

Wizz Mathematics

SERIES

SRM

Aligned with SNC 2022-23

3



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SRM Aligned with SNC 2022-23



PREFACE

Wizz Mathematics Series has been designed by a team of professional authors and educators having more than two decades of teaching experience to their credit. It is aligned with the Single National Curriculum, 2022-23 and aims at sharpening the holistic development of children through learner-centered approach. The series:

- ★ Guides students in a very simple way how to solve the cognitive tasks by creating a comfortable zone.
- ★ Encourages students to practice concepts with maximum practice space.
- ★ Involves students in interactive exercises and activities.
- ★ Helps students create a natural space for thinking through well-planned activities.

WHY WIZZ MATHEMATICS SERIES?

Wizz Mathematics Series is the best choice for students because it is:

- ★ Backed by practical experience and critical analysis of over 25 years.
- ★ Developed, designed and printed with the latest and modern techniques.
- ★ Available at economical prices keeping in view the post Covid-19 economic crisis.
- ★ Based on well-planned activities and systematically developed exercises.
- ★ Helpful for students to develop the 21st century life skills for a bright future.

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PRINTED BY	:	Wizz Printer

WIZZ PUBLISHERS

A Product of AJ Stationers

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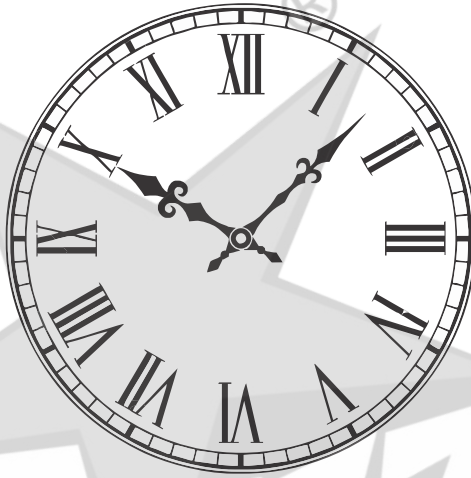
Students Learning Outcomes:

After completing this unit, students will be able to:

- ▶ Read Roman Numbers up to 20.
- ▶ Write Roman Numbers up to 20.
- ▶ Recognize even and odd numbers up to 99 within a sequence.
- ▶ Differentiate between even and odd numbers within a given numbers.
- ▶ Identify the place values of numbers up to 5-digit.
- ▶ Read and write given numbers up to 100,000 in numerals and in words.
- ▶ Represent a given number on number line up to 2-digit numbers.
- ▶ Identify the value of a number from number line up to 2-digit numbers. Compare two numbers up to 3-digit using symbols "<", ">" or "=".
- ▶ Write the given numbers in ascending and descending order.
- ▶ Round off a whole number to the nearest 10 and 100.

Roman Numbers

► Look at the clock



The numbers used here are different. These are called Roman Numbers.

Arabic Numbers	Roman Numbers	
	Capital	Small
1	I	i
2	II	ii
3	III	iii
4	IV	iv
5	V	v
6	VI	vi
7	VII	vii
8	VIII	viii
9	IX	ix
10	X	x

Arabic Numbers	Roman Numbers	
	Capital	Small
11	XI	xi
12	XII	xii
13	XIII	xiii
14	XIV	xiv
15	XV	xv
16	XVI	xvi
17	XVII	xvii
18	XVIII	xviii
19	XIX	xix
20	XX	xx

► Write in Roman Numbers.

Arabic Numbers	Roman Numbers		Arabic Numbers	Roman Numbers	
	Capital	Small		Capital	Small
1			17		
5			19		
13			12		
8			14		
10			11		
16			20		

► Write in Arabic Numbers,

II

VII

XV

XVIII

XX

IV

VIII

III

IX

VI

XII

X

► Write in the missing Roman Numbers in boxes.

Key Fact

V=5

X=10

XX=20

L=50

C=100

► Match the numbers.

XI _____.

XVII _____.

XIX _____.

XX _____.

XIV _____.

XVI _____.

XIII _____.

XV _____.

_____.

_____.

_____.

_____.

_____.

_____.

_____.

_____.

17

11

20

19

16

14

15

13

Even And Odd Numbers

1. Even Numbers:

The numbers which are divisible by 2 are called even numbers.

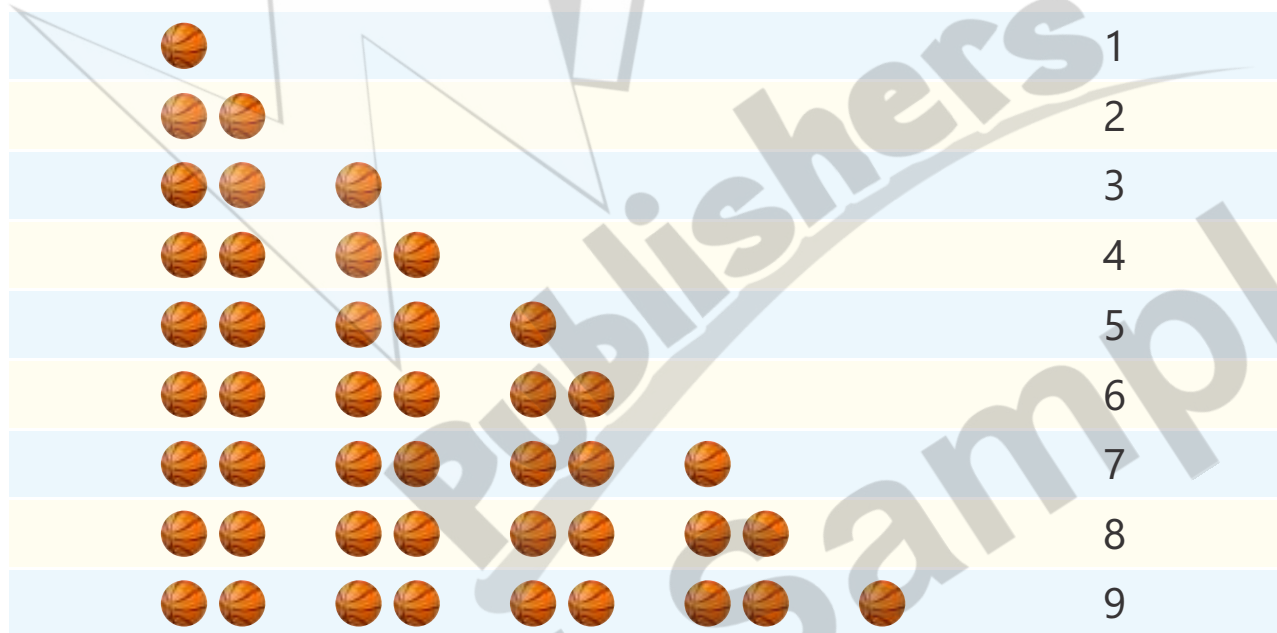
10, 26, 38, 92

2. Odd Numbers:

The numbers which are not divisible by 2 are called odd numbers.

5, 17, 49, 33, 97

Count the balls



Even Numbers

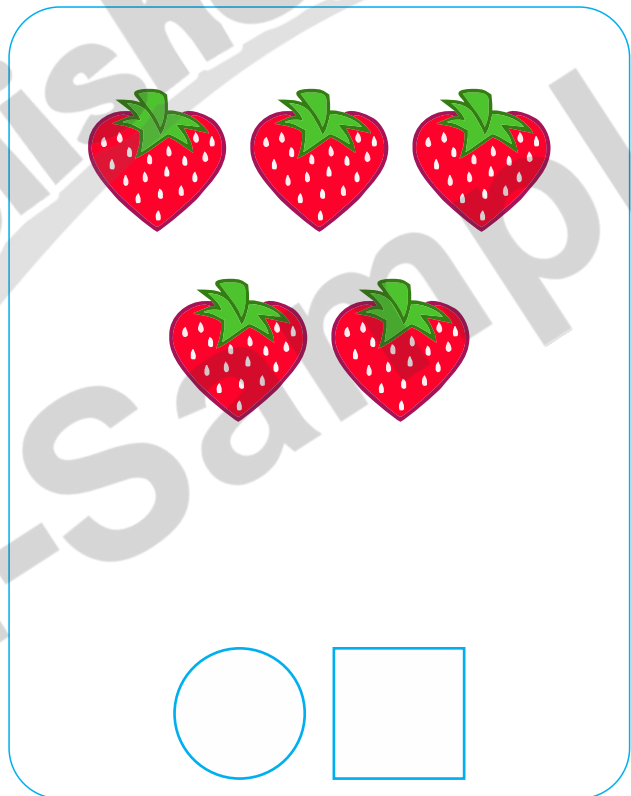
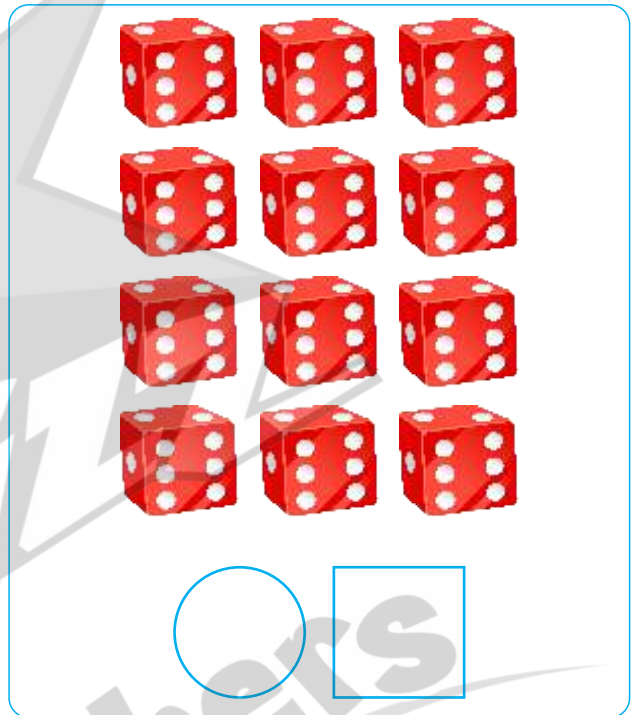
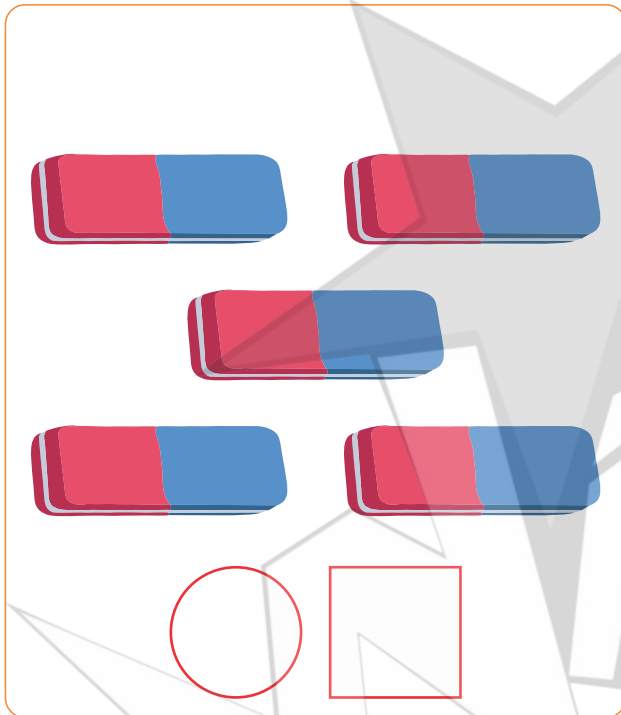
0, 2, 4, 6, 8

Odd Numbers

1, 3, 5, 7, 9

Practice Exercise

- Count the following objects and write the number in the box.
Also write, either the number is even or odd.



► Identify the following as odd or even number.

a. 59		b. 76		c. 95	
d. 10		e. 35		f. 99	
g. 16		h. 24		i. 75	
j. 36		k. 33		l. 46	

► Separate even and odd numbers from the following.

29	35	94	10	11	14	79	98	21	24	28
31	22	46	78	39	38	45	64	47	90	15

Even Numbers

Odd Numbers

► Write the odd numbers between 40 and 70.

Numbers in Words

- In words, we simply write the numbers in words with the help of place values.

Th H T[®] O
8, 5 3 6

Eight thousand, five hundred and thirty six.

- Write in words.

4,259

9,026

8,405

1,500

6,714

5,936

4,285

23,769

35,048

70,305

64, 830

92,700

49,648

37,495

28,379

Numerals

➤ A symbol that represents a number is called Numeral.

Five thousand, two hundred and thirty four

Th	H	T	O
5	2	3	4

Thirty four thousand, eight hundred and sixty seven

T.Th	Th	H	T	O
3	4	8	6	7

➤ Write in numerals.

Th	H	T	O
----	---	---	---

1. Three thousand, seven hundred and sixty four

--	--	--	--

2. Five thousand eight hundred and eighteen.

--	--	--	--

3. Four thousand and fifty four

--	--	--	--

4. Nine thousand and six

--	--	--	--

5. Four thousand three hundred and eight

--	--	--	--

6. Eight thousand and two hundred

--	--	--	--

7. Sixty nine thousand, five hundred and seventy one. 

T.Th	Th	H	T	O

8. Fifty eight thousand, three hundred and seven.

----------------------	----------------------	----------------------	----------------------	----------------------

9. Forty five thousand, three hundred and seventy.

----------------------	----------------------	----------------------	----------------------	----------------------

10. Thirty thousand, four hundred and twenty six.

----------------------	----------------------	----------------------	----------------------	----------------------

11. Sixty one thousand and seventy nine.

----------------------	----------------------	----------------------	----------------------	----------------------

12. Eighty six thousand.

----------------------	----------------------	----------------------	----------------------	----------------------

13. Ninety three thousand , five hundred and two.

----------------------	----------------------	----------------------	----------------------	----------------------

14. Sixty thousand, seven hundred and six.

----------------------	----------------------	----------------------	----------------------	----------------------

15. Thirty five thousand, nine hundred and forty eight.

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Which is the greatest number?

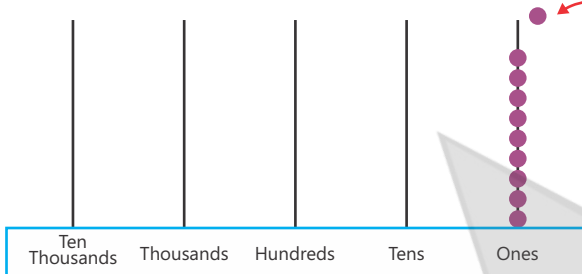
=>

The greatest 4- digit number is 9,999.

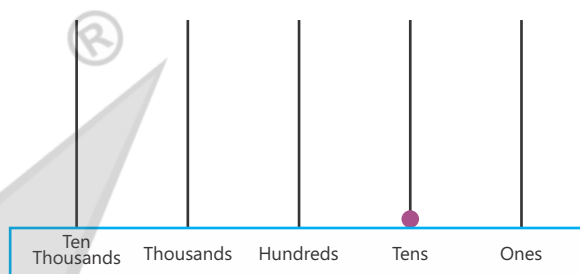
If we add 1 to 9999 , we get first 5 digits number i.e. 10,000.

5-Digit Numbers

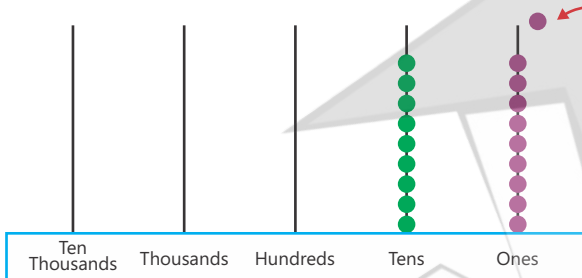
$$9 + 1$$



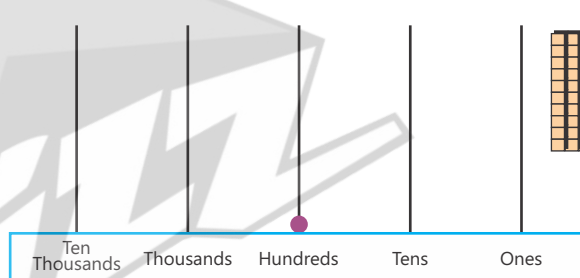
$$9 + 1 = 10$$



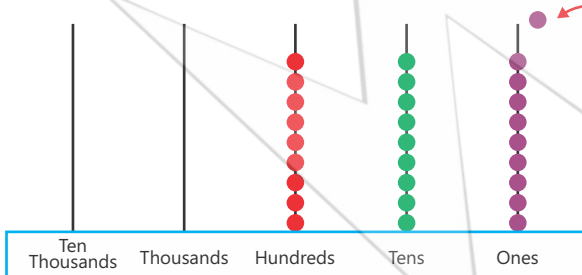
$$99 + 1$$



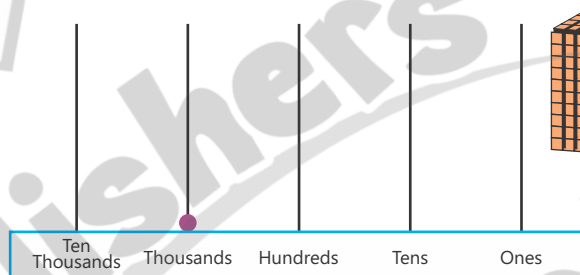
$$99 + 1 = 100$$



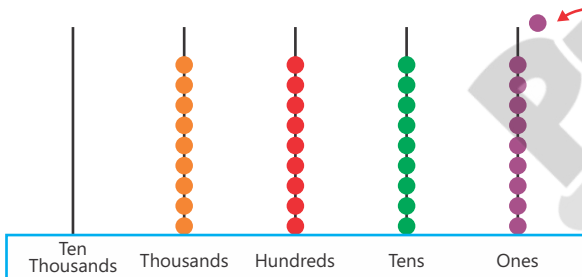
$$999 + 1$$



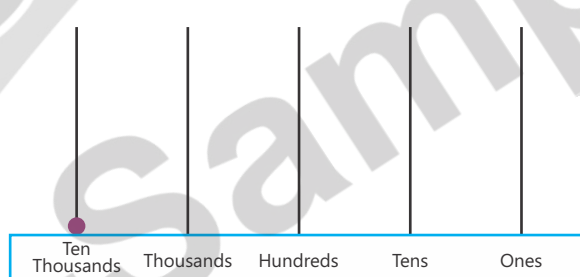
$$999 + 1 = 1000$$



$$9999 + 1$$



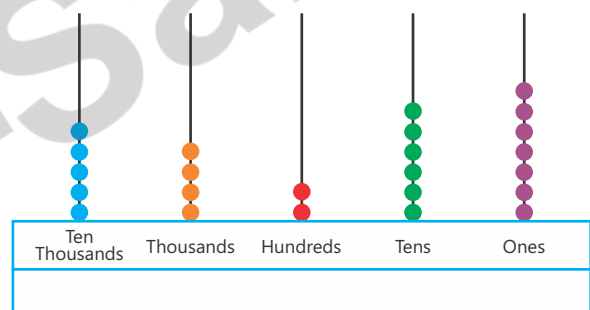
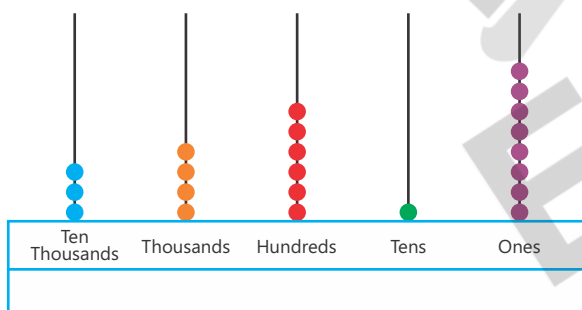
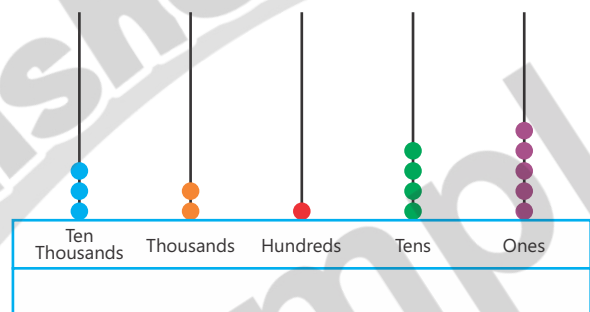
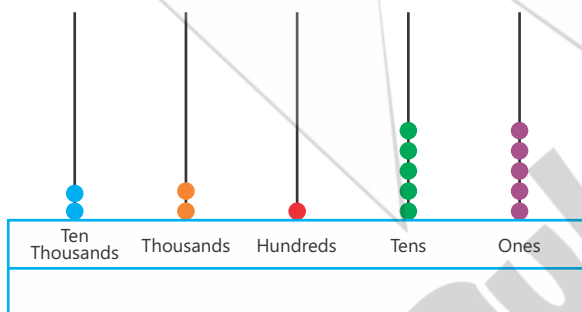
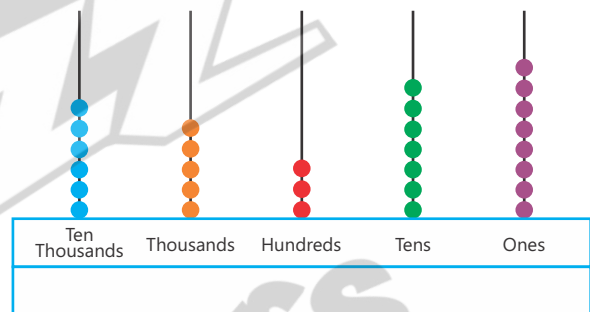
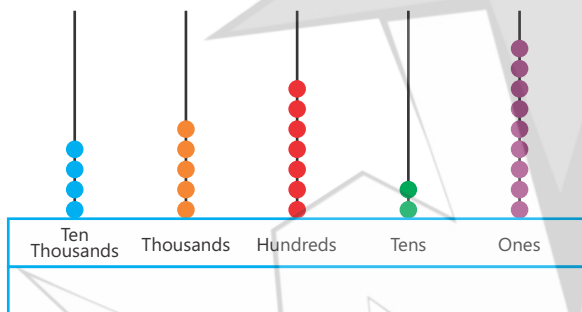
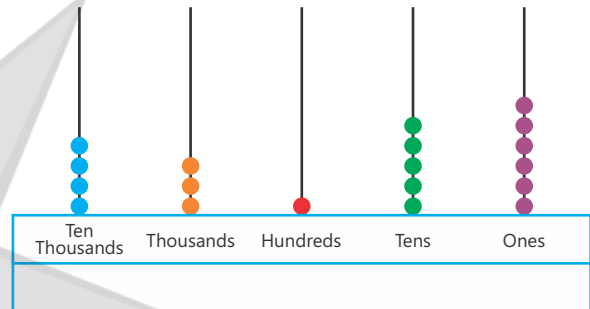
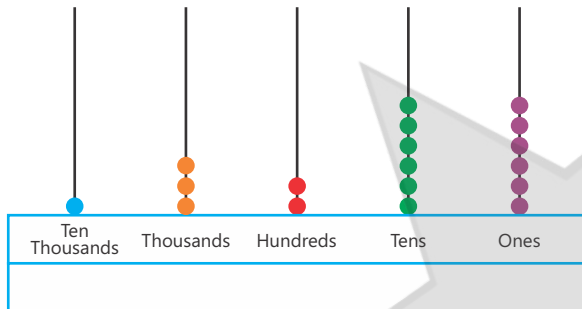
$$9999 + 1 = 10000$$



Ten Thousands

Ten Thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0

► Write the numbers.



On Place Value Chart

T. Th	Th	H	T	O
Ten Thousands	Thousands	Hundreds	Tens	Ones
1	6	7	2	4

$$10,000 + 6,000 + 700 + 20 + 4 = 16,724$$

It can also be written in words, i.e, sixteen thousand seven hundred and twenty four.

► **1. Write in expanded form. First one has been done for you.**

$3,796 =$

$3796 = 3000 + 700 + 90 + 6$

$4,512 =$

$9,075 =$

$5,403 =$

$78,345 =$

$23,680 =$

$69,037 =$

$80,953 =$

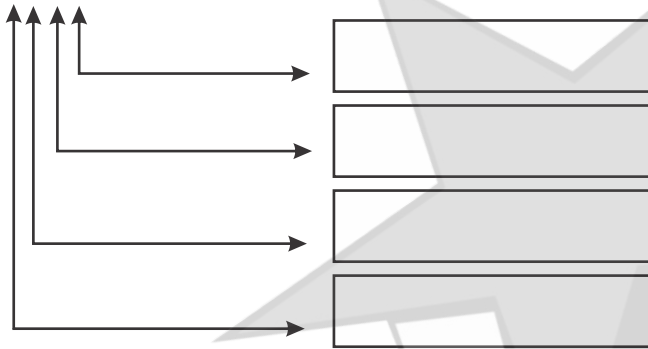
$34,528 =$

$48,391 =$

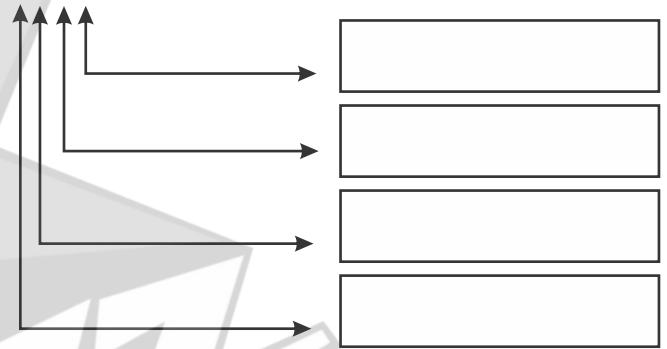
Practice Exercise

► Write the place value of the following numbers.

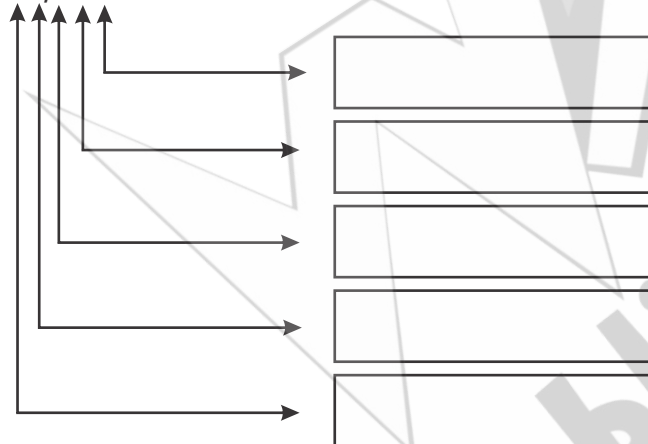
a) 6,742



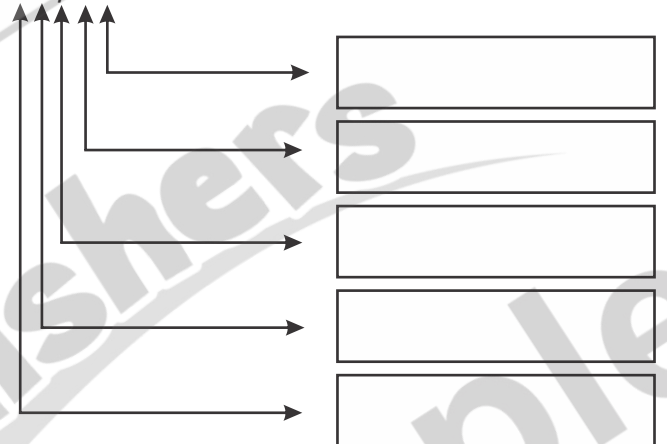
b) 9,586



c) 37,403



d) 42,596



► Write the place value of underlined digits.

3495 = _____

4971 = _____

5634 = _____

8478 = _____

2836 = _____

9364 = _____

67,395 = _____

58,134 = _____

42,596 = _____

93,642 = _____

75,283 = _____

39,778 = _____

34,678 = _____

17,589 = _____

84,326 = _____

48,389 = _____

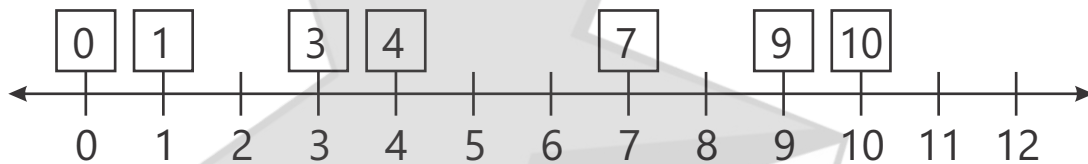
64,173 = _____

36,974 = _____

Numbers Line

A straight line on which numbers are represented at equal intervals is called number line.

► **Example,**



► **Encircle the value in the boxes on the number line.**

a)



b)



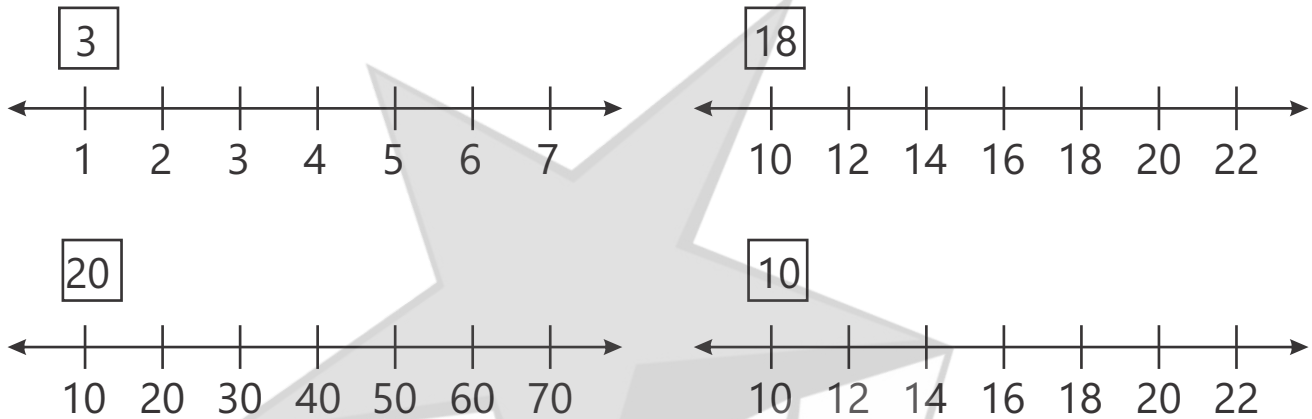
c)



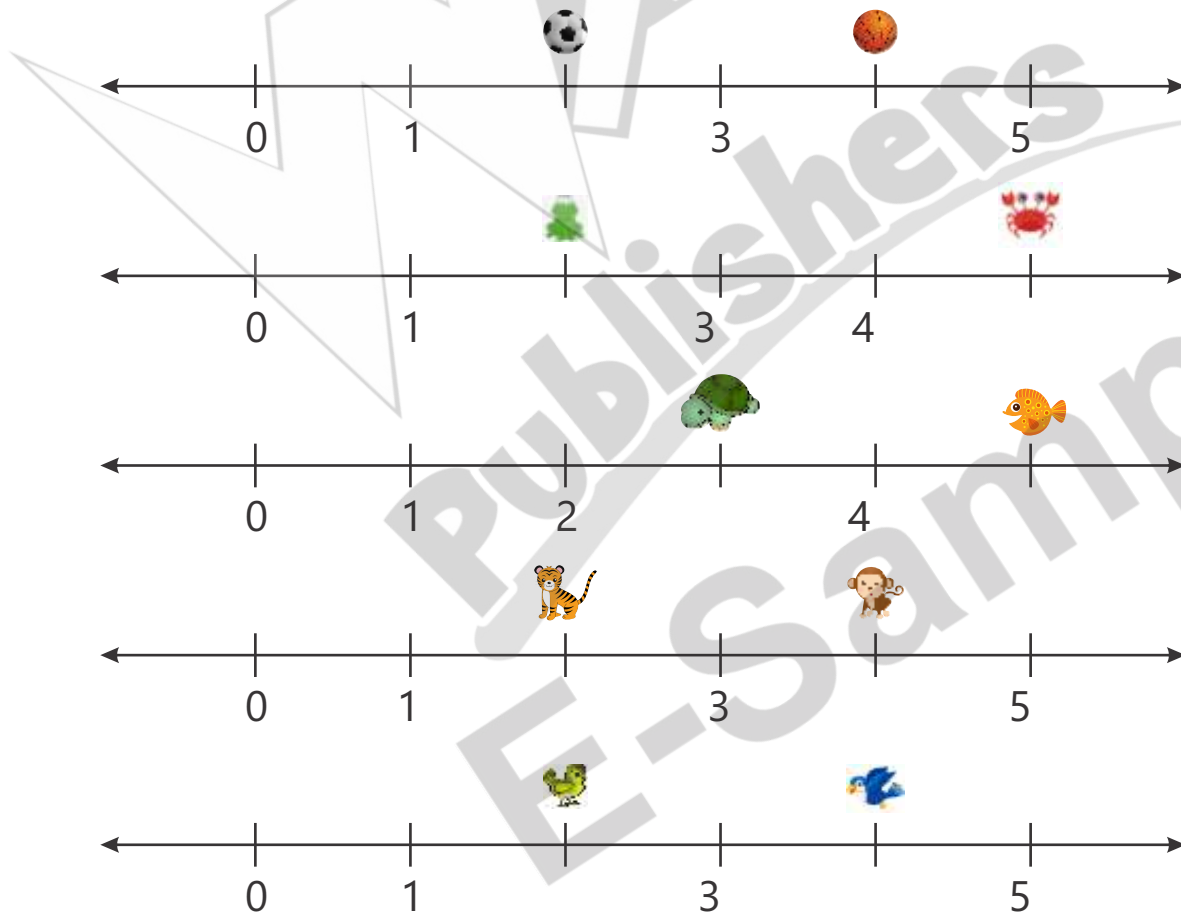
Teaching Point

Teacher will explain the concept of number line to students with fun games.

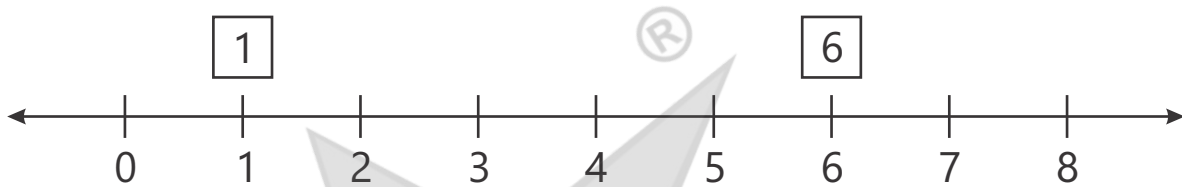
► Encircle the value in the boxes on the number line.



► Write the value of objects on the given number line.



Comparing and Ordering Numbers



Number increases when we move
from left
to right on number line

- If we have a record of some scores of match . How would you find the highest and the lowest score?

If we have,

Lowest score = 40

Highest score = 70

so, $\boxed{70} > \boxed{40}$

70 is greater than 40

$\boxed{40} < \boxed{70}$

40 is less than 70

$\boxed{40} = \boxed{40}$

40 is equal to 40

Key Fact

'>' Greater than

'=' Equal to

'<' Less than

Compare 564 and 973

Hundreds	Tens	Ones
5	6	4
9	7	3

- First compare the digits at hundreds place 9 is greater than 5.
So, 973 is greater than 564. It can also be written as $973 > 564$.

Compare 846 and 853

First compare the digits at hundreds place, if both values are same then compare the digits at tens place. 4 is less than 5. So, 846 is less than 853. It can also be written as:

Hundreds	Tens	Ones
8	4	6
8	5	3

Practice Exercise

- Encircle the smaller number in each pair.

254	423
562	372
642	733
543	378
538	352
346	281
255	721
141	633

123	321
654	357
892	479
758	779
802	195
145	541
276	285
141	473

648	269
594	446
389	398
661	632
613	751
448	749
295	264
347	632

395	290
627	460
840	968
138	540
751	725
633	138
955	427
181	491

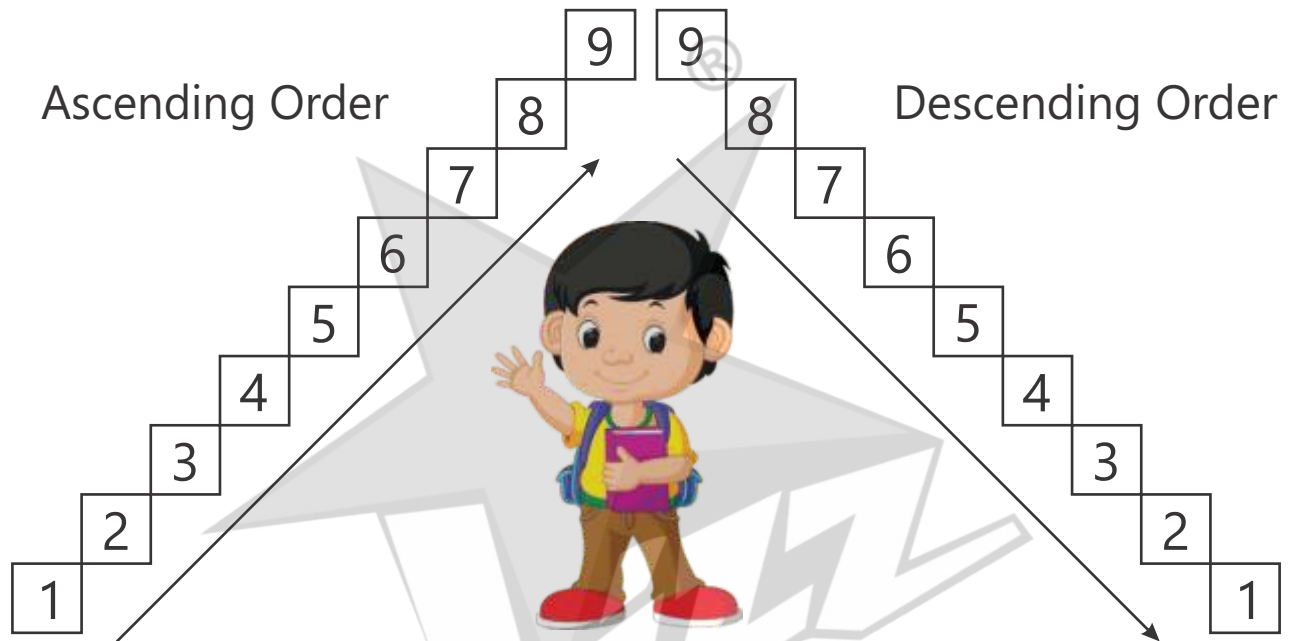
► Encircle the greater number in each pair.

623	456	584	738	721	648	931	762
759	948	879	423	565	665	474	821
958	497	853	254	132	732	346	558
413	324	321	483	464	164	692	460
148	571	621	129	496	648	296	488
231	326	300	430	102	221	478	326
253	432	247	761	263	155	531	755
626	536	560	238	525	340	169	127

► Use symbols of (<), (>) or (=) in the blanks.

654	_____	564	947	_____	979	500	_____	341	386	_____	386
957	_____	957	458	_____	795	820	_____	756	454	_____	398
326	_____	147	645	_____	594	784	_____	913	493	_____	569
859	_____	346	493	_____	493	846	_____	386	976	_____	976
143	_____	431	562	_____	349	218	_____	218	605	_____	293
296	_____	326	306	_____	523	456	_____	456	426	_____	231
169	_____	755	434	_____	299	354	_____	295	737	_____	737
478	_____	127	138	_____	148	156	_____	405	265	_____	144
531	_____	694	218	_____	375	234	_____	502	126	_____	263
488	_____	269	649	_____	799	956	_____	936	473	_____	921

Ordering Numbers



Ascending Order

In ascending order, numbers are arranged from the smallest to the greatest order.

Descending Order:

In descending order, numbers are arranged from the greatest to the smallest order.

Teaching Point

Teachers will explain the concept of ascending and descending order by giving examples from daily life, like the use of stairs.

► Write in ascending order.

538 , 311 , 463 , 255

141 , 133 , 352 , 617

216 , 604 , 537 , 368

724 , 195 , 541 , 612

► Write in descending order.

231 , 148 , 253 , 626

571 , 326 , 432 , 736

648 , 221 , 155 , 340

478 , 531 , 169 , 488

► Write 4 numbers greater than 257 and write in ascending and descending order.

Ascending Order

Descending Order

Estimation

Round off to 10

► We use " $\approx$ " symbol for rounding off

- If the digit at ones place is less than 5, we will write 0 at ones place.

$$32 \approx 30$$

$$184 \approx 180$$

- If the digit at ones place is equal to 5 or greater than 5, we will write 0 at ones place and increase the digit at tens place by 1.

$$\begin{array}{rcl} 45 & \approx & 50 \\ 378 & \approx & 380 \end{array}$$

► **Round off the following numbers to the nearest 10.**

33 $\approx$ _____	19 $\approx$ _____	37 $\approx$ _____
69 $\approx$ _____	32 $\approx$ _____	14 $\approx$ _____
76 $\approx$ _____	41 $\approx$ _____	82 $\approx$ _____
62 $\approx$ _____	53 $\approx$ _____	23 $\approx$ _____
38 $\approx$ _____	76 $\approx$ _____	44 $\approx$ _____

Round off to 100

- =) If the digit at tens place is less than 5 we put 0 at tens and ones and the digit at hundreds place remains same.

$$\begin{array}{rcl} 145 & \approx & 100 \\ 109 & \approx & 100 \end{array}$$

- =) If the number is 5 or more than 5 at tens place, we put 0 at tens place and Increase the digit at hundreds place by 1.

$$\begin{array}{rcl} 176 & \approx & 200 \\ 480 & \approx & 500 \end{array}$$

► **Round off the following numbers to the nearest 100.**

447 $\approx$ _____	238 $\approx$ _____	184 $\approx$ _____
707 $\approx$ _____	579 $\approx$ _____	669 $\approx$ _____
164 $\approx$ _____	854 $\approx$ _____	190 $\approx$ _____
369 $\approx$ _____	96 $\approx$ _____	324 $\approx$ _____
625 $\approx$ _____	921 $\approx$ _____	762 $\approx$ _____

- Round off 773 to the nearest tens and hundreds place.

- Round off following numbers to the nearest tens and hundreds place.

Number	To nearest 10s	To nearest 100s
303		
420		
876		
602		
515		
793		

Number	To nearest 10s	To nearest 100s
671		
708		
857		
325		
465		
739		

Review Exercise

- Tick the correct answer.

- Roman number XVI is equal to: 10 11 16
- Place values of 3 in 4375 is 300 3000 30
-
- 17 is an _____ number. Odd Even Both.
- Number of sides of a rectangle are Odd Even None

- Fill in the blanks.

- The numbers which are divisible by 2 are called _____ numbers.
- In ascending order, numbers are written from _____ to _____.

3. The numbers which are not divisible by 2 are called _____
Numbers.
4. XI, V and I are _____ numbers.
5. In Descending order, numbers are written from _____ to _____.
6. A straight line on which numbers are represented at equal intervals
in called _____ line.
7. The greatest 3-digit number is _____.
8. The smallest 4-digit number is _____.
9. The greatest 4-digit number is _____.
10. The smallest 5-digit number is _____.

► **Separate even and odd numbers.**

8, 31, 12, 25, 40, 54, 67, 41, 76, 53, 82, 71, 90, 95	
Even Numbers	Odd Numbers

► Write “E” for even numbers and “O” for odd numbers.

2		5		9	
18		21		28	
35		56		67	
73		79		80	
84		87		90	
93		94		95	
97		98		100	
7		23		85	
13		34		3	
47		4		76	

Practice Exercise

► Write in words.

3,746

1,279

8,407

97,315

70,469

83,459

32,176

47,238

► Write in expanded form:

1. 3,495 _____
2. 4,263 _____
3. 38,506 _____
4. 20,340 _____
5. 93,264 _____

► Write these numbers in ascending order:

562, 126, 349, 250

605, 290, 493, 126

263, 442, 316, 594

► Write these numbers in descending order:

293, 468, 735, 563

637, 129, 439, 256

385, 132, 684, 391

► Round off the following numbers to the nearest 10.

87 $\approx$ _____

93 $\approx$ _____

31 $\approx$ _____

41 $\approx$ _____

59 $\approx$ _____

68 $\approx$ _____

► Round off the following numbers to the nearest 100.

734 $\approx$ _____

497 $\approx$ _____

159 $\approx$ _____

918 $\approx$ _____

815 $\approx$ _____

282 $\approx$ _____



► Write in ascending order.

285 , 661 , 344 , 735

294 , 875 , 174 , 926

633 , 955 , 182 , 316

► Write in descending order.

621 , 300 , 247 , 560

129 , 430 , 761 , 238

496 , 102 , 263 , 525

► Round off the following.

47 ≈ _____

95 ≈ _____

36 ≈ _____

54 ≈ _____

72 ≈ _____

83 ≈ _____

468 ≈ _____

446 ≈ _____

824 ≈ _____

542 ≈ _____

219 ≈ _____

67 ≈ _____

843 ≈ _____

695 ≈ _____

314 ≈ _____

► Write in numerals

1. Three thousand nine hundred and eighty-seven.
2. Four thousand, three hundred and nine.
3. Fifty-nine thousand, five hundred and forty-two.
4. Twenty-eight thousand, four hundred and seven.
5. Sixty thousand, one hundred and ninety-eight.
6. Seventy four thousand, three hundred and fifty.

T.Th	Th	H	T	O

Students Learning Outcomes

After completing this unit, students will be able to:

- ▶ Express the fractions in figures and vice versa.
- ▶ Match the fractions with related figures.
- ▶ Recognize proper and improper fractions.
- ▶ Differentiate between proper and improper fractions.
- ▶ Identify equivalent fractions from the given figures.
- ▶ Write three equivalent fractions for a given fractions.
- ▶ Compare fractions with same denominators using symbols $<$, $>$ or $=$.
- ▶ Add two fractions with same denominators.
- ▶ Subtract fractions with same denominators.
- ▶ Represent subtraction of fractions through figures.



Fractions and Types

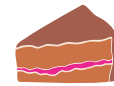
- A fraction in which numerator and denominator are numbers and are separated by slanted line



One whole cake = 1

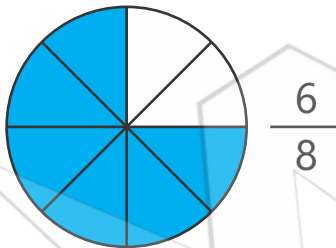


Half = $\frac{1}{2}$



One Fourth = $\frac{1}{4}$

- The figure is divided into six parts. Six of the parts are coloured. In fraction.



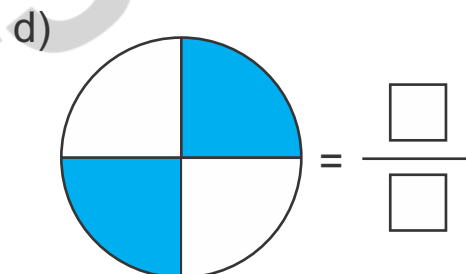
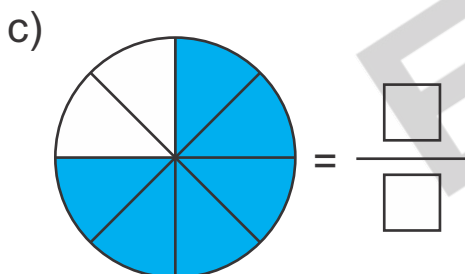
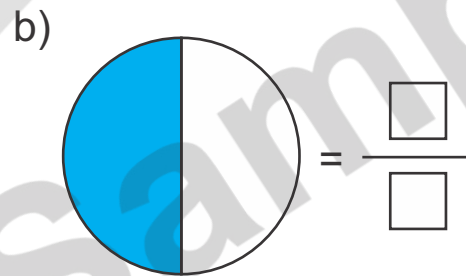
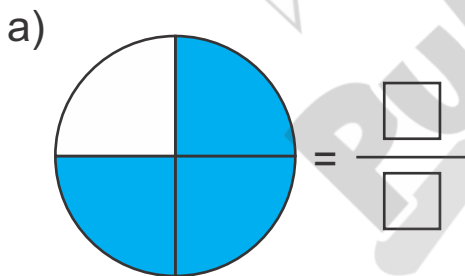
$\frac{6}{8}$

Key Fact

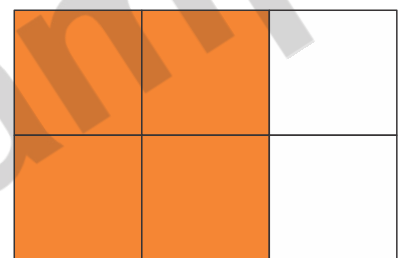
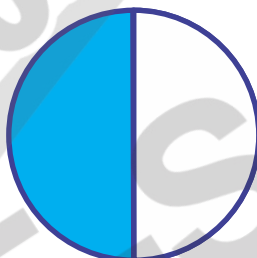
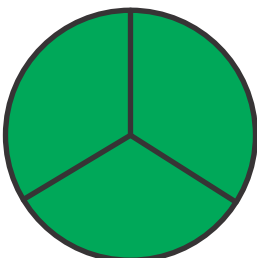
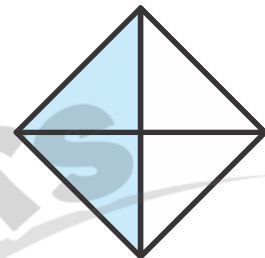
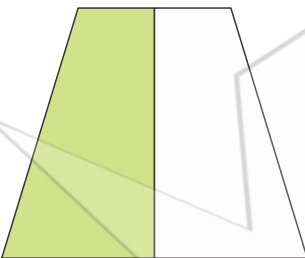
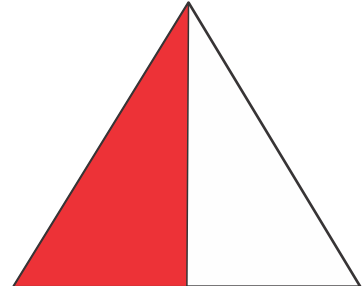
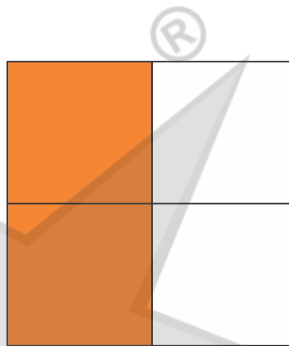
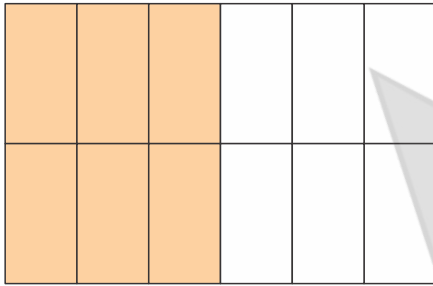
The upper part of a fraction is called Numerator.
The lower part of a fraction is called Denominator.

Practice:

Write the fractions of the coloured part in the given box.

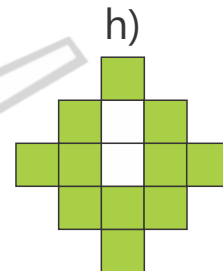
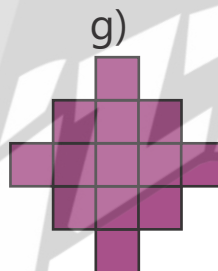
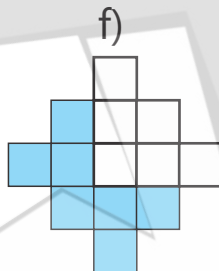
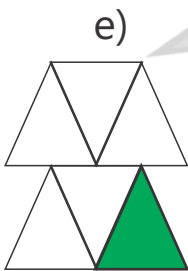
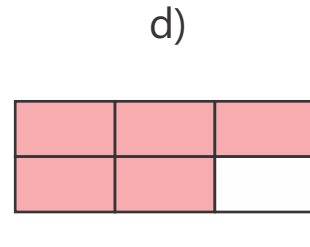
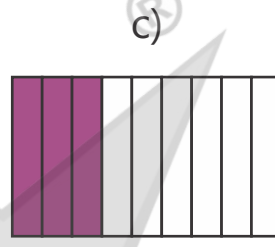
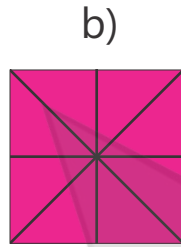


► Write the fraction for the colour parts.

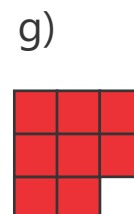
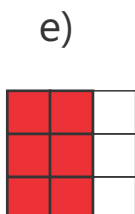
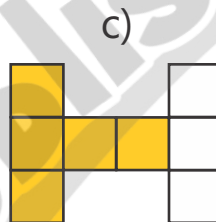
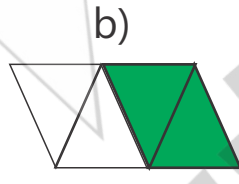
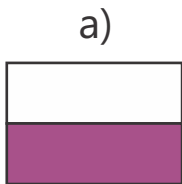


Fraction Concepts

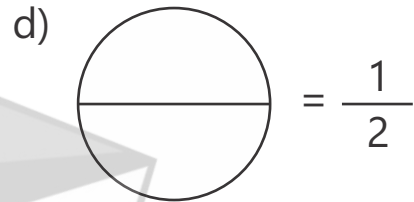
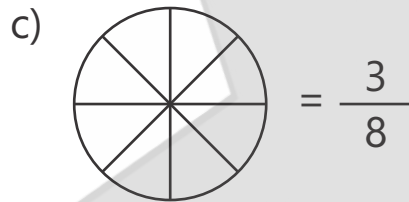
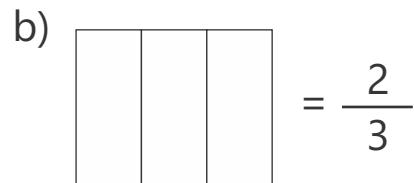
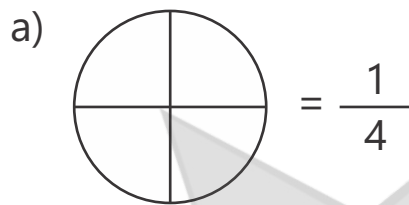
► Write a fraction for the shaded part.



► Write a fraction for the unshaded part.



► Colour the following figures according to the given fractions.



► Separate Numerator and Denominator from the given fractions.

$$\frac{96}{10} =$$

Numerator = _____
Denominator = _____

$$\frac{6}{10} =$$

Numerator = _____
Denominator = _____

$$\frac{5}{11} =$$

Numerator = _____
Denominator = _____

$$\frac{7}{8} =$$

Numerator = _____
Denominator = _____

$$\frac{12}{15} =$$

Numerator = _____
Denominator = _____

$$\frac{25}{30} =$$

Numerator = _____
Denominator = _____

Proper and Improper Fractions

➤ Proper Fractions:

A fraction in which numerator is less than denominator is called Proper Fraction. For example.

$$\frac{2}{4}, \frac{5}{8}$$

➤ Improper Fractions:

A fraction in which numerator is greater than or equal to denominator is called Improper Fractions. For example.

$$\frac{7}{5}, \frac{6}{4}, \frac{7}{7}$$

➤ Practice Exercise:

Match the "Proper and Improper Fractions" to their relevant fractions.

$$\frac{6}{11}$$

$$\frac{4}{7}$$

$$\frac{6}{12}$$

$$\frac{5}{5}$$

Proper
Fraction

$$\frac{5}{2}$$

Improper
Fraction

$$\frac{7}{4}$$

$$\frac{9}{4}$$

$$\frac{13}{12}$$

Equivalent Fractions

Fractions that have different numerators and denominators but they represent the same value. For example.

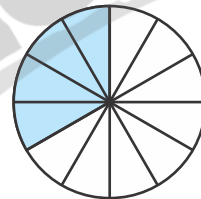
$$\frac{9}{12} \text{ and } \frac{6}{8}$$

have different numerators and denominators but both are equal to $\frac{3}{4}$ so they are equivalent fractions.

- **To find equivalent fractions, multiply or divide the numerator or denominator by the same numbers.**

$$\frac{1}{3} = \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$$

$$\frac{2}{6} = \frac{2 \times 2}{6 \times 2} = \frac{4}{12}$$



So, equivalent fractions of $\frac{1}{3}$ are:

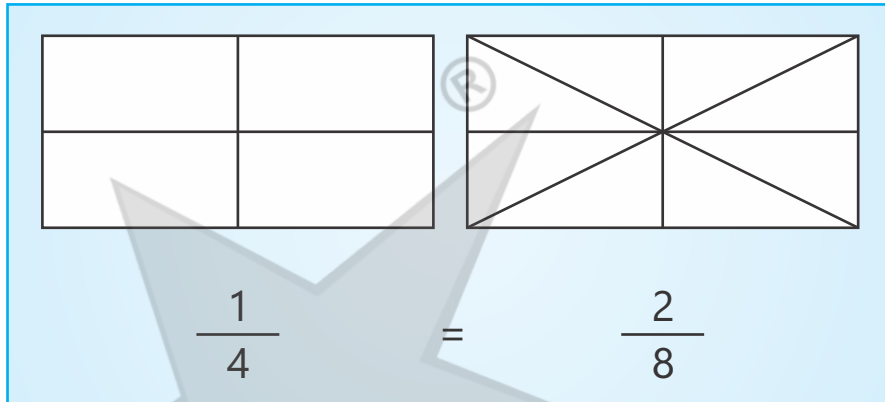
$$\frac{2}{6} \text{ and } \frac{4}{12}$$

Teaching Point

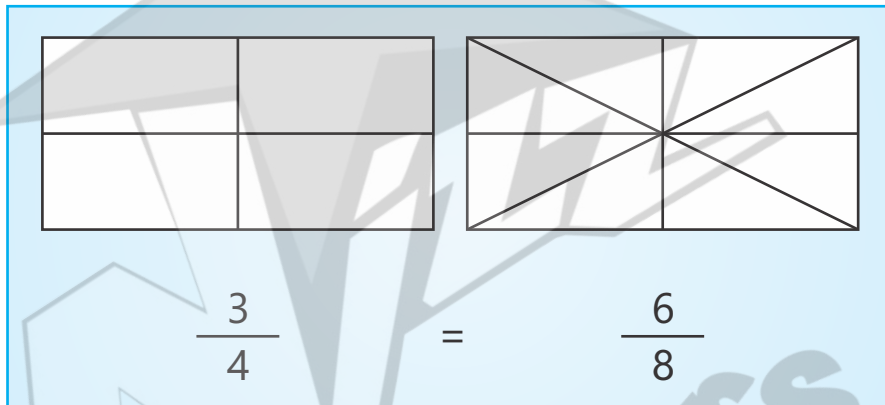
Teacher will explain the concept using daily life examples.

►► Colour the equivalent fractions.

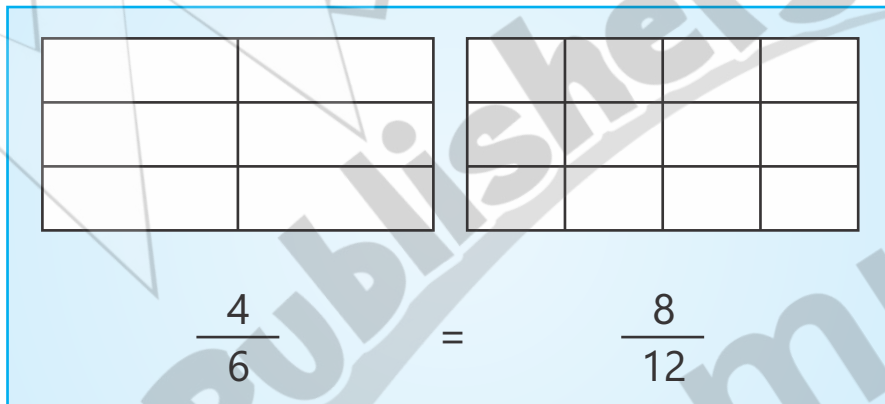
1.



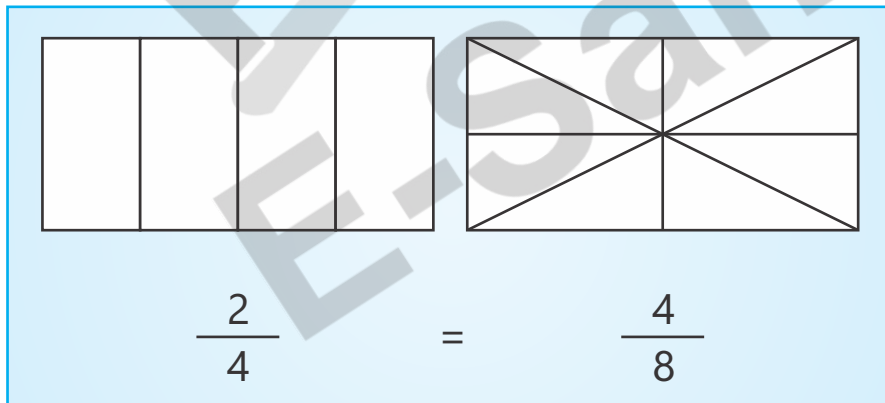
2.



3.



4.



► Write next three equivalent fractions

$$\frac{5}{6} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{2}{10} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{7}{9} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{4}{13} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{8}{12} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{7}{10} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{4}{7} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{9}{10} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{3}{8} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

$$\frac{8}{11} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

► Match the equivalent fractions.

1. $\frac{2}{6}$

$\frac{10}{12}$

5. $\frac{3}{9}$

$\frac{8}{12}$

2. $\frac{3}{5}$

$\frac{4}{12}$

6. $\frac{4}{6}$

$\frac{9}{27}$

3. $\frac{4}{10}$

$\frac{9}{15}$

7. $\frac{2}{8}$

$\frac{20}{28}$

4. $\frac{5}{6}$

$\frac{12}{30}$

8. $\frac{5}{7}$

$\frac{10}{40}$

► Write in the missing numerals to complete the equivalent fractions.

$$\frac{3}{8} = \frac{9}{\quad}$$

$$\frac{2}{7} = \frac{\quad}{28}$$

$$\frac{10}{11} = \frac{\quad}{33}$$

$$\frac{4}{9} = \frac{20}{\quad}$$

$$\frac{5}{6} = \frac{\quad}{36}$$

$$\frac{3}{7} = \frac{21}{\quad}$$

$$\frac{2}{8} = \frac{10}{\quad}$$

$$\frac{4}{10} = \frac{24}{\quad}$$

$$\frac{5}{11} = \frac{45}{\quad}$$

$$\frac{3}{5} = \frac{\quad}{25}$$

$$\frac{6}{7} = \frac{\quad}{42}$$

$$\frac{2}{4} = \frac{10}{\quad}$$

$$\frac{8}{10} = \frac{\quad}{20}$$

$$\frac{3}{9} = \frac{18}{\quad}$$

$$\frac{5}{7} = \frac{30}{\quad}$$

$$\frac{4}{11} = \frac{\quad}{66}$$

$$\frac{2}{3} = \frac{4}{\quad}$$

$$\frac{6}{9} = \frac{\quad}{45}$$

Simplest Form of Fractions

Here is how we simplify $\frac{9}{12}$ [®]

• $\frac{9 \div 3}{12 \div 3} = \frac{3}{4}$, $\frac{3}{4}$ is called the simplest form of $\frac{9}{12}$

• $\frac{4 \div 2}{16 \div 2} = \frac{2}{8}$ $\frac{2 \div 2}{8 \div 2} = \frac{1}{4}$

so, the simplest form of $\frac{4}{16}$ is $\frac{1}{4}$

► Change into simplest form

$$\frac{5}{25} = \frac{\quad}{\quad}$$

$$\frac{10}{15} = \frac{\quad}{\quad}$$

$$\frac{18}{45} = \frac{\quad}{\quad}$$

$$\frac{3}{12} = \frac{\quad}{\quad}$$

$$\frac{7}{28} = \frac{\quad}{\quad}$$

$$\frac{25}{35} = \frac{\quad}{\quad}$$

$$\frac{24}{28} = \frac{\quad}{\quad}$$

$$\frac{6}{48} = \frac{\quad}{\quad}$$

$$\frac{35}{49} = \frac{\quad}{\quad}$$

$$\frac{15}{18} = \frac{\quad}{\quad}$$

$$\frac{8}{40} = \frac{\quad}{\quad}$$

$$\frac{28}{42} = \frac{\quad}{\quad}$$

Like Fractions

► Comparison of Fractions

We compare two fractions when their denominators are same. For example.

$$\frac{4}{9} \text{ and } \frac{5}{9}$$

As in $\frac{4}{9}$ and $\frac{5}{9}$ denominators are same but the numerators are different.

Let's check, the numerators.

4 is smaller than 5.

So $\frac{5}{9}$ is greater than $\frac{4}{9}$

Key Fact

A fraction having greater numerator is a greater denominator.

When both fractions have same numerators and denominators they are said to be equal fractions.

► Practice Exercise:

Use '<', '>' or '=' in the following fractions.

a) $\frac{2}{6} \square \frac{2}{6}$

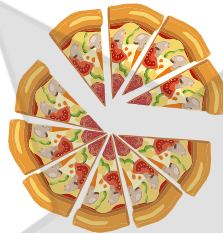
b) $\frac{3}{5} \square \frac{2}{5}$

c) $\frac{6}{12} \square \frac{9}{12}$

d) $\frac{4}{9} \square \frac{4}{9}$

► Addition of Fractions

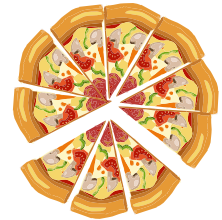
Ahmed and Ali ordered a pizza. Ahmed cut it into 10 slices. Ahmed ate 4 slices and Ali ate 3 slices. How much pizza did they eat altogether?



$\frac{4}{10}$
Ahmed ate.



$\frac{3}{10}$
Ali ate.



$\frac{7}{10}$
Both ate.

► Mathematically,

$$\begin{aligned} \frac{4}{10} + \frac{3}{10} \\ = \frac{4 + 3}{10} \\ = \frac{7}{10} \end{aligned}$$

Try Yourself

Add $\frac{2}{5}$ and $\frac{4}{5}$?

► Practice Exercise:

Solve the following.

1. $\frac{1}{7} + \frac{4}{7} = \underline{\hspace{2cm}}$

2. $\frac{2}{6} + \frac{3}{6} = \underline{\hspace{2cm}}$

3. $\frac{7}{12} + \frac{3}{12} = \underline{\hspace{2cm}}$

4. $\frac{2}{8} + \frac{5}{8} = \underline{\hspace{2cm}}$

► Addition of like fractions

Add these.

$$\frac{1}{7} + \frac{4}{7}$$

= _____

= _____

$$\frac{2}{6} + \frac{3}{6}$$

= _____

= _____

$$\frac{2}{5} + \frac{1}{5}$$

= _____

= _____

$$\frac{7}{12} + \frac{3}{12}$$

= _____

= _____

$$\frac{2}{8} + \frac{5}{8}$$

= _____

= _____

$$\frac{2}{4} + \frac{1}{4}$$

= _____

= _____

$$\frac{4}{9} + \frac{1}{9}$$

= _____

= _____

$$\frac{2}{10} + \frac{5}{10}$$

= _____

= _____

$$\frac{7}{10} + \frac{2}{10}$$

= _____

= _____

$$\frac{5}{11} + \frac{3}{11}$$

= _____

= _____

$$\frac{3}{9} + \frac{4}{9}$$

= _____

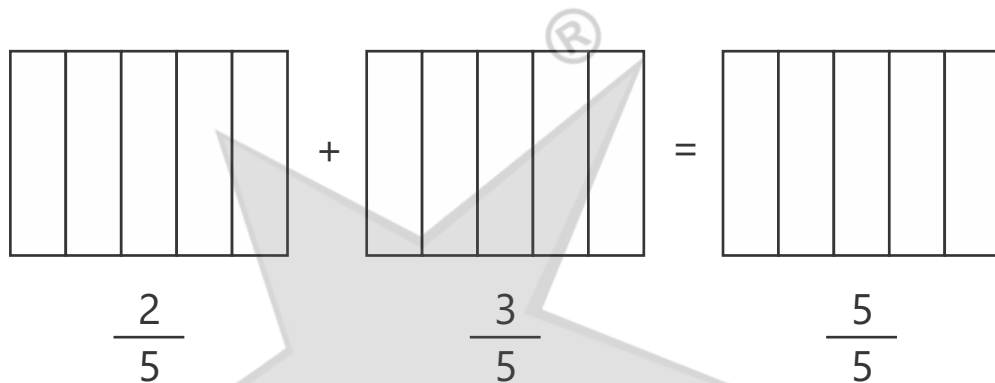
= _____

$$\frac{3}{8} + \frac{4}{8}$$

= _____

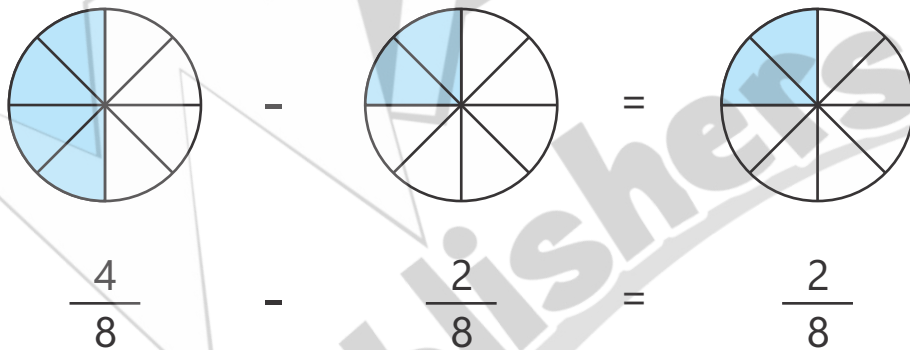
= _____

► Colour the given figure according to the fractions



► Subtraction of Fractions

If we have two fractions $\frac{4}{8}$ and $\frac{2}{8}$ and we want to subtract these fractions.



► Mathematically,

$$\begin{aligned} \frac{4}{8} - \frac{2}{8} \\ &= \frac{4 - 2}{8} \\ &= \frac{2}{8} = \frac{1}{4} \end{aligned}$$

Try Yourself

Subtract $\frac{5}{9}$ and $\frac{3}{9}$?

► Subtract these.

$$\frac{3}{4} - \frac{2}{4}$$

= _____

= _____

$$\frac{5}{8} - \frac{2}{8}$$

= _____

= _____

$$\frac{5}{7} - \frac{2}{7}$$

= _____

= _____

$$\frac{10}{12} - \frac{5}{12}$$

= _____

= _____

$$\frac{5}{7} - \frac{3}{7}$$

= _____

= _____

$$\frac{7}{9} - \frac{4}{9}$$

= _____

= _____

$$\frac{5}{6} - \frac{2}{6}$$

= _____

= _____

$$\frac{9}{8} - \frac{4}{8}$$

= _____

= _____

$$\frac{6}{10} - \frac{3}{10}$$

= _____

= _____

$$\frac{8}{13} - \frac{5}{13}$$

= _____

= _____

$$\frac{10}{11} - \frac{6}{11}$$

= _____

= _____

$$\frac{4}{5} - \frac{2}{5}$$

= _____

= _____

► **Practice Exercise:**

Q1. Solve the following.

a) $\frac{7}{12} - \frac{1}{12} = \underline{\hspace{2cm}}$

b) $\frac{5}{8} - \frac{2}{8} = \underline{\hspace{2cm}}$

c) $\frac{11}{12} - \frac{4}{12} = \underline{\hspace{2cm}}$

d) $\frac{2}{9} - \frac{1}{9} = \underline{\hspace{2cm}}$

e) $\frac{3}{5} - \frac{1}{5} = \underline{\hspace{2cm}}$

f) $\frac{4}{6} - \frac{2}{6} = \underline{\hspace{2cm}}$

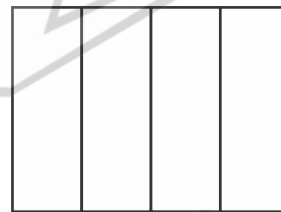
Q2. Color the given figures according to fractions.



-



=



$$\frac{3}{4}$$

$$\frac{1}{4}$$

$$\frac{2}{4}$$

► **I have learnt to:**

- Upper part of a fraction is numerator.
- Lower part of a fraction is denominator.
- In Proper fraction, numerator is less than denominator.
- An improper fraction is a fraction where the numerator is greater than or equal to the denominator.
- If numerator and denominator of two fractions are equal then it is called equal fraction.

LCM

LCM stands for Least common Multiple[®]

To solve the LCM, we use prime numbers e.g. (2,3,5,7,11,)

Example:

Q. Find the LCM. of 4,8.

Step 1.

Divide 4 , 8 by 2

2	4 , 8
	2 , 4

Step 2.

Divide 2 , 4 by 2 again.

2	4 , 8
2	2 , 4
	1 , 2

Step 3.

Divide 1 , 2 by 2 again.

2	4 , 8
2	2 , 4
2	1 , 2
	1 , 1

Step 4.

Multiply the multiples.

2	4 , 8
2	2 , 4
2	1 , 2
	1 , 1

$$\text{LCM} = 2 \times 2 \times 2 = 8$$

Find the LCM.

4 , 12

6 , 18

5 , 25

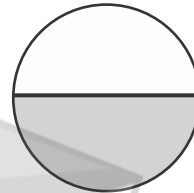
7 , 35

► Match the following coloured parts of the figure with the given fractions.

$$\frac{1}{2}$$



$$\frac{2}{3}$$



$$\frac{1}{4}$$



$$\frac{1}{3}$$



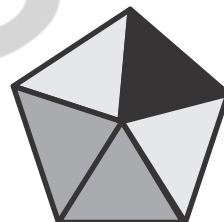
$$\frac{4}{5}$$



$$\frac{3}{4}$$



$$\frac{5}{6}$$



► Write next three equivalent fractions.

$$\frac{4}{8} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}^{\text{®}} = \underline{\hspace{2cm}}$$

$$\frac{3}{6} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\frac{5}{12} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\frac{7}{13} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\frac{8}{9} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

► Write the missing numerals to make equivalent fraction.

$$\frac{3}{8} = \frac{\hspace{1cm}}{32}$$

$$\frac{7}{10} = \frac{\hspace{1cm}}{50}$$

$$\frac{5}{9} = \frac{20}{\hspace{1cm}}$$

$$\frac{8}{12} = \frac{40}{\hspace{1cm}}$$

$$\frac{4}{6} = \frac{\hspace{1cm}}{18}$$

$$\frac{2}{13} = \frac{6}{\hspace{1cm}}$$

$$\frac{12}{13} = \frac{36}{\hspace{1cm}}$$

$$\frac{5}{7} = \frac{\hspace{1cm}}{28}$$

$$\frac{3}{6} = \frac{\hspace{1cm}}{36}$$

$$\frac{4}{5} = \frac{12}{\hspace{1cm}}$$

► Add fractions.

$$\frac{3}{6} + \frac{2}{6}$$

= _____

= _____

$$\frac{5}{11} + \frac{2}{11}$$

= _____

= _____

$$\frac{3}{10} + \frac{4}{10}$$

= _____

= _____

$$\frac{7}{12} + \frac{2}{12}$$

= _____

= _____

$$\frac{4}{7} + \frac{2}{7}$$

= _____

= _____

$$\frac{4}{11} + \frac{5}{11}$$

= _____

= _____

► Subtract fractions.

$$\frac{3}{4} - \frac{2}{4}$$

= _____

= _____

$$\frac{8}{13} - \frac{5}{13}$$

= _____

= _____

$$\frac{9}{8} - \frac{4}{8}$$

= _____

= _____

$$\frac{10}{12} - \frac{5}{12}$$

= _____

= _____

$$\frac{10}{11} - \frac{6}{11}$$

= _____

= _____

$$\frac{5}{7} - \frac{2}{7}$$

= _____

= _____



► **Fill in the blanks.**

1. Fraction consists of _____ parts.
2. In fraction, Upper part is called _____.
3. In fraction, Lower part is called _____.
4. The fractions which is equal in value is called _____ fraction.
5. In fraction, we write one half as _____.
6. In fraction, we write one quarter as _____.
7. In fraction, we write three quarter as _____.
8. In fraction, we write three eighths as _____.
9. In fraction, we write three eighths as _____.
10. In fraction, we write three eighths as _____.

Review Exercise

- We use symbol for $\frac{3}{7}$ $\frac{6}{7}$
- a) < b) > c) =

- The sum of two fractions $\frac{7}{14}$ and $\frac{6}{14}$
- a) $\frac{12}{14}$ b) $\frac{9}{14}$ c) $\frac{13}{14}$

- The difference of $\frac{6}{10}$ and $\frac{2}{10}$ is
- a) $\frac{4}{10}$ b) $\frac{2}{10}$ c) $\frac{5}{10}$

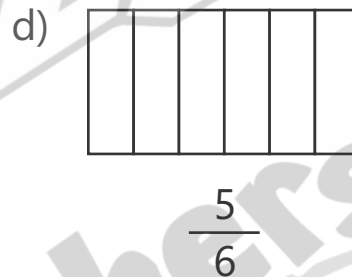
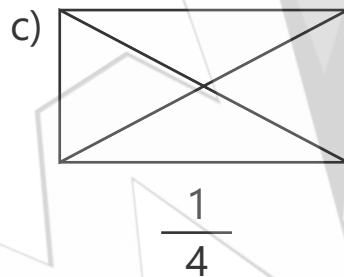
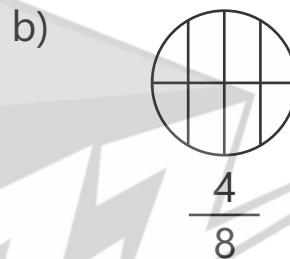
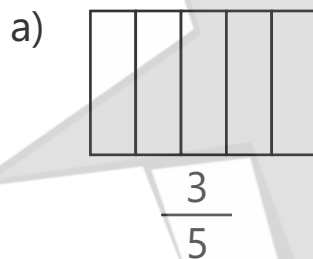
➤ We use sign for $\frac{4}{5}$ $\frac{3}{5}$

a) = b) > c) <

➤ Equivalent fractions of $\frac{2}{6}$ is 

a) $\frac{8}{24}$ b) $\frac{3}{5}$ c) $\frac{3}{12}$

➤ Colour the figures according to given fractions.



➤ Put these fractions in their relevant columns.

$\frac{2}{5}$, $\frac{6}{4}$, $\frac{7}{7}$, $\frac{3}{5}$, $\frac{8}{4}$, $\frac{9}{9}$, $\frac{7}{9}$, $\frac{2}{4}$, $\frac{5}{5}$, $\frac{5}{8}$, $\frac{3}{2}$, $\frac{4}{7}$

Proper Fraction		Improper Fraction	

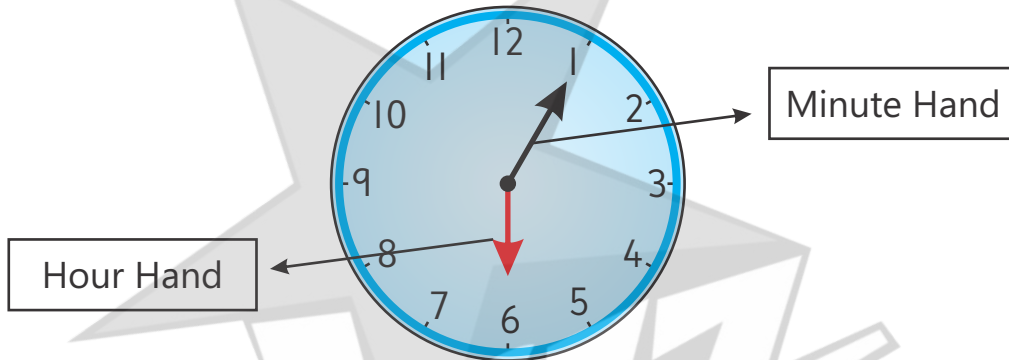
Students Learning Outcomes:

After completing this unit, you will be able to:

- ▶ Use a.m. and p.m. to record the time from 12-hour clock.
- ▶ Read and write the time from digital and analog clock.
- ▶ Read and write the dates and days from the calendar.
- ▶ Add measurement of time in hours.
- ▶ Solve real life situations involving measurement of time for addition of hours.
- ▶ Subtract measurement of time in hours.
- ▶ Solve real life situation involving subtraction of measurement of time in hours.

Analog and Digital Clocks

- An "analog clock is a clock with the numbers one to twelve around."



- A "digital clock" is a clock which simply shows numbers to represent the time."



Key Fact

The time from midnight to 12 noon is known as ante meridiem (a.m).

The time from 12 noon to midnight is known as Post meridiem (p.m).

How to read time

O'clock

5:00

It is 5 O'clock

Half past

5:30

It is half past 5.

Quarter past

5:15

It is Quarter past 5

Quarter to

5:45

It is Quarter to 6.

► Look at each clock carefully and write the time in digital form.

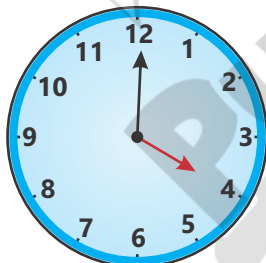
1.



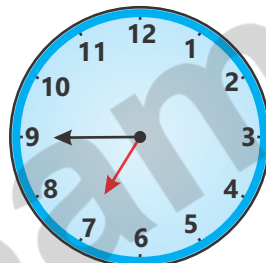
2.



3.



4.



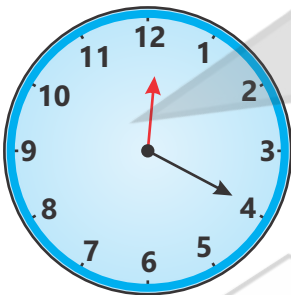
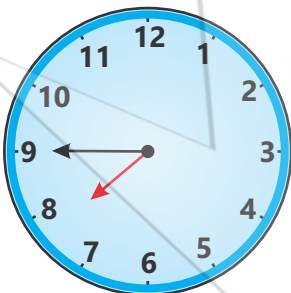
Key Fact

1 hour = 60 minutes

1 minute = 60 seconds

Practice Exercise

- Match the time shown on the analog clocks with the time on the right side.

**12:20****04:40****07:45****02:25****11:10**

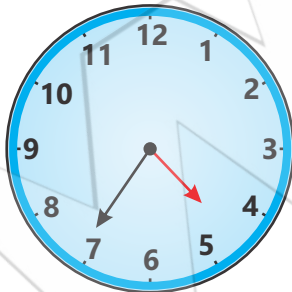
- Read the analog clocks below. Write what time is shown on each clock in the space provided.



— : —



— : —



— : —



— : —



— : —



— : —

- **Read and write days from the calendar**
Look at the calendar.

2026

JANUARY						
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	29	30	31

FEBRUARY						
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

MARCH						
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
29	30	31				

APRIL						
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	29	30		

MAY						
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	29	30
31						

JUNE						
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	29	30				

JULY						
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	29	30	31	

AUGUST						
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	29
30	31					

SEPTEMBER						
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	29	30			

OCTOBER						
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	29	30	31

NOVEMBER						
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
29	30					

DECEMBER						
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	29	30	31		

Key Fact

1 Year = 12 months.

1 Week = 7 days

1 Hour = 60 Minutes

1 Month = 4 weeks

1 day = 24 hours

1 minute = 60 seconds

Practice Exercise

► Look at the calendar and answer the following questions.

2026

JANUARY						
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	29	30	31

FEBRUARY						
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

MARCH						
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
29	30	31				

APRIL						
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	29	30		

MAY						
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	29	30
31						

JUNE						
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	29	30				

JULY						
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	29	30	31

AUGUST						
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	29
30	31					

SEPTEMBER						
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	29	30			

OCTOBER						
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	29	30	31

NOVEMBER						
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
29	30					

DECEMBER						
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	29	30	31		

What is the date on last Friday of December?

What is the day on 23rd of March?

What is the day on 14th of August?

My mother's birthday is on the 3rd Tuesday of April. What is the date?

Addition of Time

- Ahmed takes 7 hours to complete his room decoration on his birthday. Aliya takes 9 hours to complete his room decoration. What is the total time taken for both rooms decoration?

Solution:

Ahmed takes time for decoration	7h
Aliya takes time for decoration	+ 9h
Total time =	16h

Add 13 hours to 9 hours.

$$\begin{array}{r} \textcircled{1} \\ 13\text{h} \\ + 9\text{h} \\ \hline 22\text{h} \end{array}$$

Add 4 hours to 8 hours.

$$\begin{array}{r} 4\text{h} \\ + 8\text{h} \\ \hline 12\text{h} \end{array}$$

Key Fact

'h' is used for Hours.

Teaching Point

Teacher will ask questions about real life situations related to addition of time from different groups of the students.

Practice Exercise

► Solve the following.

1.

$$\begin{array}{r} 5 \text{ h} \\ + 4 \text{ h} \\ \hline \\ \hline \end{array}$$

2.

$$\begin{array}{r} 11 \text{ h} \\ + 6 \text{ h} \\ \hline \\ \hline \end{array}$$

3.

$$\begin{array}{r} 13 \text{ h} \\ + 7 \text{ h} \\ \hline \\ \hline \end{array}$$

4.

$$\begin{array}{r} 14 \text{ h} \\ + 5 \text{ h} \\ \hline \\ \hline \end{array}$$

5.

$$\begin{array}{r} 9 \text{ h} \\ + 8 \text{ h} \\ \hline \\ \hline \end{array}$$

6.

$$\begin{array}{r} 17 \text{ h} \\ + 5 \text{ h} \\ \hline \\ \hline \end{array}$$

► Fatima studies Maths for 11 hours, and Urdu for 9 hours in a week. How much time does she spend for both subjects?

Subtraction of Time

Waleed took 13 hours for preparation of test while his sister took 10 hours for preparation of test. How much more time did Waleed spend?

Solution:

Waleed spend time	13 h
His sister spend time	- 10 h
Waleed spend more time =	3

Waleed daily spend 3 h more time for preparation of test.

Subtract the following

$$\begin{array}{r} 1. \quad 9 \text{ h} \\ - 4 \text{ h} \\ \hline 5 \text{ h} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 16 \text{ h} \\ - 4 \text{ h} \\ \hline 12 \text{ h} \\ \hline \end{array}$$

Key Fact

Always subtract the lesser time from the greater one.

Practice Exercise

► Subtract the following.

$$\begin{array}{r} 1. \quad 7 \text{ h} \\ - 3 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 12 \text{ h} \\ - 9 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 13 \text{ h} \\ - 11 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 14 \text{ h} \\ - 5 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 25 \text{ h} \\ - 14 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 33 \text{ h} \\ - 22 \text{ h} \\ \hline \\ \hline \end{array}$$

► Saira spends 9 hours for studying Social studies and 4 hours for studying Science. How much time does she spend for Social Studies than Science?

► Add the following.

$$\begin{array}{r} 1. \quad 7 \text{ h} \\ + 6 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5 \text{ h} \\ + 5 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 17 \text{ h} \\ + 12 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 13 \text{ h} \\ + 9 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 9 \text{ h} \\ + 8 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 21 \text{ h} \\ + 36 \text{ h} \\ \hline \\ \hline \end{array}$$

► Subtract the following.

$$\begin{array}{r} 1. \quad 17 \text{ h} \\ - 12 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 9 \text{ h} \\ - 2 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 18 \text{ h} \\ - 11 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 13 \text{ h} \\ - 8 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 10 \text{ h} \\ - 4 \text{ h} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 15 \text{ h} \\ - 6 \text{ h} \\ \hline \\ \hline \end{array}$$

► Write the time in digital and analog format.

1.



_____ : _____

2.



_____ : _____

3.



_____ : _____

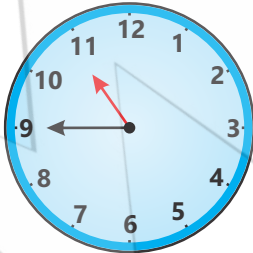
► Tick the correct option of digital clock that matches analog clock.

1.



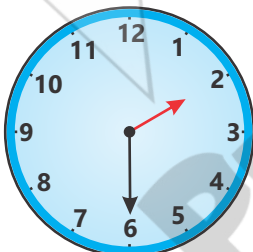
- ☐ 2 : 10
- ☐ 3 : 15
- ☐ 3 : 10

2.



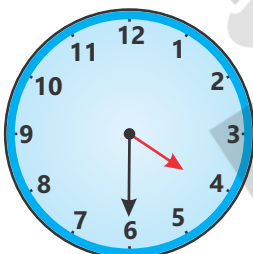
- ☐ 10 : 45
- ☐ 9 : 45
- ☐ 11 : 45

3.



- ☐ 1 : 30
- ☐ 2 : 30
- ☐ 2 : 25

4.



- ☐ 4 : 30
- ☐ 5 : 30
- ☐ 6 : 30

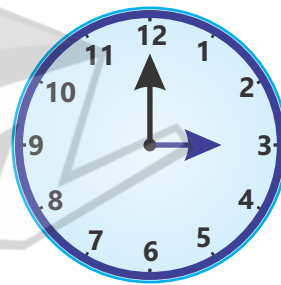
- Look at the clocks and write the time in 12-hours clock as am/pm.
First one is done for you.

1. In the school Ahmed start his study at 8:00



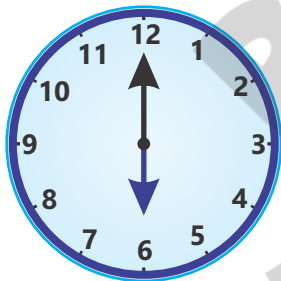
8:00 am

2. Ahmed left school for home at 3.00



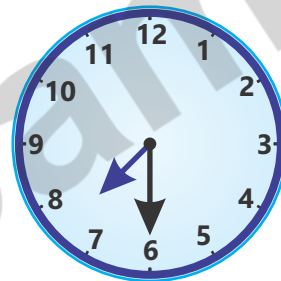
_____ : _____

3. In the evening he went to the ground to play cricket at 6.00



_____ : _____

4. At evening the went to mosque for Isha prayer at 7:30



_____ : _____

- Write down the birthday of your friends in Solar month.
First one has been done for you.

1.

Name	Ali
Date	15 September 2018

2.

Name	
Date	

3.

Name	
Date	

4.

Name	
Date	

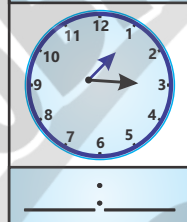
Practice Exercise

- Prayer timing are given on the analogue clocks. Read and write these timing in 12 hours clock. First one has been done for you.

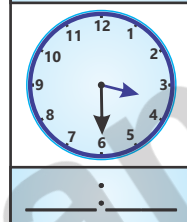
1.

Fajar

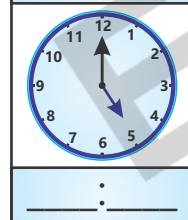
2.

Dhuhar

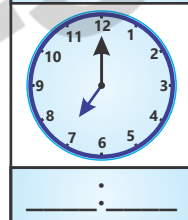
3.

Asar

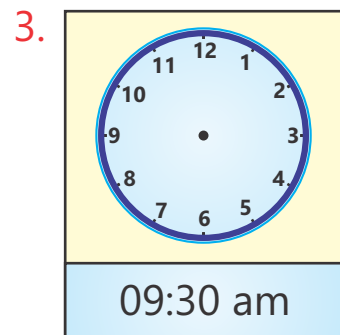
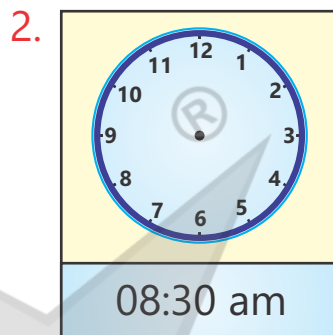
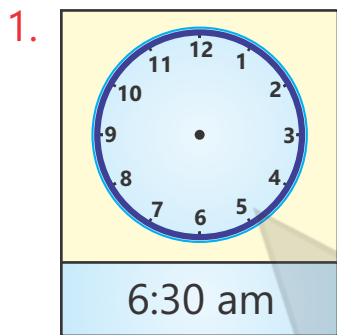
4.

Maghrib

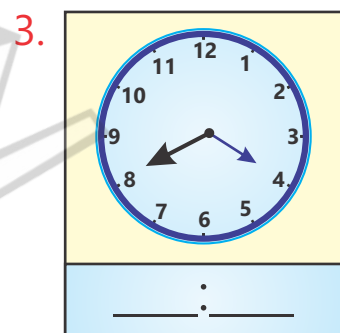
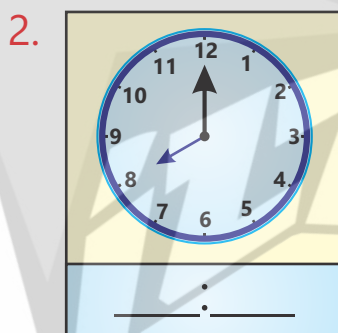
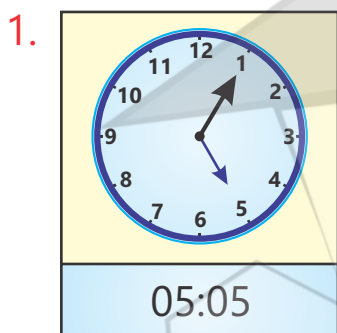
5.

Isha

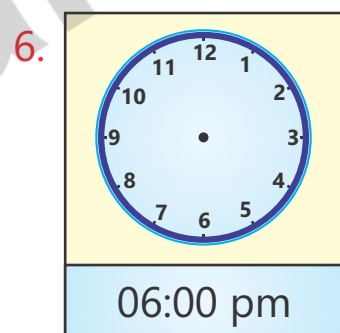
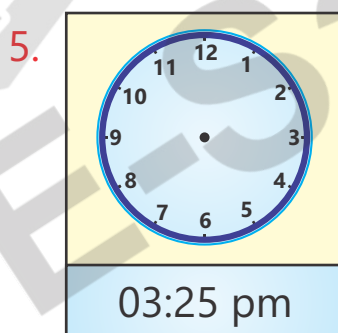
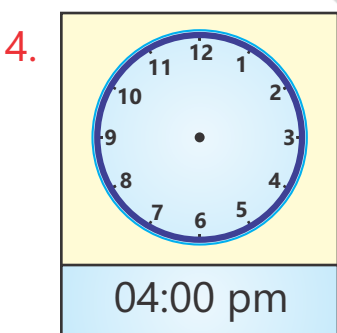
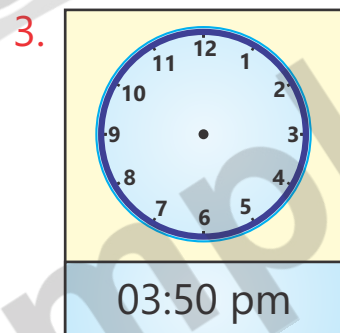
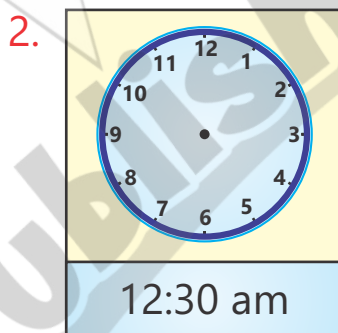
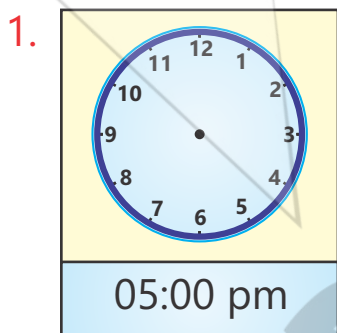
►► Draw the hands of each clock.



►► Write the time of each clock. First one is done for you.



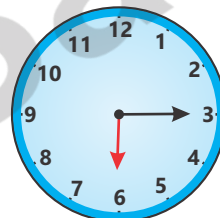
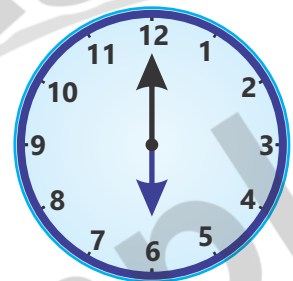
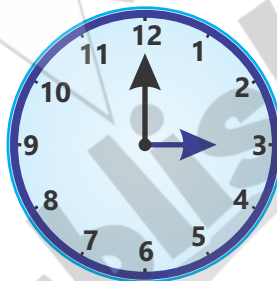
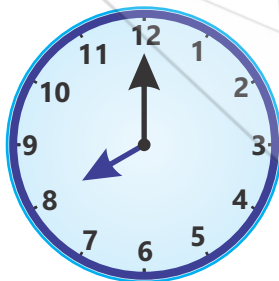
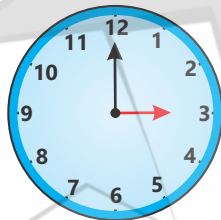
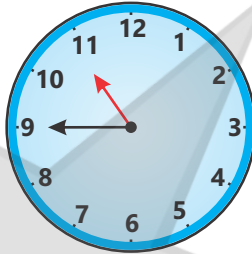
►► Draw the hands of each clock.



► Write the time of each clock. First one is done for you.



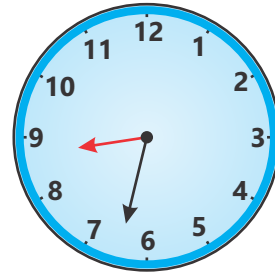
3:10



► Match the clocks with the correct time.



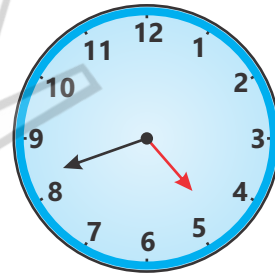
7:24



8:32



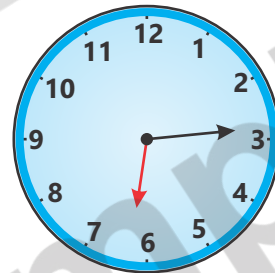
10:02



3:18



6:14



4:42



7:44



6:58

► Match the time in minutes with the correct time in hours.

60 min •	• 4 h
240 min •	• 1 h
180 min •	• 8 h
480 min •	• 3 h
300 min •	• 2 h
120 min •	• 5 h
360 min •	• 6 h

Word Problems

1. A Housewife took 1h to clean her house and 1h to cook. How long did she take to clean and cook?

2. Arif played with his friends for 9h and worked in his garden for 3h. How much time did he spend in all?

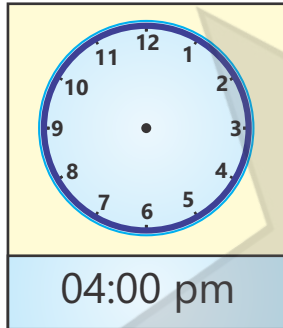
3. Mr. Sadiq drove the car for 3h and his wife drove for the rest of the time. If their journey lasted 11h. How long did Mrs. Sadiq Drive?

4. Shahid was in school for 18h yesterday. He was in the classroom for 15h and spent rest of the time in the library. How long was he in the library?



► Draw the hands and time of each clock as per requirement.

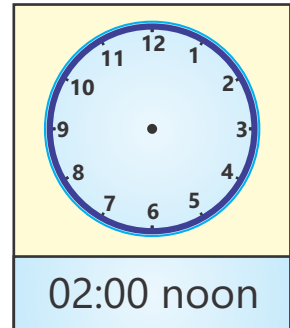
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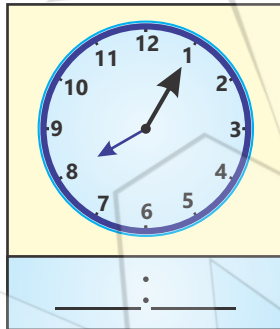
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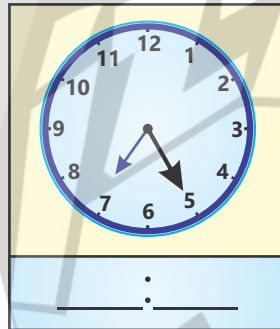
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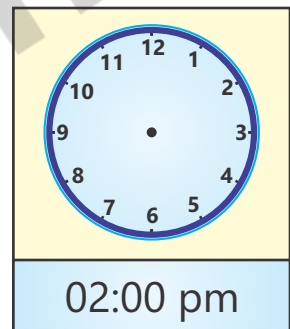
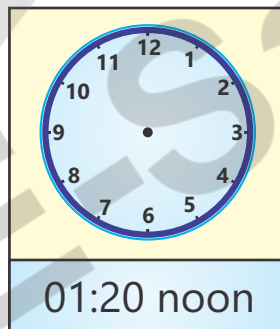
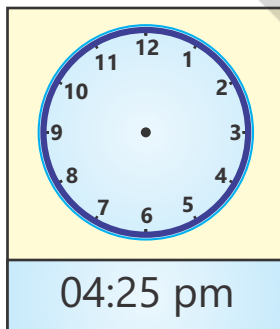
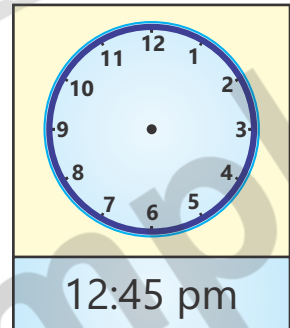
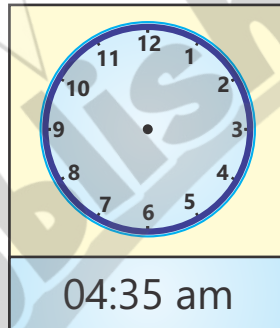
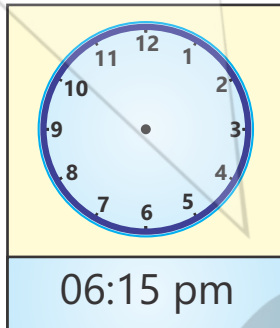
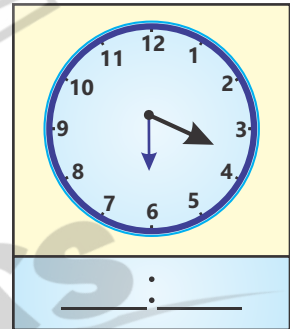
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6.



7.



Students Learning Outcomes:

After completing this unit, you will be able to:

- ▶ Representing data by
 - ◆ Carroll Diagram
 - ◆ Tally Chart
- ▶ Read and Interpret a Carroll Diagram and Tally Chart.
- ▶ Read and interpret Pictograph and graph.



Carroll diagram

- "Carroll diagram is a diagram in which different things are sorted according to their specific attributes or properties."



I have some shapes. I want to sort out using Carroll diagram. What should I do for this?

we can sort according to shapes and color.



- In this diagram,

2 triangles are in blue colour.

2 rectangles are in blue colour.

4 triangles are not in blue colour.

4 rectangles are not in blue colour.

	TRIANGLES	RECTANGLES
Blue		
Not Blue		

- Prepare Carroll diagram from the given data.

5, 10, 15, 13, 17, 16, 20, 30, 23, 40, 27, 38

	divisible by 5			not divisible by 5		
Number less than 20						
Number greater than 20						

Tally Chart

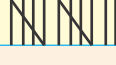
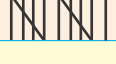
- Here is another type of representing the data which is tally chart. Below is an example of tally chart.

Insect	Tallies	Total
		4
		9
		6
		13

Key Fact

Marks in tally column are equal to the number of observation in the data.

- Here is some information about matches of different games. Study it and fill in the blanks.

Games	Tally Mark	Total
Football		
Cricket		
Kho-kho		
Hockey		
Tennis		

- Which game is played least in number? _____
- Which game is played greatest in number? _____
- What is the total number of cricket and Tennis? _____
- What is the total number of all games? _____

Practice Exercise

Fatima found a basket of fruits in her home. She counted the fruits of each kind and made a tally chart. Complete the table by the information.

Fruit Basket		
Fruits	Tally mark	No of Fruits
		
		
		
		
		

► Observe the Carroll diagram and answer the following questions.

	Square	Not Square
Red		
Not Red	 	

Find the number of the squares which are red. _____

Find the number of the squares which are not red. _____

Find the number of shapes which are not squares
but red _____

Pictograph

- A pictograph is a picture chart that uses symbols or simple pictures to show how many things there are.

I want to arrange fruits according to the demand of students.

Mango	  
Pineapple	         
Apple	        
Strawberry	   

In this Pictograph

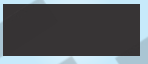
3 students like _____

10 students like _____

8 students like _____

4 students like _____

- Each shape on the chart stands for one vote.

Favourite Shape					
					
					
					
					
					
					
Triangle	Square	Rectangle	Pentagon	Hexagon	Octagon

Which shape got the most votes? _____

How many votes did the square get? _____

- How many votes did the triangle get? _____
- How many votes did the pentagon get? _____
- How many votes did the hexagon get? _____
- How many votes did the octagon get? _____
- Which shape got the fewest votes? _____

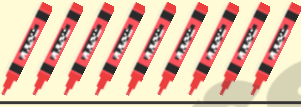
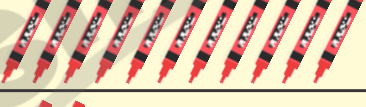
In previous classes, we have learnt different types of shapes. Now we shall study the data representation on graph using different pictures.

► Read and interpret the pictograph

Example 1.

Look at the pictograph and answer the following questions.

Each crayon represent 2.

Ammar		24
Huzaifa		18
Waqas		12
Ahmed		22
Zaid		4



How many crayons Huzaifa has?



How many crayons Ammar has?



Practice Exercise

	How many crayons Waqas has?	
	How many crayons Ahmed has?	
	How many crayons Zaid has?	

► Study the pictograph. Use the information from the graph to answer the questions below.

Fruits in Grandma's Basket		
Strawberry		
Apple		
Pineapple		
Mango		

- Are there more apples or strawberries? _____
- Which fruit counts to 8? _____[®]
- What is the total number of fruits in the basket? _____

► Use the pictograph given below to answer the following question.

A). The rainy days in October 2015

City	Number of rainy days	
Lahore	     	
Karachi	   	
Islamabad	     	
Peshawar	  	
Quetta	      	

key = Each  shows one rainy day

- a) There is Rainy day in karachi.
- b) There are Rainy days in Lahore.
- c) There are Rainy days in Islamabad.
- d) There are Rainy days in Peshawar.

e) There are Rainy day in Quetta.

1. Which city has the most rainy days?

Answer: _____

2. Which city has the lowest rainy days?

Answer: _____

3. How many more rainy days in Lahore than Peshawar?

Answer: _____

4. How many more rainy days in Islamabad than Quetta?

Answer: _____

VOCABULARY

► Carroll Diagram

► Pictograph

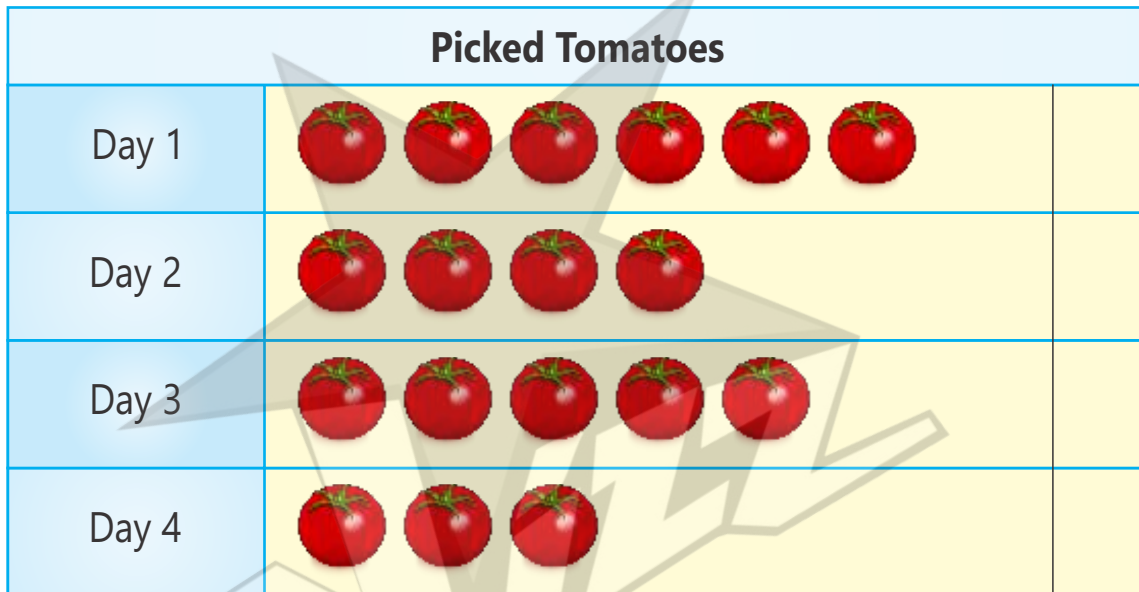
► Tally Chart

Review Exercise

- Write the number of students using given tally marks.

Our Favorite Sports		
Sport	Tally	Name of Student
Hockey		
Soccer		
Basketball		
Gymnastics		

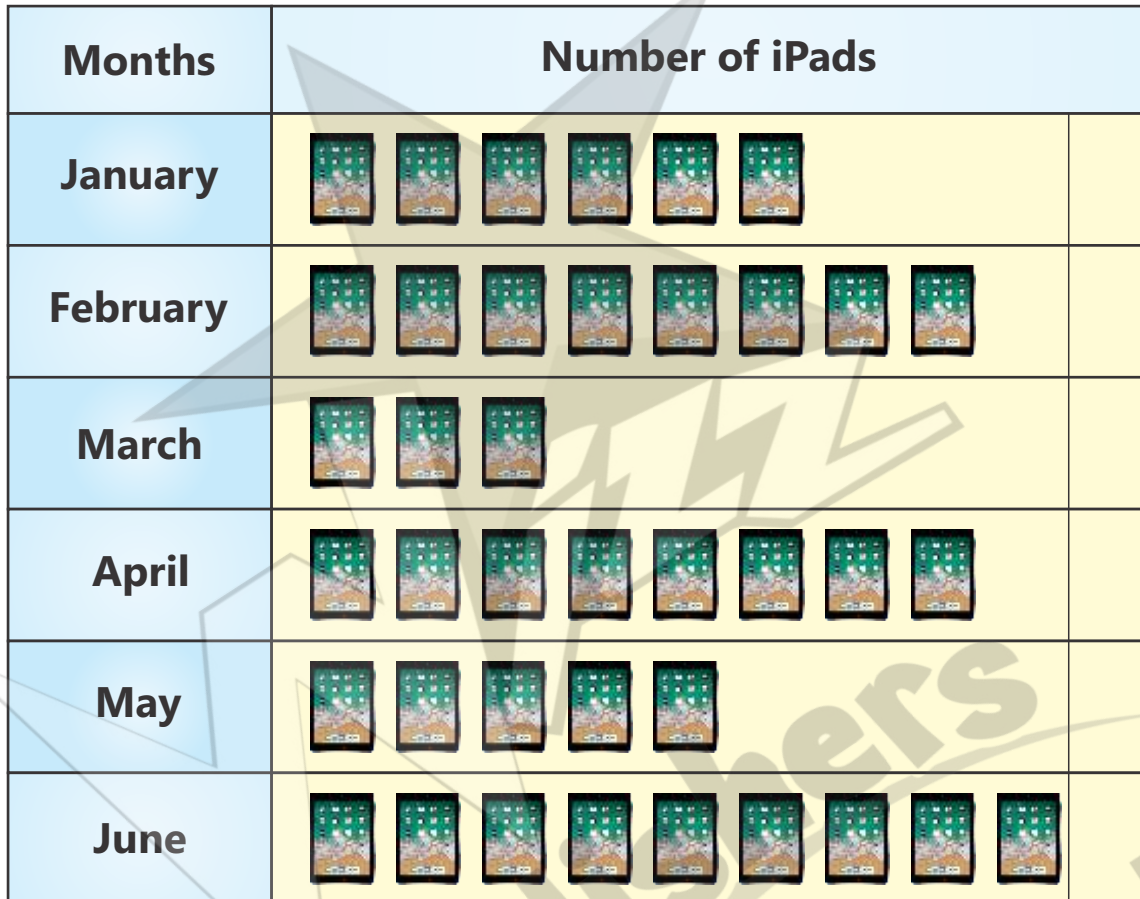
- Harvest season begins! Farmers are busy picking tomatoes. The numbers of tomatoes are shown in the pictograph below.



Note: Each tomato in the pictograph stands for 5 tomatoes picked. Use the information provided to answer questions.

- How many tomatoes did the farmer pick on the first day? _____
- On which day did the farmer pick the most tomatoes? _____
- What's the difference between the number of tomatoes pick on Day 3 and Day 4? _____
- How many tomatoes in total did he pick for this season? _____

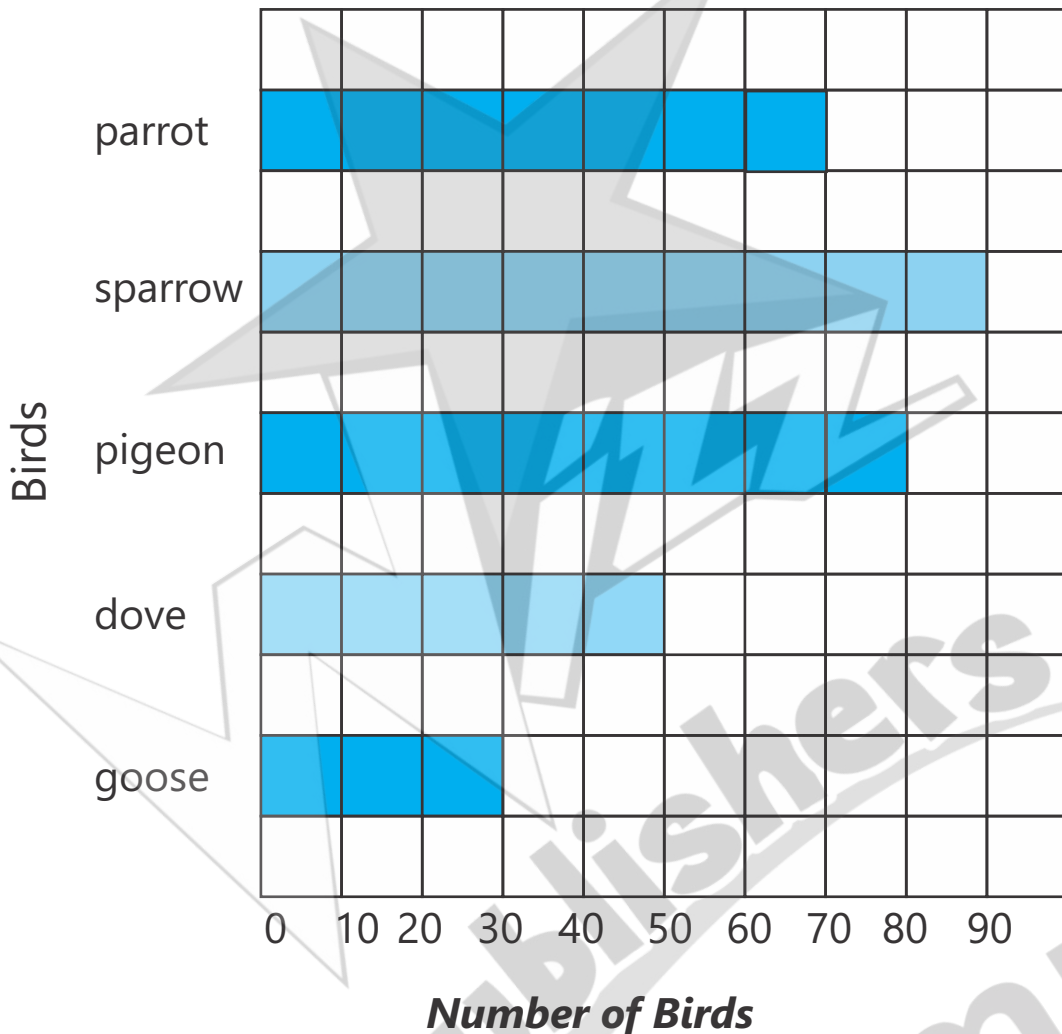
- The pictograph shows the number of iPad sold in a shop each month. Give the answer of the following question.



- Write down the number of iPads sold in the month of:
March _____ **May** _____ **June** _____
- On which month the least iPads were sold?
- On which two month equal iPads were sold? _____
- Calculate the total iPads sold in the shop during the months. _____

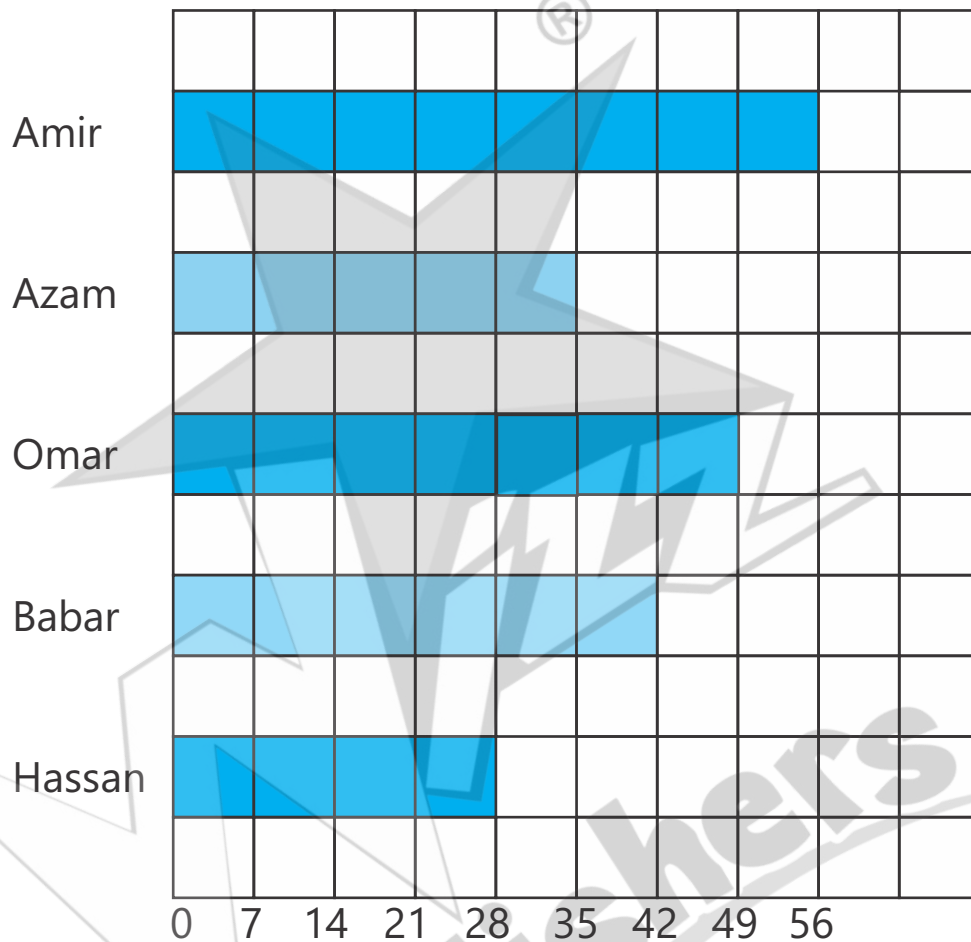
Explain graph first

► The following graph shows the number of birds in a bird shop.



- Which bird is the least in number? _____
- Which two birds are the same in number? _____
- How many more pigeons are there than goose? _____
- Which bird is the most in number? _____
- How many less doves are there than sparrows? _____

- The following bar graph shows the number of playing blocks five boys have.



Read the graph. Then write T for true and F for false in the boxes.

1. Babar has the most number of blocks.

2. Amir has 56 blocks.

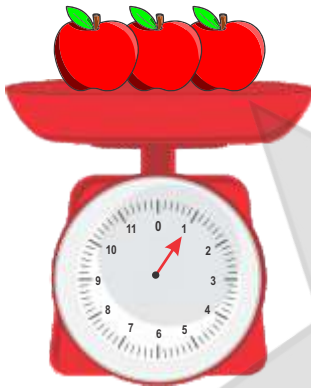
3. Azam has more blocks than Omar?

4. Hassan has more blocks than Amir.

5. Babar has less blocks than Amir.

►► What is the weight of the items on each of the scales?

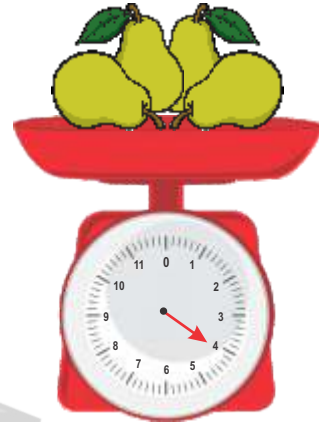
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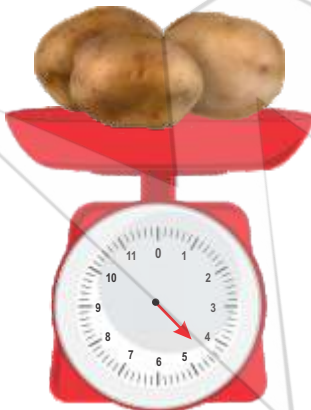
2.



3.



4.



5.



6.



Work out how much your bag would weigh if you bought:

1. The bananas, potatoes and carrots _____
2. The apples, pears and potatoes _____
3. The cabbages, apples and bananas _____

- **Pictograph** is the representation of the given information by drawing pictures.

Name	Fruit	Fruit Collected
Ahmed	Banana	
Habiba	Apple	
Ali	Orange	
Aqsa	Pear	

Read the above pictograph and answer the following questions. Each fruit stands for one fruit.

How many fruits does Ahmed have?	
How many fruits does Habiba have?	
Who has the largest number of fruits and how	
How many fruits does Ali have?	
How many fruits does Aqsa have?	



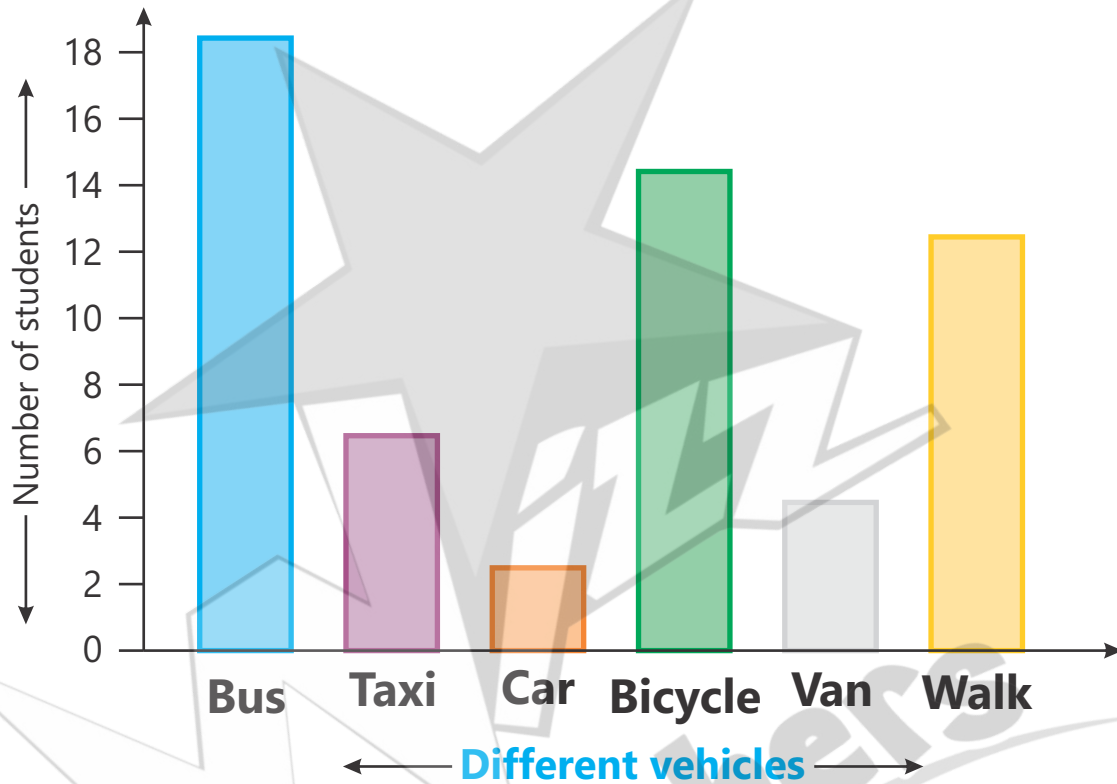
- Ali did a survey to see how many of his friends could swim and ride a bike. He showed his results in the Carroll diagram.

	Can ride a bike	Cannot ride a bike
Can swim	Sara Raza Ali Ahmed	Sarah Ruby Hira
Cannot swim	Uswa Urwa Aliza	Waqar Amir Sidra

Answer the following questions.

1. How many friends can ride a bike? _____
2. How many friends cannot ride a bike? _____
3. How many friends can swim? _____
4. How many friends cannot swim? _____

- The following graph shows the number of students who go to school on different vehicles:



Fill in the blanks after reading the above bar graph

- _____ students go to school by bus.
- 14 students go to school by_____.
- The least number of students go to school by_____.
- Most of the students go to school by_____
- _____students go to school by van.
- _____students walk to school.