Class: 6 KEY ANSWERS TERM : I

Chapter - 1. Numbers

Page No. 17 – 19

Exercise: 1.1

1. Indian System

a) 5, 06, 08, 123.
b) 6, 00, 07, 839.
c) 70, 16, 01, 008.
d) 14, 03, 08, 116.
e) 2, 37, 46, 589.
f) 80, 80, 00, 080.
g) 40, 08, 35, 029.
h) 50, 49, 813.

2. International System

a) 979, 653, 182.
b) 10, 006, 001.
c) 90, 007, 010.
d) 491, 001, 369, 845.
e) 42, 560, 247.
f) 101, 010, 001.
g) 10, 789.
h) 231, 600.

3. a) 60, 65, 20, 716.
b) 5, 00, 52, 109.
c) 12, 10, 00, 365.
d) 58, 00, 00, 800.
e) 678, 113, 923.
f) 20, 00, 00, 001.
g) 4, 265, 568.

4. a) 10000000 + 9000000 + 100000 + 80000 + 1000 + 700 + 60 + 5.
b) 7000000 + 90000 + 800 + 90 + 5.
c) 3000000 + 200000 + 50000 + 8000 + 400 + 10 + 9.
d) 200000000 + 80000000 + 2000000 + 10000 + 400 + 8.

5. a) 400000089
b) 50005055
c) 6009030897
d) 893768905
e) 20202202

6.

Number	Place Value	Face Value
a) 9817	9000	9
b) 3529801	20000	2
c) 777	70	7
d) 12851	800	8
e) 68954321	60000000	6.

7. a) = 5,08,09,085
The place value of one '5' is 50, and other in 50000000.
b) = 8,950,825,428
The place value of one 5 is 5000 and the other is 50,00,000.
c) = 5,50,05,005
The place of 5 is 5, other is 5000, 50,00,000 and 5,00,00,000

8. a) 1 lakh = 100 thousands.
b) 1 million = 10 lakhs.
c) 1 crore = 10 millions.
d) 10 crores = 100 millions.
e) 1 Crore= 10,000 thousands
f) 10 thousand = 100 hundreds.
g) 1 billion = 100 millions.
h) 13700899 + 1 = 13700900.
i) 9900000 – 1 = 9899999.
j) 10000000 – 1 = 9999999.
k) Smallest 9 digit number = 100000000
Largest 8 digit number = 99999999.
l) 3348.
m) 34837.
n) 77.
o) 109.

9. a) 120 = CXX b) 150 = CL c) 90 = XC

10. and 11.

Just need to write down explicity

12. Amount Tom had in bank account = 5 million

Amount Tom deposited = 6 lakhs

Total amount in the bank account = 5,00,00,00,000 + 6,00,000

= 5,00,06,00,000

13. Amount Jerry had = 1 crore

Amount he spent to purchase a plot = 25 lakhs
Amount he spent to buy a car = 6 lakhs
Total expense = 25,00,000 +
= 6,00,000
= 31,00,000

∴ Amount left with him = 1,00,00,000 –
= 31,00,000
= 69,00,000

14. Amount Sunita had in her account = 86 lakhs

Amount Sunita tranfered to Anjali = 75,000

Amount in Anjali's account after sunita transfered the money = 3,50,000

(a) Amount in Sunita's account after transferring money = 86,00,000 –
= 75,000
= 85,25,000

∴ Anjali's earlier account balance
= 3,50,000 –
= 75,000
= 2,75,000

15. 10 Ten crore in one billion

Page No. 20

FUN WITH MATH

6	8	4	6	1	2	1	2	7	7	1	8	3	4	7
3	6	7	6	5	1	7	6	4	9	8	8	6	7	3
5	1	7	8	5	0	7	7	4	6	2	7	9	6	5
6	5	5	3	2	2	4	9	1	8	0	8	0	1	1
4	7	5	4	2	8	2	3	3	7	4	6	8	5	9
4	7	6	9	3	1	9	7	0	9	6	4	7	5	2
4	8	3	4	3	1	8	2	3	2	2	9	8	4	4
7	4	2	5	2	2	3	6	1	2	9	3	6	9	9
1	5	3	7	1	1	4	3	0	1	5	8	8	3	0
5	3	1	3	3	4	6	4	9	3	5	9	7	6	8
0	8	7	8	7	6	5	2	5	1	6	7	7	1	4
1	5	9	2	4	3	4	0	3	6	1	2	3	2	5

Page No: 24

Exercise: 1.2

1.

	SUM	ROUND OFF	APPROXIMATE ANSWER
a.	24 + 92	20 + 90	110
b.	38 + 74	40 + 70	110
c.	65 + 36	70 + 40	110
d.	18 + 86	20 + 90	110
e.	51 + 38	50 + 40	90
f.	23 + 64	20 + 60	80
g.	35 + 64	40 + 60	100

2.

	SUBTRACT	ROUND OFF	APPROXIMATE ANSWER
a.	92 – 38	90 – 40	50
b.	45 – 18	50 – 20	30
c.	69 – 24	70 – 20	50
d.	89 – 38	90 – 40	50
e.	94 – 46	90 – 50	40
f.	88 – 38	90 – 40	50
g.	75 – 18	80 – 20	60

3.

	PRODUCT	ROUND OFF	ESTIMATION
a.	58 × 24	60 × 20	1200
b.	35 × 21	40 × 20	800
c.	48 × 16	50 × 20	1000
d.	85 × 17	90 × 20	1800
e.	97 × 38	100 × 40	4000

4. 620 rounded to 600.

287 rounded to 300.

Total distance travelled:
(600 x 2) + (300 x 2)
= 1200 + 600
= 1800

5. 3842 rounded to 3800
1253 rounded to 1300
3800 + 1300 = 5100 marbles

6. 68 kg is rounded to 70
70 x 30 = 2100 kg.

7. 49,532 rounded to 50,000
52,618 rounded to 53,000
more spectators on tuesday.

Difference:
$$\begin{array}{r} 53{,}000 \\ -\ 50{,}000 \\ \hline 3000 \end{array}$$

Page No. 29

Exercise: 1.3

I) 1. No

2. No

3. Yes

4. Yes

5. a. represents whole numbers
b. represents natural numbers

Page No. 33

Exercise: 1.4

1. a. 395210 + 1 = 395211
b. 199999 + 1 = 200000
c. 4109009 + 1 = 4109010

2. a. 11400 – 1 = 11399
b. 108999 – 1 = 108998
c. 45752 – 1 = 45751
d. 620000 – 1 = 6,19,999

3. a. 43527 > 38521
b. 99999 = 99999
c. 31656 > 31650
d. 68537 < 68932

4. a. Factors are 1, 23
b. Factors are 1,2, 3, 4, 6, 7, 8, 12, 14, 21, 24, 28, 42, 56, 84, 168
c. Factors are 1, 3, 5, 9, 15, 27, 45, 135
d. Factors are 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 14, 15, 18, 20, 21, 28, 30, 35, 36, 42, 45, 60, 63, 70, 84, 90, 105, 126, 140, 180, 210, 252, 315, 420, 630, 1260

5. a. 4, 8, 12, 16, 24, 32, 36, 40, ...
b. 12, 24, 36, 48, 60, 72, ...
c. 9, 18, 27, 36, 45, 54, 63, ...
d. 18, 36, 54, 72, 90, 108, ...

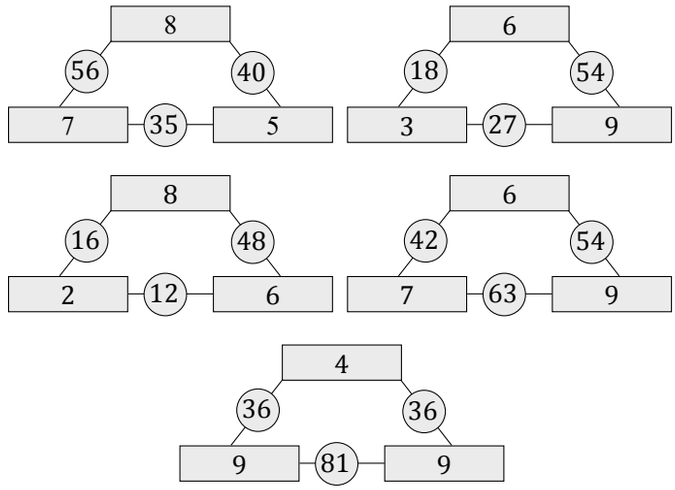
6. 2

7. a. 71, 73, 79, 83, 89, 97
b. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

8. 4, 6, 10 (any 3 composite numbers)

9. a. True b. False c. True d. False

Page No. 34
Math Lab Activity - 4



Page No. 35

Exercise: 1.5

1. Solve each expressions. Use the order operations.
a) $15 + (7 \times 2) = 15 + 14 = 29$
b) $34 - (6 \div 3) = 34 - 2 = 32$
c) $35 + (15 \times 2) = 35 + 30 = 65$
d) $30 \div (2 + 3) = 30 \div 5 = 6$
e) $(44 \div 11) + 4 = 4 + 4 = 8$
f) $(14 \div 7) \times 4 = 2 \times 4 = 8$

g) $24 + (16 \div 8) = 24 + 2 = 26$

h) $(17 + 2) - 14 = 19 - 14 = 5$

i) $(3 \times 9) - 4 = 27 - 4 = 23$

2. Use mental math to solve:

a) $(2 \times 9) - 3 + 4 = 18 - 3 + 4 = 19$

b) $5 + 150 \div 25 = 5 + 6 = 11$

c) $30 + (30 \div 6) = 30 + 5 = 35$

d) $(8 \times 9) - (8 \times 8) = 72 - 64 = 8$

e) $(24 \div 12) \times 9 = 2 \times 9 = 18$

f) $(200 + 400) \times 2 = 600 \times 2 = 1200$

g) $(18 \div 2) \times 2 = 9 \times 2 = 18$

h) $4 \times (3 \times 5) = 4 \times 15 = 60$

i) $12 + 6 - 2 = 18 - 2 = 16$

j) $(50 + 100) \times 2 - 100 = 150 \times 2 - 100 = 300 - 100 = 200$

3. Solve each expression:

a) $(48 \div 12) \div 2 = 4 \div 2 = 2$

b) $8 + (10 - 4) = 8 \times 6 = 48$

c) $28 - (12 \div 4) = 28 - 3 = 25$

d) $7 \times (3 + 2) = 7 \times 5 = 35$

e) $(16 \div 2) \times 9 = 8 \times 9 = 72$

f) $15 \div (3 \times 5) = 15 \div 15 = 1$

4. Use brackets to make each statement true.

a) $2 \times (3 + 6) = 18$

b) $20 \times (15 - 2) = 260$

c) $(5 + 4) \div 3 = 3$

d) $(12 + 10) \div 11 = 2$

e) $6 + (8 \div 2) = 10$

f) $5 \times (4 \div 2) = 10$

5. $(2 + 2) \times 2 + 2 \div 2 = 4 \times 2 + (2 \div 2) = 8 + 1 = 9$

6. $(3 \times 3) - 3 - (3 \div 3) = 5$

7. $(3 \times 3) + 3 - (3 \times 3) = 3$

8. $(3 \times 3 \times 3) + 3 - 3 = 27$

9. $33 - 3 - (3 \div 3) = 29$

10. (a) $3 - (3 \div 3) - (3 \div 3) = 1$

(b) $(33 - 33) \times 3 = 0$

11. (a) $(5 - 2) \times 4 + 3 = 15$

(b) $6 + (1 \times 3) + 20 = 29$

(c) $(3 + 2) \times (7 - 5) = 10$

(d) $(4 - 1) \times 6 + 2 = 20$

(e) $11 + (6 - 3) \times 3 = 20$

(f) $64 \div (4 \times 4) + 11 = 15$

12. (a) $(10 + 4) - (6 + 8) = 0$

(b) $10 \div (8 - 6) + 4 = 9$

(c) $(10 \times 6) + (4 \times 8) = 92$

(d) $(10 + 8) - (6 + 4) = 8$

13. a. Cost of one bag of chips = ₹ 15

Cost of 4 bags = 15×4 = ₹ 60

Amount Sandar paid using the coupon = ₹40

Amount Sandar paid = 60 – 40

= ₹20

b. Number of balloons needed for the tables = $15 \times 3 = 45$

Number of balloons needed for the walls = $20 \times 4 = 80$

Total number of balloons needed = 80 + 45 = 125

Page No. 36

H.O.T.S

1. Total cost of large drinks = 15×4 = ₹ 60

Total cost for the pizza, cheese bread and drinks = 150 + 60 + 50 = ₹ 260

Amount each person should pay = $\frac{260}{4}$ = ₹65

We use multiplication , addition and division to solve the problem.

FUN WITH MATH

1. $3 \times 11 + 3 \times 1 = 33 + 3 = 36$

$3 \times 10 + 3 \times 2 = 30 + 6 = 36$

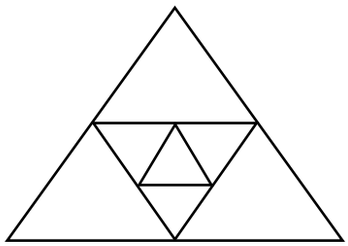
$3 \times 9 + 3 \times 3 = 27 + 9 = 36$

$3 \times 8 + 3 \times 4 = 24 + 12 = 36$

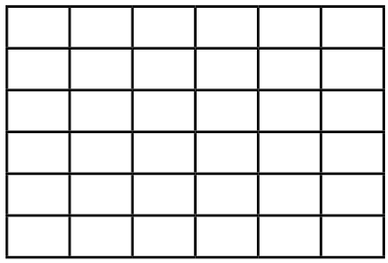
$3 \times 7 + 3 \times 5 = 21 + 15 = 36$

$3 \times 6 + 3 \times 6 = 18 + 18 = 36$

2. a.



b.



3.

12345679 × 9 = 111111111
12345679 × 18 = 222222222
12345679 × 27 = 333333333
12345679 × 36 = 444444444
12345679 × 45 = 555555555
12345679 × 54 = 666666666
12345679 × 63 = 777777777
12345679 × 72 = 888888888
12345679 × 81 = 999999999
1 × 1 =
11 × 11 =121
111 × 111 = 12321
1111 × 1111 = 1234321
11111 × 11111 = 123454321
111111 × 111111 = 12345654321
1111111 × 1111111 = 1234567654321
11111111 × 11111111 = 123456787654321
111111111×111111111=12345678987654321

Chapter - 2. Algebra

Page No. 45

Exercise: 2.1

I) 1. variable
2. $x + y$
3. different numerical
4. Constant

II) 1. False. Correct expression 3x
2. True
3. False. Correct expression is $x - 6$
4. False. Correct expression: $(a + 6) + (b + 6)$
5. True
6. False. Correct Expression $16 \times x$

Page No. 47

Exercise 2.2

1. Classify the following expressions as monomials, binomials and trinomials

a. y – monomial
b. $x + 23$ – Binomial
c. $z - 2 - y$ – Trinomial
d. $a + \frac{b}{2}$ – Binomial
e. $\frac{1}{x}$ – not a polynomial
f. abc – monomial
g. $xy + 2$ – Binomial
h. $\frac{2}{y} + 3$ – not a polynomial

2. Convert the plain English into algebraic expression:

a. The sum of my age and my sister's age _ $x + y$
b. Six times my maths mark = $6x$
c. Add the cost of 3 apples, two carrots and six bananas $3x + 2y + 6z$
d. Thirty three more than my age x+33
e. Equally distribute 1000 rupees to n people $= \frac{1000}{n}$

3. $2x$ where x is 3,4,5,and 6

4. 30m

5. $4x, x, -2x$

6. same

7. If a is (5) - using the rule write the next 4 odd numbers - 7,9,11,13

If a is (121) - write the next 5 odd numbers. -123,125,127,129,131

If a (1,001) write the next 3 odd numbers - 1003,1005,1007

If a is (999999) write the next 2 odd numbers - 10,00,001,10,00,003

8. $x = 32, y = 64$

Page No. 48 and 49

Exercise 2.3

1. Write each sentence as an algebraic equation:

Plain English	Algebraic equation
A number increased by ten is 16	$x + 10 = 16$
Thrice a number is twenty seven	$3x = 27$
Five less than a number is twenty	$x - 5 = 20$
A number divided by six is eight	$\frac{x}{6} = 8$

2. Express in words for the given algebraic equation:

Plain English	Algebraic equation
Twenty nine less than twice a number is seven	$2t - 29 = 7$
Twice a number increased by eight is thirty two	$32 = 2a + 8$
A number increased by five is ten	$N + 5 = 10$
Sixteen less than four times a number is twelve	$12 = 4x - 16$

3. Write each sentence as an algebriac equation:

Plain English	Algebraic equation
Leena is x years old. In thirteen years she will be twenty four years old	$x + 13 = 24$
Each piece of candy costs 2 rupees. The price of n pieces of candy is 18 rupees	$2n = 18$
Giri made a withdrawal of Y rupees from his savings account. His old balance was 3500 rupees and his new balance is 2800 rupees	$3500 - y = 2800$
A large pizza with 15 slices is shared among x students so that each student's share is 3 slices	$\frac{15}{x} = 3$

Page No. 50

Exercise 2.4

1. Find the values of the mystery numbers:

a. $x + 3 = 7$
$x = 7 - 3 = 4$

b. $9 - y = 5$
$9 - 5 = y$
$y = 4$

c. $z - 5 = 0$
$z = 5$

d. $7 + 7 = t$
$t = 14$

e. $5x = 10$
$x = \frac{10}{5} = 2$

f. $4y = 24$
$y = \frac{24}{4} = 6$

2. Which of the following equations are solved correctly?

a. $x + 7 = 10$; $x = 3$
$x + 7 = 10$
$x = 10 - 7 = 3$
It is solved correctly

b. $-3 - W = -6$: $W = 3$
$- 3 - W = - 6$
$- 3 + 6 = W$
$W = 3$
It is solved correctly

c. $123 - 116 = Z$; $Z = 6$
$Z = 6$
It is solved incorrectly

d. $8 - y = - 12$; $y = 20$
$8 - y = - 12$
$8 + 12 = y$
$y = 20$
It is solved correctly

e. $5k = 100$; $k = 25$
$5k = 100$
$k = \frac{100}{5} = 20$
It is solved incorrectly

3. Complete the following table:

x	2	6	10	12	20
$x + 6$	8	12	16	18	26
$x - 2$	0	4	8	10	18
$7x$	14	42	70	84	140
$\frac{x}{2}$	1	3	5	6	10

H.O.T.S

1. Solve the following word problems:

a. Let the number be x
Given: $x + 4 = 12$
$x = 12 - 4 = 8$
The number is 8

b. Let my age be x years
Given: $x - 7 = 34$
$x = 34 + 7 = 41$
My age is 41 years

c. Let money in your account be x
$x + 100 = 250$
$x = 250 - 100 = 150$
You have ₹ 150 in your account

Page No. 51

Exercise 2.5

1. Perimeter is $4a$

2. Perimeter is $2y + x$

3. If 'a' is the side of the equilateral triangle, $3a$ = 12p . Therefore, a = 4p

4.

18	20	16	18	8
22	24	20	22	12
18	20	16	18	8
22	24	20	22	12
10	12	8	10	+

5. Let my sisters age be x.
My age = $x + 2$
My sister's age after 5 years = $x + 5$
My age after 5 years is = $x + 2 + 5 = x + 7$
Our combined age = $x + 5 + x + 7 = 60$
i.e $2x + 12 = 60$,
$2x = 48$, $x = 24$.
My sister's age is 24
My age is 26

Chapter - 3. Ratio and Proportion

Page No. 58 and 59

Exercise 3.1

1.

	QUANTITY	✓ or ×	REASON IF (×)
1.	Height of A person and weight of B	×	Different quantities
2.	₹ 100 and 2 dozen oranges	×	Different quantities
3.	4 km to 500 m	✓	
4.	5 cm and 15 pens	×	Different quantities
5.	4 kg apples to 3 kg oranges	✓	

2. a. 15 : 25 = 3: 5
b. 19: 4
c. 12:15 = 4:5
d. 5 :4

3. a. =
b. <

4. Write the ratios:

a. 2 boys to 3 girls
2:3

b. 4 pens to 8 pencils
= 4:8

$= \frac{4}{8}$

$= \frac{1}{2}$

$= 1:2$

c. 12 cycles to 12 boys

$= 12:12$

$= \frac{12}{12}$

$= \frac{1}{1} = 1:1$

5. Write ratios in fractions:

a. 23:24

$= \frac{23}{24}$

b. 4:15

$= \frac{4}{15}$

c. 14:16

$= \frac{14}{16} = \frac{7}{8}$

6. Change the ratios into their simplest form:

a. 300 gm to 2kg

$= 300$ gm to 2000 g

$= \frac{300}{2000} = \frac{300 \div 100}{2000 \div 100}$

$= \frac{3}{20} = 3:20$

b. 124 sqft to 432 sqft

$= \frac{124}{432} = \frac{124 \div 4}{432 \div 4}$

$= \frac{31}{108} = 31:108$

c. 115 pens to 161 pens

$= \frac{115}{161} = 115:161$

d. 4 units to 1 dozen units

$= 4:12$_____ (1 dozen = 12 units)

$= \frac{4}{12} = \frac{4 \div 4}{12 \div 4}$

$= \frac{1}{3} = 1:3$

7. Write 4 equivalent ratios for each of the following ratios:

a. 2:5

$= \frac{2}{5}$

$\frac{2 \times 2}{5 \times 2} = \frac{4}{10}$

$\frac{2 \times 3}{5 \times 3} = \frac{6}{15}$

$\frac{2 \times 4}{5 \times 4} = \frac{8}{20}$

$\frac{2 \times 5}{5 \times 5} = \frac{10}{25}$

4 Equivalent ratios are

4:10, 6:15, 8:20, 10:25

b. 11:13

$= \frac{11}{13}$

$\frac{11 \times 2}{13 \times 2} = \frac{22}{26}$

$\frac{11 \times 3}{13 \times 3} = \frac{33}{39}$

$\frac{11 \times 5}{13 \times 5} = \frac{55}{65}$

$\frac{11 \times 10}{13 \times 10} = \frac{110}{130}$

4 Equivalent ratios are

22:26, 33:39, 55:65, 110:130

c. 25:35

$= \frac{25}{35}$

$\frac{25 \div 5}{35 \div 5} = \frac{5}{7}$

$\frac{25 \times 2}{35 \times 2} = \frac{50}{70}$

$\frac{25 \times 3}{35 \times 3} = \frac{75}{105}$

$\frac{25 \times 10}{35 \times 10} = \frac{250}{350}$

4 Equivalent ratios are

5:7, 50:70, 75:105, 250:350

8. There is a rope whose length is 5m. You want the length of 2 meters so you can use it for skipping. So you cut the rope.

a. 2:5

b. 2:3 c. 3:5 d. Yes

9. Write whether the following ratios are equivalent or not, If not change them into equivalent fractions:

a. Ratios of 3 men to 4 women is equal to 12 men to 16 women

3:4 = 12:16

3:4 = 12:16

$\frac{3}{4} = \frac{12}{16}$ as $\frac{3}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{16}$

So, the ratios are equivalent.

b. Ratio of 10 pens to 100 rupees is equal to 1 pen to 10 rupees

10 pens to 100 rupees = $\frac{10}{100} = \frac{10 \div 10}{100 \div 10} = \frac{1}{10}$

1 pen to 10 rupees = $\frac{1}{10}$

Ratios are equivalent.

c. Ratio of 16 fruits to 8 packets is equal to 4 fruits to 2 packets

Ratio of 16 fruits to 8 packets = $\frac{16}{8}$

$\frac{16 \div 8}{8 \div 8} = \frac{2}{1} = 2:1$

Ratio of 4 fruits to 3 packets

$= \frac{4}{3}$

$2:1 \neq 4:3$

They are not equivalent

If the ratio is changed to

4 fruits to 2 packets = $\frac{4}{2} = \frac{2}{1} = 2:1$

The ratios now become equivalent.

10. Write down three comparisons of things in your classroom. Write the ratios for each one.

Boys to girls = 20:25

Benches to desks = 20:20

Pens to Pencils = 25:20

11. Which two ratios are the same?

a. One girl to 4 boys = 1:4

b. Two girls to 10 boys

= 2:10 = 1:5

c. Three girls to 12 boys

= 3:12

= 1:4

a and c are the same

12. Which ratio is different?

a. 2 spoons of sugar to 2 cups of tea

= 2:2 = 1:1

b. 3 spoons of sugar to 6 cups of tea

= 3:6 = 1:2

c. 4 spoons of sugar to 4 cups of tea

= 4:4 = 1:1

Ratio b is different

13. Compare the following ratios and write in ascending order:

7:9, 3:4, 5:36

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

$3:4 = \frac{3}{4}$

$5:36 = \frac{5}{36}$

$\frac{7}{9}, \frac{3}{4}, \frac{5}{36}$

LCM of 9,4, and 36 is 36

$\frac{7 \times 4}{9 \times 4} = \frac{28}{36}$

$\frac{3 \times 9}{4 \times 9} = \frac{27}{36}$

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

The ascending order is

$\frac{5}{36}, \frac{27}{36}, \frac{28}{36}$

$\frac{5}{36} < \frac{3}{4} < \frac{7}{9}$

14. Compare the following ratios and write in descending order:

11:14, 2:7, 5:28

$11:14 = \frac{11}{14}$

$2:7 = \frac{2}{7}$

$5:28 = \frac{5}{28}$

$\frac{11}{14}, \frac{2}{7}, \frac{5}{28}$

LCM of 14, 7, 28 is 28

$\frac{11 \times 2}{14 \times 2} = \frac{22}{28}$

$\frac{2 \times 4}{7 \times 4} = \frac{8}{28}$

$\frac{5 \times 1}{28 \times 1} = \frac{5}{28}$

The descending order is

$\frac{22}{28}, \frac{8}{28}, \frac{5}{28}$

$\frac{11}{14} > \frac{2}{7} > \frac{5}{28}$

15. Divide 450 kg of rice between 2 persons in the ratio 4:5

Let the share of Ist person be 4x and of IInd person be 5x

4x + 5x = 450 kg (given)

$4x + 5x = 9x = 450kg$ (*given*)

$x = \frac{450}{9} = 50kg$

Share of Ist person = $4x = 4 \times 50 = 200kg$

Share of IInd person = $5x = 5 \times 50 = 250kg$

Page No. 63 and 64

Exercise 3.2

1. Check whether the following are in proportion

a. 4:5 and 12:15

product of the extremes = $4 \times 15 = 60$

product of the means = $5 \times 12 = 60$

so the ratios are in proportion

b. 10:30 and 100:300

product of the extremes = $10 \times 300 = 3000$

product of the means = $30 \times 100 = 3000$

The products are equal. so the ratios are in proportion

c. 14:15 and 21:22

product of the extremes = $14 \times 22 = 308$

product of the means = $15 \times 21 = 315$

The products are not equal

The ratios are not in proportion

d. $1:2 = 1\frac{1}{2}:3$

product of the extremes = $1 \times 3 = 3$

product of the means **= 2** $\times 1(\frac{1}{2}) = 2 \times \frac{3}{2} = 3$

The products are equal

so the ratios are in proportion.

2. Find the missing numbers

a. 12:14 :: X:42

$12:14 = X:42$

$\frac{12}{14} = \frac{X}{42}$

$14x = 12 \times 42$

$x = \frac{12 \times 42}{14} = 36$

$x = 36$

Missing number X = 36

b. 100:225 :: 1000:Y

$100:225 = 1000 : y$

$\frac{100}{225} = \frac{1000}{y}$

$100y = 225 \times 1000$

$y = \frac{225 \times 1000}{100} = 2250$

$y = 2250$

The missing number Y = 2250

c. A:36 :: 28:44

$A:36 = 28:44$

$\frac{A}{36} = \frac{28}{44}$

$144A = 36 \times 28$

$A = \frac{36 \times 28}{144} = 7$

$A = 7$

The missing number A = 7

d. 125:B :: 500:1125

$125:B = 500:1125$

$\frac{125}{B} = \frac{500}{1125}$

$500B = 125 \times 1125$

$B = \frac{125 \times 1125}{500} = \frac{1125}{4} = 281\frac{1}{4}$

The missing number B = $281\frac{1}{4}$

3. (i) 12:9 :: 4: 3 (ii) 18:9 :: 4:2

4. (i) 3: 6 :: 8:16 (ii) 3:12 :: 4 : 16

5. (i) 3:6 :: 15:30 (ii) 45:6 :: 15: 2

6. (i) 25:5 :: 315 : 63 (ii) 25: 3 :: 525:63

7. Let the number of benches needed be x.

$1:2 = x:30$

$\frac{1}{2} = \frac{x}{30}$

$2x = 30$

$x = \frac{30}{2} = 15$

15 benches are needed.

8. Let the number of friends be A.

$1:6 = 3:A$

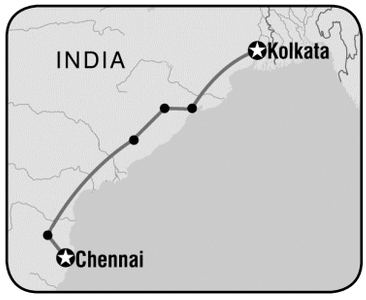
$\frac{1}{6} = \frac{3}{A}$

$A = 18$

A = 18

3 milk chocolates have to be shared with 18 friends.

9. The actual distance from Chennai to Kolkata be *A* kms



Chennai —— 67 units —— Kolkata

$1:25 = 67 : A$

$A = 25 \times 67 = 1675$ *Kms*

Actual distance = 1675 *Kms*

10. Speed of the trian = 115kms/hours. Let us assume that

It takes X hours to reach Delhi from Kanyakumari Distance = 2838 kms

1 hours to 115 kms = *x* hours to 2838 kms

$\frac{1}{115} = \frac{x}{2838}$

$115x = 2838$

$x = \frac{2838}{115}$ *hours* $= 24.67$ *hours*

Page No. 66

Exercise 3.3

1. Cost of 1000 Sq ft house = ₹ 6,00,00,00

Cost pf 1sqft house = $₹ \frac{6,00,00,00}{1000}$

= ₹ 6000

Cost of 1340 Sq ft = ₹ 6000 × 1340

= ₹ 80,40,000

2. Which is cheaper?

a. 3 dozen pins for 50 rupees

36 pins for 50 rupees

1 pin = $₹ \frac{50}{36} = ₹1\frac{7}{8}$

b. 28 pins for ₹ 36

1 pin = $\frac{36}{28} = \frac{18}{14} = \frac{9}{7} = 1\frac{2}{7}$

c. 12 pins for ₹ 24

1 pin = $₹ \frac{24}{12} = ₹ 2$

$1\frac{7}{18}, \ 1\frac{2}{7}, \ 2$

$\frac{25}{8} = \frac{25x7}{18x7} = \frac{175}{126}$

$\frac{9}{7} = \frac{9x18}{7x18} = \frac{162}{126}$

$2 = \frac{2}{1} = \frac{2x126}{1x126} = \frac{252}{126}$

$\frac{162}{126}$ is *cheaper*

28 pins for ₹ 36 is cheaper.

3. Amount of money raised with 5 attendees = ₹500

For attendee = $₹ \frac{500}{5}$ = ₹ 100

Money raised with 60 attendees = ₹ 60 × 100

= ₹ 6000

4. Cost of 8 kg of wheat = ₹ 170

∴ Cost of 1 kg of wheat = $\frac{170}{8}$ = ₹ 21.25

∴ Cost of 16 kg of wheat = ₹ 340

5. Pieces of chain needed to tie 16m long chain = 9

$\therefore$ Pieces of chain needed for 1m long chain = $\frac{9}{16}$

$\therefore$ Pieces of chain needed for

48 m long chain = $\frac{9}{16} \times 48$

= 27 Pieces

6. No. of teachers in the school = 120

No. of students in the school = 3600

$\therefore$ Ratio of teachers to students = 120 : 3600

= 30 : 1

7. Ratio of right answers to wrong answers = 9:4

No. of wrong answers which Sudha got = 16

$\therefore$ Answers she got right = 9 : 4 = x : 16

$= 4x = 16 \times 9$

$= x = \frac{16 \times 9}{4}$

= 36

8. No. of children who ride Ferris wheel = 91

No. of children who board Merry-go-Round = 65

$\therefore$ Ratio of students who chose

Ferris wheel to Merry-go-Round = 91 : 65

= 7 : 5

H.O.T.S

1. Sum of the terms of the ratio = 3 + 4 = 7

Sum of numbers = 63

Therefore, first number = $\frac{3}{7} \times 63$

= 27

Second number = $\frac{4}{7} \times 63$

= 36

Therefore, the two numbers are 27 and 36.

2. Let 2A = 3B = 4C = x

So, A = $\frac{x}{2}$ B = $\frac{x}{3}$ C = $\frac{x}{4}$

The L.C.M of 2, 3 and 4 is 12

Therefore, A : B : C = $\frac{x}{2} \times 12 : \frac{x}{3} \times 12 : \frac{x}{4} = 12$

= 6x : 4x : 3x

= 6 : 4 : 3

Therefore, A : B : C = 6 : 4 : 3

Page No. 69
Exercise 3.4

1. Original ratio is

50 : 150 : 5

10 : 30 : 1

The ratio is 10 : 30 : 1

Now 50 is increased to 75

The ratio is to be maintained.

75 : 225 : 7.5

This is 10 : 30 : 1 (ratio)

Ratio cannot be a fraction (This is the challenge)

The student should be able to figure out it is a fraction. Then the teacher can say either we round it off to 7 or 8 and talk about administrative staff and a little on what their duties are in the hospital.

2. 30 : 40 : 20

3 : 4 : 2

Ratio of red, yellow and purple beads

= 30 : 40 : 20 = 3 : 4 : 2

Number of beads Rani had to remove 81

total beads = 90

Remaining numbe of beads after removing = 90 – 81 = 9

We have to maintain the ratio 3 : 4 : 2

Therefore She has to remove 27 red, 36 yellow and 18 purple beads

3. 15 : 30 : : 3 : 6

4. Ratio of beads 3 : 4 : 5

Number of green beads = 20

Let the total number of beads be 'x'

Given $x \times \frac{5}{12} = 20 \quad \therefore x = 48$

Total Number of beads = 48

Number of Red beads $\cancel{48}^{4} \times \frac{3}{\cancel{12}} = 12$

Number of Blue beads $\cancel{48}^{4} \times \frac{4}{\cancel{12}} = 16$

a. 12 : 48 = 1 : 4

b. 16 : 48 = 1 : 3

c. 20 : 48 = 5 : 12

d. 20 : 16 = 5 : 4

e. 12 : 20 = 3 : 4

Chapter 4A. Geometry

Page No. 80 and 81

Exercise 4.1

1. Fill in the blanks:

a. Infinite
b. One
c. Two
d. One
e. Two
f. Line segment
g. Infinite
h. Three points (non-colinear)
i. Concurrent Lines.(Lines intersecting at the same points are called)

2.

Points	Line Segments	
L	LM	MQ
M	MN	MP
N	NO	MO
O	OP	NQ
P	PQ	NP
Q	LQ	OQ
	LP	
	LO	
	LN	

3. LINES: XY, PQ

RAYS: OX, OQ, OP, OY

4. a. Line
b. Point of intersection (common point)
c. Straight Line
d. Square
e. Straight Line
f. Triangle
g. Quadrilateral
h. Point
i. Straight Line

5. a. Straight lines : A_1C_2 , A_1B_2.
Line segments A_1C_2 , A_1B_2
b. B_2 , C_2
c. A_1B_2 , B_1A_2
d. A_1C_2 , C_1A_2

6.

Shape	Points	Line segments	Parallels
Square	X, Y, U, Z	XY, YZ, UZ, XU, XZ, YU	XY||UZ, XU||YZ
Hexagon	P, q, r, s, t, u	TS, SR, RQ, QP, PU, UT, TS, SP, TQ, RU	TU||RQ
Rhombus	O, r, e, h	OR, RE, EH, HO, OE, HR	OH||ER, OR||HE
PENTAGON	N, E, P, A, T	NE, EP, PA, AT, TN, NA, NP	No parallel lines
Circle	X, Y, M, N	XY, XM, OM, ON, OX	No parallel lines

7. (a), (c) and (d) are closed figures

Chapter 5. Statistics

Page No. 90

Exercise 5.1

1. Answer the following questions using the information given below.

a. Pictograph shows information using pictures.

b. Number of students who like each game is represented in the pictograph.

c. A ☺ represents 10 students.

d. Cricket is most liked game.

e. Volleyball and Tennis are least liked.

f. There are 120 students in all.

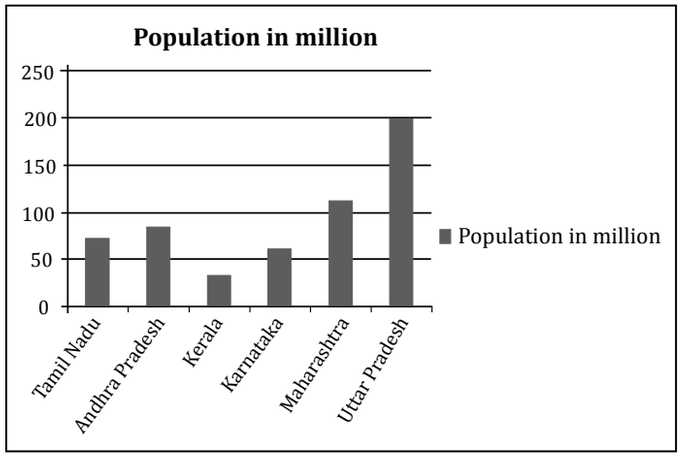
g. Can be anything of students choice

Page No. 93

Exercise 5.2

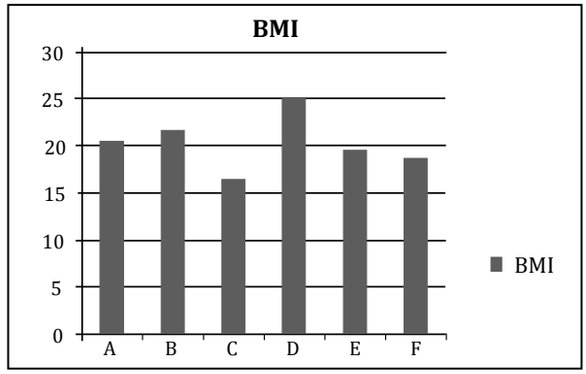
1. An approximate number of people in each state of India were recorded in millions as shown in the table below. Construct a bar graph to visually display this data.

Population of states in India

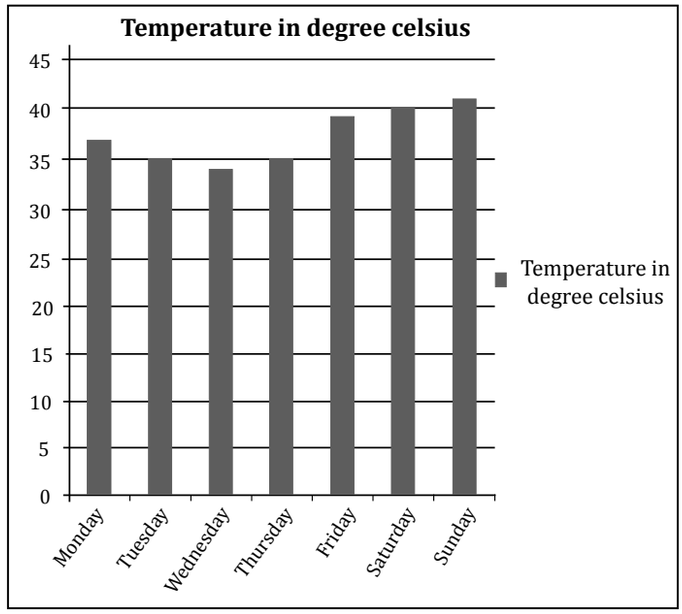


2. Six children were surveyed on their body mass index as shown in the table below. Construct a bar graph to visually display this data.

Body mass Index



3. The temperature recorded on seven days of a month in a city is as follows. Prepare a graph and answer the following questions:

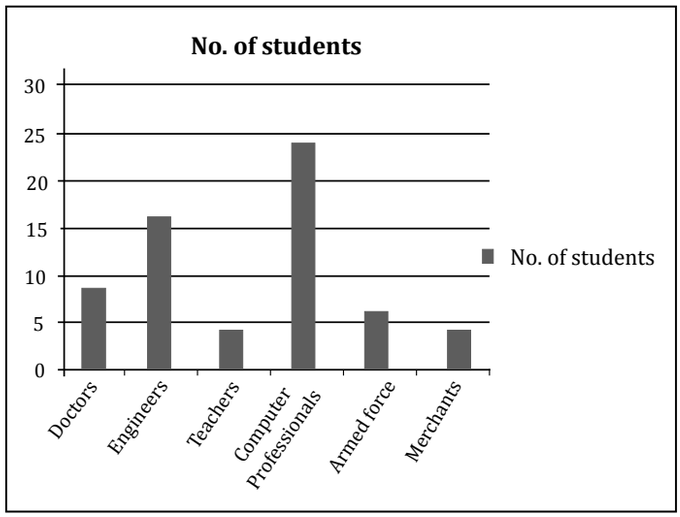


1. Sunday was the hottest day.
2. Highest temperature = 41°c

   Lowest Temperature = 34°c

   Difference = 7°c
3. Tuesday and Thursday were equally hot.

4. The following table shows the choice of profession of 72 students of class XII. Represent this data in the form of a bar-diagram:



5. Collecting data and arranging it in a systematic manner using pictographs or bar graphs is called data handling. This makes it easier to understand and analyze data.

Chapter 6. Information Processing

Page No. 100

Exercise 6.1

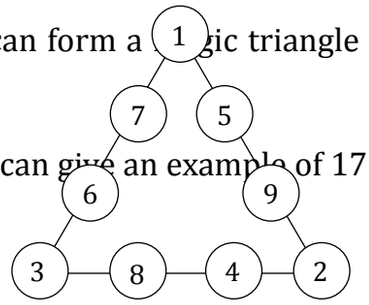
1. a. On magic triangle. Since the number is large - the triangle should have - 9 digits and not 6 digits. If the student figure it out that we need more than 6 digits are need - the teacher can take it up from there.

But 15 cannot form a magic triangle.

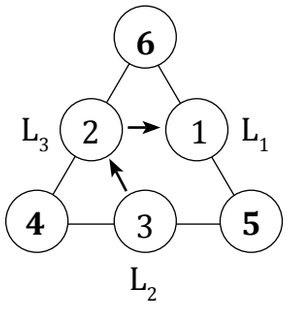
So the teacher can say, that certain numbers cannot form a magic triangle and the reason they will learn as they go to higher classes

17 can form a magic triangle 19, 20, 21 too.

She can give an example of 17 (or) leave it.

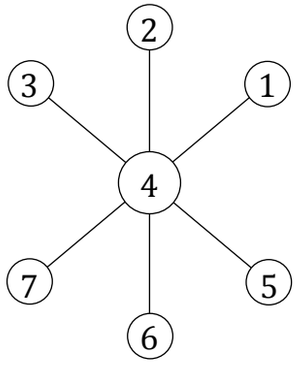


b.



2. Any 5×5 Magic square

3.



4. A) 5 B) 8

Class: 6 KEY ANSWERS Term-I

Chapter 1 MEASUREMENTS

EVALUATION:

I. 1. d 2. d 3. a 4. b 5. d

II. 1. dozen 2. kg 3. g
4. minutes 5. mm

III. 1. km: It is the unit to measure distance, others measure time.
2. Beam balance – measures weight; others are used to measure time.
3. 1 km : all others are equal.
4. Cubit: It is a non standard unit. Others are standard units.
5. Duration of paddy crop – is in months. Others durations are in hours.

IV. 1. 1971 2. $\left(\frac{300}{60}\right)$ min = 5 min
3. $\left(\frac{5}{100}\right)$ m = 0.05 m 4. Mass 5. Time

V. 1. Measurement is the determination of dimensions, quantity and capacity of a given item.
2. A unit is a fixed quantity used as a standard of measurement of a physical quantity like length, mass and time.
3. Length is the distance from one point to another.
Mass is the amount of matter present in a body.
Time is the interval between two events.
4. m, kg, s
5. Units which are bigger than standard SI unit are called multiple units e.g. 1 km = 1000m

Those units which are smaller than standard SI unit are called submultiple units. e.g. 1cm = 1/100 m

6. a. Foot pound second
b. centimetre gram second
c metre kilogram second
d. Système International d'unités

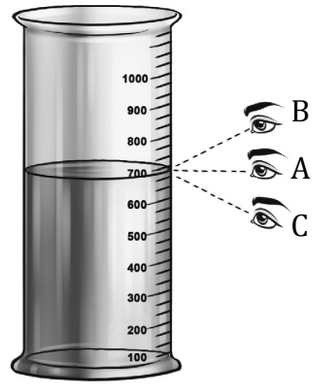
7. a. (2×1000) m = 2000 m.
b. (3×60) min = 180 minutes
c. (1500/1000) km =1.5km
d. (500/1000) kg = 0.5kg

8. a. years b. months c. cm
d. m e. kg
f. varies from student to student
g. minutes h. hours

VI.

1. A 2. zero 3. less 4. more

Teacher should demonstrate in class how to measure the water level reading. Try to bring in a measuring jar where meniscus formation is not very obvious. If it is obvious, please do explain the importance of meniscus formation and the role it has when a measurement is done. Explain through observation, at which eye position will the reading be less and more based on the given illustration.



EVALUATION:

I. 1. Linear 2. Circular
3. Rotatory 4. Rotatory
5. Random 6. Rotation
7. Rotation 8. Revolution
9. Translatory

II. 1. Non-uniform 2. Non-uniform
3. Uniform 4. Non-uniform

III. 1. Vibratory motion
2. Random motion
3. Rotatory motion
4. Oscillatory motion
5. Circular motion

IV. 1. Translatory/linear
2. Rotatory
3. 20 m

V. 1. False. Exhibits revolutionary and rotatory motion. It is also periodic motion.
2. False. It is revolution.
3. True

VI. 1. When the position of a body changes with respect to its surroundings and time, then it is said to be in motion.
2. Motion of pulley, motion of earth around sun.
3. In Oscillatory motion entire body moves to & fro from mean position e.g,. pendulum in pendulum clock,swing

In vibratory motion some parts of the body move to and fro while other parts are at rest.

e.g. motion in tuning fork motion of string in veena, guitar, etc.

4. It is non-uniform motion. The speed of taxi changes depending on traffic and traffic signals.
5. Refer page 19 and answer in own words.

VII. 1. a. Distance = 3 km

Time taken = 30 min

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{3\text{ km}}{30\text{ min}}$$

$$= \frac{(3 \times 1000)\text{ m}}{(30 \times 60)\text{ s}} = \frac{5}{3}\text{ m/s } (=1.66\text{ m/s})$$

b. Speed = 8 km/h

Distance = 3 km

$$\text{Time taken} = \frac{\text{Distance}}{\text{Speed}} = \frac{3\text{ km}}{8\text{ km/h}}$$

$$= \frac{(3 \times 1000)\text{ m}}{(8 \times \frac{5}{18})\text{ m/s}} = 1350\text{ s } (=22.5\text{ min})$$

2. **Uphill**

Speed = 30 km/h

Time taken = 10 min

$$\text{Distance} = 30\ \frac{\text{km}}{\text{h}} \times 10\text{ min}$$

$$= 30\ \frac{\text{km}}{\text{h}} \times \left(\frac{10}{60}\right)\text{h} = 5\text{ km.}$$

(Do the calculation in km/h because the second part of the question includes speed in km/h)

Downhill

Speed = 60 km/h

$$\text{Time taken} = \frac{\text{Distance}}{\text{Speed}} = \frac{5\text{ km}}{60\text{ km/h}}$$

$$= \frac{1}{12}\text{ h } \left(= \frac{1}{12} \times 60\text{ min} = 5\text{ min}\right)$$

(Students should answer the second part directly, because distance covered is the same but the speed is doubled. So it will take only half time to cover downhill)

Chapter 3 MATTER AROUND US

EVALUATION:

I. Choose the correct answer:

1. b 2. c 3. a 4. a 5. c
6. b 7. c 8. b 9. c

II. State true or false and correct the false statements:

1. True
2. False. Both liquids and gases can flow.
3. True
4. False. Different melting points.
5. True
6. False. Gases can flow in any direction.
7. False. Compounds are pure substances made of one kind of molecule.
8. False. When using a sieve in a construction site, the fine sand falls through while the stones stay on it.
9. True
10. True.
11. False. Decantation is not effective to separate fine sand and water.

III. Answer the following in 1 or 2 sentences:

1. Solids, liquids and gases
2. *Refer textbook Page No. 31 bullet points.*
3. Forces of attraction between gas particles are very weak and space between them is very large. Hence gases are compressible.
4. Adulteration refers to mixing other matter of lower quality with substances of higher quality or removing a valuable ingredient from the matter, knowingly and then selling it in the market claiming good quality.
5. LPG. Liquified Petroleum Gas used as domestic fuel.

   CNG. Compressed Natural Gas used as automobile fuel.
6. Substances which contain only one type of particles are called pure substances.

   Eg. Oxygen, diamond, chlorine
7. The difference between a compound and a mixture is that a compound is made of only one type of particle and a mixture is made of different types of particles. The particles of a mixture are not combined chemically in any particular ratio.
8. Handpicking is preferred because of the various size, shape and colour of fruits.
9. Filtrate will be water and residue is sand.
10. Chemical substances are used to artificially ripen the fruits.
11. The purity of gold is expressed in “carats”.
12. *Refer textbook P. No. 42 - Section - 3.6.3*

IV. Give reasons for the following:

1. Vapours coming from cooked food diffuse in air and reaches next room.
2. There is no space between particles of solid as they are tightly packed.
3. Particles of common salt occupy space between particles of water. Hence there is no change in volume.
4. Ice is in solid state. On heating forces of attraction weaken and it changes to liquid water.

V. Suggest suitable methods to separate the following:

1. Rice and suji: sieving (suji being fine powder, falls through the pores of the sieves and the rice remains above)
2. Husk and wheat: winnowing (husk being lighter will fly away but wheat falls down on the ground)

3. Flour and little stones: handpicking (stones can be picked by hand) or sieving (if flour is fine enough then stones will remain on top, while flour falls through the sieve).
4. Chalk powder and iron powder: magnetic separation (iron is magnetic but chalk is not).
5. Muddy water: Sedimentation (Heavier sand and mud would settle down in water)

VI. Answer in detail:

1. Solids - Compactly packed - Forces are strongest

   Liquids - Loosely packed - Forces are moderate (Particles can move)

   Gases - Most loosely arranged - negligible forces

   Particles move freely

2. *Refer textbook - Page No. 30 activity 3.4*
3. *Refer textbook - Page No. 31 activity 3.5*
4. Solid substances can be separated through these most common methods of separation: hand-picking, winnowing, sieving and magnetic separation.
   - Hand-picking: the method of separating substances based on size, shape and colour using hands is called hand-picking.

     Eg: separating vegetables
   - Winnowing: the method of separating lighter particles from heavier particles in the presence of wind is called winnowing.

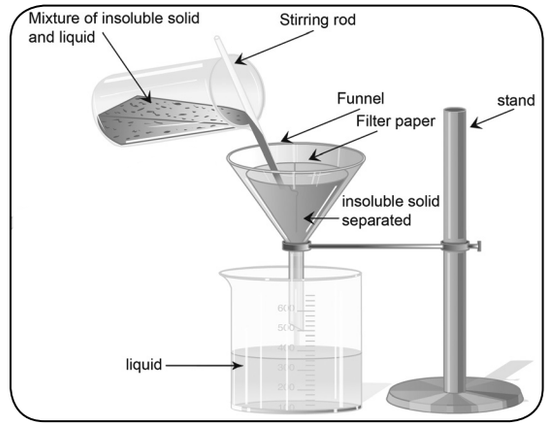
     Eg: separating grain and husk
   - Sieving: the method of separating particles of different sizes using a sieve is called sieving.

     Eg: sieving of flour
   - Magnetic separation: the method of separating magnetic substances from non-magnetic substances is called magnetic separation.

     Eg: mixture of iron powder and sand can be separated using a magnet. Iron powder will stick on to the magnet.
5. Sedimentation and decantation are processes through which we can separate insoluble solids in liquid.

   Sedimentation is the settling down of heavy and insoluble solid particles in a liquid. The solid which got settled is called sediment and the clear liquid above is called supernatant liquid.

   In case of muddy water, the sand eventually gets sedimented and the clear water can be poured into another container slowly by using a glass rod. That is how sedimented muddy water can be decanted.
6. A circular filter paper is made into a cone by folding twice at right angles and fitted into a glass funnel. The funnel is then clamped to a stand and an empty container is placed below it. Now the mixture of sand and water is poured into the funnel, using a glass rod. The clear water is collected in the container kept below and is called the filtrate, while the sand gets collected on the filter paper and is called the residue.



7. //Note to teacher: a student can come up with different methods for this process. There may be different correct methods for separation of mixture. Let them come up with different ideas. Two are listed below://

   Seeds can be separated by handpicking. Soil and water can be filtered. Soil will be the residue and water will be the filtrate.

   (Or)

   An appropriate sieve can be used to separate the seeds from the soil-water mixture. Then soil-water mixture can be subjected to filtration.

8. Preservatives in pickles are not adulterating agent. It is used to make pickle consumable for a longer time. The preservatives, if added, will be mentioned on the bottle and it is not hazardous to health.

VII. Higher Order Thinking Skills:

1. As it contains lot of pores.
2. Ice cube is kept at low temperature inside refrigerator. Temperature outside is more than melting point of ice. So ice cube melts.
3. Naphthalene balls kept in stored clothes in our homes disappear over a period of time because they undergo sublimation and form naphthalene vapours, which disappear into the air.

Chapter 4
THE LIVING WORLD OF PLANTS

EVALUATION:

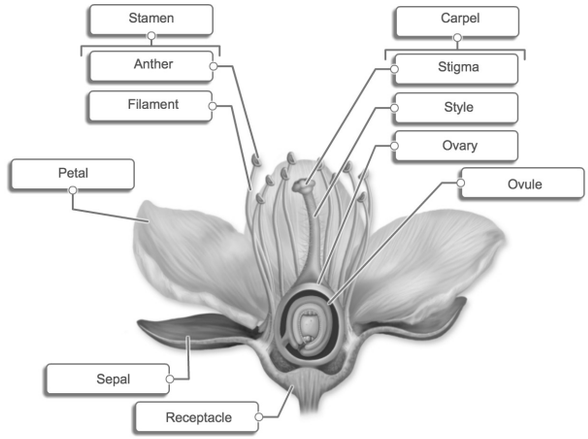
I. Choose the correct answer from the following:

1. leaves
2. axillary bud
3. hydrophytes
4. Water hyacinth
5. Petiole
6. Xerophytes

II. Match the following:

1. Calyx — sepals
2. Peas — tendrils
3. Opuntia — thorns
4. Pepper — climber
5. Lotus — hydrophyte

III. Label the parts of the given flower:



IV. Answer the following questions in one or two lines:

1. Opuntia is a xerophyte that lives in the desert. Due to the scarcity of water, its leaves are modified into spines to prevent excessive loss of water through transpiration.
2. Plants growing in dry, deserts have long roots to go deep into the soil in search of water.
3. Androecium and gynoecium are the male and female reproductive parts in plants.

4. During photosynthesis carbon dioxide is taken in and oxygen is given out by plants, while during respiration oxygen is taken in and carbon dioxide is given out.

V. Answer the following questions:

1. Roots absorb water and other nutrients from the soil and transport it to the stem. They fix the plant firmly into the soil. Some roots store food material for adverse seasons. Eg , radish, carrot and turnip.
2. Thorns are spiny structures found in xerophytes. Xerophytes are plants which grow in dry and arid regions. Due to the scarcity of water, the leaves are modified into thorns, so as to reduce the surface area, and thereby minimise transpiration (loss of water) from the leaf surface.
3. a. **Tendrils** – Tendrils are coiled wire like structures which help climbers to cling on to the host.
   b. **Petals** – Petals are the colourful parts of the flower. They form the second whorl of the flower and attract insects for pollination.
   c. **Sepals** – Sepals, also called calyx are leafy green coloured structures which form the outermost whorl of the flower. They enclose and protect the buds.
   d. **Anther** – Anther forms the third whorl of the flowers. It has a long filament and a bag like structure on the top. The anther contains the pollen grains which contain the male gametes.
   e. **Aerial parts of the plant** – The part of the plant above the soil is the aerial part also called the shoot system. The shoot system contains stem, leaves, flowers, fruits and buds.
   f. Radicle – Radicle is the part that shoots out of the seed when it germinates and grows downwards into the soil. It forms the root system of the plant.
   g. **Plumule** – Plumule is the light green coloured part that shoots out of the seed when it germinates and grows upward. This forms the shoot system of the plant.
   h. **Corolla** – Corolla is the second colourful whorl of the flower, inner to the sepals that contain **petals**. Petals may be of different colours in different flowers.
4. The stems of hydrophytes have a lot of airspaces to help them float in water.

Chapter 5
THE LIVING WORLD OF ANIMALS

EVALUATION:

I. Fill in the blanks:

1. Biodiversity
2. ecosystem
3. tail
4. excretion
5. adaptation

II. True or false:

1. False
2. True
3. False
4. True
5. False

III. Match the following:

Bacteria	unicellular
Lizards	leathery eggs
Euglena	flagellum
Paramecium	slipper shaped
Fish	gills

IV. Answer the following questions in one or two lines:

1. Biodiversity is the shortened form of two words "biological" and "diversity." Biodiversity is the term that refers to all the living organisms that reside on earth.
2. Lizards have rough, scaly skins. They have small heads and long tails. They lay their eggs on land, and their eggs have leathery shells. Unlike snakes, they have legs and movable eyelids. Lizards have short legs with claws. They breathe through lungs.

//Note to teacher: The student can write any two of the above adaptations//

3. A camel has thick lips so that they can eat the prickly desert plants like cactus without getting hurt.
4. An amoeba moves by changing the shape of its body to form a false foot or pseudopodia.

V. Answer the following questions:

1. The specific area where an organism (animal, plant, human) lives is called its habitat. An ecosystem includes all the living things (plants, animals and organisms) in a given area, interacting with each other and with their non-living environments (weather, sun, soil, climate and atmosphere) as well.

   The difference between the two is that while a habitat refers to a place where a living organisms lives, an ecosystem is a group of living organisms and their surrounding environment

2. The factors that affect the abundance of living organisms on earth are food and water, habitat and ecosystems, environmental factors like temperature, rain fall, humidity, the amount of sunlight received, natural calamities etc. The presence of predators in their habitat and competition for food, shelter, a mate, territory etc. also affect the abundance of living organisms.

//*Note to teacher: Refer text book – Page No. 64-65 for any one factor*//

3. Most fish have streamlined bodies that help them to cut through the water easily. They have special organs called gills that help them breathe in oxygen from the water. The bodies of most fish are covered with scales. The skin gives out a slimy secretion that oozes out between the scales and helps in movement. They have two types of fins that help them swim and change their direction in water. The strong tail acts as a rudder helping them to change their direction.
4. Camels have long sturdy legs that keep their bodies away from the hot sand. Their knees have leathery patches that protect their skin when they kneel down in the hot sun. They have broad, leather-like pads under their hooves that spread out and prevent the animal from sinking into the sand.

Chapter 6 HEALTH AND HYGIENE

I. Tick the correct and cross the wrong statements:

1. ✓ 2. ✓ 3. × 4. × 5. ×

II. Match the following vitamins/minerals with their deficiency disease:

1. Vitamin A - night blindness
2. Iodine - goitre
3. Vitamin C - scurvy
4. Vitamin B - beri-beri
5. Iron - anaemia

III. Fill in the blanks:

1. Meat , milk
2. roughage
3. bacteria
4. Kwashiorkor, Marasmus
5. groundnut and coconut.

IV. Answer the following in one or two lines:

1. Water is important for the proper functioning of the body because it is necessary for all the chemical reactions that take place in our body. It also helps to regulate body temperature.
2. Diseases or abnormalities arising as a result of consumption of insufficient quantities of essential nutrients are known as deficiency diseases.
3. Rice, wheat, corn are foods that contain carbohydrates.
4. Iron is essential for the formation of blood, and lack of iron may lead to anaemia. Calcium is necessary for our bones and teeth.

V. Answer the following:

1. The food we eat contains various substances that are needed by our body. These are called nutrients and they nourish our body. Macronutrients are nutrients that are required by the body in large quantities. eg. proteins, carbohydrates and fats. Micronutrients are nutrients required by the body in minute quantities.eg. vitamins and minerals.
2. The condition that arises as a result of iron deficiency is called anaemia. The symptoms are fatigue and shortness of breath.
3. To stay healthy one must do some form of exercise every day. Exercise builds stronger bones and muscles and improves blood circulation. For the elderly long walks is sufficient exercise. Every part of your body, including your brain, needs rest. It is important for both your physical as well as mental health. The best form of rest is sleep. The amount of sleep required by the body depends on your age.
4. The doctor would have diagnosed Sona with having a Vitamin A deficiency. He would have advised her to add carrots, sweet potatoes, dark leafy vegetables, and liver to her diet.

Class: 6 KEY ANSWERS Term-I

HISTORY

Chapter 1 WHEN, WHERE AND HOW?

I. Fill in the blanks:

1. Halicarnasus Herodotus
2. Prehistory
3. Historians
4. Manuscript
5. Epigraphy
6. Archaeology
7. Biography
8. Harshacharita

II. Choose the correct answer:

1. b) pre-history
2. c) story
3. b) Sanskrit language
4. c) King Samudragupta

III. Match the following:

1. Archaeology - Study of the remains of past
2. The process of digging up - Excavation
3. Inscriptions - Engraved on rocks
4. Megasthenes - Indica
5. Monuments - Buildings

IV. Who am I?

1. Coins
2. Megasthenes
3. Asvagosha
4. Tamil Nadu

V. Answer the following questions:

1. History: It relates to events that have actually happened in the past.

   Myth: An idea or story without explaining why something happened.

2. i) We study history to understand the origin of our existence.

   ii) When we read about other's mistakes in the past, we learn to lesson that we should not commit the same mistakes.

3. i) History is the branch of knowledge dealing with past events, usually written as a chronological account.

   ii) It can also be described as a continuous, systematic narrative of past events as relating to a particular people, country, period, person etc.

4. Prehistory is about events that occurred before the existence of written records in a given culture or society.

   History refers to the time period after the invention of written records in a given culture or society.

5. 325 BCE - 4th century
   536 BCE - 6th century
   1930 BCE - 20th century
   1848 BCE - 19th century
   1526 BCE - 16th century
   2019 BCE - 21th century

6. A historian is a person who researches, studies, and writes about the past.

7. Before Common Era (B.C.E.) and C.E. (Common Era) are the two ways of count in the periodisation of History.

8. **Archaeology** is the "study of human history and prehistory through the excavation of

sites and analysis of artifacts and other physical remains".

Literary sources are written information sources in the form of reviews, reports, or writing assignments (like biographies, poem etc).

Secular source is about wars, kings, people, soldiers and not about gods or religious beliefs.

9. Stone tools, a simple home, a skeleton covered with gold jewellery, a statue and a pyramid.

11. i) Guru Granth Sahib (holy book of the sikhs)
    ii) Puranas
    iii) Ramayana and Mahabharatha

12. The Silk Route was an ancient network of Land routes linking China with the west, passing through Asia and Africa. It covered a length of about 6400 kms. The Silk Route began in Xian (China) passed through the Pamir plateau, Afghanistan and ended at the Mediterranean sea.

    The main items of trade were wool, spices, gold, silver, silk etc.

13. Archaeologists are excavating and they find the skeleton of a human.

    People are working on the site.

    An Archaeologist looks for artifacts and Physical remains.

14.

	Foreign travellers	Books
1.	Megasthenes	Indica
2.	Hiuen Tsang	[si-yu-ki] The Records of the Western World.
3.	Al Beruni	[Tarikh-al-hind] History of India.
4.	Marcopolo	The Travels of Marcopolo
5.	Ibn Batuta	[Rehla] The Travelogue

15. i) The Arthashastra by Kautilya
    ii) Harshacharita by Banabhatta
    iii) Prithviraj Raso by Chand Bardai

16. i) Dharmasutras
    ii) Smritis

17. Some of the important sources of history are - Archaeology, Literary sources like Biographies and Autobiographies, Travelogues, secular and Non secular literature, stone tools, cave paintings and Inscriptions.

Chapter 2 EARLY HUMAN LIFE

I. Answer the following questions:

1. Humans are greater in intelligence, moral worth, and are more evolved and adapted to survival other beings either adapt to changes in their natural environment or change their location or perish.

2. i) Agriculture or Farming
   ii) The Wheel
   iii) Domestication of goats

3. i) Archaeology is the "study of human history and prehistory through the excavation of sites and analysis of artifacts and other physical remains".

   ii) Anthropology is the study of human cultures and behaviours in the present times.

   iii) Fossils are physical remains that have been preserved by nature over a large time. Eg: a skull, a bone, a foot print. (or)

   Fossils are the remains or impression of a prehistoric plant or animal embedded in rock and preserved in petrified form.

II. Match the following:

1. apes - c) primates
2. neanderthal - d) hominid
3. fossil - a) physical remains
4. homo sapien - e) modern humans
5. mesolithic - b) middle stone age

III. CROSSWORD: Use the clues given below and fill the boxes with the right words:

Across:

1. Nomads
3. Foraging
4. Evolution

Down:

2. Anthropology
5. Hominid

Chapter 3 INDUS VALLEY CIVILIZATION

I. Fill in the blanks:

1. Harappa and Mohenjo-daro
2. Great Bath
3. Clay and ivory
4. 1000
5. Pasupathi
6. Goddess

II. Choose the correct answer:

1. a) Pakistan
2. c) Horse
3. b) Silver

III. Answer the following questions:

1. Most of the sites of this civilization have been discovered around Harappa and the objects found are similar to those found at Harappa.

   That is why present day historians prefer to name this civilization as Harappan culture.

   (or)

   Scholars also call Indus civilization as Harappan civilization because Harappa [in Pakistan] was the first site to be excavated.

2. i) Kalibangan, Rajasthan

   ii) Dholavira, Gujarat

   iii) Lothal, Gujarat

3. i) During the reconstruction of the city no attention was paid to proper sewage system.

   ii) Lack of rainfall, might have led to the decline in agriculture on which most of the trade was dependent and people started to migrate.

4. The Aryans came to the Indian Sub continent only in 1500 BC, and it is believed that the Indus Valley Civilization declined in 1700 B.C.

   No material evidence is found of wars or massive migration of Aryans into India at that time.

5. We can guess from the seals of the Indus sites that the Indus people worshipped nature and some human forms. Some of these forms seen to resemble Lord Shiva and Rudra.

6. Domesticated animals included dogs and cats, humped cattle, domestic fowl and possibly pigs, camels and buffalo.

7. i) The Great Bath of Mohenjo-daro is called the "earliest public water tank of the ancient world".

   ii) It was found in 1926 during archaelogical excavations.

iii) The pool is 12 metres long, 7 metres wide and 2.4 metres deep.

iv) To wide staircases, one from the north and one from the south, served as entry to the structure.

v) A hole was also found at one end of the Bath which might have been used to drain the water.

vi) To make the tank more watertight, a thick layer of bitumen was laid along the sides of the pool and floor.

8. i) It was an urban civilization.

ii) Town planning and drainage system were excellent.

iii) External trade was carried on through sea routes.

iv) The seals used by them were the forerunners of the modern coinage.

v) Beautiful glazed pottery was designed by them.

Chapter 4 ANCIENT TAMILAGAM

I. Answer the following questions:

1. The early people of Tamilagam buried objects along with the dead, believing that they could be used to travel to the other world.
2. Literary Age
3. Madurai, Kanchipuram, Tiruchirapalli, Thanjavur
4. They were capitals of ruling dynasties of ancient Tamilagam - Puhar was the Capital of the Cholas at a particular period, Madurai was the Pandya Capital and Kanchi was the Capital of Pallava rulers.
5. Puhar is also called Poompuhar, Kaveripoompattanam or Kaveripattinam.

6 i) Velir ii) Kudir iii) Thinai
iv) Yavanas v) Hieun Tsang.

VELIR: The Velir were minor kings and aristo cratic chieftains.

KUDIR: The word Kudi is used in some sangam poems to indicate social groups, which may have meant Cast/Jati.

THINAI: From the Sangam poems, we have come to know that the "Tamil looked at their land in environmental terms" and called it thinai.

YAVANAS: Foreigners who came to Tamilagam for trading purposes were called Yavanas.

HIEUN TSANG: Hieun Tsang, The Chinese Buddhist scholar visited kanchi in the 7th century CE. He studied the sacred Buddhist texts for 15 months at the Nalanda University.

II. Say if the following statements are correct or incorrect:

1. False
2. True
3. False
4. True

GEOGRAPHY

Chapter 1 UNIVERSE AND SOLAR SYSTEM

Section 1:

I. Name the following:

1. Big Bang
2. Galaxy
3. Nebula
4. American - Astronaut
   Russian - Cosmonaut

II. Answer the following in one sentence:

1. The Universe is 15 billion years old. The size of the earth is like a tiny speck of dust, when compared with the Universe.

Section 2:

I. Name the following:

1. Mercury, Venus, Earth and Mars
2. Jupiter, Saturn, Uranus and Neptune

II. Answer the following in one sentence:

1. Nebula - A big mass of matter from which stars are formed is called Nebula.
2. A celestial object made up of head [solid particles of ice] and tail [gases] is a comet.

III. Distinguish between:

1.

STAR	PLANET
Stars are dot shaped.	Planets are spherical in shape.
Stars have high temperature.	Planets have low temperature.
Stars have light on their own.	Planets reflect light from the sun.
There are billions of stars in our galaxy.	There are only eight planets in the solar system.

2.

PLANET	SATELLITE
Planet means Wanderer.	Satellite means follower.
Planets revolve around the sun.	Satellites revolve around the planets.

3.

VENUS	MERCURY
It is the second planet from the sun.	It is the smallest and closest planet to the sun.
It is the hottest and brightest planet.	It has extremes of temperature and it is an airless and waterless planet.

IV. Answer in a paragraph:

1. **Retrograde Motion:** Retrograde motion is an APPARENT change in the movement of the planet through the sky. It is not real in that the planet does not physically start moving backwards in this orbit. It just appears to do so because of the relative positions of the planet and Earth and how they are moving around the sun.

2. The sun is a star. It is self luminous so it has light on its own. Sun is at the centre of the solar system. Each member of the solar system revolves around it. It has gases like Hydrogen and Helium. The sun is so huge and it consists of 99.8 percent of entire mass of the solar system. The ancient Greeks called it as 'Helios' and the Romans as 'Sol'. So it is called solar.

3. **JUPITER:** This is the largest of all planets. It is a gas giant planet. It has Hydrogen and Helium gases. It is the third brightest object, It is named after the king of Roman Gods. It has the largest number of satellites. IO, EUROPA, GANYMADE, CALLISTRO are a few large satellites.

4. **EARTH:** The Earth is the third planet from the sun and the fifth largest planet of the solar system. It is called Blue planet or watery planet because 3/4 of earth is covered with water. It is the only planet that supports life, because of the presence of air, land and water. The equatorial diameter is 12,756 km. The only natural satellite of the Earth is the moon.

Section 3:

I. Give single terms for the following:

1. Sphere
2. Rotation
3. Revolution
4. Orbit

5. Elliptical Path or Elliptical Orbit
6. Solstice
7. equinox

II. Answer briefly in one or two sentences:

1. The curved path in which the planets move around the sun is known as orbit. Earth's orbit is elliptical or slightly oval shaped.
2. Rotation of the Earth causes Day and Night.
   Revolution of the Earth causes seasons.

III. Distinguish between:

1.

ROTATION	REVOLUTION
Earth's Rotation causes Day and Night	Earth's Revolution causes seasons.
Earth's Rotation take 24 hours.	Earth's Revolution take 365 days.

2.

ELLIPSE	CIRCLE
In an ellipse all the points from the centre are different.	In a circle all the points are equidistant from the centre.

3.

SOLSTICE	EQUINOX
Solstice means "Sun" and "to stand still".	Equinox comes from Latin word "EQUAL" and "NIGHT".
Solstice happens during Summer and Winter.	Equinox happens during start of autumn season and spring season.

IV. The two days of equinoxes are Autumnal Equinox and Spring Equinox.

Autumnal Equinox - It comes on September 23rd. In this equinox the Days and Nights are equal.

Spring Equinox - It comes on March 21st. In this equinox the Days and Nights are equal all over the world.

The two days of solstices are Summer Solstice and Winter Solstice.

Summer Solstice - June 21st - Days are longer in the Northern Hemisphere.

Winter Solstice - December 22nd - Days are longer in the Southern Hemisphere.

Section 4:

I. Answer the following in your own words:

1. Bio means life in Greek. The interaction among Lithosphere, Hydrosphere, and Atmosphere i.e., where life exists is Biosphere. It is the sum of all ecosystems.

   Biosphere acts as a life support system for the planet, helping to regulate the composition of atmosphere maintaining soil health and regulating hydrological water cycle.

II. Think and answer:

1. The gravity of the sun keeps the planet in their orbits. They stay in their orbit because there is no other force in the solar system.
2. If Earth stops rotating:
   - All objects would fly at high speed.
   - Enormous tidal waves would occur.
   - A powerful wind would arise.
   - One hemisphere would become hot as a desert, the other as cold as the Antarctic.
3. If the earth did not revolve, seasons will not occur.
4. Scientists say that North could be South as Earth's magnetic poles switch and the mariners compass would point South.
5. A Meteors travel at a speed of tens of thousands of miles per hour. When the meteors hit the atmosphere the air in front of it compresses incredibly quickly. When a gas is compressed its temperature rises.

This causes the meteors to burn out in the atmosphere.

Chapter 2 CONTINENTS AND OCEANS

Section 1 and 2

I. Answer in a word:

1. Isthmus
2. Gulf
3. Bay
4. Archipelago
5. Trench
6. Mid - Ocean Ridge
7. Pangaea
8. Global warming
9. Australia
10. Antarctica

II. Answer briefly:

1. A big land mass on earth is a continent. Pangaea remained intact till 200 million years ago. Later the landmass broke and drifted apart to from continents.
2. Islands were formed by volcanoes erupting from the ocean floor. An archipelago is made up of Oceanic Islands.

III. Distinguish between:

1.

GULF	STRAIT
Gulf is a deep inlet of sea almost surrounded by land with a narrow mouth.	Strait is a narrow passage of water connecting two large water bodies like ocean, seas.
Eg: Gulf of Khambat.	Eg: Palk Strait.

2.

ARTIC	ANTARCTIC
Arctic region is on the northern pole of the earth.	Antarctic region is on the southern pole of the earth.
Most part of the Arctic are at sea level as major part of the arctic are on Artic ocean.	Antarctic region are at an average height of over 2200 meter above the sea level.

IV. Quiz (use an atlas to find the answers):

1. Name the following seas:
   a. Caspian Sea
   b. Dead Sea
   c. Red Sea, Black Sea, Yellow Sea, White Sea
   d. North Sea, Southern Ocean, East Siberian Sea.
2. a. Persian Gulf
   b. Gulf of Carpentaria
   c. Gulf of Saint Lawrence
   d. Gulf of Kutch to the west, Gulf of Khambat to the East
3. Name the following islands that have the sobriquets.
   a. Siguijor in Philippines
   b. Bahrain
   c. Ireland
   d. Sri Lanka

Section 3:

I. Give single terms:

1. Peak
2. Escarpment
3. Plateau
4. Interior Plains

II. Answer briefly:

1. ➢ Mountains are prominent landforms that have significant heights above sea level.
   ➢ They are steeper than hills.

2. ➢ The two types of plains are Structural Plains and Erosional Plains.
   ➢ Structural Plains are relatively undisturbed horizontal surfaces.
   ➢ Erosional Plains have been levelled by various agents such as running water, river, wind etc.

3. A landscape is the visible feature of land, its landforms and how they integrate with natural or man-made features. There are mountain landscapes, coastal landscapes and river line landscapes.

4. The five landscapes of Tamilnadu are:

   Kurunji - Mountainous region
   Mullai - Forests
   Marutham - Cropland
   Neithal - Sea shore
   Palai - Mixture of Mullai and Kurinji

III. Distinguish between:

1.

MOUNTAIN	PLATEAU
A landform that rises over 120 metres above its surroundings and has steep slopes is called mountain.	Plateaus are the elevated portions of the earth that have flat surfaces bounded by steep slopes.
Eg: Himalayas	Eg: Chotanagpur Plateau

2.

DESERT	TUNDRA
Deserts are areas with less water.	Tundra is a landscape found beyond the Arctic Antarctic.
They have scanty vegetation.	Plants do not grow fast. The plants live for few months.

IV. Answer in detail:

1. **PLAINS:** Lands below 300 metres above sea level and flat surfaces with little variation in height are called Plains. The plains are most populated parts of the world because,

   Plains of the world have large rivers and fertile soil brought by these rivers.

   People have lived in plains and river valleys for thousands of years and established civilizations.

   Man has changed the natural land of the plains into farmlands to provide food to the population.

   Roads, railways and industries are easily built and offer many job opportunities.

V. Identify the landscape in which the following animals are found:

Sand cobra - Arid Desert
Camel - Desert
Scorpion - Desert and Semi - arid regions
Locust - Desert [Sahara]
Polar bear - Tundra
Arctic fox - Arctic Tundra
snow geese - Bays, wet grasslands, southern coastal marshes
ermine - Temperate regions of Eurasia and North America
Elephants - Rain Forest and Scrub forests
antelopes - grassland, mountain, wetland, desert
buffaloes - Asia and Africa
giraffes - Savannas of Africa [dense forest and open plains]
Nilgiri langur - Western Ghats in South India, Kodagu in Karnataka, Kodayar hills in Tamilnadu

tiger - Forest [Tropical, Evergreen]

squirrels - Trees

loris - Tropical rain forests

CIVICS

Chapter 1 UNDERSTANDING DIVERSITY

I. True or False:

1. True
2. False
3. False
4. False

II. Fill in the blanks:

1. Cultural diversity
2. Thar desert
3. Pre - Judge/ Prejudice
4. Mahabalipuram

III. Match the columns:

1. Physical diversity - Deccan Plateau
2. Linguistic diversity - Bengali
3. Religious diversity - Sikhism
4. Social diversity - Family
5. Cultural diversity - Onam

IV. Answer the following in one or two lines:

1. Diversity can be defined as 'coexistence with a difference'. Diversity can be seen in the geography, religion, language, food and dress etc of a country.
2. **Agriculture** is the main occupation of the people in the plains, **cattle rearing** is the occupation of the people in hilly areas.
3. Jawaharlal Nehru, the first Prime Minister of free India, used the phrase 'unity in diversity' in his book 'Discovery of India'.
4. The two types of dance forms in India are Bharatanatiyam and Kathakali.

V. Answer the following questions:

1. **LINGUISTIC DIVERSITY:**

   There are many languages spoken in India. 22 Indian languages and English are recognised as the official languages. Besides Hindi, Tamil, English, Punjabi, Telugu, Gujarati, Marathi and Urudu are also spoken.

   The 22 Indian language recognised by the 8th schedule of language are Asamese, Bengali, Bodo, Dogri, English, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Maithili, Malayalam, Meitei (Manipuri), Marathi, Nepali, Odia, Punjabi, Sanskrit, Santali, Sindhi, Tamil, Telugu and Urdu.

   There are also hundreds of dialects spoken by Indians. A dialect is a spoken language without a script. Konkani and Tulu are examples of a dialect.

2. Three ways in which India is diverse:

PHYSICAL DIVERSITY:

Geographically, India has tall mountains like the Himalayas, forests, vast green fertile plains and plateaus like the ocean.

India has many rivers like the River Ganges and the River Narmada. It has long coastal plains and dry deserts like the Thar Desert. It is surrounded by seas like the Arabian Sea and the Bay of Bengal.

All these regions have different climatic conditions, different vegetation, different animals living there etc. While the mountains are covered with snow the deserts have a very hot climate. These difference affect the lifestyle and occupations of the people who live in these regions.

Agriculture is the main occupation of the people in the plains, cattle rearing is the occupation of the people in the hilly areas and fishing is an important occupation of the people living along the coast. The climate and physical features of a region also affect the clothing and the type of food eaten.

SOCIAL DIVERSITY:

The family is the most important group in society. Families can be classified as nuclear and joint families. Many families live peacefully together in a community. Social interdependence exists in a community. Whether it is a village, town or a big city, people depend on each other for essential things like food, water, education, housing, electricity etc. Although the customs, traditions and eating habits of people living together may differ, social interdependence binds them together and allows them to live in harmony.

RELIGIOUS DIVERSITY:

India is a secular country, and the freedom of religion is one of our fundamental rights. All religions are treated equally in our country. Even though a majority of Indians belong to Hinduism, India has a large number of people from different religions like Islam, Christianity and Sikhism. We also have a small number of Jains, Buddhists and Zoroastrians. As Indians we may follow different religions, yet it is the respect for every religion that has kept us united and together in difficult times.

3. When we don't understand and then accept diversity, we prejudge a person. Pre judge (or prejudice) means judging (or forming opinions of) a person on the basis of their dress, speech, religion, appearance and so forth. This is unfair to the person since everybody has an equal right to live with dignity and equality in this world. Our prejudice leads to suspicion and wrong treatment of the person.

   Only when we understand why people are different, we will be able to understand people.

   When we understand and accept difference, we learn from others and they learn from us. This mutual learning helps all people become better human beings.

Chapter 2 ACHIEVING EQUALITY

I. True or False:

1. False
2. True
3. False
4. True

II. Fill in the blanks:

1. Conflict
2. Inequality
3. Prejudice
4. Gender

III. Match the columns:

1. An employer does not interview a candidate because he is from a caste he does not like.	–	caste-based discrimination
2. An employer pays a worker from another state less than workers from his own state.	–	Indirect discrimination
3. A housing society advertisement offers apartments only to married couples.	–	marital status based discrimination

4. An employer dismisses a woman employee after her marriage because he feels married women do not make efficient workers. – gender-based discrimination

5. A university, because of a policy, conducts random security checks of hostel rooms only of students of a particular state. – Linguistic identity based discrimination

IV. Answer the following in one or two lines:

1.

PREJUDICE	STEREOTYPE
Prejudice is a preconceived idea that is not based on actual fact (or) truth.	Stereotype is a widely held but set and oversimplified image (or) idea about a particular type of person or a group.

2.

PREJUDICE	DISCRIMINATION
Prejudice is an unjustified and baseless attitude towards an individual only.	Discrimination refers to unjust (or) negative treatment of a person (or) a group of people.

3. India and South Africa

4. America and Canada

V. Answer the following questions:

1. i. Direct discrimination

   ii. Indirect discrimination

2. i. Direct discrimination

   An employer refuses to interview a candidate because he/she belongs to a caste he does not like (caste based discrimination).

   A hospital hires only women nurses because it thinks that women are more caring than men (gender based discrimination)

   ii. Indirect discrimination

   An employer pays higher wages to workers from his home state.

   A housing society rents out apartments only to people of a particular community.