quarter past 8

Half past 4

Fifteen minutes past 10

Thirty minutes past 1

Quarter past 12

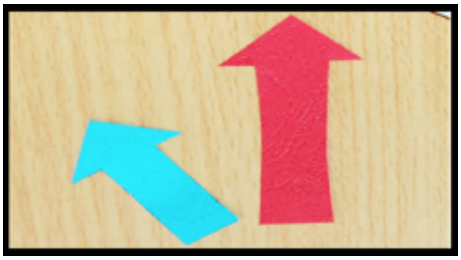
Teacher's Sign & date_____

Lab Activity

Objective : Making a clock model

Materials required : Thick paper plate, thick paper, markers, scissors and a paper fastener

Method



1. Make a small hole in the centre of the paper plate using scissors. (The clock face)
2. Cut two strips from the thick paper- a longer one for the minute hand and a shorter one for the hour hand
3. Place the strips one on top of the other. Pierce their ends with the paper fastener. Slide the paper fastener through the hole in the centre of the clock face. Secure it at the back.
4. Write numbers 1 – 12 on the clock face as shown.

Your clock model is ready.

Use it to show the time.

CALENDAR

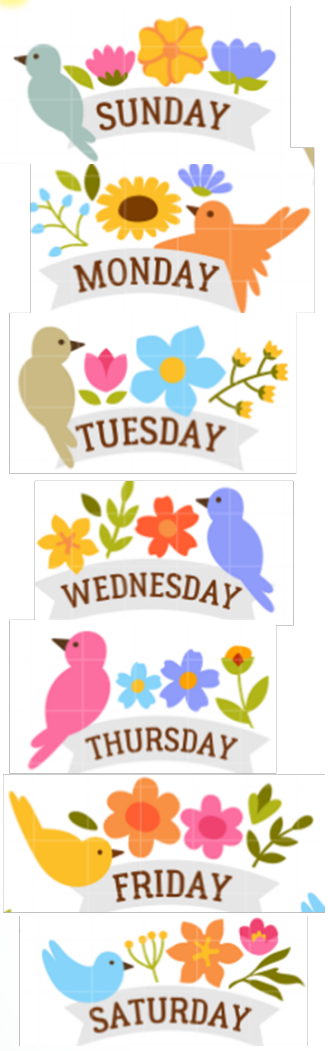
Days of the week

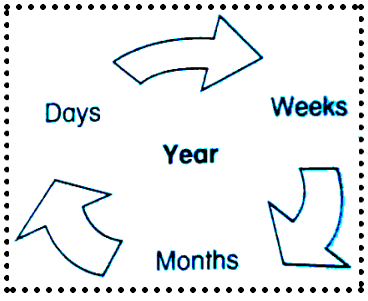
There are 7 days in a week. They are

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Which day of the week do you like the most ? _____

There are 7 days in a week and 12 months in a year.





30 Days Has September

30 Days has September,
April, June and November.
All the rest have 31,
Except for February, it's the one,
Which only has 28 days clear,
And 29 in each leap Year.

Activity time

Unscramble the letters of the months to find the hidden message at the end

NRAAYJU

		3		15		16

RMAHC

				5

AMY

	7	

LJUY

			11

SATUGU

		8		6	4

OOTBREC

2		9	12		13	10

BCMRDEEE

14				1			

1	2	3	4	5	6

		V	I		
5	7			3	8

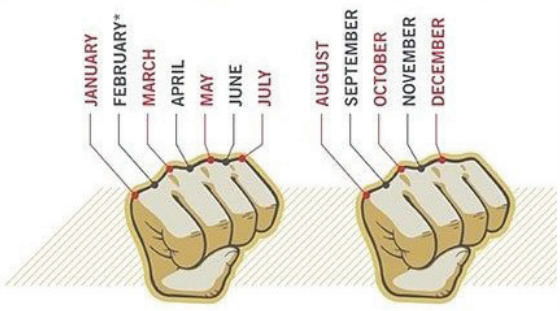
		I			
9	5		10	4	11

12	3	13

14	15	16	6

Knuckle Trick

Shortcut to remember the number of days in every month



Teacher's Sign & date_____

Calendar

01 JANUARY

S	M	T	W	T	F	S
30	31					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

02 FEBRUARY

S	M	T	W	T	F	S
		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					

03 MARCH

S	M	T	W	T	F	S
		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		

04 APRIL

S	M	T	W	T	F	S
					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

05 MAY

S	M	T	W	T	F	S
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				

06 JUNE

S	M	T	W	T	F	S
			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		

07 JULY

S	M	T	W	T	F	S
31					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

08 AUGUST

S	M	T	W	T	F	S
	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			

09 SEPTEMBER

S	M	T	W	T	F	S
				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	

10 OCTOBER

S	M	T	W	T	F	S
30	31					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

11 NOVEMBER

S	M	T	W	T	F	S
		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			

12 DECEMBER

S	M	T	W	T	F	S
				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

a) Tick the months with exactly 30 days in green. ☐

How many such months are there?

b) Tick the months with 31 days in red. ☐

How many such months are there?

February is the shortest month.

The year 2020 is a leap year. It has one day more than an ordinary year.

An ordinary year has 365 days. A leap year has 366 days.

In a leap year, February has one extra day. It has 29 days. A leap year comes once every 4 years.

The next leap year after 2020 is 2024.

What are the three leap years just after 2024 ?

_____, _____, _____

EXERCISE 8.3

1) Given below is Purva's timetable for the week

TIMETABLE						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Piano	Dance	Karate	Yoga	Music	No classes	Chess

On which day Purva has

a) Music class? _____ b) Karate class ? _____

c) Chess class ? _____ d) No classes ? _____

2) Fill in the blanks

a) Name the month that comes just before December. _____

b) Name the month that comes just after March. _____

c) Which two consecutive months have 31 days _____ and _____?

d) 21st June is celebrated as _____.

e) Gandhi Jayanthi is celebrated in the month of _____

f) Which festival do we celebrate on 25th December ? _____

g) Teacher's day is celebrated in the month of_____

Teacher's Sign & date_____

Challenge

If a child was born on 29th February 2020.

Guess when he will celebrate his next birthday???

Special Days

My birthday is on _____

Republic day falls on _____

It is a National Holiday

DECEMBER

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	1 English Test	2	3
4 Dance practice	5	6	7 Sakshi's Birthday	8	9	10 Football match
11	12	13	14	15 Visit grandmother	16	17
18 Dance practice	19	20 Museum Trip	21	22	23	24
25	26	27	28	29	30	31

1. On what day does Anil go for his dance practice?
2. Sakshi's birthday falls on_____.
3. What is Anil's plan for the third Thursday of the month?
4. What will Anil do on the second Saturday of the month?
5. When does Anil have his English test?

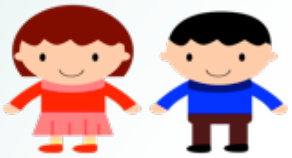
Colour the months according to the season

Summer – Orange

Winter – Blue

Rainy – Green

Then match the pictures to their months.



Ruchi and Suchi are very excited about going to Kerala for their Christmas holidays.

They have made some signs on the calendar to show their plan

DECEMBER						
Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
	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 			

a) Look at the calendar and write the day and date that they

i) left for Kerala

ii) reached Kerala

b) i) The day of Christmas is _____

ii) For how many days did they stay in Kerala? _____

c) November 30th 2022 falls on a _____

d) January 2023 starts on a _____

Fill in the calendar and answer the questions.

FEBRUARY 2024						
	Mon		**Wed**	**Thu**		**Sat**
						3
		6				
	12					
					23	
			28			

1. March 1st falls on a_____. (Thursday/Friday)
2. The month of February 2024 begins on a _____. (Tuesday/Thursday)
3. The third Saturday of the month is_____. (17.02.2024/30.02.2024)
4. The number of full weeks in February 2024 is _____

9 MONEY

Learning Outcomes:

At the end of this lesson, children will be able to:

- Recognise Indian coins and currency notes.
- Write the given money in words / figures.
- Add and subtract money.
- Select coins and notes to pay a certain amount.
- Solve real life problems dealing with money.

Money in real life

Activity

When Pratik visited his grandparents for the weekend, his grandfather gifted him with ₹ 500 as he topped in maths exam. Pratik wanted to buy few things from the sports shop. The rates of some sports items are given below.

Foot ball	₹ 455
Cricket bat	₹ 510
Shuttle racquet	₹ 350
Volley ball	₹ 345
Chess board	₹ 635

What are the possible items that Pratik can buy with the money he has? Help him to list.

	1	
	2	
	3	

Indian currency

- We need money to buy things.
- In India, money is available in the form of rupees and paise.
- We use money in the form of coins and notes.
- The symbol for rupee is ₹ and paise is p.

Various coins and notes in use are given below

1 rupee =100paise

₹ 1 = 100 p

EXERCISE 9.1

1) Match the coins and notes to their values.

a) 50 p

b) ₹ 5

c) ₹ 50

d) ₹ 100

e) ₹ 10

2) Put ✓ for the notes and coins you need to buy the items, if you have to pay the exact amount.

a.

b.


Rs 120


भारतीय रिज़र्व बैंक एक सौ रुपये
RESERVE BANK OF INDIA
₹100


भारतीय रिज़र्व बैंक दो सौ रुपये
RESERVE BANK OF INDIA
₹200


भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
SPECIMEN
दस रुपये


भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
SPECIMEN
दस रुपये

c.


Rs 10


भारतीय रिज़र्व बैंक एक सौ रुपये
RESERVE BANK OF INDIA
₹100


₹
5
2013


₹
5
2013

d.


Rs 200

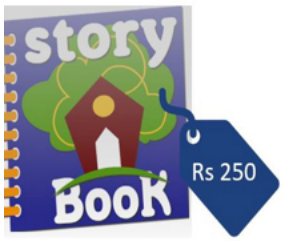

भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
SPECIMEN
दस रुपये


भारतीय रिज़र्व बैंक पचास रुपये
RESERVE BANK OF INDIA
₹50


भारतीय रिज़र्व बैंक एक सौ रुपये
RESERVE BANK OF INDIA
₹100


भारतीय रिज़र्व बैंक एक सौ रुपये
RESERVE BANK OF INDIA
₹100

e.


story
Book
Rs 250


भारतीय रिज़र्व बैंक दो सौ रुपये
RESERVE BANK OF INDIA
₹200


भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
SPECIMEN
दस रुपये


भारतीय रिज़र्व बैंक बीस रुपये
RESERVE BANK OF INDIA
₹20


भारतीय रिज़र्व बैंक बीस रुपये
RESERVE BANK OF INDIA
₹20

3) Colour the money (denomination) for which we have both coins and notes.










4. Count and write the amount in the box:

a.





b.




c.

Writing money in figures

Rupees is always written with the symbol '₹', before the amount and paise is always written with 'p', after the amount.

Example : Fifty paise = 50 p | Rupees ten = ₹ 10

To write money in words

- The word 'Rupees' is written before the amount in words.
  Ex: ₹ 17 = Rupees Seventeen
- The word 'Paise' is written after the amount in words.
  Ex. 25 p = Twenty Five paise

EXERCISE 9.2

1. Write the following in words:

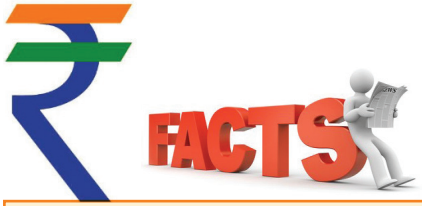
a. ₹ 25 = _____

b. 50 p = _____

c. ₹ 313 = _____

d. ₹ 54 = _____

e. ₹ 808 = _____



The symbol for the Indian rupee came into existence in 2010.
It was created by D.Udaya Kumar.
Find the significance of the symbol ₹

2. Write the given money in figures:

a. Rupees eleven = _____

b. Rupees fifty = _____

c. Rupees two hundred seventeen = _____

d. Rupees thirty-three = _____

e. Rupees Five hundred fifty = _____

3. Write the amount in words and figures:

a. 

b. 

c. 

d. 

e. 

Teacher's Sign & date_____

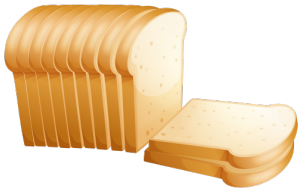
Activity Time

1. Take coins like ₹1, ₹2, ₹5 and ₹10.
2. Arrange the coins to form a pattern.
3. Now colour the paper using crayons or colour pencils.
4. You will get the perfect impression of the coin in the paper.
5. Arrange the coins in different ways to get different patterns.

Addition of Money

Example 1

The price of each item is mentioned in the picture given below:



₹ 20

₹ 40

₹ 90

₹ 70

₹ 60

Find the amount that you need to pay for these:

a. bread + butter = ₹ 20 + ₹ 60 = ₹ 80

b. butter + milk =

c. milk + jam + juice =

d. butter + jam =

e. milk + juice =

f. juice + butter =

Example 2

1) Raji has these notes. Find the amount that she has?

+


+


= ₹ 30

2) Renu has the following coins. Find the value of money that she has?

+


= 100 paise = ₹ 1 =


EXERCISE 9.3

1. Write the total amount in each:

a.


+


= _____

b.


+


+


= _____

c.


+


= _____

d.


+


= _____

e.


+


+


= _____

2. Sushma has the following notes and coins.

A

B

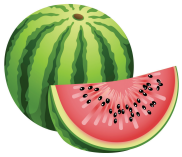
C

D

E

F

Tick the correct option(s) if she needs to buy. Remember, the shopkeeper does not have change.

a. 

₹ 60

A and E | C and B | E and F | C and D

b. 

₹ 25

C and D | F and D | C, D and E | F and C

3. Find the total money required to buy the following items.

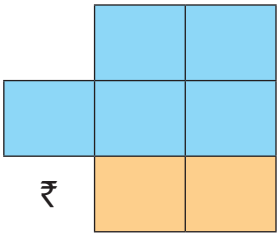
a. Pencil 

₹ 20

and

Book 

₹ 70



₹

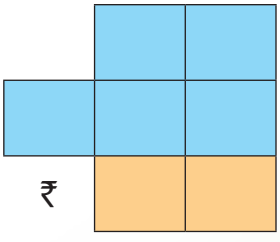
b. Peanut candy 

₹ 30

and

Candy 

₹ 10



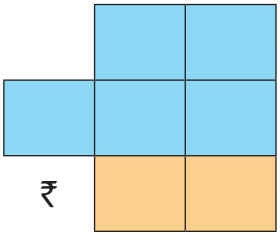
₹

c. Toy car  ₹ 63

and

Ball 

₹ 30



₹

4. Match the correct amount of money with the price tag.

a.   

b.  

c.  

d.    

e.    

5. Applications in real life:

a. Rahul bought a 

for ₹ 24 and a 

for ₹ 15 for feeding a stray dog. How much money did he spend in all ?

Cost of the milk packet =

Cost of the biscuit packet =

Total cost =

Ans:_____

b. Anita visited an old age home during vacations. She spent ₹ 240 for soaps and ₹ 160 for towels. How much money did she spend altogether?

_____ =

_____ =

_____ =

Ans:_____

c. Arjun deposited ₹ 85 in April, ₹ 45 in May and ₹ 55 in June in his bank account. How much money did he save during these 3 months?

_____ =

_____ =

_____ =

Ans:_____

Teacher's Sign & date_____

6. Value based question

Kiran wants to refill his first-aid kit with following items. The price of each item is mentioned.

He has ₹ 500. Is the money sufficient to buy them?

Why is it important to have a first-aid kit?

Make a first-aid box

Cotton	₹ 20
Antiseptic cream	₹ 100
Bandage	₹ 75
Gauze rolls	₹ 65

7. Subtraction of money

a) Karishma bought a  for ₹ 45. She gave the shopkeeper ₹ 100. How much money should the shopkeeper return?

_____ =

_____ =

_____ =

b) Shivaji had ₹ 50. He gave his sister ₹ 30 to buy a packet of 

. How much money is left with him now?

_____ =

_____ =

_____ =

EXERCISE 9.4

1. Find the difference:

a.
	₹	5	0
–	₹	2	5

b.
	₹	1	0	2
–	₹		7	8

c.
	₹	7	8	1
–	₹	6	8	5

d.
	₹	4	0	2
–	₹		4	9

e.
	₹	5	0	0
–	₹	2	6	6

2. Subtract the following:

a. ₹ 29 – ₹ 12

b. ₹ 50 – ₹ 25

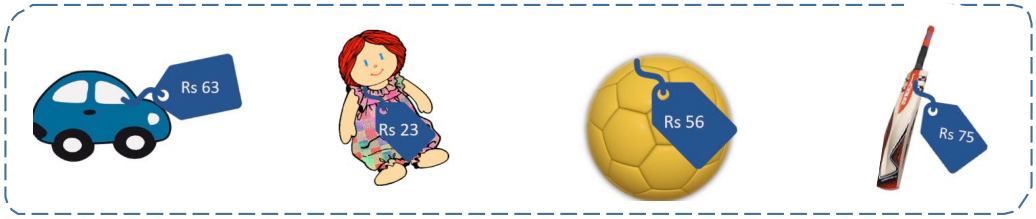
c. ₹ 120 – ₹ 115

d. ₹ 91 – ₹ 77

e. ₹ 35 – ₹ 31

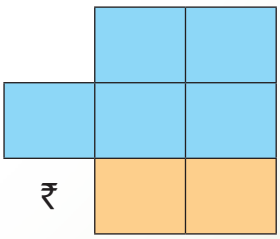
f. ₹ 874 – ₹ 649

3. Find the change that each child would get from the shopkeeper. The cost of the items that children want to buy are given.



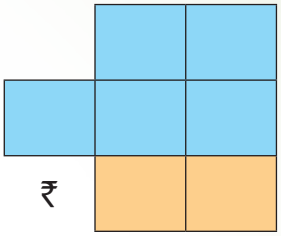
a. Raja Ram gives ₹ 70 to the shopkeeper to buy a toy car.

Ans : _____



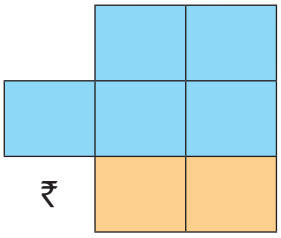
b. Varun gives ₹ 50 to the shopkeeper to buy a doll.

Ans : _____



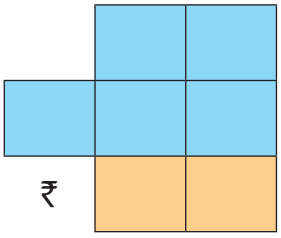
C. Devika gives ₹ 90 to the shopkeeper to buy a ball.

Ans : _____



d. Vidya gives ₹ 85 to the shopkeeper to buy a cricket bat.

Ans : _____



4. Applications in real life:

a. Nagarjuna bought  and  for ₹ 75. The price of the tomatoes was ₹ 46. What was the price of the potatoes?

Price of the potatoes = ₹_____

b. Sarojini bought a dress for her friend for ₹ 65. She gave the shopkeeper one ₹ 50 note and one ₹ 20 note. How much money would she get back?

Money got back = ₹_____

c. The cost of a shawl is ₹ 450. Saraswathi has ₹ 285 with her. How much more money does she need to buy the shawl?

More money needed = ₹_____

Activity Time

Arts Integration Activity

Akshay wants to celebrate his kaka's (father's younger brother in Gujarati) birthday. He decided to decorate his kaka's room. He goes to the market to buy these items.

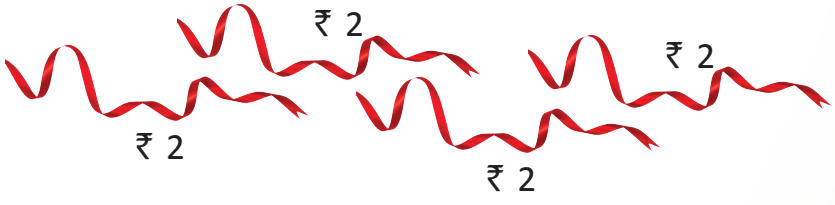
a. 7 balloons

b. 4 hangings

c. 1 birthday sticker

d. 5 birthday caps

e. 4 satin ribbons



The total cost of these items =

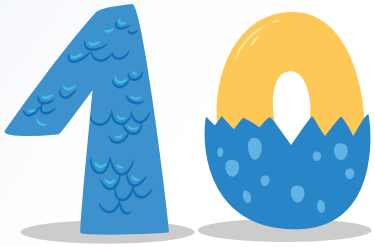
☐ + ☐ + ☐ + ☐ + ☐ = ☐

Now help Akshay to decorate his kaka's room with these things and make the room colourful.

Higher Order Thinking Skills

1) Kapil Dev was saving ₹ 5 and ₹ 10 coins in a piggy bank. At the end of one week he saved ₹ 50. His piggy bank has one more ₹ 5 coins than ₹ 10 coins. Find how many five rupees and ten rupees coins were in the piggy bank.

2) How many ₹ 5 is needed to make ₹ 25?



MEASUREMENT

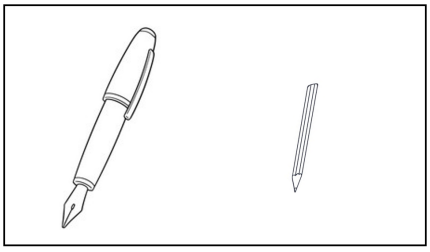
Learning Outcomes:

At the end of this lesson, children will be able to:

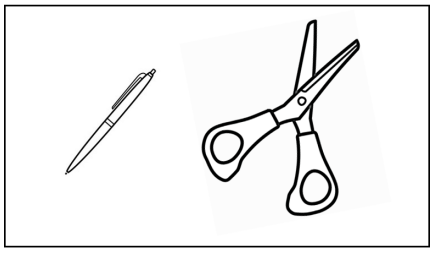
- State the units for measuring length, weight and capacity.
- Measure length, weight and capacity in standard units.

1) Do as directed in each of the following:

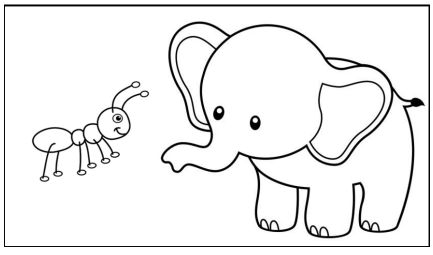
a) Circle the object that is shorter



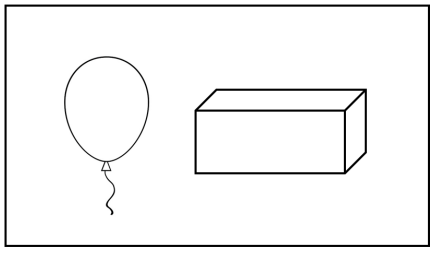
b) Colour the object that is longer.



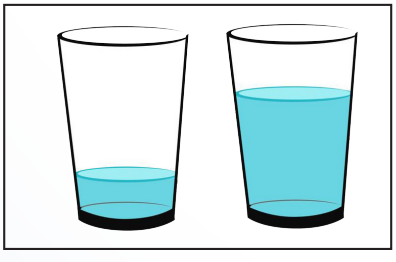
c) Circle the object that is heavier.



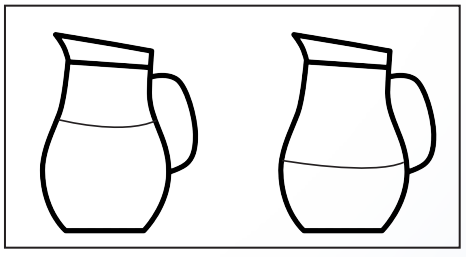
d) Colour the object that is lighter.



e) Circle the object that has more.



f) Colour the object that has less.



2. Match the following

a. 

cubit

b. 

stride

c. 

footspan

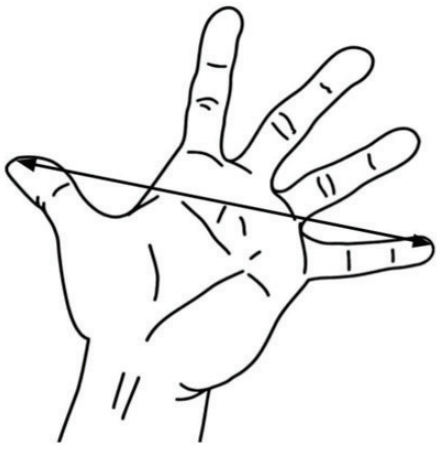
d. 

handspan

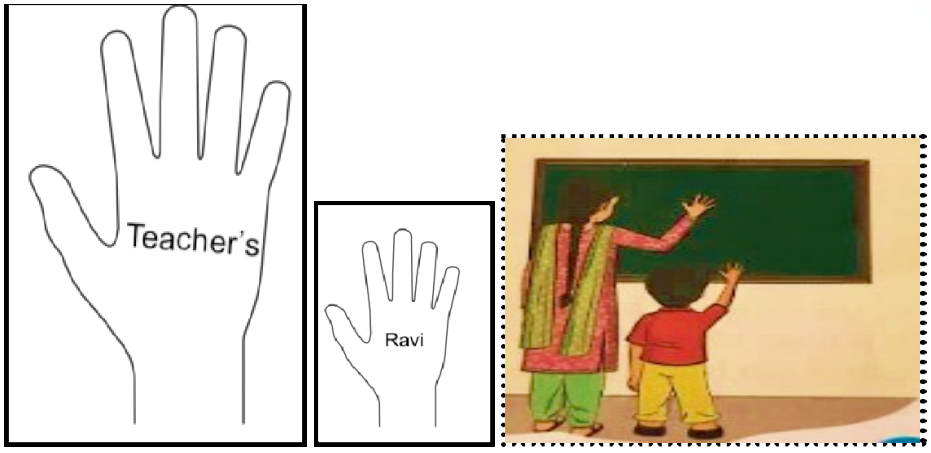
Measurement of length

We measure by comparing. Ravi wants to measure the length of the scale. He compares its length with his handspan.

The pencil is longer than Ravi's handspan.



In this picture below, the measurements are not the same. The teacher's handspan is bigger than Ravi's.



Cubit, Stride, Footspan and Handspan do not measure the same for all.

So, we need to use some standard units for measuring lengths.

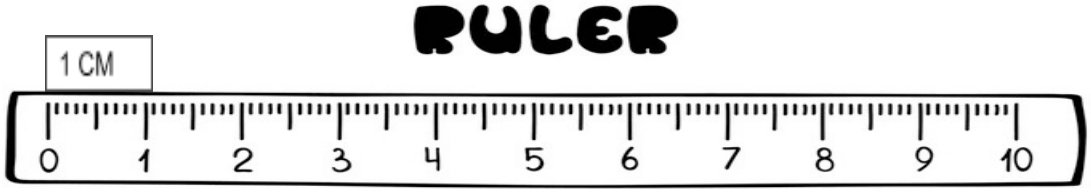
Units of length

- The standard unit of length is **metre.**
- One metre is divided into 100 smaller units called **centimetres.**

Example : Shorter lengths like the length of a pencil, the edge of a table, length and width of a notebook are measured in **centimetres.** Centimetre is written in short as cm.

1 m = 100 cm

Smaller lengths can be measured using a **centimetre scale**.



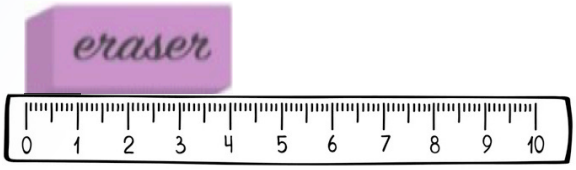
- Bigger lengths like length of the rooms, pipes, wires, height of buildings are measured in **metres**. We use a metre scale or measuring tape to measure the length. In short, we write 'm' for metre.

Metre tape

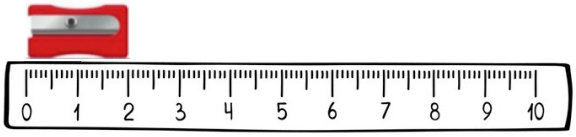
Metre scale

EXERCISE 10.1

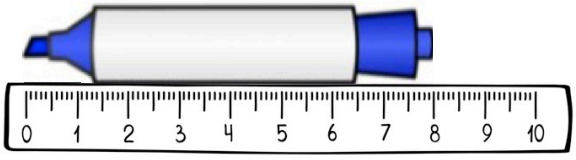
I. Write the length in centimetres:-

a) 

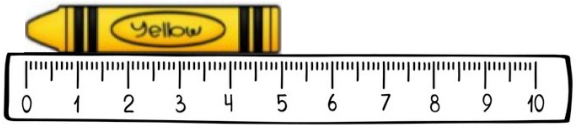
_____ cm

b) 

_____ cm

c) 

_____ cm

d) 

_____ cm

DO YOU KNOW? A chameleon's tongue is twice the length of its body.

2. Put a ✓ on those that measure more than a metre

Length of your shoe

Length of this book

Your mother's height

Height of the
the ceiling.

Height of this
bowl

Length of an
aeroplane

3. Which unit will you use to measure these ? (cm, m)

a) The thickness of a book _____

b) The height of your chair _____

c) The length of a car _____

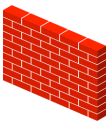
d) The length of a spoon _____

e) The length of a wall _____

f) The height of a building _____

g) The length of a toothbrush _____

h) The length of your shoe lace _____

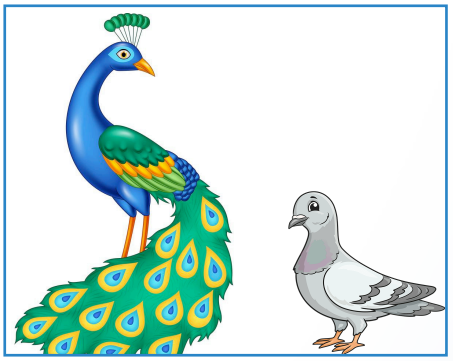


Teacher's Sign & date_____

Measurement of Weight

Let us compare the weight of different objects.

An elephant is heavier than a dog



A pigeon is lighter than a peacock

Let us see if a *book* is heavier or lighter than a pencil

If we hold a pencil in one hand and a book in the other, we know that the book is heavier than the pencil.

Measuring the weight of an object is known as weighing the object.

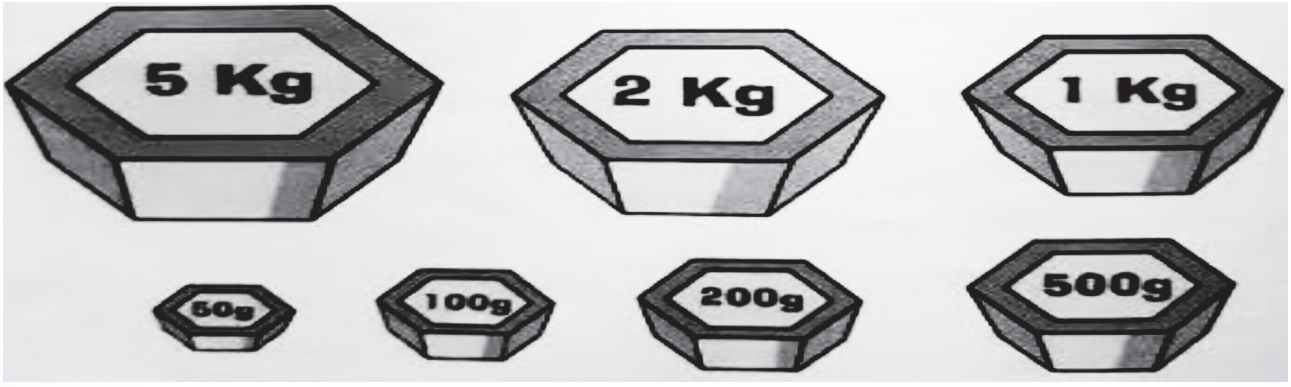
We use different weighing scales or weighing machines to weigh objects.

Digital or Electronic weighing machines

Weighing machines that measure using weighing stones

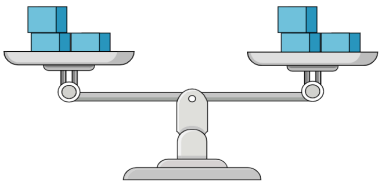
weighing stones

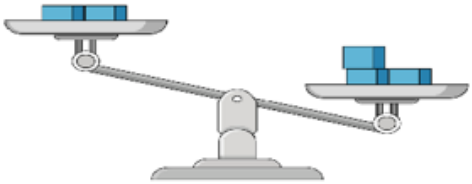
Weighing Stones



Weighing scales or weighing machines

When two objects weigh the same, the two pans of the weighing scale are balanced and stay at the same level. The pointer points towards the centre.





When two objects are of different weights, the pan with the heavier object goes down and the pan with the lighter object goes up. The pointer tilts towards the heavier object.

Look at the images below

Which is lighter, an apple or a watermelon?	Which is lighter, a butterfly or a flowerpot?
	

We need to use suitable units to measure the weight of objects.

Units of Weight

Smaller weights are measured in grams. The short form of gram is ‘g’. 1000 grams make a kilogram. We write kilogram as ‘kg’.

1 kg = 1000g

The unit for weighing lighter objects is grams.

A paper clip weighs about 1 g.

A small apple weighs about 100 g.

We use kilograms to weigh heavier objects.

A grown-up man weighs about 70 kg.

A new-born baby weighs about 3 kg.

Classroom Activity

- You weigh ☐ kg.
- Make a list of 5 things that are heavier than 1 kg.
- When you buy things, the weight is usually marked in kilograms or grams on the packet or tin. Find out how much the following would weigh.

A packet of tea _____

A tin of oil _____

A packet of biscuits _____

A bottle of sauce _____

A packet of salt _____

Collect empty packets and labels that show the weights of different things and paste them in your notebook.

EXERCISE 10.2

1. Circle the unit that is closest to the weight of the following.

kg / g

kg / g

kg / g

kg / g

kg / g

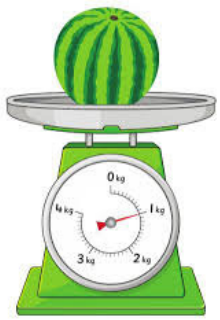
2. Read the weighing scale and write their weight.

_____g

_____g

_____kg

_____g



_____g

3. How much would the following objects weigh? Circle the correct option.

a. 

150 g/150 kg

b. 

12 g / 12 kg

c. 

800 g/800 kg

d. 

30 g / 30 kg

e. 

2 g/2 kg

f. 

16 g / 16 kg

4. Write the closest unit that you will use to measure in each of the following (kg, g)

a. The weight of your school bag _____

b. The weight of a chocolate bar _____

c. The weight of six bananas _____

d. The weight of two 1-rupee coins _____

e. The weight of an auto rickshaw _____

5. Fill in the boxes

a. 200 g + 500 g = 300 g + ☐ (700g, 400g, 200g)

b. 40 g + 10 g = 20 g + ☐ (30g, 50g, 90g)

c. 50 g + 60 g 70 g + ☐ (30g, 40g, 20g)

d. 400 g + 400 g 600 g + ☐ (200g, 300g, 500g)

Higher Order Thinking Skills

Some children are playing on the seesaw in a park. Their weights are mentioned below. Sunny is sitting on the left side of the seesaw. Name the children who have to sit on the right side of the seesaw to balance Sunny.

Sunny weighs 30 kg

Ram weighs 15 kg

Danny weighs 15 kg

Rosy weighs 5 kg

Nayan weighs 12 kg

Ann weighs 8 kg

Sita weighs 10 kg

Measurement of Capacity

The capacity of a container tells us the maximum quantity of liqud it can hold.

Units of Capacity

The unit of capacity is **litre** and the short form for litre is 'L'. Smaller quantities of liquid are measured in millilitres and we use 'mL' to represent millilitres. A millilitre is a very small quantity.

1 L = 1000 mL

Some measuring vessels

EXERCISE 10.3

1. Tick (✓) the unit that you will use to measure the capacity of the following.

a.  mL/L

b.  mL/L

c. 

mL/L

d.  mL/L

e.  mL/L

f.  mL/L

2. Are these quantities small or large? Decide whether you would measure these quantities in mL or L .

a) Milk in a feeding bottle _____

b) Medicine in a syringe _____

c) Water in a tank _____

d) A tube of paint _____

e) A bottle of ink _____

f) Water in a small vase _____

g) A Bathtub full of water _____

h) A drum of oil _____

3) You are given a 2L jar and a 1L jar. You need to fill a 8L container using these two jars. You cannot use them in parts. In how many possbile ways can you fill the 8L container.

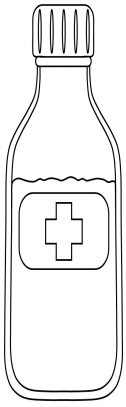
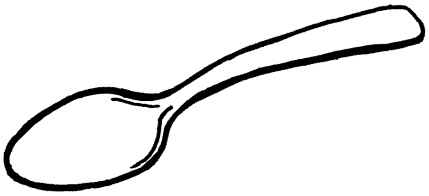
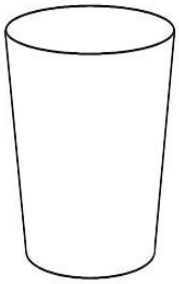
_____

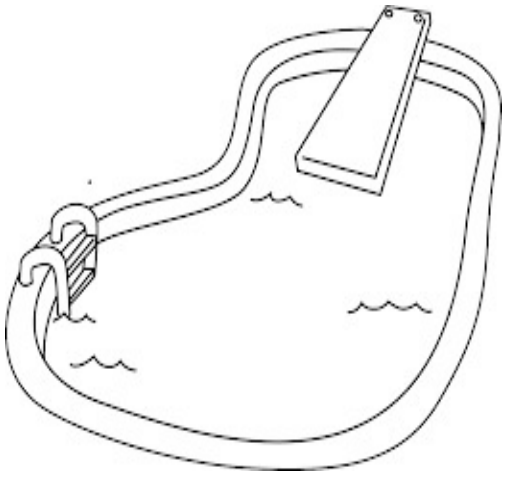
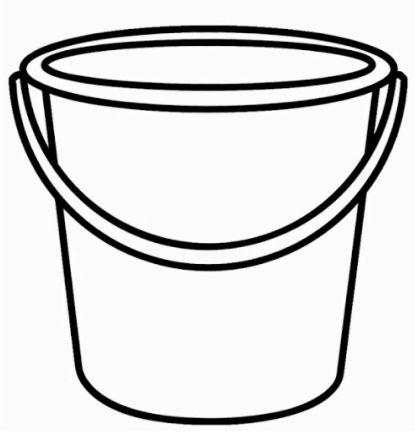
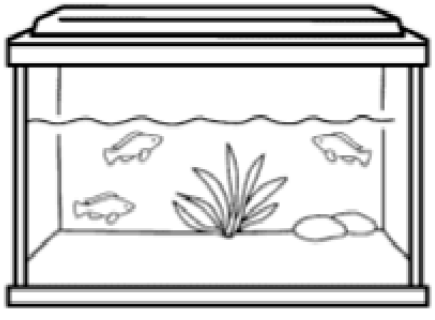
_____

Challenge

To prepare milk shake for a party, 10 litres of milk is needed. 1 litre packets are available in the market. How many 1 litre packets should be bought?

4. **Colour the objects that can hold more than a litre in red and those that would hold less than a litre in green.**

Teacher's Sign & date_____

High Order Thinking Skills

1) Anil is a milkman. He gives the same amount of milk at Rani's house every day. He uses  a mug three times to fill Rani's milk pot.

Every day Rani's pot would be filled to the brim.

One day Rani's grandmother gave her a different  pot to get the milk.

But that day Rani found that the pot was not filled completely, though Anil gave her the same 3 mugs of milk.

Why did the pot not get filled up? Justify

_____

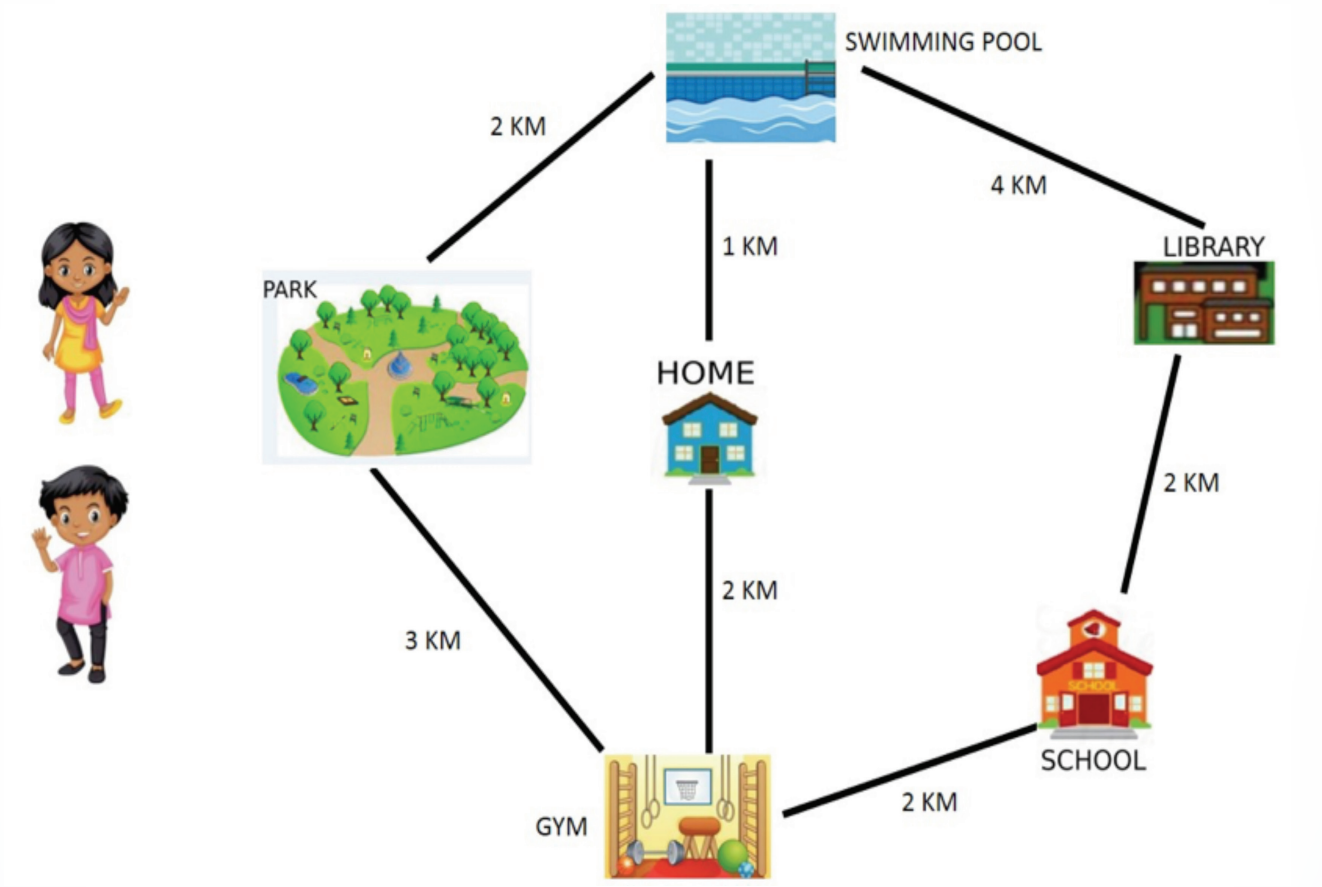
_____

2) Lalitha and Arun are siblings. Every Friday, they take different routes from school to reach home. Lalitha goes to the library to return her books and for swimming practice before going home.

Arun goes to the gym for an hour. He then practises swimming in the pool for half an hour and then goes home.

Lalitha travels ____ km to go home and Arun travels _____ km to go home on Fridays.

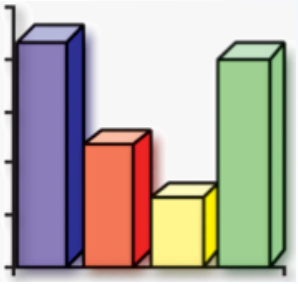
Who travels a longer distance? _____



On Saturday morning, the family planned to go to the park. Lalitha and her mother took the route via the swimming pool. Arun and his father took the route via the gym. Who took the shorter route?

Teacher's Sign & date_____

11 HANDLING DATA



Learning Outcomes:
At the end of this lesson, children will be able to:

- Tabulate data.
- Interpret pictographs.
- Represent data using a pictograph.

Handling data in real life

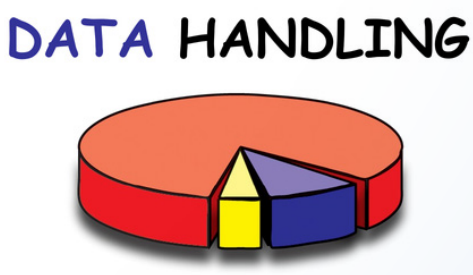
It is summer vacation. Veena's parents planned to visit their home town to meet their relatives. They asked Veena to prepare a list of things needed for their stay.

Veena listed the following things for their trip.

List of things needed for vacation

Clothes	5 sets for 1 person
Sweater	3
First aid kit	1
Biscuits	3 packets
Hand towels	3

- A list helps in organising information about things.
- A collection of information is called data.
- Data can be collected by different methods.



The table shows the number of children who like different fruits.

Favourite fruit	Number of children
Kiwi	6
Strawberry	7
Orange	4
Pineapple	5
Mango	8

DO YOU KNOW?

Representing data through pictures or symbols is called a pictograph

The above data can also be shown on a pictograph.

Number of children who like different fruits.

Favourite fruit	Number of children
	★★★★★★
	★★★★★★★
	★★★★
	★★★★★
	★★★★★★★★

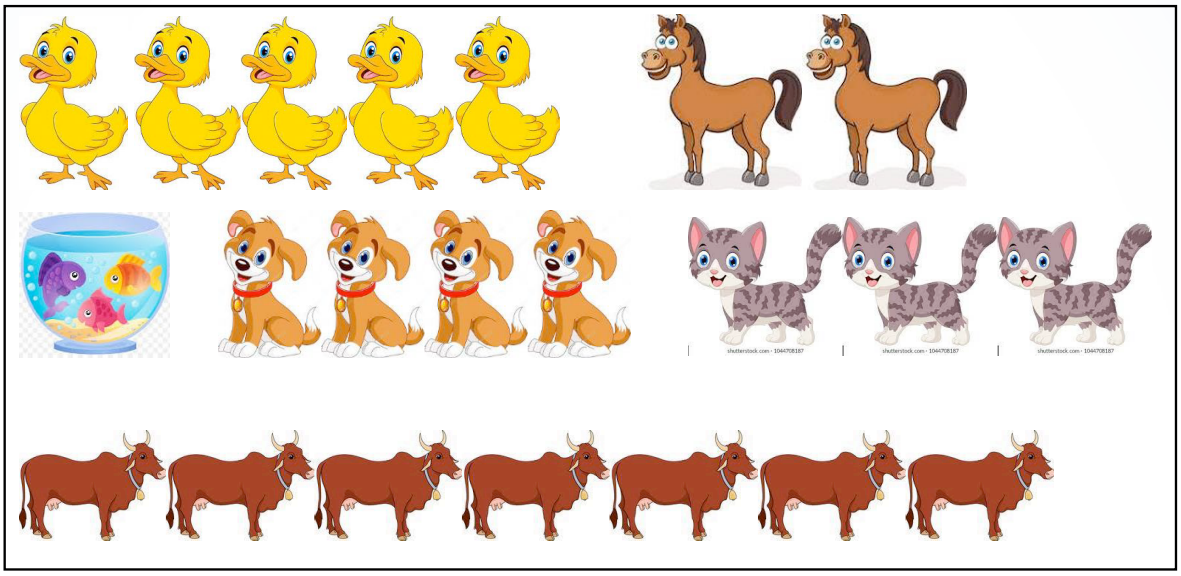
Each ★ = 1 child

Look at the pictograph and answer the following questions.

1. How many children like mango? _____
2. Which is the most favourite fruit of children? _____
3. How many more children like strawberry than kiwi? _____

Draw a pictograph

The picture shows the number of animals in Kamal's farm. Make a table to show the number of animals in the farm.



Colour the boxes according to the number of animals in the farm.

Observe the above pictograph and answer the following questions.

1. Which animal is the most in number?

   _____

2. Which animals are same in number?

   _____

3. How many animals does Kamal have altogether?

   _____

Why should we make a check list?

- A check list helps us to remember and check whether we have the things required.

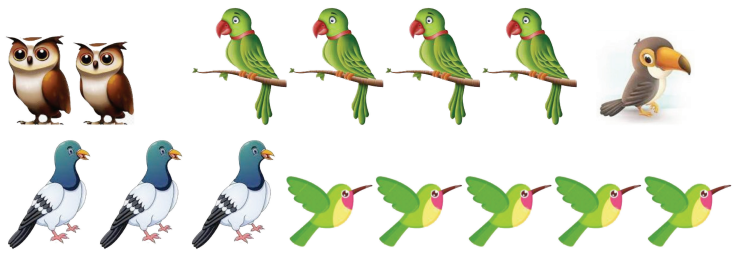
Activity 1

Make a list of things that you have to take to school every day

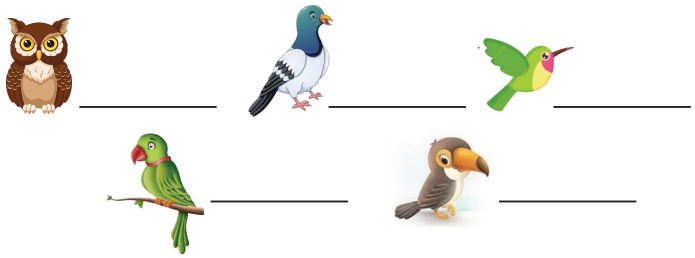
List of things to take to school	

EXERCISE 11.1

1. Suchana went to a bird sanctuary. Use the pictures to make a list of the birds she saw in the sanctuary.



List of birds Suchana saw in the bird sanctuary.



Now make a pictograph to show the number of birds. Key : 1 ▲ represents 1 bird
Answer the questions below.

Number of birds Suchana saw in the sanctuary.

 **Owl**	▲ ▲
 **Pigeon**	
 **Humming bird**	
 **Parrot**	
 **Myna**	

a) The most common bird in the sanctuary was _____

b) This bird was the least found _____

c) How many more humming birds were there than pigeons? _____

2. Lists can be made in the form of a table. Here is a list of some of the items needed for a party.

Balloons	Gifts	Glasses	laddus	Juice bottles
7	8	10	6	5

Represent the information through pictograph. Key : 1  represents 1 item.

Items	Number of Items
Balloons	
Gifts	
Glasses	
Laddus	
Juice bottles	

a. How many juice bottles were required for the party?

_____

b. Which is the item that was required the most in number?

_____

c. Which was required less – balloons or gifts?

_____

d. Do you have a get together in your family? Whom do you invite for it?

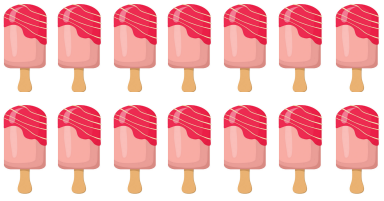
_____

e. Name your favourite sweet.

_____

EXERCISE 11.2

1. The number of ice-creams sold by an ice cream vendor on 4 different days is given below using a pictograph. Key : each  stands for one ice-cream.

Days	Number of ice-creams sold
Thursday	
Friday	
Saturday	
Sunday	

Let us answer the questions based on the pictograph.

a. What information does the pictograph show?

_____

b. On which day was the most number of ice-creams sold?

_____

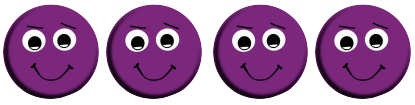
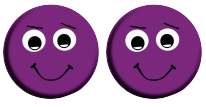
c. On which day was the least number of ice-creams sold?

_____

d. How many ice-creams were sold on Friday and Sunday?

_____

2. The pictograph below shows the number of children absent during the week in class 2. Observe the pictograph and answer the questions. Key : 1 child = 

Days	Number of children absent
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

a. What could be the title of the pictograph?

_____

b. How many children were absent on Monday?

_____

c. On which day were 3 children absent?

_____

d. What does  represent?

_____

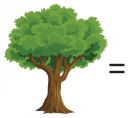
e. On which day were two children absent?

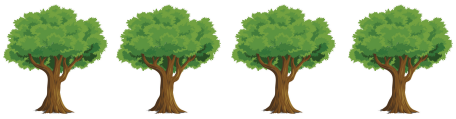
_____

Teacher's Sign & date_____

Higher Order Thinking Skills

 are important natural resources. Find how many trees Durga planted in the past few weeks. Read the pictograph and answer the questions.

Key :  = 1 tree

Week	Number of trees planted
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	

a. How many trees did Durga plant altogether in the third and the first week?

_____

b. There was a cyclone in the 6th week. Durga found that the number of trees were 5 less than what was planted, after a cyclone. Find the number of trees remaining after the cyclone. _____.

c. "Van Mahotsav is celebrated in the first week of July by planting trees across the country ".

a. Why should we plant trees?

_____

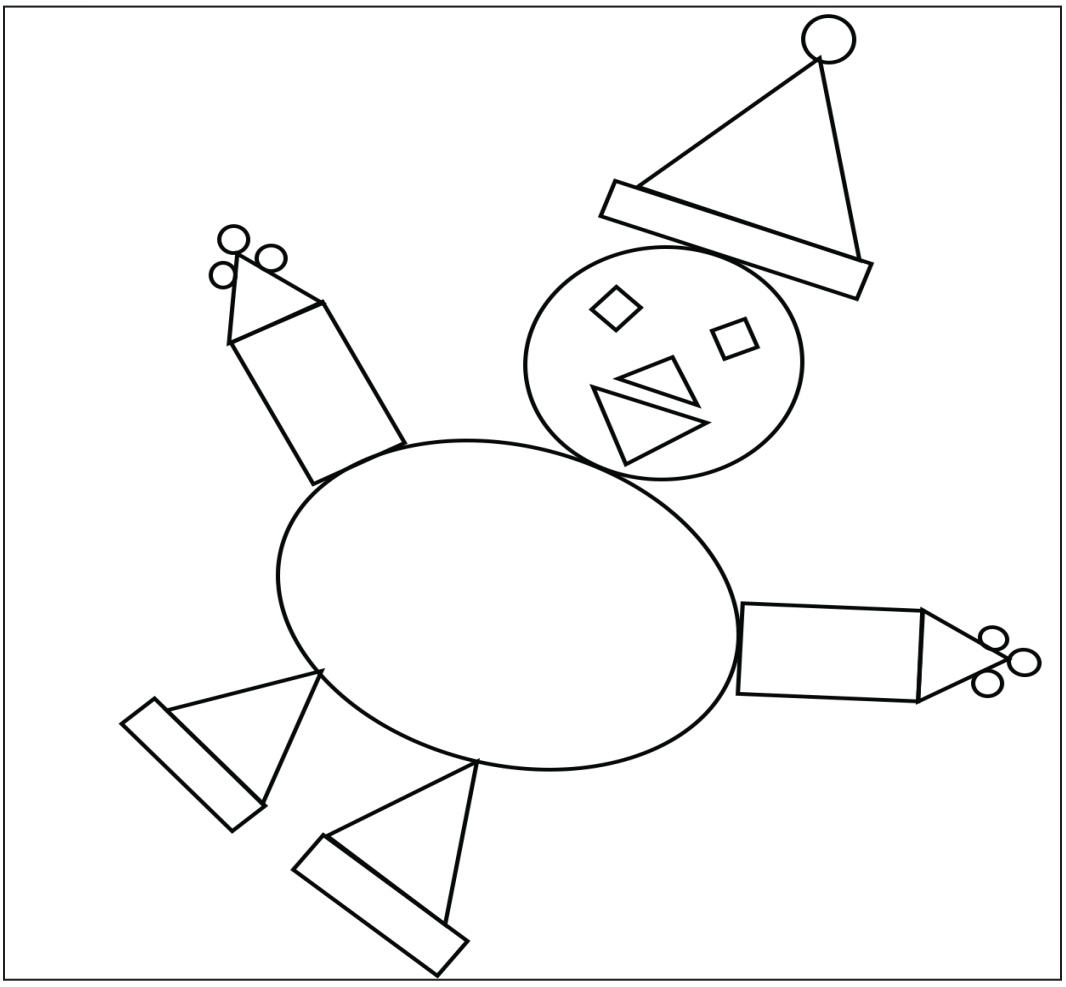
_____

d. If you were to plant a tree, which tree you would prefer to plant?

_____

Arts Integration Activity

The given figure is made of plane shapes. Make a pictograph to show how many of each plane shapes are used in the figure. Make the picture colourful by using crayons or colour pencils.



Name of the shape	Number
Rectangle	
Square	
Triangle	
Circle	

 = 1 shape

Teacher's Sign & date_____

12 INTRODUCTION TO DIVISION

Learning Outcomes:

At the end of this lesson, children will be able to:

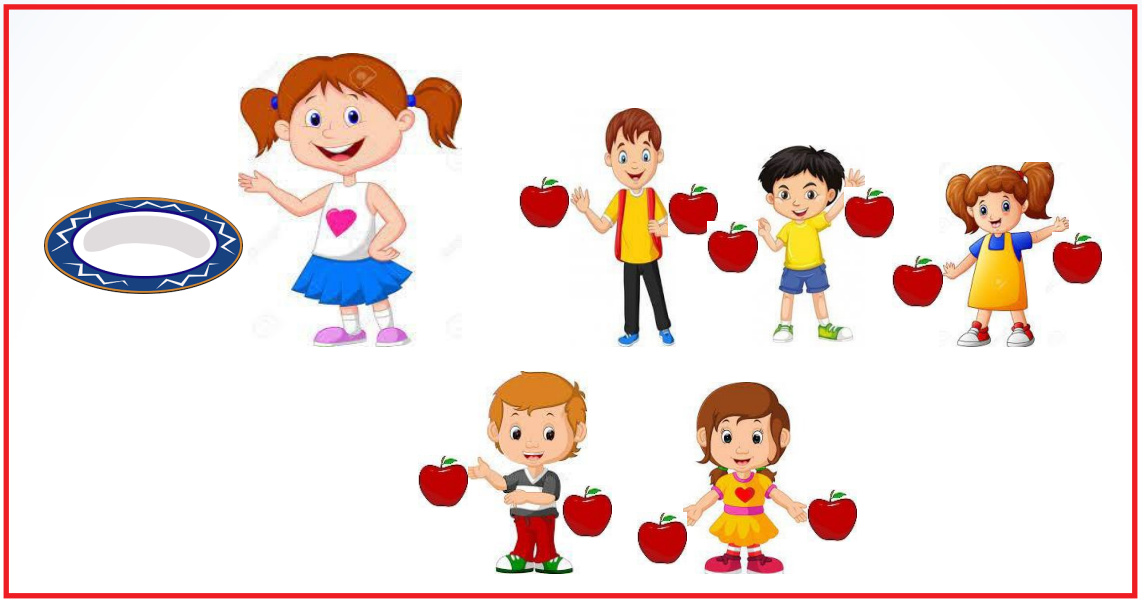
- Distribute objects into equal groups.
- Divide by equally sharing and grouping.

Dividing equally in real life

Ananya had 10 apples. She wanted to divide the apples equally among 5 friends. Help her to distribute.

She gives 1 apple to each friend. There are 5 apples left.

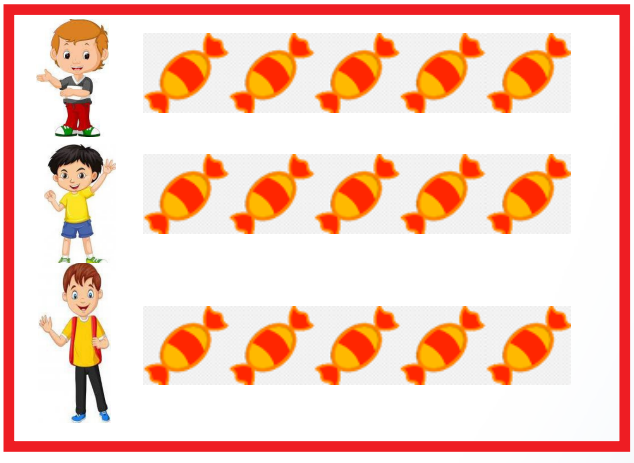
Then she gives 1 more to each. There are no apples left.



If 10 apples are divided equally among 5 friends, each gets 2 apples.

Concepts section

Here are 15 chocolates. Divide them equally among 3 boys. How many chocolates does each boy get?

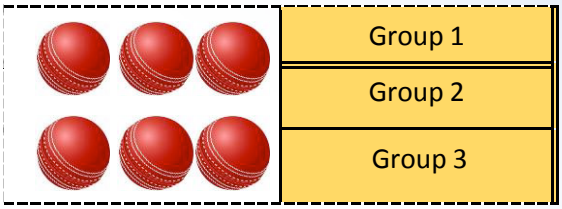


If 15 chocolates are divided equally among 3 children, each child gets _____ chocolates.

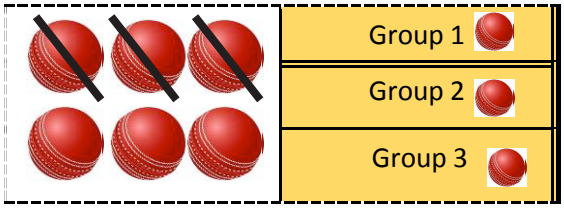
⇒ Dividing objects into equal groups

Example: Divide 6 by 3.

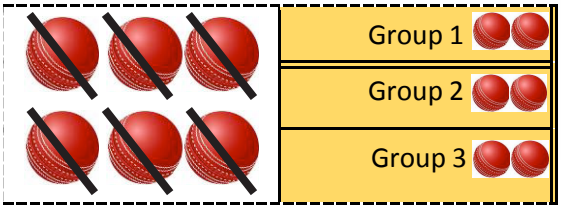
6 objects have to be equally divided into 3 groups.



Step 1: Cross out 3 objects and draw 1 each in 3 groups.



Step-2: Then cross out 3 more objects and draw 1 each in the 3 groups.



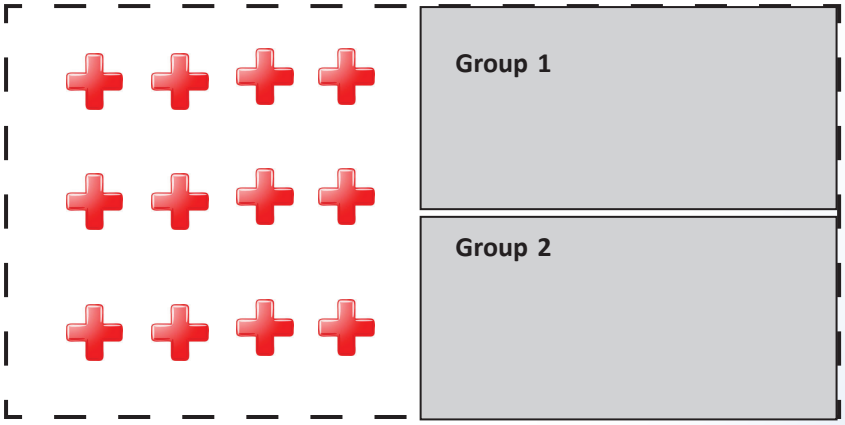
After you have crossed out all, you should have an equal number in each group.

There are 2 in each group. So 6 divided by 3 equals to 2.

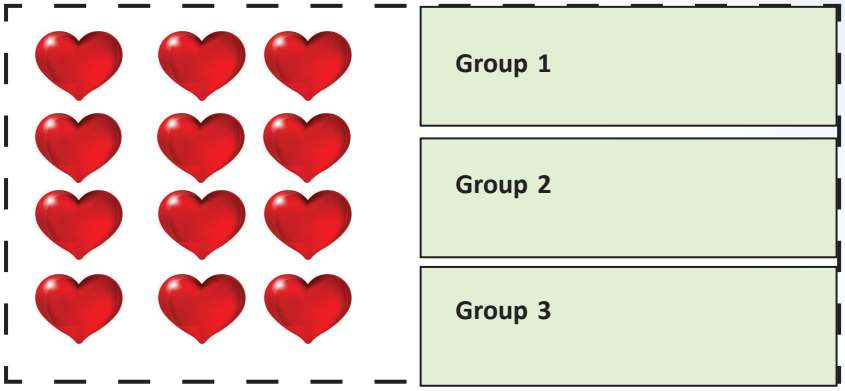
EXERCISE 12.1

1. Divide

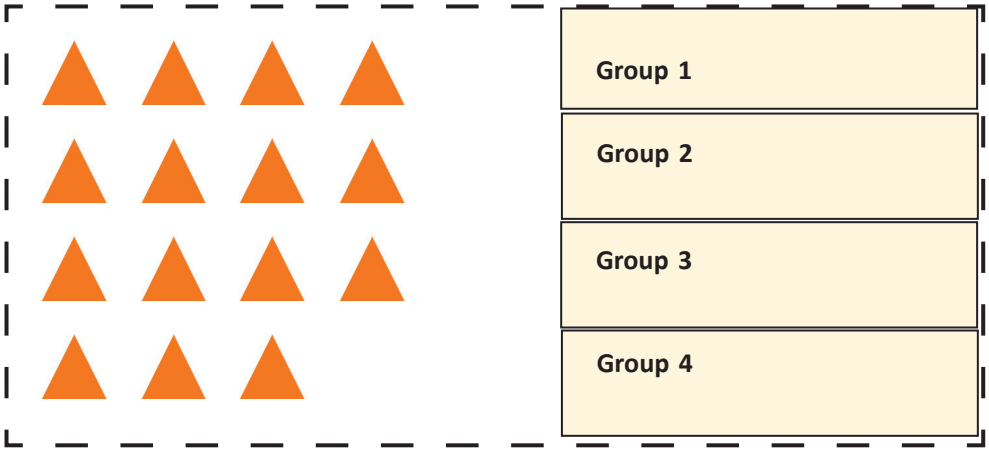
a) 12 by 2.



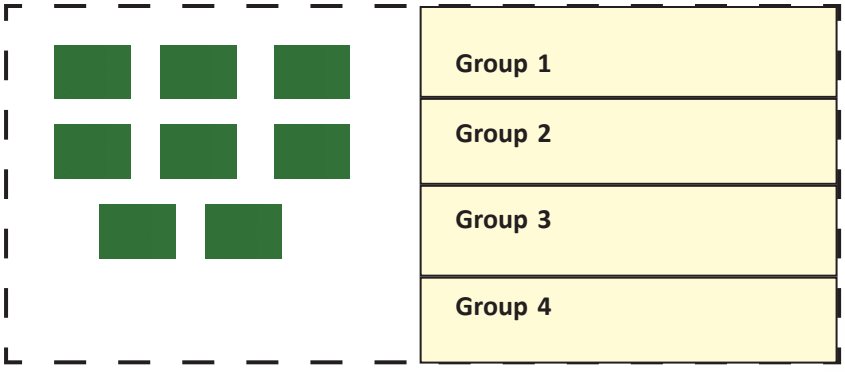
b) 12 by 3



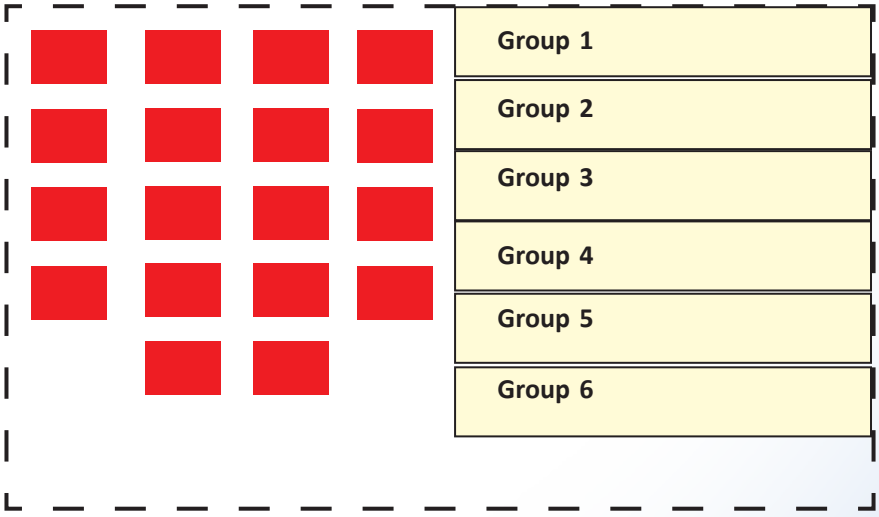
c) 15 by 5



d) 8 by 4

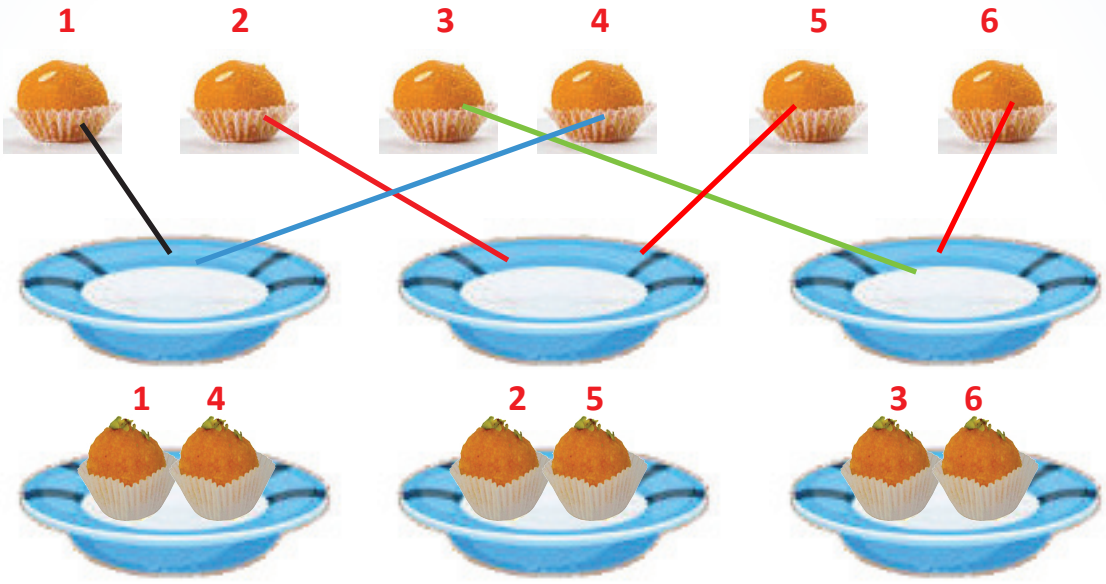


e) 18 by 6



EXERCISE 12.2

1) There are 6 ladoos. Put them in 3 plates, so that each plate has the same number of ladoos.



6 ladoos shared equally in 3 plates gives 2 ladoos in each plate. Or 6 ladoos shared equally among 3 groups gives 2 for each group.

2) Share the buttons among three T-shirts equally. Find how many buttons each T-shirt would get.

☐ buttons are equally divided between ☐ T-Shirts. Each T-shirt will get _____ buttons.

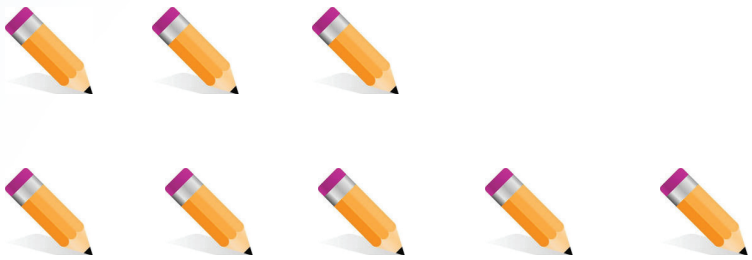
3) Share 16 peanuts equally among 4 squirrels. Find how many peanuts each squirrel gets.

☐ Peanuts divided equally into ☐ groups, give ☐ peanuts in each group. So each squirrel will get ☐ peanuts.

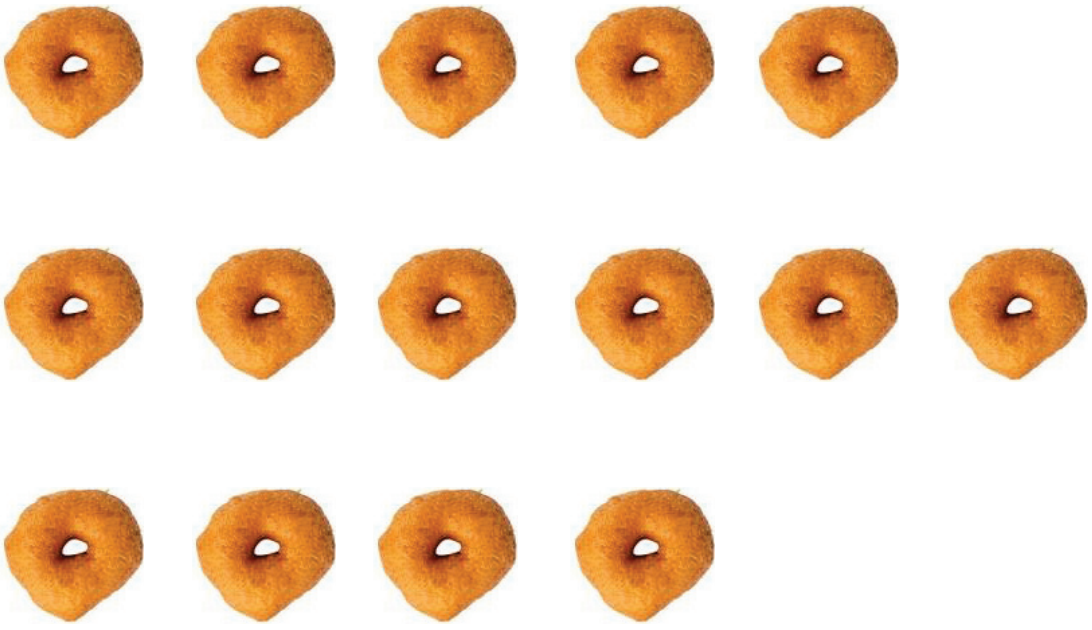
4) Divide 6 cone ice-creams equally among two children.

a. How many does each child get? ☐

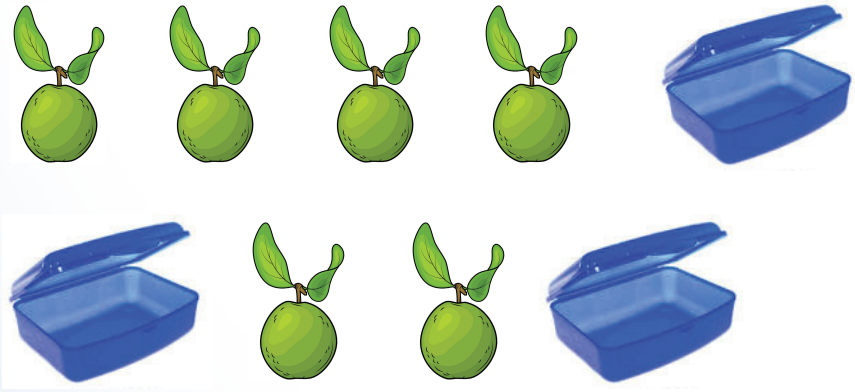
b. How many pencils can be kept equally in two pencil boxes? ☐



c. If vadas are to be packed equally in the given 3  .
How many vadas will go into each bag? ☐



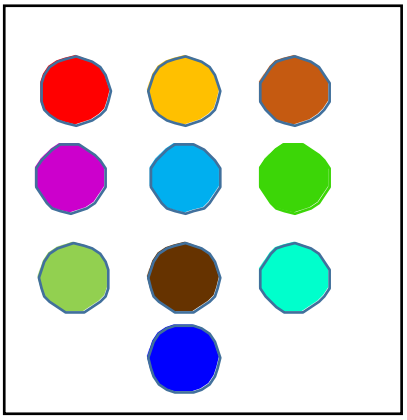
d. How many guavas can be packed equally in each of the 3 boxes? ☐



e. There are 10 candles. Equal number of candles has to be placed on each cake. Draw the candles on each of them.

Fun Activity

1. Take 10 bindis / star stickers of your choice.
2. Cut out two equal squares or rectangles from a chart paper.
3. Now start sticking bindis /stars in the squares / rectangles alternatively.
4. When all the bindis are used, find out how many are there in each square/ rectangle.



Arts Integration Activity

Draw a window grill.

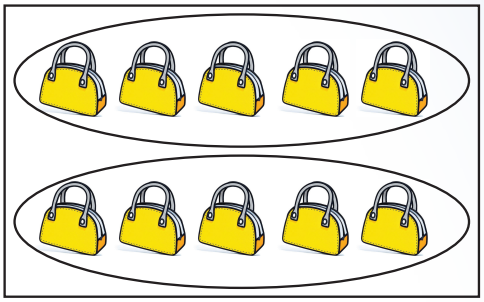
Use 5 different colours to colour them. See that you colour equal parts using all colours

Teacher's Sign & date_____

EXERCISE 12.3

1. Use the pictures to work out the divisions.

a. 10 bags are equally divided into 2 groups.

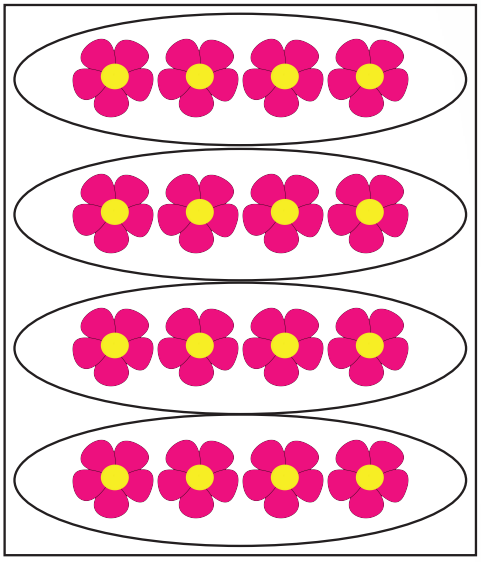


Total number of bags _____

Each group has _____

10 divided by 2 equals _____

b. Divide 16 flowers into groups of 4 each.

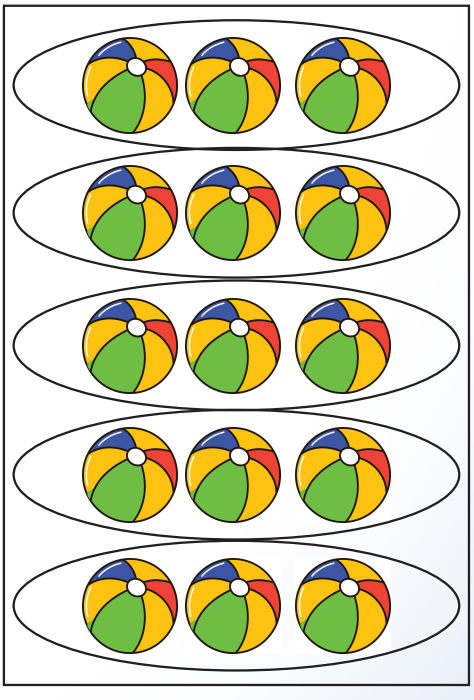


Total number of flowers _____

Each group has _____

16 divided by 4 equals _____

c. Divide 15 balls to 5 groups.

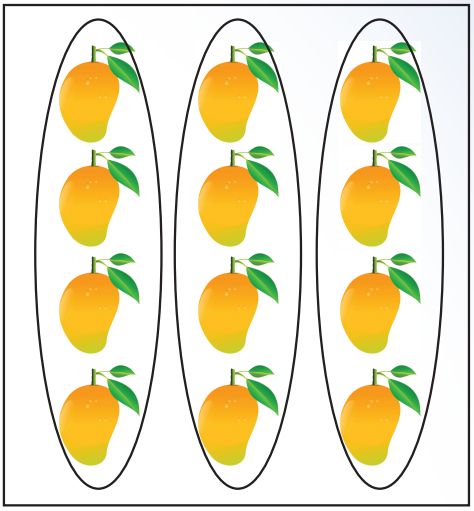


Total number of balls _____

Each group has _____

15 divided by 5 equals _____

d. 12 mangoes are equally divided into 3 groups.



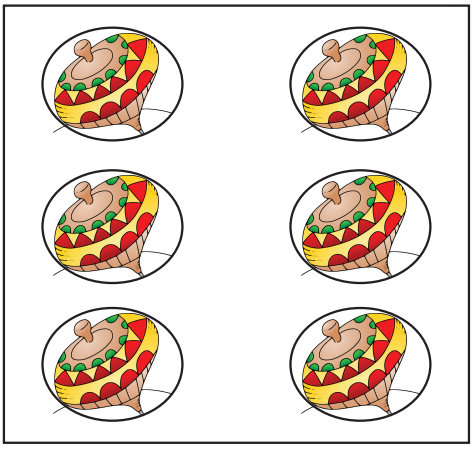
Total number of mangoes _____

Number of groups _____

Each group has _____

12 divided by 3 is _____

e. Divide 6 tops amongst 6 friends.



Total number of tops _____

Number of groups _____

Each group has _____

6 divided by 6 is _____

Value based question

There are different clothes for summer and winter seasons. Jayanth has the following clothes in his cupboard. S–Summer clothes, W-Winter clothes








S	W	S	W	S	W	S	W

How many clothes are there in all? ☐

How many are summer clothes? ☐

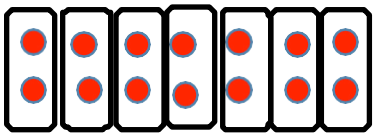
How many are winter clothes? ☐

How many groups of clothes are there in all? ☐

Why are cotton clothes good for summer season? _____

EXERCISE 12.4

1. Divide by drawing circles. One is done for you.

a. Divide 14 by 7.  14 divided by 7 equals to 2

b. Divide 8 by 2.

c. Divide 10 by 5.

d. Divide 12 by 3.

e. Divide 4 by 4.

2. Divide the objects on the left equally among those on the right. Write the division fact.

a.

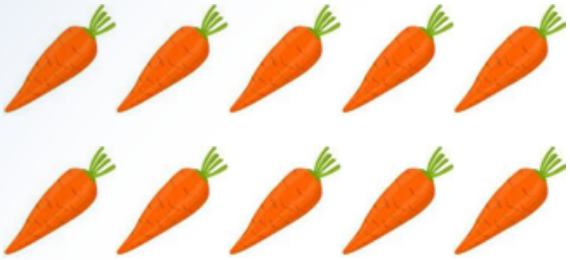
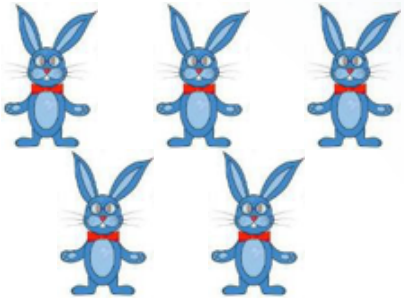
9 divided by 3 equals_____

b. 

_____

c. 

_____

d.  

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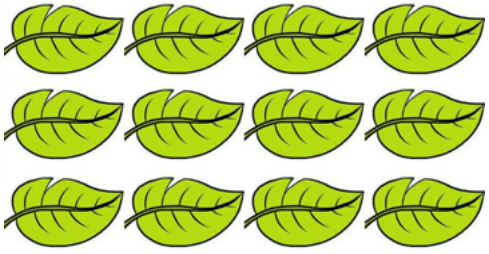
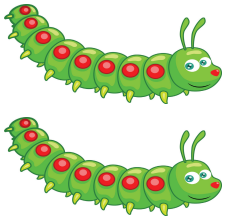
e.  

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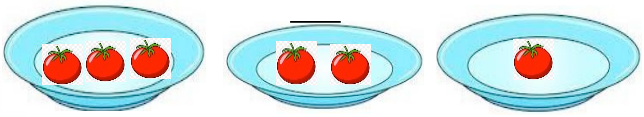
Higher Order Thinkings Skills

1.You have 17 marbles. Can you make equal groups of 3 out of these? ☐ If not, What is the least number of marbles that you should remove from the 17 marbles so that they can be arranged into equal groups? ☐

2.Suresh, Sathish, Sujesh have tomatoes with them. They want to distribute them equally in the three plates that they have.

Suresh 

Sathish 

Sujesh 

Identify a) Who would be able to do it ?

b) Show the distribution

Teacher's Sign & date_____

Vedic Mathematics

Sutra :

एकन्यूनेन पूर्वेण
(Ekanyunena Purvena)

Meaning: "One less than the previous one"
This sutra can be used to multiply if a number(multiplier/multiplicand) has all digits as 9. (9, 99, 999, 9999....)

Example 1 :

	7
x	9
6	3

The Nikhilam of 7 is 3 (10-7=3)
The ones place of the product is 3.
One less 7 is 6. The tens place of the product is 6.

Hence, the product of 7 and 9 is 63.

		8	2
	x	9	9
8	1	1	8

The Nikhilam of 82 is 18 (100-82).
The ones and tens place of the product is 18.
One less than 82 is 81. The hundreds and thousands place of the product is 81.

Hence, the product of 82 and 99 is 8118.

Srinivasa Ramanujan was an Indian mathematical genius who was born on December 22, 1887. Every year, his birth anniversary is celebrated as National Mathematics Day.

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