



CLASS : 6 1st MID TERM PORTIONS AND PATTERNS

MATHEMATICS

Numbers

I. Choose the correct answer	10 x 1 = 10
II. Do as directed	10 x 2 = 20
III. Answer the following	4 x 5 = 20
Total = 50	

SCIENCE

Measurement

Matter Around Us

The Living World of Plants

I. Choose the correct answer	5 x 1 = 5
II. Fill in the blanks	6 x 1 = 6
III. Match the following	5 x 1 = 5
IV. Answer the following (pick out, spot the error, complete the table, diagrams, problems, q & a)	12 x 1 = 24
V. Answer the detail	2 x 5 = 10
Total = 50	

SOCIAL SCIENCE

HISTORY

GEOGRAPHY

CIVICS

1. When, Where and How? 2. Early Human Life

1. Universe and Solar System

1. Understanding Diversity

I. Choose the correct answer	5 x 1 = 5
II. Fill in the blanks	5 x 1 = 5
III. Match the following	5 x 1 = 5
IV. Caption	2 x 2 = 4
V. Distinguish between	3 x 2 = 6
VI. Very short answer	5 x 2 = 10
VII. Answer in detail	3 x 5 = 15
Total = 50	

EXPRESSIONS IN ENGLISH

PROSE

POETRY

The Three Questions The Tumbler of Oil Chinwe

Grandma Climbs a Tree

I. Write the meanings of the words	10 x ½ = 5
II. Write the opposites of the words	10 x ½ = 5
III. Write five sets of homophones	5 x 1 = 5
IV. Identify the kinds of sentences and punctuate them	5 x 1 = 5
V. Read the following passage and rewrite it using proper punctuation marks. You will be using the following: full stops, question marks, exclamation marks, hyphens, and inverted commas	10 x ½ = 5
VI. Complete the following sentences	10 x ½ = 5
Who said this to whom and why was it said	5 x 1 = 5
Answer the following	5 x 3 = 15
Total = 50	



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 explicitly

12. Amount Tom had in bank account = 5 million

Amount Tom deposited = 6 lakhs

Total amount in the bank

$$\begin{aligned} \text{account} &= 5,00,00,00,000 + 6,00,000 \\ &= 5,00,06,00,000 \end{aligned}$$

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 +

$$= \underline{6,00,000}$$

$$= 31,00,000$$

$$\begin{aligned} \therefore \text{Amount left with him} &= 1,00,00,000 - \\ &= \underline{31,00,000} \\ &= 69,00,000 \end{aligned}$$

14. Amount Sunita had in her account = 86 lakhs

Amount Sunita transferred to Anjali = 75,000

Amount in Anjali's account after Sunita transferred the money = 3,50,000

(a) Amount in Sunita's account after transferring money = 86,00,000 -

$$= \underline{75,000}$$

$$= 85,25,000$$

$$\begin{aligned} \therefore \text{Anjali's earlier account balance} &= 3,50,000 - \\ &= \underline{75,000} \\ &= 2,75,000 \end{aligned}$$

15. 10 Ten crore in one billion

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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

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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:

$$(600 \times 2) + (300 \times 2)$$

$$= 1200 + 600$$

$$= 1800$$

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

6. 68 kg is rounded to 70
 $70 \times 30 = 2100$ kg.

7. 49,532 rounded to 50,000
52,618 rounded to 53,000
more spectators on tuesday.
Difference: $\begin{array}{r} 53,000 \\ - 50,000 \\ \hline 3000 \end{array}$

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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

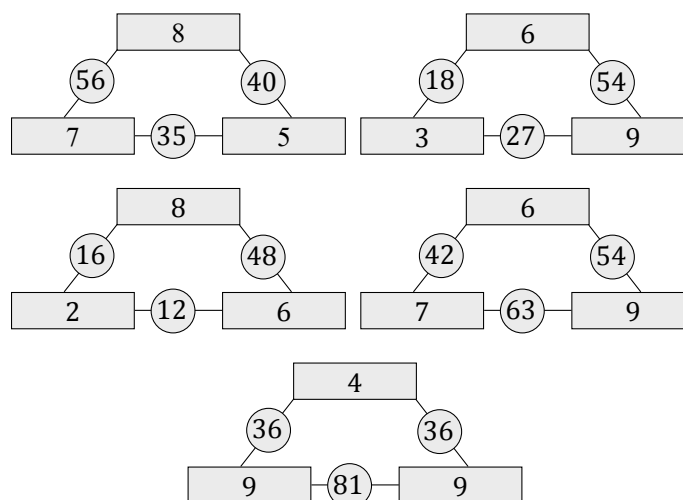
1. a. $395210 + 1 = 395211$
b. $199999 + 1 = 200000$
c. $4109009 + 1 = 4109010$
2. a. $11400 - 1 = 11399$
b. $108999 - 1 = 108998$
c. $45752 - 1 = 45751$
d. $620000 - 1 = 619,999$
3. a. $43527 > 38521$
b. $99999 = 99999$
c. $31656 > 31650$
d. $68537 < 68932$
4. a. Factors are 1, 23
b. Factors are 1, 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

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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) $8 + (10 - 4) = 8 + 6 = 14$
 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 = $15 \times 4 = ₹ 60$
 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 = $80 + 45 = 125$

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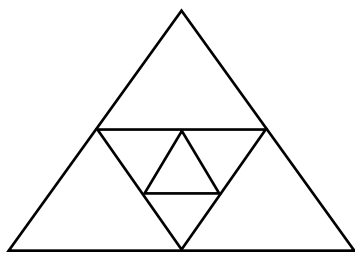
H.O.T.S

1. Total cost of large drinks = $15 \times 4 = ₹ 60$
 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.

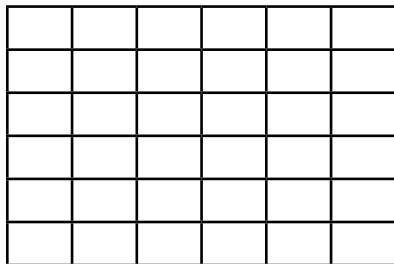
FUN WITH MATH

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.

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

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 $16 \times x$

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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 is (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. $x = 32, y = 64$

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 algebraic 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	$\frac{15}{x} = 3$

Exercise 2.4

1. Find the values of the mystery numbers:

- $x + 3 = 7$
 $x = 7 - 3 = 4$
- $9 - y = 5$
 $9 - 5 = y$
 $y = 4$
- $z - 5 = 0$
 $z = 5$
- $7 + 7 = t$
 $t = 14$
- $5x = 10$
 $x = \frac{10}{5} = 2$
- $4y = 24$
 $y = \frac{24}{4} = 6$

2. Which of the following equations are solved correctly?

- $x + 7 = 10$; $x = 3$
 $x + 7 = 10$
 $x = 10 - 7 = 3$
It is solved correctly
- $-3 - W = -6$; $W = 3$
 $-3 - W = -6$
 $-3 + 6 = W$
 $W = 3$
It is solved correctly
- $123 - 116 = Z$; $Z = 6$
 $Z = 6$
It is solved incorrectly
- $8 - y = -12$; $y = 20$
 $8 - y = -12$
 $8 + 12 = y$
 $y = 20$
It is solved correctly
- $5k = 100$; $k = 25$
 $5k = 100$
 $k = \frac{100}{5} = 20$
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

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Exercise 2.5

- Perimeter is $4a$
- Perimeter is $2y + x$
- 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

$$= 300 \text{ gm to } 2000 \text{ g}$$

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

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

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

$$= 4:12 \text{ (1 dozen = 12 units)}$$

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

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

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

$$3:4 = 12:16$$

$$3:4 = 12:16$$

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

So, the ratios are equivalent.

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

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

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

Ratios are equivalent.

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

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

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

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

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

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 $5x$

$$4x + 5x = 450 \text{ kg (given)}$$

$$4x + 5x = 9x = 450 \text{ kg (given)}$$

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

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

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

Page No. 63 and 64

Exercise 3.2

1. Check whether the following are in proportion

a. 4:5 and 12:15

$$\text{product of the extremes} = 4 \times 15 = 60$$

$$\text{product of the means} = 5 \times 12 = 60$$

so the ratios are in proportion

b. 10:30 and 100:300

$$\text{product of the extremes} = 10 \times 300 = 3000$$

$$\text{product of the means} = 30 \times 100 = 3000$$

The products are equal. so the ratios are in proportion

c. 14:15 and 21:22

$$\text{product of the extremes} = 14 \times 22 = 308$$

$$\text{product of the means} = 15 \times 21 = 315$$

The products are not equal

The ratios are not in proportion

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

$$\text{product of the extremes} = 1 \times 3 = 3$$

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

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 .

$$1:6 = 3:A$$

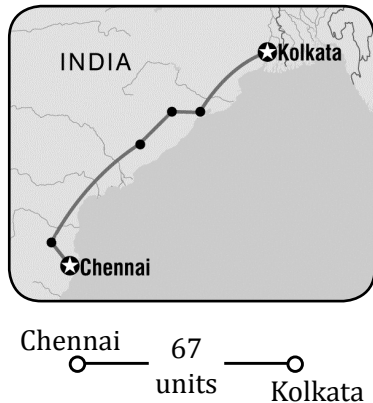
$$\frac{1}{6} = \frac{3}{A}$$

$$A = 18$$

$A = 18$

3 milk chocolates have to be shared with 18 friends.

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



$$1:25 = 67:A$$

$$A = 25 \times 67 = 1675 \text{ Kms}$$

Actual distance = 1675 Kms

10. Speed of the train = 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

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

$$115x = 2838$$

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

Page No. 66

Exercise 3.3

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

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

$$= ₹ 6000$$

$$\text{Cost of 1340 Sq ft} = ₹ 6000 \times 1340$$

$$= ₹ 80,40,000$$

2. Which is cheaper?

- a. 3 dozen pins for 50 rupees

36 pins for 50 rupees

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

- b. 28 pins for ₹ 36

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

- c. 12 pins for ₹ 24

$$1 \text{ pin} = ₹ \frac{24}{12} = ₹ 2$$

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

$$\frac{25}{8} = \frac{25 \times 7}{18 \times 7} = \frac{175}{126}$$

$$\frac{9}{7} = \frac{9 \times 18}{7 \times 18} = \frac{162}{126}$$

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

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

28 pins for ₹ 36 is cheaper.

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

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

$$\text{Money raised with 60 attendees} = ₹ 60 \times 100$$

$$= ₹ 6000$$

4. Cost of 8 kg of wheat = ₹ 170

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

$$\therefore \text{Cost of 16 kg of wheat} = ₹ 340$$

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

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

$\therefore$ Pieces of chain needed for

$$\begin{aligned} 48 \text{ m long chain} &= \frac{9}{16} \times 48 \\ &= 27 \text{ Pieces} \end{aligned}$$

6. No. of teachers in the school = 120

No. of students in the school = 3600

$$\begin{aligned} \therefore \text{Ratio of teachers to students} &= 120 : 3600 \\ &= 30 : 1 \end{aligned}$$

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

No. of wrong answers which Sudha got = 16

$$\begin{aligned} \therefore \text{Answers she got right} &= 9 : 4 = x : 16 \\ &= 4x = 16 \times 9 \\ &= x = \frac{16 \times 9}{4} \\ &= 36 \end{aligned}$$

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

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

$$\begin{aligned} \therefore \text{Ratio of students who chose} \\ \text{Ferris wheel to Merry-go-Round} &= 91 : 65 \\ &= 7 : 5 \end{aligned}$$

H.O.T.S

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

Sum of numbers = 63

$$\begin{aligned} \text{Therefore, first number} &= \frac{3}{7} \times 63 \\ &= 27 \end{aligned}$$

$$\begin{aligned} \text{Second number} &= \frac{4}{7} \times 63 \\ &= 36 \end{aligned}$$

Therefore, the two numbers are 27 and 36.

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

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

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

$$\begin{aligned} \text{Therefore, } A : B : C &= \frac{x}{2} \times 12 : \frac{x}{3} \times 12 : \frac{x}{4} \times 12 = 12 \\ &= 6x : 4x : 3x \\ &= 6 : 4 : 3 \end{aligned}$$

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

$$\begin{aligned} \text{Remaining number of beads after removing} \\ &= 90 - 81 = 9 \end{aligned}$$

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'

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

Total Number of beads = 48

$$\text{Number of Red beads } \frac{48 \times 3}{12} = 12$$

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

$$\text{a. } 12 : 48 = 1 : 4$$

$$\text{b. } 16 : 48 = 1 : 3$$

$$\text{c. } 20 : 48 = 5 : 12$$

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

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	$XY \parallel UZ, XU \parallel YZ$
Hexagon	P, q, r, s, t, u	TS, SR, RQ, QP, PU, UT, TS, SP, TQ, RU	$TU \parallel RQ$
Rhombus	O, r, e, h	OR, RE, EH, HO, OE, HR	$OH \parallel ER, OR \parallel HE$
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.

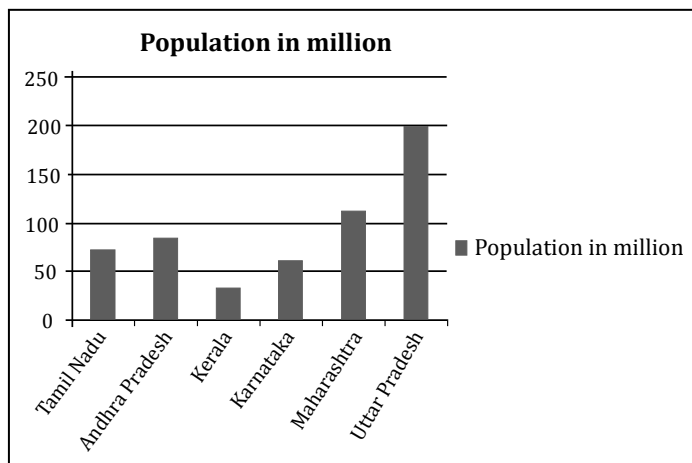
- Pictograph shows information using pictures.
- Number of students who like each game is represented in the pictograph.
- A 😊 represents 10 students.
- Cricket is most liked game.
- Volleyball and Tennis are least liked.
- There are 120 students in all.
- Can be anything of students choice

Page No. 93

Exercise 5.2

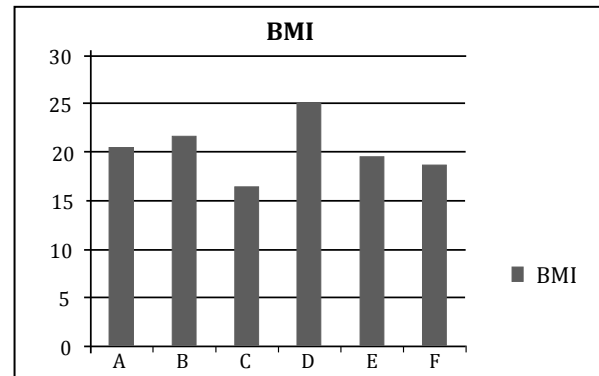
1. An approximate number of people in each state of India were recorded in millions as shown in the table below. Construct a bar graph to visually display this data.

Population of states in India

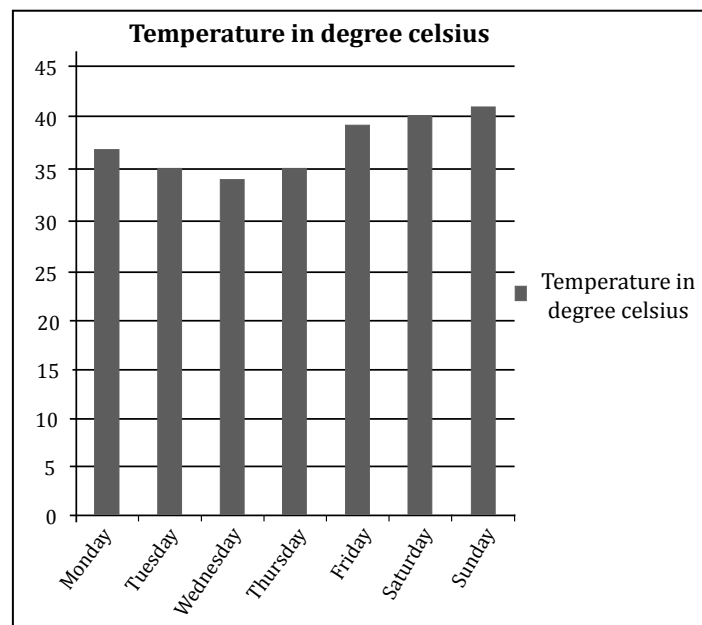


2. Six children were surveyed on their body mass index as shown in the table below. Construct a bar graph to visually display this data.

Body mass Index

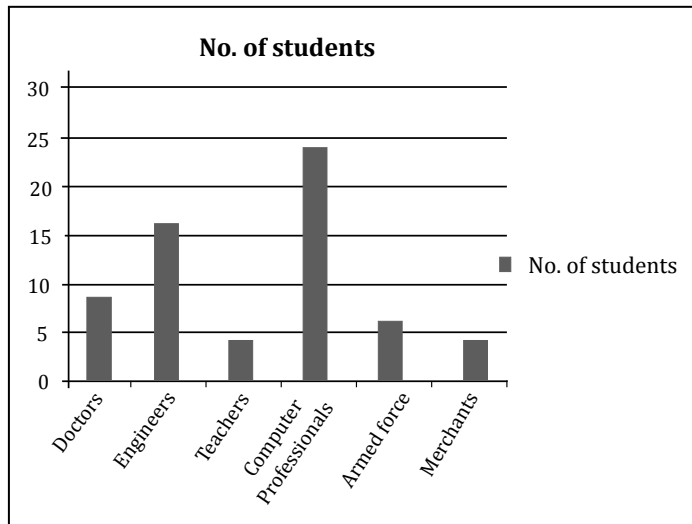


3. The temperature recorded on seven days of a month in a city is as follows. Prepare a graph and answer the following questions:



- Sunday was the hottest day.
- Highest temperature = 41°C
Lowest Temperature = 34°C
Difference = 7°C
- 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

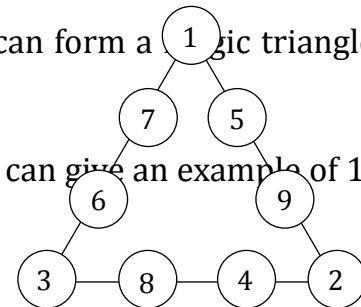
1. a. On magic triangle. Since the number is large - the triangle should have - 9 digits and not 6 digits. If the student figure it out that we need more than 6 digits are need - the teacher can take it up from there.

But 15 cannot form a magic triangle.

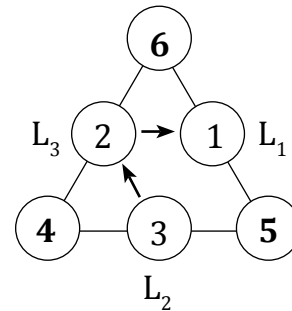
So the teacher can say, that certain numbers cannot form a magic triangle and the reason they will learn as they go to higher classes

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

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

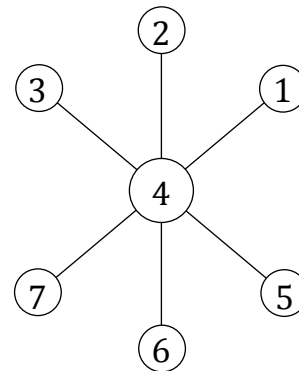


b.



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

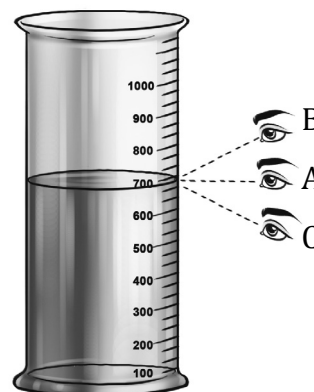
7. a. (2×1000) m = 2000 m.
b. (3×60) min = 180 minutes
c. $(1500/1000)$ km = 1.5km
d. $(500/1000)$ kg = 0.5kg

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.



Chapter 2 MOTION

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.

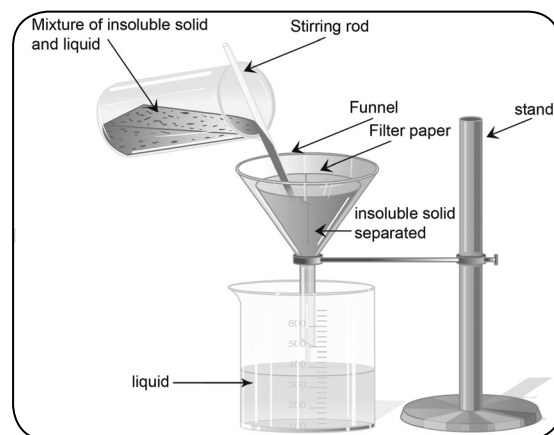
Eg: mixture of iron powder and sand can be separated using a magnet. Iron powder will stick on to the magnet.

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:

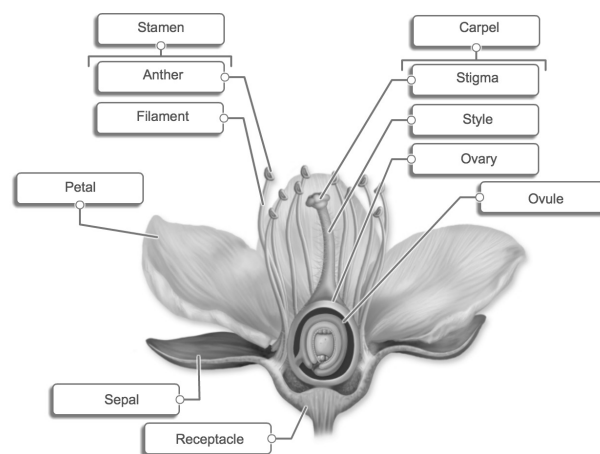
1. leaves
2. axillary bud

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 | 4. True |
| 2. True | 5. False |
| 3. 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 archaeological 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) Thinaï
iv) Yavanas v) Hieun Tsang.

VELIR: The Velir were minor kings and aristocratic 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 thinaï.

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 | 3. False |
| 2. True | 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, CALLISTO 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 form 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 Bharatanatyam 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 Urdu 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.



STD : VI KEY ANSWERS TERM : I

1. The Three Questions

Page No. 1

Warm up

- A.**
1. Birbal
 2. Tenali Rama
 3. Kuchela
 4. Rumpelstiltskin
 5. Sheeba
 6. Beast

Page No. 5

Reading

- A.**
1. Birbal excused himself from the court so that he could think the answers for Shafudeen's questions.
 2. He walked up to Shafudeen to answer his questions. Shafudeen had earlier posed Birbal three questions.
 3. He arrived, bringing with him a hairy sheep, an iron rod and a piece of chalk so that he could demonstrate the answers.
 4. He drew a couple of lines on the floor to mark the centre of the earth.
 5. He went home with a twinkle in his eye and a cheery grin on his face as he won a bag of gold on showing his wit and wisdom.
- B.**
1. Emperor Akbar was very fond of Birbal which made the other courtiers jealous of him, so they always planned to get rid of him.

2. Shafudeen grew extremely jealous of Birbal. He wanted to throw a challenge for Birbal, so that he could defeat Birbal and become the Emperor's chief minister.
3. Emperor Akbar put this condition as a result of the defeat in the challenge. He said that if Birbal lost the challenge then he will lose his post as the chief minister as well.
4. When the courtiers heard the questions asked by Shafudeen, they were confident that Birbal will fail the challenge. Hence, they said that Birbal's final day had arrived.
5. Emperor Akbar said this when Birbal once again proved his wit and won the challenge. He wanted Birbal to remain as his chief minister till he lived.

- C.**
1. Birbal was very witty. Whenever, he made the emperor happy with his wit and wisdom, he was rewarded with a bag of gold. Thus, Birbal was a rich man.
 2. Shafudeen was jealous of Birbal as the emperor was very fond of him and always praised Birbal for his wit and wisdom.
 3. The three questions posed to Birbal were:
 - a. How many stars are there in the sky?
 - b. Where is the centre of the earth?
 - c. How many men and how many women are there in the world?
 4. Shafudeen asked Birbal to mark the centre of the earth. Birbal drew a few lines with a chalk on the floor and placed

an iron rod in the middle of it. He claimed that to be the centre of the earth.

5. Birbal proved his wisdom again by giving witty answers to all of Shafudeen's questions and by winning the challenge.

Page No. 5 to 7

Vocabulary

- A.** Give a synonym and an antonym for the following words.

S. No.	Words	Synonym	Antonym
1	wicked	evil	good
2	cheery	happy	sorrowful
3	wisdom	intelligence	stupidity
4	amusing	funny	boring
5	normal	usual	abnormal
6	heartily	sincerely	gloomily

- B.** Who are the following? Refer to a dictionary and write the meaning.

1. one who attends to another person's needs
2. a person who leads the singing of a choir
3. a member of the parliament
4. a person who is paid in advance so that their services can be used when required
5. a person who is a strong believer of religion and god
6. a person sent to represent others in a conference

- C.** Fill in the blanks using the phrases form above.

1. once in a blue moon
2. white elephant
3. green-eyed monster
4. pink of health
5. red-letter day
6. black day

- D.** Read the following sentence aloud in class and identify the homophones that occur in the sentences.

1. ate-eight
2. blew-blue
3. won-one
4. seems-seams
5. flew-flu

- Write five sets of homophones in the space below:**

1. buy-bye
2. cell-sell
3. flour-flower
4. due-dew
5. right-write

- E.** Write three alliterated sentences of your own.

1. Bella brought us to a bad and boring play.
2. She sells sweets and snacks at a street shop.
3. Parvathi planted a papaya tree near the pond.

Page No. 8

Language in daily use

1. I am sorry that I let you down in front of your parents. I will support you if this happens again.
2. I am afraid the vase you lent me broke. Please accept my sincere apologies. I will replace it.
3. Let me make amends. It is my fault that you got into trouble because of me.

Grammar

- A.** 1. The white object/ was an egg.
2. We/ saw the valley below us.
3. Sindbad/ saw several snakes.
4. He/ entered the cave.
5. The eagle/ pounced on the meat.
6. They/ seized the diamonds.
- B.** 1. We did not go from island to island.
2. I was not alone on the ship.
3. The sun was not about to set.
4. I did not see a glittering object.
5. I did not hear the flapping of wings.
6. The bird did not drop the diamond into the nest.
- C.** 1. The tiger likes to hunt alone.
2. She was standing in the middle of the woods.
3. Stop! Don't cross, stop!
4. How did you find me?
5. Isn't this lamp beautiful?
- D.** 1. With whom did you go for a walk yesterday?
2. Who gave her a beautiful necklace?
3. When will she go to the theatre?
4. What did Enid Blyton write?
5. Why does everyone like Radha?
- E.** 1. Please
2. Switch
3. Go
4. Please
5. Open

Listening

On a grey dull day, the family had nothing to do. Just when everyone was totally bored, daddy fell into the pond! To everyone, this was a funny sight that made them laugh. Timothy looked for his camera to take a photo of Daddy crawling out of the pond. The gardener found it funny too. He doubled up in laughter. The ducks quacked away in delight. Daddy's accidental fall into the pond gave everyone a hearty laugh.

Speaking

Yes/No

1. Was Akbar fond of Birbal?
2. Was Shafudeen jealous of Birbal?
3. Did Akbar praise Birbal in front of all his courtiers?
4. Did Akbar want to test Birbal's wit?
5. Did Shafudeen pose Birbal three questions?

One word answer

1. Who praised Birbal in front of all the courtiers?
2. Who was Akbar's witty chief minister?
3. How many questions did Shafudeen ask Birbal?
4. Were the questions going to be difficult or easy?
5. Who arrived with a sheep at the court?

Using Please/Excuse Me

1. Do you know that people are jealous of you?
2. Are you willing to lose the post of a chief minister?
3. Is anyone satisfied with the answers given by Birbal?

4. Do you think Birbal deserves the bag of gold?
5. Before I answer your questions, Shafudeen, will you do something for me?

Page No. 12

Writing

King (to himself): Aah...I am so hungry! I should get something to eat now.

[The king clapped his hands. A servant entered his room]

King: Bring me some food at once.

Servant: At your service, your highness!

[After a while, a weird creature entered the room with food in a tray. He had human form but his face was a blackened pot with two holes.]

King: (Screaming) What creature is this?! Guards! Arrest him.

[The guards tried to catch the creature.]

King (to the creature): Who are you?

Tenali: "My Lord, it's me Tenali Raman, your loyal servant."

King: What?! Why have you come to me like this?

Tenali: "I have obeyed your orders, My Lord! You told me not to show you my face as you were angry with me. That's why I am wearing a pot on my head – to cover my face."

2. Grandma Climbs a Tree

Page No. 13

Warm up

The unusual thing about the images is that there is a role reversal between the young and the old people.

Page No. 16

Reading

A. Answer the following.

1. The unusual thing about grandmother was that she climbed trees even in her old age.
2. The family feared that grandma might have a terrible fall from the tree. One day grandmother climbed the tree and got stuck up there which caused a problem for the family.
3. Grandmother had to be rescued from the tree top and a doctor was called to check her temperature.
4. Grandmother was advised a week's bed rest and she resented it as she could not go out and climb trees.
5. An example of grandmother's wit would be:

That climbing trees should stop when one grew old,

And that growing old should be gone about gracefully,

She'd laugh and say, "Well, I'll grow old disgracefully.

I can do it better." And we had to agree;
6. Dad proved himself to be a dutiful son by building a tree house on grandmother's demand.
7. We know that grandmother is enjoying living in the tree house as when the poet visits her up there she sits there like a queen and drinks sherry.
8. The name of the poet is Ruskin Bond.

B. Read the lines from the poem and answer the questions.

1. a. Grandmother was genius because she could climb trees.

- b. 'Genius' means intelligent. Two words describing grandmother are: brave and witty.
2. a. Old people are expected to behave gracefully and be involved in more peaceful and less adventurous activities.
- b. Grandmother was different because she could climb trees even in her old age.
- c. People said that growing old should be graceful and one should not climb trees. But grandmother said that she would rather grow old disgracefully as she can do that well.
3. a. The family was relieved as the doctor had suggested a week's bed rest which meant that grandmother will not climb trees for at least a week.
- b. It was a season of hell for grandmother because he hated being confined in the house.

Page No. 17

Vocabulary

- | | |
|---------------|--------------|
| 1. genius | 4. recommend |
| 2. trice | 5. confined |
| 3. gracefully | 6. stronger |

Page No. 17

Speaking

I went to the mall one day with my parents. They told me that there was a surprise awaiting me. We went around shopping, we had a snack at the Food Court. Yet nothing happened. My parents did not buy me anything I wanted, nor did they order my favourite food. I was wondering what was in store. When suddenly, there was loud music playing in the atrium. I ran out of the restaurant to look down at the floor of the mall. There were many elderly people dressed in track suits, dancing vigorously to the music. It was a flash mob! And who do you think was leading this entire fun?! My grandparents!

This was the surprise my parents had talked about. I took the escalators down, three floors, and ran to the dance party to cheer my grandparents on!

Page No. 17

Writing

- A.** Your grandparent has done something which has caused a problem for the family. Write a short paragraph on the incident using the hints. You may also imagine a situation.

My grandmother depends on a denture as all her teeth are gone. She has a habit of removing her dentures after eating food and then washing her mouth. One day we went out to a restaurant for dinner. We enjoyed the sumptuous meal and came back home with happy tummies. We were all chatting merrily, but grandmother was unusually quiet. When we asked her what had happened, she got up and went to bed. Next morning, she woke up late and refused breakfast. We were all very worried. Did any of us do something wrong to offend her? Did the restaurant food make her sick? We decided to call the doctor. That is the time my grandmother confessed that she had removed her dentures in the restaurant out of habit and left it there. My father was angry as to why she didn't tell us earlier and let us worry. Then new dentures were ordered for her.

- B.** My grandmother is very old,
She has dentures made of gold.
When she smiles, her teeth shines;
She keeps them in the locker after she dines.

3. A Tumbler of Oil

Page No. 18

Warm up

As the man with his son sitting on the donkey passed a village, the onlookers said, "Look at

that lazy youngster, he lets his father walk while he rides." The young boy was embarrassed by these remarks. He said, "I am young, papa. Let me walk and you ride the donkey."

The man obeyed and he exchanged position with his son. Little further down the road, some villagers said, "Shame on that lazy man to let his poor little son trudge along."

Now, the man said, "Come son, you also hop on to the donkey's back. Let the donkey carry us both."

Now, the villagers started complaining, "Aren't you ashamed of yourself for overloading that poor donkey of yours?" The man now got angry. No matter what they did, the villagers accused them. He angrily picked up the donkey and with his son's help tied the donkey to his back and shouted back at the villagers, "Now, is it okay for you people?"

On seeing such a hilarious scene, the villagers burst out laughing and the man was fooled again.

Page No. 22 and 23

Reading

- A.**
1. He was shaken out of his innocent reverie by the voice of his mother.
 2. The shopkeeper measured out eight annas worth of oil from a tin and began pouring it in the tumbler till it was full.
 3. His ammi had not given him another tumbler or told him to bring back any money.
 4. Sheikh held the tumbler carefully and set off homewards, quite unaware of the titters of those who had seen the entire incident.
 5. There is a limit to my patience, even if there isn't to your stupidity!

- B.**
1. Sheikh Chilli was daydreaming on the roof of his house, with a kite in his hand, when his mother called him.
 2. Sheikh Chilli's mother asked him to buy eight annas worth of mustard oil.
 3. When Sheikh realized that the tumbler sent by his ammi was small for eight annas, then he turned the tumbler full of oil upside down and asked the shopkeeper to fill the remaining amount of oil in the hollow space of the outer bottom of the tumbler.
 4. Lala Teli Ram had sent eight annas worth of mustard oil with his son. As Sheikh had dropped the oil back in the tin when he had turned the tumbler full of oil upside down.

C. Explain with reference to the context.

1. Sheikh Chilli was daydreaming on the roof of his house while flying a kite. He wished to be tiny enough to be able to sit on his kite and soar into the sky.
2. The shopkeeper said that Sheikh's tumbler could hold only seven annas worth of oil. Sheikh was in a fix. Neither did he have an extra tumbler nor had his ammi instructed him to bring back one anna in a situation like this.
3. Sheikh's ammi was tired of his foolishness. She got very angry when she learnt that Sheikh dropped seven anna worth of oil to accommodate one anna worth of oil at the back of the tumbler. She wanted him to be out of her sight for some time.

Vocabulary

A.

S. No.	Words	Synonym	Antonym
1.	crooked	bent	straight
2.	beneath	under	above

3.	frozen	icy	melted
4.	ashamed	embarrassed	proud
5.	disappear	vanish	visible
6.	instant	immediate	later
7.	cheerful	merry	gloomy
8.	ancient	old	new
9.	damage	break	repair
10.	elegant	plain	fancy
11.	important	valuable	unnecessary
12.	rough	bumpy	smooth

B. 1. Gagan was rudely shaken by the violence in the neighbourhood.

2. After many hours of useless planning for the surprise birthday party, Suresh had a brainwave.

3. We protested against ill-treatment of animals.

4. The students had offended the teacher with their indiscipline.

- C.**
- | | |
|------------------|--------------|
| 1. out of breath | 5. set off |
| 2. ambling | 6. offended |
| 3. squinted | 7. relieved |
| 4. stupefied | 8. protested |

Page No. 25

Language in daily use...

- Could you lend me your book, please?
Yes, sure. Here you are.
- Can I ask you to copy the homework down for me?
Of course, I will. I know you have hurt your hand.
- Please, switch on the light.
In a minute, no problem.
- Can I ask you to get me some water, please?
Sure, I will.

Page No. 26

Writing

- A.**
- Look at his foolishness! How can anyone be so foolish?
 - Oh no! Sheikh Chilli did a foolish thing again. His poor ammi will have to send him again for the mustard oil.
 - Ha Ha Ha! Just imagine, he thinks that the oil will remain in the tumbler even if he turns it upside down!
 - How does his ammi deal with his stupidity? Poor old woman!

B. Sheikh Chilli was famous for his stupidity. He always did something foolish. One day his ammi sent him to buy eight annas worth of mustard oil. When the shopkeeper couldn't accommodate that much oil in Sheikh's tumbler, then Sheikh happily turned the tumbler full of oil upside down and asked the shopkeeper to fill the remaining amount of oil in the hollow at the bottom of the tumbler. All the onlookers were stupefied. They started laughing in disbelief that how someone can be so foolish. They pitied Sheikh Chilli's ammi for dealing with his stupidity.

4. Chinye

Page No. 27

Warm up

Write the names of two fairy tales that you know.

- Cinderella
- Snow White and the Seven Dwarves

Write the names of two folktales that you know.

- Jack and the Beanstalk
- The Bremen Town Musicians

Write the names of two stories other than Indian folktales that you have read in the lower classes.

1. The Musical Donkey
2. Stories of Tenali Rama

Page No. 31 and 32

Reading

- A.**
1. she had no choice.
 2. went near the stream in the dark.
 3. a bright flash of razor sharp teeth.
 4. the largest gourd.
 5. they were ashamed.
- B.**
1. When ChinYE happily shared her fortune with Nkechi, she was not elated. She was evil and had other plans. Nkechi sent her daughter to the forest in hope of a bigger fortune.
 2. When ChinYE went deeper into the forest, a bright flash of razor sharp teeth scared her. It was a hyena. ChinYE dropped her water pot in fear.
 3. A voice in the forest told ChinYE that she had chosen well when she chose the smallest gourd as per the old woman's instructions. ChinYE did not show any greed.
- C.**
1. ChinYE helped Nkechi because she had no other choice, as her step-mother and step-sister were lazy and forced her to work.
 2. The stag first asked ChinYE what she was doing late in the forest. Then the stag told ChinYE to take care of herself.
 3. When ChinYE recounted everything that had happened in the forest, Nkechi scolded ChinYE saying that she had been dawdling and wasting time.
 4. ChinYE was told by an old woman that she would pass a hut on her way home.

She would find gourds of different sizes calling out to her. She should pick the smallest and the quietest one which would bring her good fortune.

5. ChinYE shared her wealth with the other villagers and lived her life happily.

- D.**
1. ChinYE was a young girl who was nice and hard working. She lived with her step-mother and step-sister, who made her do all the work. One day ChinYE's step-mother forced her to fetch water from the forest at night. ChinYE was extremely scared to go the forest at night but, had no other choice. She met an old woman who told her that she would pass a hut on her way home. She would find gourds of different sizes calling out to her. She should pick the smallest and the quietest one which would bring her good fortune. ChinYE followed the instructions and picked up the right gourd. Back at home when ChinYE smashed the gourd, as instructed by the old lady, she found golden treasures spilling out. That is how ChinYE became rich.
 2. ChinYE and her step-sister, Adanma were completely different from each other. ChinYE was kind and hardworking whereas, Adanma was wicked and lazy. One day when ChinYE was forced to fetch water from the forest at night, she met an old woman in the forest who instructed her to follow a certain path home. She found a hut full of gourds of different sizes all calling out to her. The old woman had instructed her to pick the smallest gourd which would bring her good fortune. ChinYE followed the instruction and picked the smallest gourd. She was rewarded with golden treasure.

On seeing this, ChinYE's step-mother sent Adanma to the forest at night and asked her to follow ChinYE's steps. But Adanma was greedy and she picked up the largest gourd hoping for a bigger fortune but

it turned out to be a misfortune and she and her mother were engulfed into endless darkness.

Page No. 33 and 34

Vocabulary

A.

1. very angry
2. crashed and destroyed
3. riches
4. teach
5. boldly

B.

- | | |
|-------------|-------------|
| 1. thawed | 4. proud |
| 2. generous | 5. darkness |
| 3. appear | |

C.

- | | |
|----------------|---------------|
| 1. dawdling | 6. dazed |
| 2. furious | 7. misfortune |
| 3. murmur | 8. ventured |
| 4. precious | 9. mysterious |
| 5. razor sharp | 10. recounted |

D.

- | | |
|--------------|--------------|
| 1. to relax | 4. to listen |
| 2. to go | 5. to sweep |
| 3. to spring | |

E.

- | | |
|--------------|-------------|
| 1. forty | 4. thieves |
| 2. ninety | 5. vacuum |
| 3. neighbour | 6. February |

- | | |
|--------------|---------------|
| 7. different | 9. access |
| 8. occasion | 10. committee |

Page No. 34

Language in daily use...

Write down five more instructions that they will leave you with.

1. Do not stay up till late.
2. Do not fight with each other.
3. Complete your homework.
4. Keep the uniform ready for the next day.
5. Drink a glass of milk before bed.

Page No. 35 to 38

Grammar

- | | |
|---------------------|-------------|
| A. 1. sorrow | 4. anger |
| 2. pain | 5. shock |
| 3. joy | 6. surprise |

- B.**
1. day-to-day
 2. build-up
 3. Indian-American
 4. red-handed
 5. jack-of-all-trades

- C.**
1. "Mr. Rao, why aren't you in the garden?" asked Meera.
 2. Mr. Rao said, "Come in, Meera. I am ill."
 3. "Is there nobody to help you, Mr Rao?" asked Meera.
 4. Mr. Rao said, "I am old, but I live alone."
 5. Meera said, "You are a part of my family, Mr. Rao."

- D.** 1. I'd not ring the bell if I were you.
(I would...)
2. Here's the surprise!
 3. I shan't go to her house.
 4. They'd be arriving any moment.
 5. Why don't you start painting again?

Page No. 39

Speaking

1. Oh my God! How unfortunate! I wonder what I can do to help.
2. Let me get you some food. Are you sure that you cannot find work?
3. I can see that you are busy because you are understaffed, but can I remind you that it is more than half an hour since I placed our order.
4. I think you have cheated me. That's not right. Please take back your goods and return my money.

Page No. 39

Writing

- A.** Once upon a time there was a shepherd boy named John. He took good care of the sheep and took the herd to graze in a nearby field every day. All day the sheep would graze and John would watch over them. One day he got really bored. He had an idea to have some fun. He started crying for help. "Help! Help! There is a big wolf in the field. It will kill my sheep!" All the villagers came running with sticks and stones in their hand. They were all scared and worried and stated looking for the wolf. Seeing the tensed faces of the villagers, John had a hearty laugh. John said, "I fooled you all. There was no wolf." All the villagers returned to their work angrily.

Again after a few days, John repeated the prank. Even this time the innocent villagers came running to help and were fooled again by John. This time the angry villagers

warned him that next time nobody will come to his rescue. He should change his habit. But John laughed and laughed at fooling the villagers and paid no attention to the warning.

One fine day, John was resting under the tree and he heard the sheep screaming. He got up and saw that a real wolf has entered the wolf and was actually killing the sheep. He cried for help. "Help! Please help! It is a real wolf this time!" But no villager turned up this time. The wolf ate all the sheep and hurt John badly. John learnt a lesson of his life.

Moral: Liars are not believed even when they speak the truth.

- B.** Meera lived next door to Mr. Rao, a senior gentleman. She was concerned that he lived by himself and she wanted to keep him company. She went and asked him why he was not in the garden. Mr. Rao said that he was ill. Meera said that he was a part of her family.

5. Being Brave At Night

Page No. 40

Warm up

I have a good night's sleep because I am tired after work and play. Yes, I do watch horror movies and play computer games. Some of them do frighten me. It is then that I have nightmares of being chased and attacked. Sometimes, in my dreams I replay things that happened in school.

Page No. 43

Reading

- A.** 1. a. No. The elephant was only in the dream of the poet.
- b. The child did not scream because he did not want to show the elephant that he was scared.

2. a. No. The child cannot be believed. He is scared of the pestering creatures in his dreams.
- b. All sorts of monstrous creatures and ghosts pester the child at night.
3. a. The child had already slipped out of his bed and joined his dad in the other room.
- b. It says that the child is scared of sleeping alone. He feels secured and safe while sleeping with his dad.

- B.**
1. First, there was an elephant spouting jets of steam which wanted to eat the child up.
 2. Next, there was a three-headed giant with twenty arms, spitting red hot fire.
 3. The giant wanted to grind the child's bones and make them into bread.
 4. The last was a group of forty white and shimmery ghosts.
 5. The ghosts wanted to capture the child.

Page No: 43 and 44

Vocabulary

- A.**
- | | |
|-------------|------------|
| 1. dull | 4. calming |
| 2. gulping | 5. whimper |
| 3. unspoken | |
- B.**
1. Sorry! That was an accident.
 2. Pain, that hurt.
 3. That is a loss.
 4. Celebration
 5. Wonder and amazement
 6. That was a total waste of time.
 7. What am I going to do?
 8. That was a surprise!

Page No. 44

Speaking

I share a bedroom with my brother. We have each other's company. No. I am not afraid to sleep alone. I am used to it. I have had a room of my own. It's only for the past three years that my brother has been sleeping in my room. He used to sleep in our parents' bedroom. If I do need help or am afraid in the night, I can knock on my parents' door.

Page No. 44

Writing

Think of a time when you definitely need a parent or an adult to be with you. Write a few lines.

When I fall sick, then I need my parents. Parents know how to take care of us. They can take us to a doctor and buy medicines. They know what is best for us and help us to cure faster. We could also be weak that we may require help to move about.

6. Living With the Chimps

Page No. 45

Warm up

- | | |
|---------------|---------------|
| 1. Chimpanzee | 3. Orang-utan |
| 2. Gorilla | 4. Monkey |

Page No. 48

Reading

- A.**
1. Gombe Stream National Park is located in Tanzania. Jane Goodall spent some 25 years there and studied chimpanzees.
 2. 'The Story of Dr Doolittle' is one of Jane Goodall's favourite stories. It is about a doctor who could speak to animals.
 3. Louis and Mary Leaky lived in Kenya. They were famous scientists who discovered many important fossils.
 4. Man, was not the only tool maker. Chimpanzees are also known to be excellent tool makers. They use grass

stems and twigs to fish termites from their nests. Jane Goodall watched chimpanzees using crumpled leaves to soak up water from the unreachable hollows of trees.

5. Humans and chimpanzees have many similarities. They have human like emotions. They also pamper their young ones and adopt orphans.

B. 1. When Jane started her work initially in Gombe Stream National Park, the chimps were scared of her and never came near. Jane had to wait at a distance to observe them. It was quite a difficult work.

2. Jane Goodall observed that chimpanzees were being threatened by humans. So she started travelling around the world creating awareness about protecting chimpanzees.

3. Jane watched chimpanzees using crumpled leaves to soak up water from the unreachable hollows of trees. She was wonderstruck at how smart the chimps were in making homemade sponge to soak up the water. The chimps even wiped themselves with these sponges to remove the dirt on their bodies! Man, was not the only tool maker.

4. In the course of her study, Jane also saw how humans were harming chimps. She was very upset when a lot of chimps were captured and sent off to zoos, to circuses and to research laboratories.

5. **It isn't only humans who have a personality.**

Jane did excellent work studying chimps. Humans are different from animals as they have many different ways of behaviour and responding to situations. They have emotions and feelings and use can think. Most animals fall into well known lines of behaviour. Jane's study however proved that chimps also have a wide range and patterns

of behaviour. They have personalities almost like humans.

- C.** 1. Jane was curious as a child. She always observed plants and animals around her. She was inspired by tales about animals and decided to work with animals.

2. The Leakey's were famous scientists who discovered important fossils. Jane met these scientists and they invited her to join the team. They also encouraged Jane to begin a study of wild chimpanzees in Tanzania.

3. Jane began her study of chimpanzees at the age of 23 when she went to Kenya.

4. At the beginning, Jane found it difficult because the chimpanzees fled whenever she went near them. She had to keep a distance and observe their behaviour.

5. In the course of her study, Jane also saw how humans were harming chimps. She was very upset when a lot of chimps were captured and sent off to zoos, to circuses and to research laboratories.

- D.** 1. It was Jane Goodall's childhood dream to study primates and work in that field. Since childhood she was inspired by books like 'The Jungle Book'. She started saving money for her dream and when she was twenty three, she travelled to Kenya from London. There she met two scientists- Louis and Mary Leakey. She joined their team and studies fossils with them. But, she always wanted to study living animals. On Leakey's encouragement, she went to GOMbe National Park, Tanzania and started her study on chimpanzees. At last her childhood dream became her real time work.

2. Jane observed many human characteristics in chimpanzees. They show human like emotions of joy and sorrow. They pamper their young ones and adopt orphans. The young

chimpanzees tease, fight and play like human kids. Also, chimpanzees use simple tools to make their lives easy. For example, chimpanzees use grass stems and twigs to fish termites from their nests.

Page No. 49 and 50

Vocabulary

- A.** 1. wonderstruck - a sudden feeling of delight or wonder

I was wonderstruck at the scenic beauty of the hill station.

2. inspired – to be motivated by someone or something to achieve in life

We were all inspired by our teacher to save the environment.

3. interaction – communication

The students had a great interaction with the guest speaker in the seminar today.

4. unreachable – cannot be reached

My house is absolutely unreachable due to heavy rain and flooding.

5. rational – logical

Every decision must be taken after rational thinking.

6. welfare – well-being of others

We should work towards the welfare of animals.

- B.** 1. broad grin

2. pack rat

3. breath taking view

4. couch potato

5. crumpled clothes

- C.** 1. gold ring

2. chocolate raisins

3. velvet box

4. handicrafts

5. skyscraper

- D.** 1. curious

4. teach

2. learned

5. stick

3. got

6. pampered

Page No. 50

Speaking

For

1. Animals are wild, hence they need to be protected from man who can do them grievous harm. Man can be cruel. He can manipulate and by using his skills he can harm animals.
2. Man has spread his habitat to areas that belong to animals. Elephant and tiger land are now used by man to build. The space for animals is limited and they need to be protected as they wander into what was their land.
3. Some animals are going extinct, they need to be protected.

Against

1. Man should stop encroaching into the habitats of animals. There is no limit to his greed. Animals should be allowed their space as they cannot be driven away.
2. More sanctuaries and reserves must be dedicated to animals in their natural habitats.

3. Let us put man in a cage and observe him from the outside.

Page No. 50

Writing

1. Have you ever considered any other profession?
2. How did you save money to go to Kenya?
3. In what ways did Louis and Mary Leakey inspire you?
4. Did you ever consider working in other National Parks?
5. Do all primates show similar behavioural traits?
6. What countries have you travelled to spread awareness for protecting chimpanzees?
7. How was your experience?
8. What measures would you suggest for wildlife conservation?

7. A Tiger in the House

Page No. 51

Warm up

1. as angry as a hornet
2. as eager as a beaver
3. as fierce as a tiger
4. as happy as a lark
5. as hungry as a horse
6. as poor as a door-mouse
7. as slippery as an eel
8. as stubborn as a mule

Page No. 55

Reading

- A.**
1. the drawing room.
 2. would keep away from us.
 3. to transfer him to the zoo.
- B.**
1. Timothy was discovered as a small cub by grandfather on his hunting trip. Timothy was eighteen inches long and was hiding in the roots of a banyan tree. Grandfather brought the cub home.
 2. Timothy had clean habits. He would scrub his face with his paws exactly like a cat. He slept at night in the cook's quarters, and was always delighted at being let out by him in the morning.
 3. Initially, Timothy was given only milk in a bottle by the cook. Later on raw mutton and cod liver oil were included in his diet.
 4. Timothy had two companions in the house. One was Toto, the monkey, who was bold enough to tease Timothy by pulling his tail. Another was a small puppy whom grandfather had found on the road.
 5. As Timothy started growing bigger, he became quieter and less friendly. He sneaked out and stalked cats and hunted chickens. One when he started stalking the cook, grandfather said that it was time for him to be sent to a zoo. Timothy was taken to a zoo in Lucknow where they received him with great joy.
- C.**
1. One of Timothy's favourite amusements was to stalk anyone who would play with him. When the writer came to live with

his grandfather, he became one of the tiger's favourites. With a crafty look in his glittering eyes, and his body crouching, he would creep closer and closer to the writer. Then Timothy would suddenly make a dash for his feet, rolling over on his back and kicking with delight, and pretending to bite his ankles.

2. When Timothy was about six months old, a change came over him. He grew steadily less friendly. When he went out for a walk, he would try to steal away to stalk a cat. Sometimes at night he would hunt chickens from the poultry house, and in the morning there would be feathers lying all over the veranda. Timothy had to be chained more often. And finally, when he began to stalk Mahmoud about the house, Grandfather decided it was time to transfer him to a zoo.
3. Yes, sending Timothy to the zoo was a right decision as Timothy had already started showing the characteristics of a wild animal. When Timothy would become a full grown tiger, it would be difficult for everyone in the house and for Timothy as well. In the zoo, Timothy would get an environment that would suit him better.

Page No. 56

Vocabulary

- | | |
|----------------------|-------------|
| A. 1. riding | 5. taking |
| 2. making | 6. hiding |
| 3. saving | 7. baking |
| 4. coming | 8. writing |
| B. 1. sitting | |
| 2. stopping | 4. chopping |
| 3. mopping | 5. stepping |

- | | |
|------------|------------|
| 6. getting | 8. running |
| 7. winning | |

Page No. 57

Language in daily use...

Sharan: Hi Karan! How are you?

Karan: Sharan! I haven't met you in a while. I'm fine, thank you. And how are you?

Sharan: I'm doing well. I've been wanting to share this news with someone! Do you know that Liza has a pet tiger!

Karan: Good Lord! Why would she do that!

Sharan: She lives in the middle east, you know that. The rich Arabs have exotic pets!

Sharan: Would you have a tiger for a pet?

Karan: In the first place I would not have a tiger as a pet even if I had all the money in the world. Tigers need to be in their habitat. How could you even have people over to your house with a tiger wandering about?

Sharan: May be she keeps him locked in a room. If I had a tiger as a pet, I would have a cage as in a zoo. It's not a good idea at all, I agree. Unless, a cub is abandoned and it needs to be cared for.

Karan: Let's talk about other things. Liza having a pet tiger is not a good idea at all.

Page No. 58 to 61

Grammar

- A.** 1. Chairs, beds, tables, computer tables, musical instruments, sporting goods, kitchen appliances, games, books, household goods, plants!

2. Furniture
3. gas oven, mixer, toaster
4. garage, talent, neighbourhood
5. Mr Jayakar

B.

- | | |
|---------|---------|
| 1. much | 4. much |
| 2. many | 5. many |
| 3. much | 6. much |

D.

- | | |
|----------------|----------------|
| 1. uncountable | 5. countable |
| 2. countable | 6. countable |
| 3. countable | 7. uncountable |
| 4. uncountable | 8. uncountable |

E.

- | | |
|---------------|-------|
| 1. a cup of | 4. an |
| 2. a piece of | 5. a |
| 3. a slice of | |

Page No. 61

Listening

1. Wildlife can be microscopic as well as large as a whale.
2. Wildlife is any living organism other than a plant which lives in natural state.
3. Wildlife is not limited to big animals living in dense forests, but includes insects, birds, reptiles, fish and amphibians too.
4. Wildlife excludes animals that are tamed or domesticated.
5. Wildlife is not only in jungles but also in oceans, rivers, trees, soil, cities and towns, homes and gardens.

Page No. 62

Writing

Grandfather: I found this tiger cub while I went hunting. He was hiding in the roots of a banyan tree so I brought him.

Grandmother: But it is a tiger cub, dear. It is going to grow up into a ferocious animal. We cannot have a wild animal as a pet.

Mahmoud: Sir, please do not ask me to feed it. What if it does not like me and attacks me?

Author: Awwww, it's such a sweet baby! Do not worry, Grandma. Young tiger cubs behave just like cats. Mahmoud, haven't you seen caretakers in the zoo feed the wild animals? Animals never attack those who feed them.

Grandfather: I am keeping the tiger as a pet. I will take responsibility for our security. If there is any problem after the cub grows up then we will send it to a zoo.

8. The Pied Piper of Hamelin

Page No. 66 and 67

Reading (// *Correction in textbook)

- A.**
1. a. The people of Hamelin were celebrating the disappearance of rats from their city.
 - b. They celebrated by ringing the church bell.
 2. a. The pied piper wanted a thousand guilders.
 - b. He wanted the money as a promised reward for making Hamelin free of rats.
 - c. The mayor looked blue as he didn't want to pay such a huge amount of money.
 3. a. The rats are referred to as vermin.
 - b. All the rats in Hamelin followed the pied piper's tune and fell into the river and sank to death.

4. a. The piper felt very disappointed.
 - b. The piper became angry and he shouted that there had been enough fooling around and he can't wait any longer.
5. a. The little children came out running on their small feet wearing little wooden shoes. They clapped their little hands and chattered away in excitement.
 - b. The piper's tune from his flute brought out all the children in excitement.

- B.**
1. The mayor instructed the people to destroy the homes of the rats and consult carpenters to block the holes so that Hamelin never gets infested with rats again.
 2. The piper demanded a thousand guilders as he was promised the amount for driving all the rats away from Hamelin.
 3. The mayor refused to pay the piper because his work was done and a thousand guilders seemed like a lot of money. He broke his promise.
 4. The little children came out running on their small feet wearing little wooden shoes. They clapped their little hands and chattered away in excitement. They had rosy cheeks, flaxen curls and pearl white teeth. They laughed merrily and went along the piper.
 5. The children followed the pied piper's wonderful music.

C. The piper took the children into a magical mountain.

1. The children might have been amazed on entering the magical mountain. The children had definitely never seen such a beautiful and magical place before.

2. The piper and the children got along really well. The piper loved the children and taught them good values.
3. The children were free to explore the magic mountain. They could eat tasty food and play. The piper taught them wonderful music.
4. The children were happy with the piper so they never convinced the piper to take them back.
5. The town of Hamelin had become barren after the children left. There was no merriment, laughter or celebration. There was sadness all over. The mayor learnt a lesson that promises should not be broken and decided to persuade the piper to return the children and pay him with a worthy reward.

Page No. 67

Vocabulary

- A.**
- | | |
|------------|---------------------|
| 1. sign | |
| 2. edge | 4. strong emotion |
| 3. careful | 5. full of activity |
- B.**
- | | |
|--------------|---------------|
| 1. rustling | |
| 2. pitching | 4. clattering |
| 3. pattering | 5. chattering |

Page No. 68

Activity

A. Role Play

1.

Piper: Mr Mayor, I came back for my money.

Mayor: Money! What money?

Piper: You couldn't have forgotten! I rid your city of rats. You promised me a thousand guilders.

Mayor: Ah! Yes! We saw you drown all the rats in the river. They cannot come back now from the dead. We are destroying all the homes of these creatures.

Piper: Yes. Come now! Give me my thousand guilders.

Mayor: I will give you fifty guilders. Now be gone. You didn't expect that I would pay you a thousand!

Piper: You are making a big mistake. I am warning you. Something terrible will happen.

Mayor: Off with you! You are your threats!

2.

Piper: Are you happy here?

Children: Oh, Yes! This place inside the mountain is beautiful. It's like a fairy land. We love it here.

Piper: Don't you want to go back home?

Children: No. Not as yet, atleast. There's so much good food and we have all the time to play. And no chores to do!

Piper: You are safe with me.

Children: We will go back only when our elders have learnt a lesson.

Piper: And what is that?

Children: Keep the promises you make.

3.

A: I wonder where the children are!

B: Are they afraid? Is he harming them? Are they his prisoners?

A: What if he makes them his slaves? Dear, God!

B: I doubt that. Why will he harm innocent children?

A: I'm sure he is thinking of a plan to punish the mayor and the council.

B: That he must be. The mayor should have kept his promise. We are rid of those pests. Our life

could have been so wonderful. But now, the mayor has done a grievous wrong.

A: I trust the piper. No harm will befall our children.

B: Haiku

An example of haiku on 'promise'.

Loving each promise

made and kept, each commitment

gift to cherish you

9. The Story of My Boyhood and Youth

Page No. 72 to 74

Reading (// *Correction in textbook)

A. 1. he supported the preservation of forests in America.

2. they felt that the birds and their eggs enriched their lives.

3. blue birds sometimes steal eggs from the nests of other birds.

4. made perfect round holes.

5. came swooping down at them.

6. he had chased the hen hawk away after scolding him.

B. 1. David

2. Green

3. Teacher

4. Empty

5. Ornithologist

6. Red-headed and speckled

7. Oak tree

8. Conservationist

9. Plucky and angry

C. 1. Blue Jays lay green eggs. They have a habit of stealing eggs from others' nests.

2. Woodpeckers are very hardworking, specially the red-headed and the speckled ones. They can cut out perfect circles on tree trunks.
3. The hen-hawks build their nests on top of tall oak trees. They are big birds with great flight.
4. The king birds are fearless in nature. They build their nests in secured places and protect them with all their might.
5. Crows are very intelligent. They can be identified by their distinct 'caw-caw' sound.
6. Sparrows have brown, white and black feathers. They are very social in nature.

- D.**
1. The young boys felt ecstatic. The sudden splash into pure wildness made them utterly. Nature streaming into them, taught them wonderful glowing lessons! Every wild lesson in the wilderness was wonderful. They felt rich on discovering such vast variety of nature.
 2. The author was surprised that all the eggs disappeared from the nest the next morning. He wondered how the birds were able to carry off their thin-shelled eggs either in their bills or in their feet without breaking them, and how they could be kept warm while a new nest was being built. Yes, the ornithologist, Robert Ridgway, cleared his doubts. He guessed that jays and many other birds carried their eggs in their mouths. The birds' mouths were larger than the narrowness of their bills indicated.
 3. The kingbirds are plucky in nature. He was particularly angry when jays and hawks came near his home, and took pains to thrash them not only away from the nest-tree but out of the neighbourhood. When a hen-hawk came in sight, the male immediately set off after him. It was amusing to the author

that a great, strong bird like hen-hawk hurrying away as fast as his wings would carry him. The kingbird easily overtook him, flew just a few feet above him, and with a lot of chattering, and scolding.

Page No. 74 and 75

Vocabulary

- A.**
1. memorable
 2. acquaintance
 3. rejoicing
 4. plunder
 5. fragments
 6. approached
- B.**
1. immediately
 2. cautious
 3. abundant
 4. extinct
 5. clamorous
- C.**
1. laugh noisily
 2. laugh repeatedly in a silly way
 3. laugh in a suppressed way
 4. smile in a proud silly way
 5. a hearty laugh with the whole body shaking

Page No. 77

Grammar

- A.**
1. Siddharta sat for several hours under a bodhi tree.
 2. The teacher made an important announcement.
 3. The chef from China prepared a dish with grasshoppers.

4. Do you have a twenty rupee note with you?
5. My friends and I watched an old film yesterday.
6. Everyone accepted that Einstein was a genius.
7. Write an essay on this topic.
8. I want to tell you a secret.
9. When in trouble, give me a call.
10. Vivien Leigh was a famous actress.

- B.**
1. We should be proud of being ~~the~~ Indians.
 2. I love to drink ~~the~~ juice.
 3. ~~The~~ life is made of ups and downs.
 4. I want to meet ~~the~~ Dhoni.
 5. It is unwise to skip ~~the~~ breakfast.
 6. The vernal equinox occurs in ~~the~~ March.
 7. The company does not allow ~~the~~ people to enter without an ID card.
 8. The band was formed when the musicians were still in ~~the~~ college.
 9. I admire her for she has ~~the~~ long hair.

10. The government has reduced the price of ~~the~~ petrol.

Page No. 78

Listening

Thimmakka, is known as the 'Mother of Trees' did exceptional work in preserving the environment. She never had children but she nurtured plants like her own children. She and her husband Chikkaiyah planted 384 banyan trees and 8000 other trees. Thimmakka is now 106 years old and had been awarded the Padma Shri. She blessed the President after receiving the award and planted a sapling in the Rashtrapati Bhawan.

Page No. 78

Speaking

My family and I went on a tour of UK and Ireland last September. The bus ride was breath taking. We travelled through moors, valleys, and fields. We saw gentle streams, and sparkling rivers. The scenes were exactly the sights that we read in story books. We saw many tourist sites were movies like Star Wars were filmed. The cliffs and mountains hugged the road. We stopped every now and then at peaceful small chapels in villages. I can still feel the wind blow on me as I sat in those country church yards. Ireland is emerald green and windy. The UK and Ireland are beautiful places to visit. The scenery is awe-inspiring.