

ENGLISH-5
SEMESTER

1

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1. The Gold Coins

ANSWERS

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. The bag contained

(a) gold coins

(b) silver coins

(c) diamonds

2. Why could the courtiers not buy anything?

(a) Because markets were closed

(b) Because they lost the gold coins

(c) Because they could not see the face of the king

3. What did Tenaliraman buy?

(a) A gold chain, a gold ring and clothes

(b) A horse

(c) A house

B. Write True or False.

1. The courtiers were happy to receive the gold coins.

True

2. The courtiers bought many things from the market.

False

3. Tenaliraman fulfilled the condition laid down by the king.

True

4. The king punished Tenaliraman.

False

C. Answer these questions.

1. What did King Krishnadevaraya give to each of his courtiers?

Ans. King Krishnadevaraya gave each of his courtiers a bag containing fifty gold coins.

2. What was the condition laid down by the king?

Ans. The condition laid down by the king was that while spending gold coins, they had to see his face.

3. Did the courtiers buy anything? Why not?

Ans. No, the courtiers did not buy anything. They could not fulfil the condition laid down by the king.

4. How did Tenaliraman justify his action?

Ans. Tenaliraman justified his action by explaining to the king that every time he bought something, he saw the imprint of the king's face on the coin.

THINK AND ANSWER

D. Why did the king not punish Tenaliraman?

Ans. The king did not punish Tenaliraman because he was pleased by his clever answer.

GRAMMAR IS FUN

E. Circle the subjects in these sentences.

1. Dhyan Chand was a famous hockey player.
2. Our school is very old.
3. Anju loved the scenery.
4. My grandparents live in Jaipur.

F. Underline the predicates in these sentences.

1. The dodo is an extinct bird.
2. The kittens were playing in the water.
3. Anjusha is in Class IA.
4. Burma is the old name of Myanmar.
5. The courtiers could not buy anything from the market.

G. Tick (✓) the correct phrase in the brackets.

1. Don't put all your eggs (a breakfast/in one basket[✓]).
2. Let us act before it is (too early/too late[✓]).
3. The policeman fined the car driver (for overspeeding[✓]/for safe driving).
4. The train is (at the station[✓]/at the airport).
5. We have breakfast (at night/in the morning[✓]).

SPELL WELL

H. Tick (✓) the correct spellings.

1. One day, King Krishnadevaraya gave each of his courtiers[✓]/couriters a bag containing gold coins.
2. The court assambled/assembled[✓] after a week.
3. The royal priest[✓]/preist wanted the king to punish Tenaliraman.
4. The king was serprised/surprised[✓].

WORD POWER

I. Find words from the grid given below that mean the same as the following. The first one has been done for you.

1. observed
2. journey
3. inquisitively
4. famous
5. surprised
6. completely
7. purchased
8. cheerful

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

LET'S LISTEN

J. Your teacher will read the passage from the listening text or you can listen to it on the Digital Board. Listen to it carefully and answer these questions orally.

1. Who was Tenaliraman?

Ans. Tenaliraman was a poet and jester.

2. Why was the king impressed by Tenaliraman?

Ans. The king was impressed by Tenaliraman because of his wit and intelligence.

3. Whom did the king encourage in his kingdom?

Ans. The king encouraged poets and scholars.

4. What was the official language in the court of Krishnadevaraya?

Ans. Kannada.

WRITE WELL

N. Imagine Tenaliraman visited your class and met all the children. As the class monitor, you took his interview. Complete the interview.

Ans. You : Sir, welcome to class V

Tenaliraman : Thank you.

You : Sir, why were courtiers jealous of you?

Tenaliraman : They were jealous because the king was very fond of me.

You : Do you enjoy your work?

Tenaliraman : Yes, I enjoy my work a lot.

You : What message would you like to give to the students of our class?

Tenaliraman : Be happy always.

You : Sir, we will always remember that. Thank you for visiting our class.

Tenaliraman : You are welcome. I enjoyed talking to you.

DICTIONARY SKILLS

O. Find out the meanings of the following words from the dictionary.

1. possible 2. condition 3. priest 4. fulfil

Ans. 1. possible: Able to be done or achieved.

2. condition: State.

3. priest: A person, usually a man who has been trained to perform religious duties.

4. fulfil: Meet the conditions or requirements.

2. The Monkeys go on a Fast

ANSWERS

WARM UP

Can you name these animals?



1. Chimpanzee



2. Gorilla



3. Orangutan



4. Langur

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Who had the idea of going on a fast?

(a) The chief

(b) The chief's wife

(c) A young monkey

2. A female monkey suggested that they should keep a fast on

(a) every Thursday

(b) every holy day

(c) every Friday

3. Who were sent in search of food?

(a) Young donkeys

(b) Young monkeys

(c) Old monkeys

4. The fruit they kept along with them was

(a) mango

(b) banana

(c) apple

B. Fill in the blanks with the correct word from the box.

bananas swallowed chief troop permission

1. Once, in a forest, lived a **troop** of monkeys.

2. The monkeys returned with huge bunches of delicious-looking **bananas**.

3. The **chief** dismissed the gathering for the day.

4. All the monkeys agreed upon it but they had to seek **permission** from the chief.

5. One by one, they **swallowed** the bananas silently.

C. Answer these questions.

1. What did the wife of the chief suggest before the fast began?

Ans. The wife of the chief suggested that each of monkey should keep his/her share of bananas with him before the fast began.

2. What idea was suggested by the young monkey?

Ans. The young monkey suggested that they should peel a banana and keep it ready to eat.

3. What permission was given by the chief of monkeys?

Ans. The chief of the monkeys gave them permission to put bananas in their mouths but in no case should they eat them.

4. How did the fast of the monkeys end?

Ans. The monkeys swallowed the bananas kept in their mouth. This way, the fast of the monkeys ended.

THINK AND ANSWER

A. Is fasting good for health? How?

Ans. Yes, it is good for health because it gives rest to our digestive system and helps to throw out toxic matter from the body.

GRAMMAR IS FUN

E. Underline the proper names and circle the common names.

1. China is a big country and Beijing is its capital.
2. The Ganga flows down the Himalayas and reaches the plains.
3. I went to Jaipur last week.
4. The Red Fort is a beautiful monument.

F. Give examples of any three uncountable nouns.

1. oil
2. music
3. flour

G. Give examples of any three material nouns.

1. gold
2. wood
3. silver

H. Fill in the blanks with the correct collective nouns from the brackets.

1. a herd of cattle (herd/team)
2. an army of soldiers (army/assembly)
3. a gang of robbers (bundle/gang)
4. a fleet of ships (colony/fleet)
5. a crowd of people (pile, crowd)

I. Circle the abstract nouns given in the box.

happiness sky water city wisdom table beauty foolishness pencil

SPELL WELL

J. Circle the correct spellings.

1. assambled asembled assembled assembeld
2. gethering gathering gathring gadring
3. dalicious delicus delicious deliceous

WORD POWER

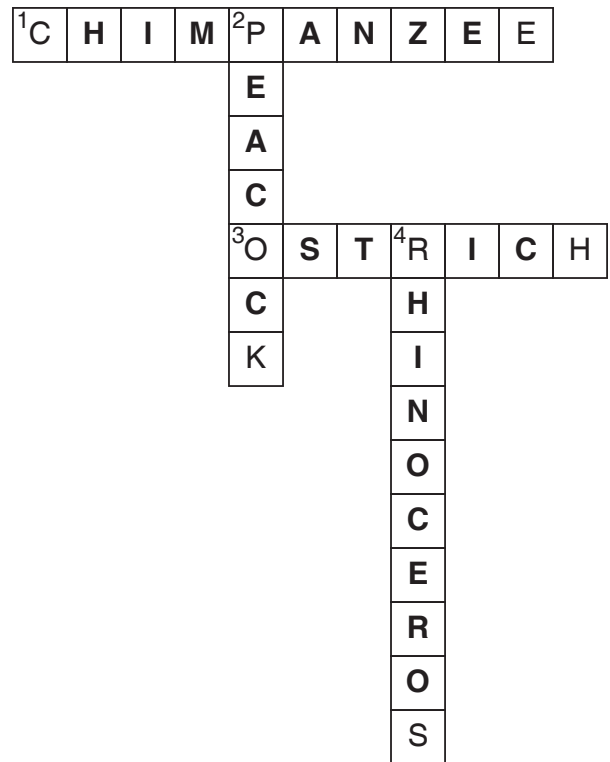
K. Solve this crossword puzzle.

Across

1. A very intelligent animal
3. A flightless bird

Down

2. Our national bird
4. An animal which has a horn on its nose



LET'S LISTEN

L. Your teacher will read the questions from the listening text or you can listen to them on the Digital Board. Listen to them carefully and tick (✓) the right answer.

- | | | | |
|-----------------|-------------------------------------|------------|-------------------------------------|
| 1. (a) troupe | <input type="checkbox"/> | (b) troop | <input checked="" type="checkbox"/> |
| 2. (a) flock | <input checked="" type="checkbox"/> | (b) herd | <input type="checkbox"/> |
| 3. (a) pack | <input type="checkbox"/> | (b) pride | <input checked="" type="checkbox"/> |
| 4. (a) shoal | <input checked="" type="checkbox"/> | (b) army | <input type="checkbox"/> |
| 5. (a) audience | <input type="checkbox"/> | (b) colony | <input checked="" type="checkbox"/> |
| 6. (a) pack | <input checked="" type="checkbox"/> | (b) herd | <input type="checkbox"/> |

WRITE WELL

P. Have you ever kept a fast? Write your experience about your fast in a letter to your friend.

Ans. B-25,

Karol Bagh, New Delhi

4 January 2020

Dear Mukul,

Last Sunday, I kept a fast. I woke up early in the morning. I drank two glasses of water and then went for a walk. The whole day I ate nothing. I drank plenty of water throughout the day. It was a nice experience. I felt very light and active. I think one should fast for one day in a week. It gives rest to our digestive system. It makes us healthier and fitter.

Your friend,

Mohit

2. Beds (Poem)

ANSWERS

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Beds come in

(a) only one size

(b) many sizes

(c) two sizes only

2. Best beds are much

(a) more colourful

(b) more boring

(c) more interesting

3. The right sort of a bed may be a

(a) boat

(b) submarine

(c) ship

B. Write True or False.

1. Most beds are used for sleeping.

True

2. Mosquito nets offer protection against shooting stars.

True

3. A jet-propelled bed might be used to go to Mercury.

False

C. Match the rhyming words.

1. double

(a) prize

2. stars

(b) brittle

3. size

(c) bat

4. little

(d) trouble

5. rat

(e) Mars

ACTIVITY/PROJECT

D. Collect two different pictures of cradles and paste them. Write three sentences on the use of cradles.

Ans. Do it yourself.

3. Tom Whitewashes the Fence

ANSWERS

WARM UP

Match the books with their authors.

- | | | |
|---|---|---------------------------|
| 1. <i>A Tale of Two Cities</i> | → | (a) Jane Austen |
| 2. <i>Uncle Tom's Cabin</i> | → | (b) Harriet Beecher Stowe |
| 3. <i>Pride and Prejudice</i> | → | (c) Charles Dickens |
| 4. <i>Silas Marner</i> | → | (d) Jules Verne |
| 5. <i>Twenty Thousand Leagues
Under the Sea</i> | → | (e) George Eliot |

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

- Tom had a holiday on
(a) Friday (b) Wednesday (c) Saturday
- Tom had a plan to go for a
(a) whitewash (b) swim (c) match
- Tom had to whitewash the
(a) railing (b) ceiling (c) fence
- Aunt Polly gave Tom
(a) an orange to eat (b) a pear to eat (c) an apple to eat

B. Fill in the blanks with the correct word from the box.

Jim Tom's Sid spotlessly clever

- Tom and his cousin, **Sid**, were having a holiday.
- Jim** was carrying a bucket to fetch water from the water pump.
- A brilliant idea came to **Tom's** mind.
- Tom was very **clever** at getting what he wanted.
- Aunt Polly was happy to see the fence looking so **spotlessly** white.

C. Answer these questions.

1. What task was given to Tom by Aunt Polly?

Ans. Tom was given the task of whitewashing the fence by Aunt Polly.

2. What clever idea came to Tom's mind?

Ans. The clever idea that came to Tom's mind was that he should pretend to enjoy his work.

3. Why was there a look of pity on Ben's face?

Ans. There was a look of pity on Ben's face because he was going for a swim while Tom was working.

4. What did Tom get before the afternoon was over?

Ans. Tom got twelve marbles, a tin soldier, a key, a dog's collar, the handle of a knife and four segments of an orange.

5. Why was Aunt Polly delighted?

Ans. Aunt Polly was delighted because the fence had been painted spotlessly white.

THINK AND ANSWER

D. How was Tom successful in getting others to do the work for him?

Ans. Tom was successful in getting others to do the work for him because he pretended to enjoy the work he was doing.

E. Circle the subjects in these sentences.

1. This car is mine.

2. I have read these books.

3. We are selling this house.

4. That house belongs to my uncle.

F. Underline the predicates in these sentences.

1. What kind of animals are these?

2. Which book is yours ?

3. Which boy needs my help?

4. What time are you leaving for your home?

5. Whose pen is lying on my table?

GRAMMAR IS FUN

G. Write the comparative and superlative forms of the given adjectives. The first one has been done for you.

Positive	Comparative	Superlative
1. brave	braver	bravest
2. great	<u>greater</u>	<u>greatest</u>
3. easy	<u>easier</u>	<u>easiest</u>
4. hot	<u>hotter</u>	<u>hottest</u>

5. intelligent

more intelligent

most intelligent

SPELL WELL

H. Tick (✓) the correct spellings.

1. Tom wanted to go for swimming/swimming✓.
2. A brilliant/brilliant✓ idea came to his mind.
3. Aunt Polly was delighted✓/delited to see the fence so white.
4. Tom pritended/pretended✓ not to see Ben.
5. He sat down to eat the dalicious/delicious✓ apples.
6. Tom was having a holidey/holiday✓.

WORD POWER

I. In the groups of words given below, one word is different in meaning. Cross that word out.

- | | | | |
|----------------------|-----------|------------------|----------------------|
| 1. huge | big | large | tiny |
| 2. gloomy | cheerful | happy | joyful |
| 3. tired | weary | exhausted | energetic |
| 4. anger | rage | greed | wrath |
| 5. brilliant | excellent | superb | shoddy |
| 6. dismay | sorrow | joy | disappointment |

LET'S LISTEN

J. Your teacher will read the passage from the listening text or you can listen to it on the Digital Board. Listen to it carefully and answer the questions orally.

1. When was Mark Twain born?

Ans. Mark Twain was born on 30 November 1835.

2. On which river did he become the river pilot?

Ans. Mississippi river.

3. Name three novels of Mark Twain.

Ans. (a) 'Adventures of Tom Sawyer'

(b) 'The Prince and the Pauper'

(c) 'Adventures of Huckleberry Finn'

WRITE WELL

N. Imagine your parents were away for a day and you did a lot of work in the house. Write a letter to your friend and describe all that you did. Fill in the missing details and complete the following letter.

Ans. V-46/B, Rajouri Garden,

New Delhi – 110027

18/3/20xx

Dear Mini

Hope you are fine. How is everybody? We are all well at this end.

My parents were away for a day. They had gone out of town.

In my parents' absence, I did a lot of work at home.

I felt tired but I learnt a lot.

Do reply soon.

Your friend,

Rajesh

DICTIONARY SKILLS

O. Find out the meanings of the following words.

Ans. 1. chirping 2. whitewash 3. dismay 4. delicious 5. segments

1. chirping: Sound made by birds.

2. whitewash: A solution of lime and water, used for painting walls or other surfaces white.

3. dismay: Concern, or distress caused by something unexpected.

4. delicious: Tasty.

5. segments: Each of the parts into which something is or may be divided.

3. I Keep Six Honest Men (Poem)

ANSWERS

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. How many serving-men does the poet keep?

(a) Five

(b) Three

(c) Six

2. To which directions does the poet send them?

(a) East and west

(b) East and north

(c) North and south

3. When is the poet busy?

(a) From nine to one

(b) From nine to five

(c) From nine to six

B. Write True or False.

1. All the six serving-men are dishonest.

False

2. After they have worked, the poet gives them rest.

True

3. Different folk have different views.

True

4. The ten million serving-men take rest all the time.

False

C. Answer these questions.

1. Who has taught the poet all that he knows?

Ans. The six honest men.

2. What are the names of the six honest serving-men?

Ans. What, Why, When, Where and How.

3. Write the theme of the poem in brief.

Ans. We should be curious and ask questions like what, why, etc., to increase our knowledge.

D. Complete the word grid with the names of the six serving men.

Ans.

		W	H	A	T	
H		W	H	Y		
O		H				
W	H	E	R	E		
		N				

ACTIVITY/PROJECT

E. How do these six serving men make one knowledgeable? Discuss it in the class.

Ans. Do it yourself.

F. What steps should you take to become knowledgeable? Discuss the options in the class.

Ans. Do it yourself.

PERIODIC TEST 1

A. Tick (✓) the correct answers.

1. The fat green frog lived in a

(a) pond

(b) well

(c) river

2. One of the _____ came to the pond to see if there was any food there.

(a) swans

(b) ducks

(c) bears

3. The frog and his wife were very

(a) sad

(b) happy

(c) angry

4. The eggs were tiny _____ things that were laid in jelly.

(a) red

(b) gray

(c) black

5. The duck could not eat the eggs because they were

(a) hard.

(b) too small.

(c) slippery.

B. Answer the following questions briefly.

1. Describe the appearance of the frog.

Ans. The frog was fat and green.

2. Why did the duck come to the pond?

Ans. The duck came to the pond to see if there was any food there.

3. Why was the duck angry?

Ans. The duck was angry because she did not like being laughed at.

4. Describe the frogs' eggs.

Ans. The frogs' eggs were tiny black things laid in jelly. The jelly swelled up and rose to the surface of the pond.

5. Why did the two frogs croak with laughter?

Ans. The two frogs croaked with laughter watching the duck trying to gobble the eggs. Every time, she gobbled the jelly, it slipped out of her beak.

WRITE WELL

C. Imagine it is your first day in your new school. Since you are new, you do not

know anyone there. Write a short paragraph describing your day.

Ans. Do it yourself.

GRAMMAR IS FUN

D. Circle the subjects in the following sentences.

1. Anjali loved the scenery.
2. Dhyan Chand was a famous hockey player.

E. Underline the predicates in these sentences.

1. The puppies were playing in the garden.
2. Mohit is in Class 5 A.

F. Give examples of two countable nouns and two material nouns.

1. Countable nouns: (a) pen (b) book
2. Material nouns: (a) cotton (b) milk

G. Underline the interrogative and circle the possessive adjectives in the following sentences.

1. Which book is yours?
2. Which boy needs my help?

H. Answer the following questions.

1. What task was given to Tom by Aunt Polly?

Ans. Aunt Polly gave Tom the task of whitewashing the fence.

2. What did the wife of the chief suggest before the fast began?

Ans. The wife of the chief suggested that each monkey should keep his/her share of bananas with him before the fast began.

3. What was the condition laid down by the King?

Ans. The condition laid down by the king was that while spending gold coins, they had to see his face.

4. What permission was given by the chief of the monkeys?

Ans. The chief of the monkeys gave them permission to put bananas in their mouths but in no case should they eat them.

5. Why was there a look of pity on Ben's face?

Ans. There was a look of pity on Ben's face because he was going for a swim while Tom was working.

4. The King and his Hawk

ANSWERS

WARM UP

Can you name these famous kings?



Akbar



Ashoka



Alexander

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Genghis Khan was a great

(a) king

(b) robber

(c) joker

2. On the king's wrist sat his favourite

(a) parrot

(b) hawk

(c) eagle

3. The dead animal lying in the pool of water was a

(a) lizard

(b) snake

(c) monkey

4. Who killed the hawk?

(a) Genghis Khan

(b) A snake

(c) The king's bodyguard

5. Genghis Khan felt _____ on killing his hawk.

(a) sorry

(b) happy

(c) triumphant

B. Fill in the blanks with the words given in the box.

spilled mounted Genghis Khan thirsty sword

1. Genghis Khan was a great king and warrior.

2. The king was very thirsty.

3. The water was all **spilled** from the cup.
4. With a quick sweep of the **sword**, he struck the bird as it passed.
5. He **mounted** the horse and rode swiftly home.

C. Answer these questions.

1. Who accompanied Genghis Khan to the woods?

Ans. His friends, servants, hounds and his hawk accompanied Genghis Khan to the woods.

2. Why could Genghis Khan not drink the water?

Ans. Genghis Khan could not drink the water because the hawk knocked his cup from his hands.

3. How did the hawk save Genghis Khan's life?

Ans. The hawk saved Genghis Khan's life by knocking off the cup which contained poisoned water from his hand.

4. What lesson did Genghis Khan learn?

Ans. Genghis Khan learnt the lesson that one should never do anything in anger.

THINK AND ANSWER

D. What would have happened if the King had drunk water?

Ans. He would have died because the water was poisoned.

GRAMMAR IS FUN

E. Pick out the pronouns in the following sentences and write whether they are demonstrative, interrogative, relative, reflexive or emphatic.

1. The dog hurt itself. **itself (reflexive)**
2. What is the latest news about the match? **What (interrogative)**
3. She herself told me so. **herself (emphatic)**
4. Those are your books. **Those (demonstrative)**
5. Namita wore the dress that mother gifted her. **that (relative)**

SPELL WELL

F. Fill in the missing letters to complete the words. You can take help from the box.

favourite mountain swiftly pathway

1. m o u n t a i n
2. s w i f t l y
3. p a t h w a y
4. f a v o u r i t e

WORD POWER

G. In the story, we read the simile 'as swift as an arrow'. Now fill in the blanks to complete the following similes.

coal hills diamond gold lark peacock cucumber honey

- | | | | |
|------------------|----------------|------------------|-----------------|
| 1. As proud as a | <u>peacock</u> | 2. As happy as a | <u>lark</u> |
| 3. As black as | <u>coal</u> | 4. As sweet as | <u>honey</u> |
| 5. As hard as | <u>diamond</u> | 6. As cool as a | <u>cucumber</u> |
| 7. As good as | <u>gold</u> | 8. As old as the | <u>hills</u> |

LET'S LISTEN

H. Your teacher will read the questions from the listening text or you can listen to them on the Digital Board. Listen to them carefully and write their answers.

- | | |
|----------------------|-------------------------------|
| 1. <u>Ashoka</u> | 2. <u>Alexander the Great</u> |
| 3. <u>Shah Jahan</u> | 4. <u>Razia Sultan</u> |

WRITE WELL

L. Write a paragraph of around a hundred words about an experience that changed you life.

One day, I was sleeping very soundly. Suddenly, I was woken up by the constant barking of my pet dog, Sheru.

I was really annoyed with him. I told him to keep quiet and let me sleep. But he kept on barking with his face in the direction of the window. Finally, I could bear him no longer and shut him in the storeroom and went to sleep.

In the morning when I woke up, I came to know that thieves had stolen all the jewellery kept in the cupboard. I was really stunned! I felt very sorry with the way I had treated Sheru. Poor Sheru was trying to stop the thieves from breaking into our house. How foolish it was of me to shut Sheru in the storeroom.

From that day, I always keep my anger in check and think deeply before taking any action.

ACTIVITY/PROJECT

M. Collect five quotations related to anger management.

Ans. Do it yourself.

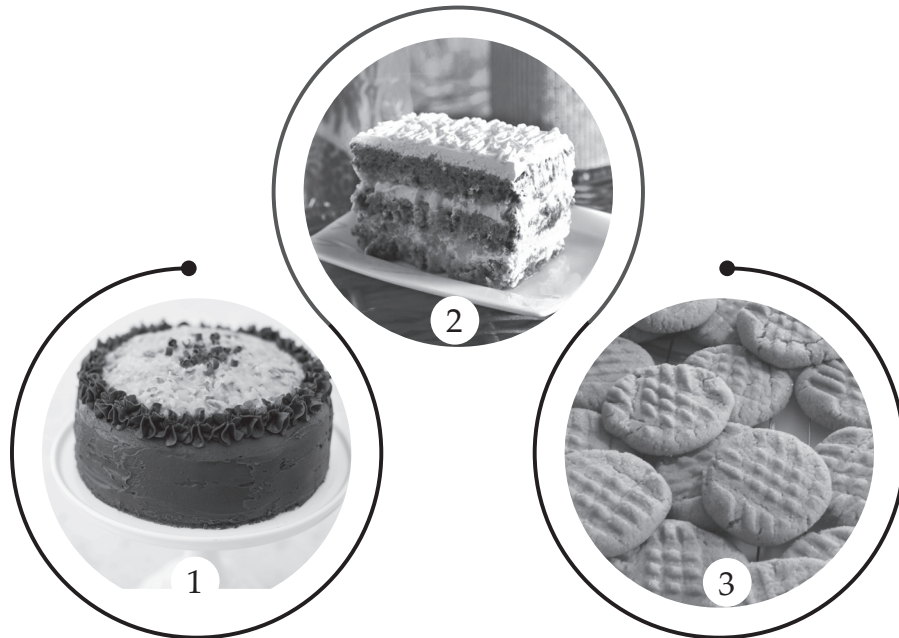
5. Blackberries – The Fruit

ANSWERS

WARM UP

A. Match the names of the various bakery products given in the box with their pictures.

chocolate cake cookies pastry



1. Chocolate cake

2. Pastry

3. Cookies

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Andrew had planned to go with his friends to pluck

(a) mangoes

(b) grapes

(c) blackberries

(d) flowers

2. Mrs Jones lived in

(a) Andrew's village

(b) a town

(c) London

(d) a faraway village

3. Peter and Charlotte met Andrew on the way and called him to go

(a) cycling

(b) shopping

(c) swimming

(d) blackberrying

B. Answer the following questions.

1. What did Andrew's mother ask him to do?

Ans. Andrew's mother asked him to run an errand for her, carrying books to Mrs Jones.

2. Why did Andrew start whistling, while going to Mrs Jones' house?

Ans. Andrew started whistling because it lifted his mood when he was angry or upset.

3. Mention any two good qualities of Andrew that Mrs Jones appreciated.

Ans. Andrew was kind and responsible.

4. Describe how Andrew plucked blackberries.

Ans. Andrew plucked the blackberries fast and filled his basket, also stuffing them into his mouth.

5. What did Andrew do to help his friends who met him on the way, while his return from Mrs Jones' house?

Ans. Andrew shared his blackberries with his friends.

6. What did Andrew's mother prepare for him after he came back?

Ans. Andrew's mother prepared a blackberry pie for him when he came back.

THINK AND ANSWER

C. Answer the following questions.

1. Andrew gave some blackberries to his friends too. Which qualities of Andrew are revealed by this simple act? Do you also like to share things with your friends?

Ans. Any reasonable answer is acceptable. Clues: Andrew is kind, generous, and responsible – does chores and runs errands without sulking.

2. What would you do if your parents asked you to do some urgent work during your playtime? Give a reason in support of your decision.

Ans. Any reasonable answer is acceptable.

GRAMMAR IS FUN

D. Fill in the blanks with suitable form of verbs given in the brackets according to the tense form mentioned with each sentence.

1. Chandra goes (go) to the gym every Sunday. (Simple Present Tense)

2. Vinay is playing (play) the guitar in his room. (Present Progressive Tense)

3. She has left (leave) for the airport. (Present Perfect Tense)

4. He has eaten (eat) his lunch. (Present Perfect Tense)

5. All mice like (like) to eat cheese. (Simple Present Tense)

E. Use suitable form of verbs given in the brackets to complete the following

sentences in the present perfect continuous tense.

1. Ginny **has been playing** (play) computer games since morning.
2. Sunny **has been working** (work) on the computer for two hours.
3. The singers **have been learning** (learn) the new tune for an hour.
4. My parents **have been waiting** (wait) for the guests since afternoon.

SPELL WELL

F. Fill in the missing letters to form meaningful words and learn their spellings. You may take the help of the words given in the box.

excitedly responsible bramble luscious
terribly amazed errand frown

1. f r o w n
2. e r r a n d
3. t e r r i b l y
4. a m a z e d
5. e x c i t e d l y
6. b r a m b l e
7. l u s c i o u s
8. r e s p o n s i b l e

WORD POWER

G. Rearrange the letters of the following words to form new words.

- | | | | |
|---------|-------------|----------|-------------|
| 1. tear | <u>rate</u> | 2. leak | <u>lake</u> |
| 3. list | <u>silt</u> | 4. loot | <u>tool</u> |
| 5. lots | <u>slot</u> | 6. war | <u>raw</u> |
| 7. won | <u>now</u> | 8. dame | <u>made</u> |
| 9. lump | <u>plum</u> | 10. idle | <u>lied</u> |

LET'S LISTEN

H. Your teacher will read the passage from the listening text or you can listen to it on the Digital Board. Now, answer the questions orally.

1. What is the quantity of blackberries required for the pie?

Ans. Four cups of fresh blackberries.

2. What should be the temperature of the preheated oven?

Ans. The temperature of the oven should be 220°C.

3. What should we combine with $3\frac{1}{2}$ cups of berries at the very start?

Ans. We should combine sugar and flour with the berries.

4. After the top crust is sealed, what should be brushed and sprinkled on it?

Ans. We should brush some milk and sprinkle 1/4 cup sugar on the crust.

5. How long should the pie be baked in the preheated oven without changing the set temperature?

Ans. The pie should be baked for 15 minutes.

WRITE WELL

- L. Look at the following pictures and use the given clues to write a story.



Antara suddenly woke up late at night — time was 1 a.m. in the night — some screeching sound — quietly peeped out — torchlights in neighbour's house — knew that neighbours had gone to Goa on a holiday — saw shadows of two men on the closed window — frightened — tiptoed to her parent's bedroom — woke them up — they also saw the shadows — called up the police — within minutes the police arrived — thieves arrested — everyone praised Antara — she had acted fast — shown presence of mind.

Ans. Any reasonable answer based on the clues is acceptable.

DICTIONARY SKILLS

- M. Refer to a dictionary and find out the meanings of the highlighted words. Write them in the blanks provided.

1. Reshma is **adept** at making handicraft items.

adept: Very skilled or proficient in something.

2. Sneha is working as an **aide** to the lawyer, Mr Anil Sood.

aide: An assistant to an important person.

3. Risha and Roshan are **alternately** taking leave from their offices to attend their ailing mother.

alternately: One after the other.

4. The children were **amused** by watching the silly tricks of the clown.

amused: Finding something funny or entertaining.

ACTIVITY/PROJECT

- N. Work in groups of five. Make a list of any four outdoor activities that you enjoy doing with your friends. Illustrate any two of the activities by using newspaper cuttings or pictures. Give an attractive caption to the illustration. Do any of these four activities enable you to be of any help at home? Discuss with your project partners how you can contribute by doing so.

Ans. Do it yourself.



Don't be Afraid of the Dark

LESSON PLAN

The poem tells us that we should not fear the dark, for it is our friend. It is at night when the earth rests and the world is at peace.

SPECIFIC OBJECTIVES

- Reading, enjoying and reciting poetry
- Understanding the poem
- Understanding and answering questions on it

5. Don't be Afraid of the Dark (Poem)

ANSWERS

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. What will be shining for ever and ever?

(a) Sun

(b) Moon

(c) Stars

(d) Diamonds

2. What is never harsh?

(a) Moonlight

(b) Sunlight

(c) Starlight

(d) Neon light

B. Answer the following questions.

1. What are the things we see at night?

Ans. We see the moon and stars at night.

2. How is the world at peace at night?

Ans. There is silence because everyone is resting and no people are bustling about.

C. Match the words with their opposites.

1. late → (a) war
2. friend → (b) soft
3. harsh → (c) enemy
4. peace → (d) early
-



The Selfish Giant

LESSON PLAN

SPECIFIC OBJECTIVES

- Learning to be considerate, generous and kind to others
- Reading, listening and understanding the lesson
- Answering the questions orally and in writing
- Vocabulary: Words, meanings, spellings, pronunciation, opposites in a grid
- Grammar: Learning about past tense: simple past tense, past continuous tense, past perfect tense and past perfect continuous tense; also, learning about future tense: simple future tense, future continuous tense, the 'going to' form and the future perfect continuous tense
- Learning to converse

6. The Selfish Giant

ANSWERS

WARM UP

Stories always carry us to a different world. It is wonderful to read about strange characters. Look at the following pictures and identify them. Take help from the box. You must have often met them in the world of your storybooks.

dragon fairy demon elf



Demon



Elf



Fairy



Dragon

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. When the giant shouted at the children in a gruff voice, they

(a) smiled at him (b) shouted back (c) ran away

2. When the children were not allowed to play in the giant's garden, they tried to play

(a) on the road (b) in their houses (c) in the stadium

3. According to the giant, the most beautiful flowers are

(a) roses (b) marigolds (c) children

B. Read the following statements about the story you have just read. Based on this story, write 'Yes' for the correct and 'No' for the incorrect statements.

1. Children played in the giant's garden on holidays. No

2. After the children left, there was always spring in the giant's garden. No

3. The giant felt sorry for what he had done. Yes

4. A child took a big hammer and knocked down the wall. No

C. Answer these questions.

1. What did the giant see when he returned to his castle after seven years?

Ans. The giant saw that the children were playing happily in the garden.

2. Why did the children not want to play on the road?

Ans. The children did not want to play on the road because it was very dusty and full of stones.

3. What changes did the giant notice in the trees and the birds when the children crept into his garden?

Ans. The giant noticed that the trees were covered with blossoms; the birds were flying around, chirping with delight and there were flowers all around.

4. Why was a little boy crying in one corner of the garden?

Ans. The little boy was crying because he could not climb a tree.

5. What did the giant use to do when he grew old?

Ans. The giant used to sit on a chair and watch the children playing.

THINK AND ANSWER

D. What brought happiness in giant's life? Explain.

Ans. Love for children and unselfishness brought happiness in the giant's life.

GRAMMAR FUN

E. State whether the following sentences are in the simple past, past continuous, past perfect or past perfect continuous tenses.

1. Mother had baked the cake before the guests arrived.

Past perfect

2. He gave his coat to the beggar.

Simple past

3. People were shouting and running around in panic.

Past continuous

4. Sheena had been working in this school as teacher for two years.

Past perfect continuous tense

F. State whether the following sentences are in the simple future, future continuous, future perfect or future perfect continuous tenses.

1. The children will be waiting for Grandma to tell them a story.

Future continuous

2. It will rain in the evening.

Simple future

3. By the end of this term, I will have been studying Sanskrit for three years.

Future perfect continuous

4. My parents will have gone to work by the time I get out of bed.

Future perfect

SPELL WELL

G. Fill in the missing letters and complete the given words. You can take help of the words given in the box.

prosecuted beautiful castle trespassers

1. c a s t l e

2. b e a u t i f u l

3. t r e s p a s s e r s

4. p r o s e c u t e d

WORD POWER

H. Find antonyms of the following words in the word grid and then write them in the space provided.

1. beautiful

1. ugly

2. gruff

2. sweet

3. dusty

3. clean

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

4. outside
5. downstairs

4. inside
5. upstairs

LET'S LISTEN

I. Your teacher will read the questions or you can listen to them on the Digital Board. Listen to them carefully and write their answers.

1. New Delhi
2. Mysuru
3. Kashmir
4. Chandigarh

WRITE WELL

M. Imagine that the giant has invited the children to a party in his garden. Use your own words and the clues given in the box to complete the conversation.

begin you party evening games fun time snacks there

Dipti : Are you going to attend the giant's **party**?

Rashi : Oh, yes! What about **you**?

Dipti : I will be **there**. Where will the party be held?

Rashi : In the giant's garden.

Dipti : When will it **begin**?

Rashi : In the **evening**. I think there will be **snacks** and **games** for us.

Dipti : That sounds like **fun**. Reach there on **time**. Bye.

Rashi : Bye.

ACTIVITY/PROJECT

P. You have planned to visit an orphanage. Draw and colour or paste pictures to show any five things that you would like to carry as gifts for the children. These things belong to you and are in good condition and will be useful to the children.

Ans. Do it yourself.

LIFE SKILLS 1

A. If your friend is late for an appointment, you

1. get angry.
2. worry about her.
3. wait till she comes and find out why she was late.

Ans. Do it yourself.

B. If your brother/sister watches the sports channel while you want to watch a serial, you

1. get angry.
2. hide the remote.
3. strike a deal and watch your favourite programmes alternately.

Ans. Do it yourself.

C. When you see a piece of paper on the floor at home, you

1. always pick it up.
2. find out who threw it and make him/her pick it up.
3. ignore it. You didn't throw it anyway.

Ans. Do it yourself.

D. When you see your teachers outside school, you

1. ignore them.
2. wait for them to speak to you.
3. go up to them and wish them.

Ans. Do it yourself.

E. You find out that a classmate has invited some of your friends to a party but you haven't been invited. You

1. decide you will never speak to them.
2. ask your classmate why he didn't invite you. Maybe he forgot.
3. keep quiet and continue being friendly with that classmate.

Ans. Do it yourself.

PERIODIC TEST 2

READ AND ENJOY

A. Tick (✓) the correct answers.

1. Mrs Verma lived in a

- | | | | | | |
|----------|-------------------------------------|--------------|--------------------------|---------|--------------------------|
| (a) flat | <input checked="" type="checkbox"/> | (b) bungalow | <input type="checkbox"/> | (c) hut | <input type="checkbox"/> |
|----------|-------------------------------------|--------------|--------------------------|---------|--------------------------|

2. She worked in a

- | | | | | | |
|-----------------|--------------------------|----------|-------------------------------------|------------|--------------------------|
| (a) big company | <input type="checkbox"/> | (b) bank | <input checked="" type="checkbox"/> | (c) school | <input type="checkbox"/> |
|-----------------|--------------------------|----------|-------------------------------------|------------|--------------------------|

3. _____ lived in the flat next door to Mrs Verma.

- | | | | | | |
|----------|--------------------------|-----------|-------------------------------------|------------|--------------------------|
| (a) Asha | <input type="checkbox"/> | (b) Seema | <input checked="" type="checkbox"/> | (c) Anjali | <input type="checkbox"/> |
|----------|--------------------------|-----------|-------------------------------------|------------|--------------------------|

4. What did Madhu make for Mrs Verma?

- (a) Khichdi (b) Tea (c) Coffee
5. _____ was very proud of her daughter.
- (a) Mrs Verma (b) Bina (c) Madhu

B. Answer the following questions briefly.

1. What did Bina tell Seema when she came home?

Ans. Bina told Seema that her mother had gone to Mrs Verma's house to take her to the doctor.

2. Who took Mrs Verma to the doctor and why?

Ans. Seema's mother, Madhu, took Mrs Verma to the doctor because she had fever.

3. Madhu made two things for Mrs Verma. What were they?

Ans. Madhu made *khichdi* and soup for Mrs Verma.

4. What were the three things Seema did for Mrs Verma?

Ans. Seema read a story for Mrs Verma. She dusted her house. She put a jug of water with a glass on her bedside table.

5. Why was Madhu proud of her daughter?

Ans. Madhu was proud of her daughter because she had taken care of Mrs Verma when she was ill.

WRITE WELL

C. Write a short paragraph about a funny incident that happened in your life.

Ans. Do it yourself.

GRAMMAR IS FUN

D. Tick (✓) the correct phrase in the brackets.

1. Don't put all your eggs (on the table/in one basket[✓]).
2. The police fined the car driver (for overspeeding[✓]/for safe driving).

E. Pick out the pronouns in the following sentences and write whether they are demonstrative, interrogative, relative, reflexive or emphatic.

1. The dog hurt itself. reflexive
2. What is the latest news about the match? interrogative

F. Use the suitable form of the verbs given in the brackets to complete the following sentences in the present perfect continuous tense.

1. Ginny has been playing (play) computer games since morning.
2. The singers have been learning (learn) the new tune for an hour.

G. State whether the following sentences are in the simple future, future continuous, future perfect or future perfect continuous tense.

1. It will rain in the evening. **Simple future**
2. The children will be waiting for Grandma to tell them a story. **Future continuous**

LITERATURE

H. Answer the following questions.

1. What did Tom get before the afternoon was over?

Ans. Before the afternoon was over, Tom got twelve marbles, a tin soldier, a key, a dog's collar, the handle of a knife and four segments of an orange.

2. Did the courtiers buy anything? Why not?

Ans. No, the courtiers did not buy anything. They could not fulfil the condition laid down by the king.

3. Why could Genghis Khan not drink the water?

Ans. Genghis Khan could not drink the water because the hawk knocked his cup from his hands.

4. What did Andrew's mother ask him to do?

Ans. Andrew's mother asked him to run and earn for her, carrying a book to Mrs Jones.

5. What did the giant see when he returned to the castle after seven years?

Ans. The giant saw that the children were playing happily in the garden.

GRAMMAR WORKSHEETS

GRAMMAR WORKSHEET I

The Gold Coins

Subject and Predicate

A. Underline the subject and circle the predicates in these sentences.

1. Most shops in the mall (are open on Sunday.)
2. Children in school uniform (were walking down the road.)
3. The baby elephant (is missing its mother.)
4. Rohan (has still not completed his homework.)
5. Beautiful flowers (covered the entire hillside.)
6. Mini and Rini (ran down the hill.)
7. The plains of North India (get very hot during the summer.)

8. The naughty child kept his mother busy all day.

B. Match the subjects with their predicates.

- | | | |
|-----------------------|---|---------------------------------|
| 1. The jet aeroplane | → | (a) came in through the window. |
| 2. The mice | → | (b) belonged to my grandmother. |
| 3. Mrs Sharma | → | (c) flew high in the sky. |
| 4. The ink | → | (d) played in the hockey park. |
| 5. The children | → | (e) slipped on a banana peel. |
| 6. My doctor | → | (f) spilled all over the paper. |
| 7. This rocking chair | → | (g) is a kind, old gentleman. |

Phrases

C. Complete these sentences with the help of suitable phrases from the box.

very crowded the festival of colours a file or a folder for the play
better than cure seven o'clock at Granny's house

- Holi is the festival of colours.
- The railway station was very crowded.
- Prevention is better than cure.
- Click the mouse twice to open a file or a folder.
- They spent the weekend at Granny's house.
- Please come home by seven o'clock.
- I have got three passes for the play.

GRAMMAR WORKSHEET 2

The Monkeys go on a Fast

Kinds of Nouns

A. Circle the proper nouns and underline the common nouns.

- Abdul Kalam delivered a speech.
- Rima is writing with a pencil.
- Sonam is travelling by bus.
- Many tourists visited the Qutub Minar.

B. Read the following sentences and pick out the nouns from each. Also, write them separately in your notebook as common and proper nouns.

- The children love Ms Diya Kumari as she is a very good teacher.
- The tourists crowded around the tomb of Humayun and listened to the guide.
- China is a big country and Beijing is its capital.
- The Ganga flows down the Himalayas and reaches the plains.

Ans. Common Noun

1. children, teacher
2. tourists, tomb, guide
3. country, capital
4. plains

Proper Noun

- Ms Diya Kumari
Humayun
China, Beijing
the Ganga, the Himalayas

C. Circle the collective nouns in these sentences.

1. The tourists saw a herd of elephants crossing the river.
2. Thank you for the beautiful bouquet.
3. In the safari park, we photographed a pride of lions.
4. A gang of robbers attacked the bank.
5. A swarm of bees bit the bear.

D. Fill in the blanks with abstract nouns from the box.

bravery behaviour imagination kindness honesty

1. **Honesty** is the best policy.
2. She was awarded by the President for her **bravery**.
3. The teacher told Ravi's parents about his good **behaviour** in school.
4. Einstein said that **imagination** is more important than knowledge.
5. Saint Teresa of Kolkata was known for her **kindness**.

E. Form abstract nouns from the following words.

- | | | | |
|--------------|------------------|-----------|-------------------|
| 1. brave | <u>bravery</u> | 2. honest | <u>honesty</u> |
| 3. loyal | <u>loyalty</u> | 4. angry | <u>anger</u> |
| 5. beautiful | <u>beauty</u> | 6. think | <u>thought</u> |
| 7. know | <u>knowledge</u> | 8. friend | <u>friendship</u> |

GRAMMAR WORKSHEET 3**Tom Whitewashes the Fence****Kinds of Adjectives****A. Circle the demonstrative adjectives in these sentences.**

1. I have eaten these dishes before.
2. Who brought those toys?
3. Mala has joined that college.
4. Those apartments were built last year.
5. This pen writes well.

B. Underline the interrogative adjective and circle the possessive adjective in each sentence.

1. Whose books is Mini holding in her hand?
2. Which is your laptop?
3. What gift have you brought for your friend?
4. What tools does the carpenter need to start his work?
5. What time are you leaving for your college?

C. Complete the following table.

Positive degree	Comparative degree	Superlative degree
<u>lucky</u>	<u>luckier</u>	luckiest
bad	<u>worse</u>	<u>worst</u>
<u>beautiful</u>	more beautiful	<u>most beautiful</u>
<u>good</u>	<u>better</u>	best
<u>ugly</u>	uglier	<u>ugliest</u>

D. Identify the degrees of comparison in the following sentences. Also write P for positive degree, C for comparative degree and S for superlative degree against the sentences in the space provided.

- | | |
|--|--------------------------|
| 1. Yoga is good for our physical and mental health. | <u> P </u> |
| 2. Yoga is more useful than jogging for good health. | <u> C </u> |
| 3. Yoga is the most sought after activity for people these days. | <u> S </u> |
| 4. She is the best singer of our school. | <u> S </u> |
| 5. Our Principal is an effective educational leader. | <u> P </u> |
| 6. Girls are said to be more emotional than boys. | <u> C </u> |

GRAMMAR WORKSHEET 4

The King and his Hawk

Kinds of Pronouns

A. Fill in the blanks with the suitable demonstrative pronouns given in the box.

That This

Mother : This mirror in the packet is broken.

Mukul : But I checked it before I bought it from the shop.

Mother : You must go back to the shopkeeper and show it to him. Where is the gift shop?

Mukul : That is very far from here.

Mother : In that case, I'll accompany you.

B. Fill in the blanks with suitable relative pronouns or interrogative pronouns and complete the passage. Use the clues from the box.

what whom who that who

Sarita wanted to watch the movie that won an Oscar Award in 2012. She had seen the actor who won the award for Best Acting on TV. She said to her father, "What is the name of the actor who played the role of Lincoln?" Joginder replied, "Daniel Day-Lewis, whom everyone praises for his excellent acting in the movie."

C. Fill in the blanks with reflexive or emphatic pronouns.

1. I myself gave you this book.
2. The little girl dressed herself.
3. I hurt myself.
4. We ourselves spoke to the principal.
5. Hansel and Gretel lost themselves in the forest.

D. Fill in the blanks with appropriate relative pronouns or interrogative pronouns.

1. Who is the captain of Tagore House?
2. This is the novel that was lost.
3. I know the gentleman who lives in this house.
4. What was the reason behind the train accident?
5. Where is this story book?
6. She wanted to purchase 'Ignited Minds', which is written by Dr APJ Abdul Kalam.
7. Where is your bag?
8. This is the house that is my grandfather's.
9. She is the girl who works sincerely.
10. Can I use the pen that is in the pencil box?

GRAMMAR WORKSHEET 5

Blackberries – The Fruit

Tenses – Present Tense

A. State which form of the Present Tense is used in the following sentences.

- | | |
|---|-----------------------------------|
| 1. Meera <u>has been learning</u> music for one year. | <u>Present perfect continuous</u> |
| 2. Mr Dixit <u>forgets</u> everything. | <u>Simple present</u> |
| 3. He <u>has forgotten</u> his wife at the Mall. | <u>Present perfect</u> |
| 4. The children <u>are searching</u> for the keys. | <u>Present continuous</u> |

B. Use the suitable form of verbs given in the brackets to complete the following sentences in the present perfect tense.

1. Dipti has written (write) a story.
2. Mousy has thrown (throw) a ball at a bird.
3. Suhasini has drawn (draw) a picture.
4. Vidushi has gone (go) out.

C. Fill in the blanks with the suitable form of verbs given in the brackets according to the tense form mentioned with each sentences.

1. Chandra goes (go) to the gym every Sunday. (Simple Present Tense)
2. Vinay is playing (play) the guitar in his room. (Present Progressive Tense)
3. She has left (leave) for the airport. (Present Perfect Tense)
4. He has eaten (eat) his lunch. (Present Perfect Tense)
5. He has been watching (watch) TV for two hours. (Present Perfect Continuous Tense)

D. Fill in the blanks with present perfect continuous tense form of the verbs given in the brackets.

1. The dog has been barking for three hours; I wish someone would call the owner. (bark)
2. They have been publishing this newsletter for several years. (publish)
3. I have been playing for you to make up your mind. (wait)
4. I has been working for two hours. (work)
5. We have been living here since 1980. (live)
6. The boys have been playing football for three hours. (play)
7. It has been raining for two hours. (rain)

GRAMMAR WORKSHEET 6

The Selfish Giant

Tenses–Past Tense, Future Tense

A. Fill in the blanks with the simple past or past perfect forms of the verbs in the brackets.

1. When Rahul reached (reach) school, the bell rang (ring).
2. He thanked (thank) me for what I had done (do).
3. I expected (expect) to be bored at the play, but I had (have) fun.

B. Fill in the blanks with verbs given in the brackets in the past perfect continuous tense.

1. Sumit had been learning (learn) judo for one year.

2. The students **had been practising** (practise) the dance for two weeks.
3. Prakash **had been working** (work) in this office since 1992.

C. Fill in the blanks with suitable forms of verbs given in the brackets as per the tense forms mentioned with the sentences.

1. The inspector **will visit** (visit) the house tomorrow and meet the owner. (simple future tense) (should be 'meet' instead of 'met']
2. The Prime Minister **is going to inaugurate** (inaugurate) the new nuclear plant. ('going to' form)
3. The teacher **will be giving** (give) a gift to Tina after lunch. (future progressive tense)

D. Complete the following sentences with the given verbs in the future perfect continuous tense as shown.

1. Nitin **will have been solving** (solve) mathematical problems for half an hour when the last period gets over.
2. Shreyas **will have been giving** (give) a presentation on first aid for an hour when the seminar gets over.
3. The dancers **will have been dancing** (dance) for two hours when the programme gets over.
4. The choir singers **will have been singing** (sing) for an hour before the play is presented.

E. Rewrite the following sentences as directed. You may use words of your own if required.

1. We spend the winter vacation with our grandparents. (future continuous tense)

Ans. We will be spending the winter vacation with our grandparents.

2. She is leaving for Rishikesh by bus. (future continuous tense)

Ans. She will be leaving for Rishikesh by bus.

3. Mother is busy preparing dinner for the guests. (simple future tense)

Ans. Mother will prepare dinner for the guests.

4. My parents will meet my maths teacher today. ('going to' form)

Ans. My parents are going to meet my maths teacher today.

5. The minister will be meeting the earthquake victims today. ('going to' form)

Ans. The minister is going to meet the earthquake victims today.

MATHEMATICS – 5

SEMESTER

1

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1. Large Numbers

ANSWERS

LET US RECALL

- A. The numeral for: 3 lakhs, 3 ten thousands, 2 thousands, 5 hundreds, 6 tens and 7 ones is 332567.
- B. The numeral for: $400000 + 30000 + 4000 + 200 + 60 + 1$ is 434261.
- C. 1,95,473 can be written in expanded form as $100000 + 90000 + 5000 + 400 + 70 + 3$.
- D. The numeral for four lakh sixty three thousand six hundred and fifty five is 463655.
- E. The number name for 7,93,147 is Seven lakh ninety three thousand one hundred forty seven.
- F. Place value of 2 in 2,35,145 is 200000.
- G. Successor of 8,35,299 is 8,35,300.
- H. Predecessor of 6,45,400 is 6,45,399.
- I. Give the next three numbers that come just after 2,45,459. 2,45,460; 2,45,461; 2,45,462
- J. Three numbers between 2,56,267 and 2,56,271 are 2,56,268; 2,56,269; 2,56,270.
- K. Arrange 4,23,902, 6,25,620, 3,22,642 in descending order. 6,25,620; 4,23,902; 3,22,642
- L. Arrange 1,63,623, 7,59,852, 3,87,634 in ascending order. 1,63,623; 3,87,634; 7,59,852
- M. Make the largest and the smallest numbers of 6-digits using the given digits. You may repeat the digits.

Digits	Largest Number	Smallest Number
5, 9, 2, 8, 3, 1	9,99,999	1,11,111

- N. Make the largest and the smallest numbers of 6-digits using the digits given below. Repetition of digits is not allowed.

Digits	Largest Number	Smallest Number
6, 7, 4, 0, 1, 2	7,64,210	1,02,467

- O. 5,75,207 rounded to nearest tens is 5,75,210.
- P. 4,42,825 rounded to nearest hundreds is 4,42,800.
- Q. 7,13,794 rounded to nearest thousands is 7,14,000.
- R. 5,52,089 rounded to nearest ten thousands is 5,50,000.
- S. 8,22,319 rounded to nearest lakhs is 8,00,000.
- T. 89 can be written in Roman numerals as LXXXIX.
- U. XLVII is the Roman numeral for 47.

EXERCISE 1.1

A. Write the following in ten lakhs, lakhs, ten thousands, thousands, hundreds, tens and ones.

1. 4423491

2. 8673756

Ans. 1. 4 ten lakhs, 4 lakhs, 2 ten thousands, 3 thousands, 4 hundreds, 9 tens, 1 one.

2. 8 ten lakhs, 6 lakhs, 7 ten thousands, 3 thousands, 7 hundreds, 5 tens, 6 ones.

B. Write the following in crores, ten lakhs, lakhs, ten thousands, thousands, hundreds, tens and ones.

1. 29534563

2. 33679012

Ans. 1. 2 crores, 9 ten lakhs, 5 lakhs, 3 ten thousands, 4 thousands, 5 hundreds, 6 tens, 3 ones.

2. 3 crores, 3 ten lakhs, 6 lakhs, 7 ten thousands, 9 thousands, 0 hundreds, 1 ten, 2 ones.

C. Write the following in ten crores, crores, ten lakhs, lakhs, ten thousands, thousands, hundreds, tens and ones.

1. 571823491

2. 845733757

Ans. 1. 5 ten crores, 7 crores, 1 ten lakh, 8 lakhs, 2 ten thousands, 3 thousands, 4 hundreds, 9 tens, 1 one.

2. 8 ten crores, 4 crores, 5 ten lakhs, 7 lakhs, 3 ten thousands, 3 thousands, 7 hundreds, 5 tens, 7 ones.

D. Write the number for each of these:

1. 7 ten lakhs, 4 lakhs, 1 ten thousand, 7 thousands, 4 hundreds, 0 tens and 2 ones.

Ans. 74,17,402

2. 2 crores, 3 ten lakhs, 4 lakhs, 1 ten thousand, 7 thousands, 6 hundreds, 8 tens and 7 ones.

Ans. 2,34,17,687

3. 7 ten crores, 5 crores, 6 ten lakhs, 3 lakhs, 4 ten thousands, 7 thousands, 9 hundreds, 2 tens and 4 ones.

Ans. 75,63,47,924

E. Write the place value of each digit of the following numbers.

1. 4638971

2. 12140879

3. 897614120

Ans. 1. P.V. of 1 is 1

2. P.V. of 9 is 9

3. P.V. of 0 is 0

P.V. of 7 is 70

P.V. of 7 is 70

P.V. of 2 is 20

P.V. of 9 is 900

P.V. of 8 is 800

P.V. of 1 is 100

P.V. of 8 is 8000

P.V. of 0 is 0

P.V. of 4 is 4000

P.V. of 3 is 30000

P.V. of 4 is 40000

P.V. of 1 is 10000

P.V. of 6 is 600000

P.V. of 1 is 100000

P.V. of 6 is 600000

P.V. of 4 is 4000000

P.V. of 2 is 2000000

P.V. of 7 is 7000000

P.V. of 1 is 10000000

P.V. of 9 is 90000000

P.V. of 8 is 800000000

F. Write the following numbers in a place value chart.

1. 7170287

2. 78237656

3. 928173126

Ans.

	TC	C	TL	L	TTh	Th	H	T	O
1.			7	1	7	0	2	8	7
2.		7	8	2	3	7	6	5	6
3.	9	2	8	1	7	3	1	2	6

G. Write the number name for each of the following:

1. 98,80,788

2. 7,98,69,887

3. 23,48,67,238

Ans. 1. ninety eight lakh eighty thousand seven hundred eighty eight

2. seven crore ninety eight lakh sixty nine thousand eight hundred eighty seven

3. Twenty three crore forty eight lakh sixty seven thousand two hundred thirty eight

H. Write the numeral for each of the following:

1. Fifty lakh, thirty eight thousand, four hundred and ninety nine

2. Eight crore, eighty seven lakh, seventy nine thousand, nine hundred and two

3. Forty three crore, fifty seven lakh, sixty thousand, six hundred and twenty two

Ans. 1. 50,38,499

2. 8,87,79,902

3. 43,57,60,622

I. Write the following numbers in expanded form:

1. 28,41,456

2. 3,87,35,645

3. 59,83,56,745

Ans. 1. $2000000 + 800000 + 40000 + 1000 + 400 + 50 + 6$

2. $30000000 + 8000000 + 700000 + 30000 + 5000 + 600 + 40 + 5$

3. $500000000 + 90000000 + 8000000 + 300000 + 50000 + 6000 + 700 + 40 + 5$

J. Write the numeral for each of these:

1. $40,00,000 + 5,00,000 + 30,000 + 8,000 + 400 + 30 + 4$

Ans. 45,38,434

2. $8,00,00,000 + 80,00,000 + 6,00,000 + 40,000 + 9,000 + 600 + 10 + 5$

Ans. 8,86,49,615

3. $40,00,00,000 + 7,00,00,000 + 60,00,000 + 2,00,000 + 30,000 + 8,000 + 700 + 10 + 3$

Ans. 47,62,38,713

EXERCISE 1.2

A. Write the successor of each of the following:

1. 70,82,146

2. 3,43,37,399

3. 12,34,56,781

Ans. 1. 70,82,147

2. 3,43,37,400

3. 12,34,56,782

B. Write the predecessor of each of the following:

1. 93,12,421

2. 8,76,32,914

3. 37,49,82,700

Ans. 1. 93,12,420

2. 8,76,32,913

3. 37,49,82,699

C. Write the next two numbers for each of the following:

1. 86,43,313 2. 2,34,87,398 3. 18,45,63,299

Ans. 1. 86,43,314; 86,43,315 2. 2,34,87,399; 2,34,87,400 3. 18,45,63,300; 18,45,63,301

D. Write the two numbers that come just before each of the following:

1. 27,46,301 2. 9,30,14,220 3. 14,52,37,802

Ans. 1. 27,46,300; 27,46,299 2. 9,30,14,219; 9,30,14,218 3. 14,52,37,801; 14,52,37,800

E. Write two numbers which come in between

1. 23,22,496 and 23,22,499 2. 5,97,69,760 and 5,97,69,763
3. 11,23,45,126 and 11,23,45,129

Ans. 1. 23,22,497; 23,22,498 2. 5,97,69,761; 5,97,69,762
3. 11,23,45,127; 11,23,45,128

EXERCISE 1.3

A. Which is the smaller number in each of the following pairs?

1. 42,12,758 and 32,13,446 2. 6,45,66,524 and 6,41,27,665
3. 23,32,56,295 and 23,32,55,262

Ans. 1. 32,13,446 2. 6,41,27,665 3. 23,32,55,262

B. Which is the greater number in each of the following pairs?

1. 28,54,632 and 28,52,544 2. 7,32,56,295 and 7,32,55,287
3. 64,56,63,111 and 64,12,75,729

Ans. 1. 28,54,632 2. 7,32,56,295 3. 64,56,63,111

C. Arrange the following numbers in ascending order.

1. 54,31,473, 59,48,237, 54,25,793
2. 46,95,11,225, 81,23,78,048, 71,84,65,122, 53,41,49,296

Ans. 1. 54,25,793; 54,31,473; 59,48,237
2. 46,95,11,225; 53,41,49,296; 71,84,65,122; 81,23,78,048

D. Arrange the following numbers in descending order.

1. 84,82,329, 38,77,227, 67,58,237
2. 22,81,25,489, 22,55,26,239, 54,76,34,149, 39,84,27,720

Ans. 1. 84,82,329; 67,58,237; 38,77,227
2. 54,76,34,149; 39,84,27,720; 22,81,25,489; 22,55,26,239

EXERCISE 1.4

A. Make the largest and the smallest 7-digit numbers using the given digits. Repetition is not allowed.

1. 5, 2, 7, 3, 6, 8, 4 2. 4, 5, 8, 7, 1, 2, 0, 3

Ans.

	Largest	Smallest
1.	8765432	2345678
2.	8754321	1023457

B. Make the largest and the smallest 7-digit numbers using the given digits. Repetition is allowed.

1. 5, 6, 1, 2, 3, 7, 4

2. 6, 9, 4, 3, 0, 5, 8, 2

Ans.

	Largest	Smallest
1.	7777777	1111111
2.	9999999	2000000

C. Make the largest and the smallest 8-digit numbers using the given digits. Repetition is not allowed.

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

2. 6, 3, 8, 2, 1, 0, 4, 7

Ans.

	Largest	Smallest
1.	87654321	12345678
2.	87643210	10234678

D. Make the largest and the smallest 8-digit numbers using the given digits. Repetition is allowed.

1. 6, 9, 8, 3, 2, 4, 5, 7

2. 2, 1, 8, 9, 7, 3, 4, 0, 6

Ans.

	Largest	Smallest
1.	99999999	22222222
2.	99999999	10000000

E. Make the largest and the smallest 9-digit numbers using the given digits. Repetition is not allowed.

1. 9, 4, 5, 3, 2, 7, 1, 6, 8

2. 5, 6, 3, 8, 2, 1, 0, 4, 7

Ans.

	Largest	Smallest
1.	987654321	123456789
2.	876543210	102345678

F. Make the largest and the smallest 9-digit numbers using the given digits. Repetition is allowed.

1. 1, 2, 3, 4, 5, 6, 7, 8, 9

2. 0, 1, 2, 3, 4, 5, 6, 7, 8

Ans.

	Largest	Smallest
1.	999999999	111111111
2.	888888888	100000000

EXERCISE 1.5

A. Round the following numbers to nearest tens.

1. 73,35,152

2. 3,44,54,515

3. 1,23,45,67,346

Ans. 1. 73,35,150

2. 3,44,54,520

3. 1,23,45,67,350

B. Round the following numbers to nearest hundreds.

1. 21,44,467

2. 7,51,52,442

3. 87,23,45,651

Ans. 1. 21,44,500

2. 7,51,52,400

3. 87,23,45,700

C. Round the following numbers to nearest thousands.

1. 71,74,565 2. 8,23,76,484 3. 18,23,45,572

- Ans.** 1. 71,75,000 2. 8,23,76,000 3. 18,23,46,000

D. Round the following numbers to nearest ten thousands.

1. 91,45,632 2. 3,35,58,451 3. 12,34,56,167

- Ans.** 1. 91,50,000 2. 3,35,60,000 3. 12,34,60,000

E. Round the following numbers to nearest lakhs.

1. 25,13,651 2. 4,52,14,441 3. 12,45,67,891

- Ans.** 1. 25,00,000 2. 4,52,00,000 3. 12,46,00,000

F. Round the following numbers to nearest ten lakhs.

1. 64,14,295 2. 7,18,57,387 3. 12,13,15,234

- Ans.** 1. 60,00,000 2. 7,20,00,000 3. 12,10,00,000

G. Round the following numbers to nearest crores.

1. 4,91,28,402 2. 28,58,17,903

- Ans.** 1. 5,00,00,000 2. 29,00,00,000

H. Round the following numbers to nearest ten crores.

1. 27,01,19,384 2. 38,29,38,111

- Ans.** 1. 30,00,00,000 2. 40,00,00,000

EXERCISE 1.6

A. Write the following in millions, hundred thousands, ten thousands, thousands, hundreds, tens and ones.

1. 3856348 2. 5398675

- Ans.** 1. 3 millions, 8 hundred thousands, 5 ten thousands, 6 thousands, 3 hundreds, 4 tens, 8 ones

2. 5 millions, 3 hundred thousands, 9 ten thousands, 8 thousands, 6 hundreds, 7 tens, 5 ones

B. Write the following in ten millions, millions, hundred thousands, ten thousands, thousands, hundreds, tens and ones.

1. 46404237 2. 99675346

- Ans.** 1. 4 ten millions, 6 millions, 4 hundred thousands, 4 thousands, 2 hundreds, 3 tens, 7 ones

2. 9 ten millions, 9 millions, 6 hundred thousands, 7 ten thousands, 5 thousands, 3 hundreds, 4 tens, 6 ones

C. Write the following in hundred millions, ten millions, millions, hundred thousands, ten thousands, thousands, hundreds, tens and ones.

1. 334204981 2. 219234567

- Ans.** 1. 3 hundred millions, 3 ten millions, 4 millions, 2 hundred thousands, 4 thousands, 9 hundreds, 8 tens, 1 one

2. 2 hundred millions, 1 ten millions, 9 millions, 2 hundred thousands, 3 ten thousands, 4 thousands, 5 hundreds, 6 tens, 7 ones

D. Write the numeral for each of these:

1. 3 millions, 5 hundred thousands, 7 ten thousands, 4 thousands, 1 hundred, 3 tens, 8 ones.

Ans. 3,574,138

2. 5 ten millions, 2 millions, 6 hundred thousands, 8 ten thousands, 9 thousands, 2 hundreds, 4 tens, 6 ones.

Ans. 52,689,246

3. 4 hundred millions, 4 ten millions, 9 millions, 5 hundred thousands, 8 ten thousands, 2 thousands, 3 hundreds, 7 tens, 5 ones.

Ans. 449,582,375

E. Write the place value of each digit of the following numbers.

1. 9,876,504

2. 78,376,534

3. 682,345,128

Ans. 1. P.V. of 4 is 4

P.V. of 0 is 0

P.V. of 5 is 500

P.V. of 6 is 6000

P.V. of 7 is 70000

P.V. of 8 is 800000

P.V. of 9 is 9000000

2. P.V. of 4 is 4

P.V. of 3 is 30

P.V. of 5 is 500

P.V. of 6 is 6000

P.V. of 7 is 70000

P.V. of 3 is 300000

P.V. of 8 is 8000000

P.V. of 7 is 70000000

3. P.V. of 8 is 8

P.V. of 2 is 20

P.V. of 1 is 100

P.V. of 5 is 5000

P.V. of 4 is 40000

P.V. of 3 is 300000

P.V. of 2 is 2000000

P.V. of 8 is 80000000

P.V. of 6 is 600000000

F. Write the following numbers in a place value chart.

1. 1,335,267

2. 72,367,990

3. 374,237,107

Ans.

	HM	TM	M	HTh	TTh	Th	H	T	O
1.			1	3	3	5	2	6	7
2.		7	2	3	6	7	9	9	0
3.	3	7	4	2	3	7	1	0	7

G. Write the number name for each of the following:

1. 9,298,737

2. 93,386,357

3. 845,678,120

Ans. 1. Nine million two hundred ninety eight thousand seven hundred thirty seven

2. Ninety three million three hundred eighty six thousand three hundred fifty seven

3. Eight hundred forty five million six hundred seventy eight thousand one hundred twenty

H. Write the numeral for each of the following:

1. Five million, three hundred thirty four thousand, six hundred and twenty eight.

Ans. 5,334,628

2. Twenty three million, five hundred sixty seven thousand, nine hundred and eighteen.

Ans. 23,567,918

3. Six hundred thirty million, four hundred twenty six thousand, three hundred and fifteen.

Ans. 630,426,315

EXERCISE 1.7

A. Write the Hindu-Arabic Numeral for each of the following.

- | | | | | |
|----------|----------|---------|------------|---------|
| 1. VIII | 2. XVIII | 3. XXIX | 4. LXXV | 5. XCII |
| 6. CXLIX | 7. CCC | 8. CDLV | 9. DCCCXVI | 10. CML |

Ans. 1. 8 2. 18 3. 29 4. 75 5. 92
6. 149 7. 300 8. 455 9. 816 10. 950

B. Write the Roman Numeral for each of the following.

- | | | | | |
|--------|--------|--------|--------|----------|
| 1. 9 | 2. 15 | 3. 36 | 4. 49 | 5. 88 |
| 6. 255 | 7. 400 | 8. 770 | 9. 888 | 10. 1000 |

Ans. 1. IX 2. XV 3. XXXVI 4. XLIX 5. LXXXVIII
6. CCLV 7. CD 8. DCCLXX 9. DCCCLXXXVIII 10. M

C. Which of the following are meaningless?

- | | | | | |
|---------|----------|-------|-------|----------|
| 1. IIII | 2. VX | 3. CM | 4. LL | 5. MMMD |
| 6. LXXX | 7. DCCCC | 8. VC | 9. IL | 10. LIXX |

Ans. 1, 2, 4, 7, 8, 9, 10 (these are meaning less)

D. Find the value of the following expressions.

- | | |
|--------------------------------------|--|
| 1. $LX + XL = \underline{C}$ (100) | 2. $D - CX = \underline{CCCXC}$ (390) |
| 3. $XXX \div V = \underline{VI}$ (6) | 4. $LV \times II = \underline{CX}$ (110) |

E. Match the following.

- | Roman Numerals | Hindu-Arabic Numerals |
|----------------|-----------------------|
| 1. XXXIV | (a) 2000 |
| 2. CMLX | (b) 790 |
| 3. MM | (c) 34 |
| 4. DCCXC | (d) 59 |
| 5. LIX | (e) 960 |

THINK AND ANSWER

1. Write a meaningful word using the letters used as the Roman symbols. Then, express the value of the word you wrote in the Hindu-Arabic Numerals.

Ans. MIX \rightarrow 1009

2. Write some abbreviations with the symbols of the Roman Numerals only. Do they form any meaningful Roman Numerals? If yes, express them into the Hindu-Arabic Numerals.

Example: DL (Driving License); DL = 500 + 50 = 550

Ans. CV → 105 CM → 900 CD → 400 MCD → 1400
Curriculum Vitae Chief Minister Compact Disc Municipal Corporation of Delhi

FUN ZONE

When the number names are written according to the International System of Numeration

- The letters a, b, c and d of the English alphabet do not appear in the spellings of 1 to 99.
- The letters a, b and c do not appear anywhere in the spellings of 1 to 999.
- The letters b and c do not come from 1 to 999999999.
- The letter c does not come at all.

Now, think of the number names and answer the following questions.

1. When does the letter 'd' come for the first time?
2. When does the letter 'a' come for the first time?
3. When does the letter 'b' come for the first time?

Hundred

Thousand

Billion

2. Operations on Large Numbers

ANSWERS

LET US RECALL

$$\begin{array}{r}
 \text{A.} \quad \begin{array}{cccccc}
 & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 4 & 6 & 2 & 5 & 2 \\
 + & 2 & 2 & 5 & 4 & 7 \\
 \hline
 & 6 & 8 & 7 & 9 & 9
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{B.} \quad \begin{array}{cccccc}
 & \text{L} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 3 & 6 & 5 & 6 & 3 & 4 \\
 - & 2 & 8 & 6 & 4 & 7 & 1 \\
 \hline
 & & 7 & 9 & 1 & 6 & 3
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{C.} \quad \begin{array}{cccccc}
 & \text{L} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & & & 2 & 3 & 1 & 5 & 7 \\
 \times & & & & & & 1 & 2 \\
 \hline
 & 2 & 7 & 7 & 8 & 8 & 4
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{D.} \quad \begin{array}{r}
 14203 \\
 15 \overline{) 213045} \\
 \underline{-15} \\
 63 \\
 \underline{-60} \\
 30 \\
 \underline{-30} \\
 04 \\
 \underline{-00} \\
 45 \\
 \underline{-45} \\
 0
 \end{array}
 \end{array}$$

E. 6,78,292 bags of cement are stored in a warehouse. Also 2,31,507 bags of cement are stored in another warehouse. In all how many bags of cement are stored in the two warehouses?

Ans. 9,09,799 bags

L	TTh	Th	H	T	O
1					
6	7	8	2	9	2
+					
2	3	1	5	0	7
9	0	9	7	9	9

F. There are 14,557 boys and 18,723 girls enrolled in an university. How many more girls than boys are enrolled in the university?

Ans. 4,166 girls

TTh	Th	H	T	O
6 11 13				
1	8	7	2	3
-				
1	4	5	5	7
4 1 6 6				

G. Each packet has 1,450 erasers. How many erasers are there in 35 such packets?

Ans. 50,750 erasers

Th	Th	H	T	O
1 4 5 0				
× 3 5				
7 2 5 0				
4	3	5	0	×
5 0 7 5 0				

H. 16 apples can be packed in a tray. How many trays are needed to pack 1,97,472 apples?

Ans. 12,342 trays

I. Fill in the blanks.

1. $16,456 + 35,578 = \underline{35,578} + 16,456$.

2. $0 + 45,955 = \underline{45,955}$.

3. $[6,60,714 + 5,92,572] + 7,80,413 = \underline{6,60,714} + [5,92,572 + 7,80,413]$.

J. Fill in the blanks.

1. $42,782 - 0 = \underline{42,782}$.

2. $2,34,219 - \underline{0} = 2,34,219$.

3. $\underline{2,13,780} - 0 = 2,13,780$.

4. $23,412 - \underline{23,412} = 0$.

K. Fill in the blanks.

1. $31,235 \times 1 = \underline{31,235}$.

2. $1 \times \underline{50,853} = 50,853$.

3. $1,23,635 \times 0 = \underline{0}$.

4. $0 \times 7,95,964 = \underline{0}$.

5. $[23,411 \times 16,456] \times 32,112 = 23,411 \times [\underline{16,456} \times \underline{32,112}]$.

L. Fill in the blanks.

1. $7,162 \times 10 = \underline{71,620}$.

2. $4,719 \times 100 = \underline{4,71,900}$.

3. $226 \times 1,000 = \underline{2,26,000}$.

4. $241 \times 80 = \underline{19,280}$.

5. $800 \times 90 = \underline{72,000}$.

6. $700 \times 300 = \underline{2,10,000}$.

M. Fill in the blanks.

1. $10,343 \div 10,343 = \underline{1}$.

2. $7,44,143 \div \underline{7,44,143} = 1$.

3. $5,43,241 \div 1 = \underline{5,43,241}$.

4. $5,22,467 \div \underline{1} = 5,22,467$.

N. Estimate the sum by rounding to nearest ten.

$12,428 + 45,281$

Estimate: $\underline{12,430} + \underline{45,280} = \underline{57,710}$

O. Estimate the difference by rounding to nearest hundred.

$96,521 - 44,431$

Estimate: $\underline{96,500} - \underline{44,300} = \underline{52,200}$

P. Estimate the sum by rounding to nearest thousand.

$4,23,921 + 3,73,301$

Estimate: $\underline{4,24,000} + \underline{3,73,000} = \underline{7,97,000}$

Q. Estimate the difference by rounding to nearest ten thousand.

$4,51,629 - 1,37,298$

Estimate: $\underline{4,50,000} - \underline{1,40,000} = \underline{3,10,000}$

R. Estimate the product by rounding to nearest ten.

729×98

Estimate: $\underline{730} \times \underline{100} = \underline{73,000}$

EXERCISE 2.1

A. Find the sum.

$$\begin{array}{r} 1. \quad 1 \quad 11 \quad 1 \\ \quad 48517946 \\ + 3427538 \\ \hline \quad 51945484 \end{array}$$

$$\begin{array}{r} 2. \quad 111 \quad 1 \\ \quad 42597006 \\ + 91873547 \\ \hline \quad 134470553 \end{array}$$

$$\begin{array}{r} 3. \quad \quad 1 \quad 11 \\ \quad 81705094 \\ + 316078526 \\ \hline \quad 397783620 \end{array}$$

$$\begin{array}{r} 4. \quad 11111111 \\ \quad 9753248 \\ 312435896 \\ + 42685301 \\ \hline \quad 364874445 \end{array}$$

$$\begin{array}{r} 5. \quad 112221 \\ \quad 2345789 \\ 31475286 \\ + 768954 \\ \hline \quad 34590029 \end{array}$$

$$\begin{array}{r} 3. \quad \quad 211121 \\ \quad 123504687 \\ \quad 842693 \\ 70960053 \\ + 48350 \\ \hline \quad 195355783 \end{array}$$

B. Add:

1. 4,65,974, 69,58,341 and 23,47,563

Ans. 97,71,878

2. 35,84,600, 7,32,965 and 12,34,56,789

Ans. 12,77,74,354

3. 48,53,76,951, 4,95,00,172 and 9,87,645

Ans. 53,58,64,768

4. 11,11,11,111, 2,22,22,222, 33,33,333 and 6,66,666

Ans. 13,73,33,332

C. Find the difference.

$$\begin{array}{r} 1. \quad \quad 81414 \quad 81111 \\ \quad 89546921 \\ - 73596487 \\ \hline \quad 15950434 \end{array}$$

$$\begin{array}{r} 2. \quad \quad 48579562 \\ - 31268340 \\ \hline \quad 17311222 \end{array}$$

$$\begin{array}{r} 3. \quad \quad 199 \quad 1215 \\ \quad 82006135 \\ - 41258037 \\ \hline \quad 40748098 \end{array}$$

$$\begin{array}{r} 4. \quad 399999910 \\ \quad 40000000 \\ - 9876542 \\ \hline \quad 30123458 \end{array}$$

$$\begin{array}{r} 2. \quad \quad 6141109910 \\ \quad 837521000 \\ - 4967984 \\ \hline \quad 832553016 \end{array}$$

$$\begin{array}{r} 3. \quad \quad 5141312111 \\ 6. \quad 987654321 \\ - 123456789 \\ \hline \quad 864197532 \end{array}$$

D. Subtract.

1. 8,27,65,321 from 90,00,00,000

2. 10,37,59,846 from 98,64,32,107

3. 46,82,01,357 from 84,63,21,075

4. 8,88,88,866 from 12,34,56,709

Ans. 1. 81,72,34,679 2. 88,26,72,261

3. 37,81,19,718

4. 3,45,67,843

E. Fill in the missing digits.

$$\begin{array}{r}
 1. \quad 4 \boxed{5} 9 6 8 7 \boxed{4} \\
 + 1 2 \boxed{4} 8 5 \boxed{6} 2 \\
 \hline
 \boxed{5} 8 4 5 \boxed{4} 3 6 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2. \quad \boxed{8} 0 5 \boxed{9} 4 \boxed{6} 3 \\
 - 4 \boxed{0} 1 6 \boxed{0} 4 \boxed{3} \\
 \hline
 4 0 \boxed{4} 3 4 2 1 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3. \quad \boxed{1} 2 3 \boxed{4} 5 6 7 \boxed{0} \\
 4 \boxed{7} 5 9 4 7 \boxed{9} 8 \\
 + 2 1 \boxed{7} 4 6 \boxed{8} 5 3 \\
 \hline
 8 1 6 8 \boxed{7} 3 2 1 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 4. \quad \boxed{6} 9 \boxed{5} 7 4 8 3 \boxed{1} 2 \\
 - 2 \boxed{9} 6 5 \boxed{7} 6 \boxed{4} 1 8 \\
 \hline
 3 9 9 \boxed{1} 7 \boxed{1} 8 9 \boxed{4} \\
 \hline
 \end{array}$$

F. Simplify.

1. $1,23,456 + 65,04,321 - 9,87,546$

Ans. 56,40,231

2. $24,75,987 + 8,97,54,680 - 1,23,45,678 - 98,76,543$

Ans. 7,00,08,446

3. $4,68,03,571 - 4,68,321 - 1,20,34,689$

Ans. 3,43,00,561

4. $4,67,20,081 - 5,74,13,097 + 9,87,65,432 - 6,98,54,301$

Ans. 1,82,18,115

G. Solve the following word problems.

1. There are 4,67,59,841 men, 3,84,00,857 women and 5,43,21,768 children living in a state. Find the total population of the state.

Ans. 13,94,82,466

2. Mr Khanna purchased a car for ₹24,87,425. He also paid ₹75,625 for documentation and accessories. What is the total amount paid by him?

Ans. ₹25,63,050

3. The sum of two numbers is 87,95,40,603. If one of the numbers is 49,68,57,000, find the other number.

Ans. 38,26,83,603

4. A publisher published 6,75,000 copies of a book and sold 4,69,500 copies. 2,925 copies got damaged. How many copies of the book are left in the stock now?

Ans. 2,02,575 copies

5. Subtract the sum of the greatest numbers of 6 and 7 digits from the smallest number of 9 digits.

Ans. 8,90,00,002

6. How much is the number 37,46,885 smaller than the sum of 12,34,567 and 54,32,901?

Ans. 29,20,583

EXERCISE 2.2

A. Find the product.

$$\begin{array}{r}
 1. \quad \begin{array}{r} 4372 \\ \times 369 \\ \hline 111 \\ 39348 \\ 262320 \\ 1311600 \\ \hline 1613268 \end{array}
 \end{array}$$

$$\begin{array}{r}
 2. \quad \begin{array}{r} 42837 \\ \times 95 \\ \hline 1 \quad 1 \\ 214185 \\ 3855330 \\ \hline 4069515 \end{array}
 \end{array}$$

$$\begin{array}{r}
 3. \quad \begin{array}{r} 24085 \\ \times 432 \\ \hline 1111 \\ 48170 \\ 722550 \\ 9634000 \\ \hline 10404720 \end{array}
 \end{array}$$

B. Multiply.

- | | | |
|------------------|------------------|------------------|
| 1. 4,235 by 69 | 2. 60,537 by 84 | 3. 9,215 by 235 |
| 4. 27,016 by 328 | 5. 12,038 by 234 | 6. 32,401 by 386 |
- Ans.** 1. 2,92,215 2. 50,85,108 3. 21,65,525
4. 88,61,248 5. 28,16,892 6. 1,25,06,786

C. Solve the following word problems.

1. There are 95 schools in a city. On an average, a school has 1,675 students studying in different classes. How many students are there in the city?

Ans. 1,59,125 students

2. A factory produces 46,580 bolts per day. How many bolts are produced in the month of January?

Ans. 14,43,980 bolts

3. How many minutes are there in a leap year?

Ans. 5,27,040 minutes

4. On an average, 64 eggs are kept in an egg tray. A hotel owner buys 25 bundles. Each bundle contains 8 trays. Find the number of eggs that the owner buys.

Ans. 12,800 eggs

5. What number do you get when you multiply the predecessor of 648 by the largest 4-digit number?

Ans. 64,69,353

6. Form the largest and the smallest numbers using the digits 2, 5, 0 and 8 only once and find their product.

Ans. $8,520 \times 2,058 = 1,75,34,160$

EXERCISE 2.3

A. Find the product of the following:

- | | | |
|---------------------|-----------------------|-------------------------|
| 1. 25×100 | 2. 967×20 | 3. $6,174 \times 1,000$ |
| 4. 428×500 | 5. $1,234 \times 800$ | 6. $354 \times 7,000$ |

- | | | |
|---------------|-------------|--------------|
| Ans. 1. 2,500 | 2. 19,340 | 3. 61,74,000 |
| 4. 2,14,000 | 5. 9,87,200 | 6. 24,78,000 |

B. Multiply using short-cut tricks.

- | | | |
|--------------------|----------------------|---------------------|
| 1. 86×5 | 2. 72×25 | 3. 436×50 |
| 4. 958×25 | 5. $6,972 \times 50$ | 6. $1,234 \times 5$ |

- | | | |
|-------------|-------------|-----------|
| Ans. 1. 430 | 2. 1800 | 3. 21,800 |
| 4. 23,950 | 5. 3,48,600 | 6. 6,170 |

C. Find the product without performing actual multiplication.

- | | | | |
|--------------------|-----------------------|-------------------------|-----------------------|
| 1. 472×99 | 2. $6,981 \times 999$ | 3. $64 \times 9,999$ | 4. $5,274 \times 999$ |
| 5. 87×101 | 6. $2,358 \times 11$ | 7. $4,063 \times 1,001$ | 8. 725×11 |

- | | | | |
|----------------|--------------|--------------|--------------|
| Ans. 1. 46,728 | 2. 69,74,019 | 3. 6,39,936 | 4. 52,68,726 |
| 5. 8,787 | 6. 25,938 | 7. 40,67,063 | 8. 7,975 |

D. Multiply the following using short-cut tricks.

- | | | | |
|---------------------|---------------------|---------------------|---------------------|
| 1. 35×35 | 2. 75×75 | 3. 55×55 | 4. 95×95 |
| 5. 105×105 | 6. 145×145 | 7. 850×850 | 8. 115×115 |

- | | | | |
|---------------|-----------|-------------|-----------|
| Ans. 1. 1,225 | 2. 5,625 | 3. 3,025 | 4. 9,025 |
| 5. 11,025 | 6. 21,025 | 7. 7,22,500 | 8. 13,225 |

E. Find the product without actual multiplication.

- | | | |
|-------------------------------------|--|--|
| 1. $45 \times 9 = \underline{405}$ | 2. $54 \times 99 = \underline{5,346}$ | 3. $68 \times 999 = \underline{67,932}$ |
| 4. $75 \times 11 = \underline{825}$ | 5. $123 \times 101 = \underline{12,423}$ | 6. $742 \times 1,001 = \underline{7,42,742}$ |

EXERCISE 2.4

A. Divide and check by division algorithm.

- | | | |
|----------------------------|-----------------------------|-----------------------------|
| 1. $48 \overline{)9854}$ | 2. $65 \overline{)49758}$ | 3. $210 \overline{)47853}$ |
| 4. $97 \overline{)608005}$ | 5. $358 \overline{)687604}$ | 6. $426 \overline{)987600}$ |

- | | | |
|-------------------------|-----------------------|-----------------------|
| Ans. 1. Q = 205, R = 14 | 2. Q = 765, R = 33 | 3. Q = 227, R = 183 |
| 4. Q = 6,268, R = 9 | 5. Q = 1,920, R = 244 | 6. Q = 2,318, R = 132 |

B. Divide the following.

- | | | |
|----------------------|------------------------|-------------------------|
| 1. $46,950 \div 75$ | 2. $5,97,461 \div 32$ | 3. $87,49,563 \div 89$ |
| 4. $37,698 \div 230$ | 5. $8,57,216 \div 345$ | 6. $98,74,628 \div 915$ |

- | | | |
|------------------------|-----------------------|------------------------|
| Ans. 1. Q = 626, R = 0 | 2. Q = 18,670, R = 21 | 3. Q = 98,309, R = 62 |
| 4. Q = 163, R = 208 | 5. Q = 2,484, R = 236 | 6. Q = 10,791, R = 863 |

C. Solve the following word problems.

1. A cricket team of 11 players won a cash prize of ₹6,95,200. The prize money is to be equally divided among them. Find the share of each player.

Ans. Each player got ₹63,200

2. The product of two numbers is 99,025. If one number is 425, find the other number.

Ans. 233

3. How many packets of biscuits of weight 160 g each can be packed from a stock of 25 kg 600 g of biscuits?

Ans. 160 packets

4. Find a number which when subtracted from 46,975 will make it completely divisible by 89.

Ans. 72

5. Find a number which when added to 9,50,683 will make it completely divisible by 564.

Ans. 221

6. Find the smallest six-digit number completely divisible by 325.

Ans. 1,00,100

7. Find the largest seven-digit number completely divisible by 872.

Ans. 99,99,224

8. Find the smallest seven-digit number exactly divisible by 914.

Ans. 10,00,830

EXERCISE 2.5

Simplify:

1. $676 - 100 \times 4 \div 2$

Ans. 476

2. $620 \div 62 + 15 \times 3 - 9$

Ans. 46

3. $1005 \times 2 - 125 \div 5 + 12$

Ans. 1,997

4. $300 \times 9 \div 3 + 150$

Ans. 1,050

5. $[100 + \{30 - (2 \times 5)\}] \times 30$

Ans. 3,600

6. $80 + [20 \times \{65 - (16 \div 4)\} - 2]$

Ans. 1,298

THINK AND ANSWER

Study the facts given in the following patterns and extend up to next 3 steps.

1. $1,23,45,679 \times 9 \times 9 = 99,99,99,999$

$1,23,45,679 \times 9 \times 8 = 88,88,88,888$

$1,23,45,679 \times 9 \times 7 = 77,77,77,777$

2. $1 + 2 = 3$

$4 + 5 + 6 = 7 + 8$

$9 + 10 + 11 + 12 = 13 + 14 + 15$

Justify your answer by doing operations.

Ans. 1. $1,23,45,679 \times 9 \times 6 = 66,66,66,666$;

$1,23,45,679 \times 9 \times 5 = 55,55,55,555$;

$1,23,45,679 \times 9 \times 4 = 44,44,44,444$

2. $16 + 17 + 18 + 19 + 20 = 21 + 22 + 23 + 24$

$25 + 26 + 27 + 28 + 29 + 30 = 31 + 32 + 33 + 34 + 35$

$36 + 37 + 38 + 39 + 40 + 41 + 42 = 43 + 44 + 45 + 46 + 47 + 48$

PUZZLE

Identify the two numbers and complete the table.

Numbers		(A + B) Sum	(A - B) Difference	(A × B) Product	(A ÷ B)	
A	B				Quotient	Remainder
5	2	7	3	10	2	1
10	5	15	5	50	2	0
12	4	16	8	48	3	0
9	5	14	4	45	1	4
24	3	27	21	72	8	0
11	7	18	4	77	1	4

3. Factors and Multiples

ANSWERS

LET US RECALL

A. Write the first six multiples of 15.

Ans. 15, 30, 45, 60, 75, 90

B. Classify the following into even and odd numbers:

68, 273, 312, 3336, 5545, 12304, 34799, 121917, 1325051, 9067600

Ans. Even : 68, 312, 3336, 12304, 9067600

Odd : 273, 5545, 34799, 121917, 1325051

C. Give all the factors of 144.

Ans. 1, 2, 3, 4, 6, 8, 9, 12, 16, 18, 24, 36, 48, 72, 144

D. Check if 3525 is divisible by 15.

Yes[✓]/No

E. Check if 21 is a factor of 29821.

Yes/No[✓]

EXERCISE 3.1

A. Fill in the blanks.

- 1 is a factor of every number.
- Every number except 1 has at least two factors.
- There are infinite multiples of every number.
- The multiple of a number is greater than or equal to the number.
- If $2 \times 3 \times 5 = 30$, then 2, 3 and 5 are factors of 30.
- If $7 \times 11 = 77$, then 77 is a multiple of 7 and 11.

B. Write the factors of each of the following.

1. 16 2. 24 3. 30 4. 36 5. 40

Ans. 1. 1, 2, 4, 8, 16 2. 1, 2, 3, 4, 6, 8, 12, 24 3. 1, 2, 3, 5, 6, 10, 15, 30

4. 1, 2, 3, 4, 6, 9, 12, 18, 36 5. 1, 2, 4, 5, 8, 10, 20, 40

C. Write the first five multiples of each of the following.

1. 4 2. 6 3. 9 4. 11 5. 14

Ans. 1. 4, 8, 12, 16, 20 2. 6, 12, 18, 24, 30 3. 9, 18, 27, 36, 45

4. 11, 22, 33, 44, 55 5. 14, 28, 42, 56, 70

D. Write the common factors of the following pairs.

1. 6, 8 2. 10, 15 3. 12, 18 4. 16, 20 5. 24, 32

Ans. 1. 1, 2 2. 1, 5 3. 1, 2, 3, 6 4. 1, 2, 4 5. 1, 2, 4, 8

E. Write the first two common multiples of the following pairs.

1. 2, 3 2. 3, 4 3. 3, 5 4. 4, 8 5. 6, 9

- Ans. 1. 6, 12 2. 12, 24 3. 15, 30 4. 8, 16 5. 18, 36

F. Which of the following is not a factor of 72?

1. 3 2. 8 3. 16 4. 12 5. 18

- Ans. 3. 16

G. Which of the following are the multiples of 13?

1. 39 2. 85 3. 117 4. 175 5. 221

- Ans. 1. 39 3. 117 5. 221

H. 1. Write the largest 2-digit common multiple of 8 and 12.

- Ans. 96

2. Write the smallest 3-digit common multiple of 3 and 7.

- Ans. 105

EXERCISE 3.2

A. State whether the following numbers are divisible by:

- | | | | | | |
|-------|---------|----------|----------|-----------|------------|
| 1. 2 | (a) 25 | (b) 370 | (c) 884 | (d) 4169 | (e) 12058 |
| 2. 3 | (a) 17 | (b) 68 | (c) 105 | (d) 3159 | (e) 49578 |
| 3. 4 | (a) 100 | (b) 320 | (c) 6472 | (d) 12342 | (e) 20357 |
| 4. 5 | (a) 35 | (b) 49 | (c) 110 | (d) 1000 | (e) 49875 |
| 5. 6 | (a) 32 | (b) 75 | (c) 165 | (d) 426 | (e) 3594 |
| 6. 8 | (a) 124 | (b) 1048 | (c) 5000 | (d) 96832 | (e) 42596 |
| 7. 9 | (a) 63 | (b) 234 | (c) 3456 | (d) 98765 | (e) 100089 |
| 8. 10 | (a) 95 | (b) 410 | (c) 6280 | (d) 40005 | (e) 83100 |

- Ans. 1. (a) No (b) Yes (c) Yes (d) No (e) Yes
2. (a) No (b) No (c) Yes (d) Yes (e) Yes
3. (a) Yes (b) Yes (c) Yes (d) No (e) No
4. (a) Yes (b) No (c) Yes (d) Yes (e) Yes
5. (a) No (b) No (c) No (d) Yes (e) Yes
6. (a) No (b) Yes (c) Yes (d) Yes (e) No
7. (a) Yes (b) Yes (c) Yes (d) No (e) Yes
8. (a) No (b) Yes (c) Yes (d) No (e) Yes

B. Identify the numbers divisible by 11 in the following.

1. 37946 2. 8357 3. 40612 4. 88888 5. 101011

- Ans. 3. 40612

C. Are the following statements correct? Justify your answer.

1. A number divisible by 8 must be divisible by 2 and 4.

- Ans. Yes, as 8 itself is divisible by 2 and 4.

Ans. $18 = 2 \times 3 \times 3$
 $40 = 2 \times 2 \times 2 \times 5$
 $60 = 2 \times 2 \times 3 \times 5$
 $96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$

4. (a) Can a pair of co-primes have both odd numbers?

Ans. Yes, 9 and 25 have a common factor 1.

(b) Can a pair of co-primes have both even numbers?

Justify your answer with examples.

Ans. No, two even numbers always have 2 as a common factor.

5. Write the number whose prime factorisation is first five primes.

Ans. 2310

E. State True or False for the following statements.

1. 1 is the smallest prime number.

False

2. Every prime number is an odd number.

False

3. Two even numbers can never be co-primes.

True

4. $7 \times 9 \times 11$ is the prime factorisation of 693.

False

5. The smallest 3-digit odd number is a prime number.

True

EXERCISE 3.4

A. Find the HCF of the following by the factor method.

- | | | | |
|-----------|--------------|---------------|---------------|
| 1. 6, 8 | 2. 10, 15 | 3. 12, 16 | 4. 18, 30 |
| 5. 20, 45 | 6. 8, 12, 20 | 7. 16, 24, 40 | 8. 28, 42, 56 |

Ans. 1. 2 2. 5 3. 4 4. 6
 5. 5 6. 4 7. 8 8. 14

B. Find the HCF of the following by the prime factorisation method.

- | | | | |
|---------------|---------------|-----------------|----------------|
| 1. 20, 24 | 2. 30, 45 | 3. 32, 40 | 4. 36, 60 |
| 5. 40, 60, 80 | 6. 45, 75, 90 | 7. 48, 112, 120 | 8. 64, 96, 144 |

Ans. 1. 4 2. 15 3. 8 4. 12
 5. 20 6. 15 7. 8 8. 16

C. Find the HCF of the following by the division method.

- | | | | |
|---------------|----------------|------------------|------------------|
| 1. 25, 40 | 2. 24, 64 | 3. 18, 54 | 4. 45, 100 |
| 5. 54, 72, 90 | 6. 63, 81, 105 | 7. 132, 180, 284 | 8. 120, 150, 486 |

Ans. 1. 5 2. 8 3. 18 4. 5
 5. 18 6. 3 7. 4 8. 6

D. What is the HCF of

- | | |
|-----------------------------|---------------------------------|
| 1. two consecutive numbers? | 2. two consecutive odd numbers? |
|-----------------------------|---------------------------------|

B. Solve the following word problems.

1. Find the greatest number which divides 56 and 84 without leaving a remainder.

Ans. 28

2. Find the smallest number which is exactly divisible by 4, 6 and 9.

Ans. 36

3. What is the least number of chairs that can be arranged in rows of 15 or 21?

Ans. 105

4. Find the smallest number which when divided by 32, 48 and 60 leaves 5 as the remainder in each case.

Ans. 485

5. From a sheet of chart paper with size 48 cm \times 30 cm, squares of the same size are to be cut. Find the least possible number of squares.

Ans. 40 squares each of dimension 6 cm \times 6 cm

6. Two bells ring at an interval of 30 minutes and 36 minutes. They ring simultaneously at 8:30 a.m. When will they ring simultaneously again?

Ans. 11.30 a.m.

7. The product of two numbers is 2535 and their HCF is 13. Find the LCM of the two numbers.

Ans. 195

8. The product of the LCM and HCF of two numbers is 640. If one number is 16, find the other number.

Ans. 40

9. Can the LCM and HCF of two numbers be 120 and 9 respectively? Justify your answer.

Ans. No, 120 is not divisible by 9.

10. Find the largest 3-digit number that can be divided by 6, 8 and 15 exactly.

Ans. 960

PERIODIC TEST 1

A. Choose the correct option.

- The product of two place values of 6 in the number 98642561 is
(a) 1000000 (b) 6000000 (c) 36000000 ✓ (d) 360000000
- The difference between the greatest and the smallest 8-digit numbers formed using the digits 4, 2, 0, 8 and 3 is (Digits may be repeated)
(a) 68883972 ✓ (b) 88884320 (c) 20000348 (d) 20348
- The digit at the ones place in the product of first five primes will be
(a) 0 ✓ (b) 1 (c) 2 (d) 5
- Which of the following do not make a pair of co-primes?
(a) 9, 29 (b) 17, 19 (c) 44, 75 (d) 35, 91 ✓

B. Fill in the blanks.

- 2 is the only even prime.
- 10 millions make a crore.
- The successor of the largest 8-digit even number is 99999999.
- The number of twin primes between 50 and 100 is 2.

C. State True or False.

- The smallest odd composite number is 15.

Ans. False

- There is no symbols for 0 in the Roman Numeral System.

Ans. True

- The sum of two even numbers can never be an odd number.

Ans. True

- The product of two numbers is equal to the product of their HCF and LCM.

Ans. True

D. Arrange the following numbers in descending order.

- 99999, 999999999, 999999, 100000000
- 123123123, 321321321, 323232111, 112233123

Ans. 1. 100000000, 999999999, 999999, 99999

- 323232111, 321321321, 123123123, 112233123

E. Write the greatest 7-digit number using the digits 2, 5, 0 and 8. Digits may be repeated.

Ans. 8888520

F. A cricket team of 11 players won a cash prize of ₹6,95,200. The prize money is to be equally divided among them. Find the share of each player.

Ans. ₹ 63,200

G. Find the HCF of 32 and 40 by the prime factorisation method.

Ans. 8

H. A number is said to be a perfect number when the sum of all its factors is double the number itself. 6 is the smallest perfect number as $1 + 2 + 3 + 6 = 12$, i.e., 2×6 . Can you find any other perfect number?

Ans. Yes; 28, as $1 + 2 + 4 + 7 + 14 + 28 = 56$, i.e., 2×28

I. Two trains (passenger and superfast) start together from a station for Chennai. The passenger train stops at every third station and the superfast train stops at every fifth station. At the fifth station, a man boards the superfast train. Which is the first station at which he can change the trains?

Ans. Fifteenth station

4. Fractions

ANSWERS

LET US RECALL

A. Find an equivalent fraction of $\frac{9}{27}$ with numerator 3.

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

B. Check if the following fractions are in the lowest term. If not, reduce to the lowest term.

1. $\frac{12}{15}$

2. $\frac{7}{15}$

3. $\frac{24}{42}$

Ans. 1. No; $\frac{4}{5}$

2. Yes

3. No; $\frac{4}{7}$

C. Convert the following mixed fractions into improper fractions.

1. $2\frac{2}{3}$

2. $1\frac{2}{7}$

3. $7\frac{1}{8}$

Ans. 1. $\frac{8}{3}$

2. $\frac{9}{7}$

3. $\frac{57}{8}$

D. Arrange $\frac{8}{13}$, $\frac{8}{9}$, $\frac{8}{17}$, $\frac{8}{25}$ in ascending order.

Ans. $\frac{8}{25}$, $\frac{8}{17}$, $\frac{8}{13}$, $\frac{8}{9}$

E. Add:

1. $\frac{3}{20}$ and $\frac{5}{20}$

2. $2\frac{1}{3}$ and $3\frac{1}{3}$

Ans. 1. $\frac{8}{20}$ or $\frac{2}{5}$

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

F. Subtract:

1. $\frac{3}{25}$ from $\frac{8}{25}$

2. $4\frac{1}{2}$ from $8\frac{2}{3}$

Ans. 1. $\frac{5}{25}$ or $\frac{1}{5}$

2. $4\frac{1}{6}$

G. What should be added to $7\frac{2}{3}$ to get the result $10\frac{1}{6}$?

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

EXERCISE 4.1

A. Identify proper, improper and mixed fractions.

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

2. $\frac{14}{9}$

3. $\frac{8}{13}$

4. $6\frac{1}{5}$

5. $\frac{18}{11}$

Ans. 1. proper

2. improper

3. proper

4. mixed

5. improper

B. Match the following improper fractions (Column I) with corresponding mixed fractions (Column II).

Column I	Column II
1. $\frac{14}{3}$	(a) $3\frac{1}{8}$
2. $\frac{18}{13}$	(b) $7\frac{3}{16}$
3. $\frac{25}{8}$	(c) $4\frac{4}{9}$
4. $\frac{40}{9}$	(d) $4\frac{2}{3}$
5. $\frac{115}{16}$	(e) $1\frac{5}{13}$

C. Identify like fractions in a group of fractions given below.

1. $\frac{1}{3}, \frac{2}{7}, \frac{4}{9}, \frac{5}{7}, \frac{3}{7}$	2. $\frac{9}{13}, \frac{5}{17}, \frac{4}{25}, \frac{16}{17}, \frac{25}{38}$	3. $\frac{6}{11}, \frac{5}{40}, \frac{21}{40}, \frac{9}{17}, \frac{85}{40}$
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Ans. 1. $\frac{2}{7}, \frac{5}{7}, \frac{3}{7}$ 2. $\frac{5}{17}, \frac{16}{17}$ 3. $\frac{5}{40}, \frac{21}{40}, \frac{85}{40}$

D. Check whether the given fractions are in the simplest form. If not, reduce it to the simplest term.

1. $\frac{5}{9}$	2. $\frac{8}{25}$	3. $\frac{17}{37}$	4. $\frac{40}{64}$	5. $\frac{38}{152}$
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Ans. 1, 2 and 3 are in its simplest forms. 4. $\frac{5}{8}$ 5. $\frac{1}{4}$

E. Write any five fractions equivalent to each of the fractions given below.

1. $\frac{2}{3}$	2. $\frac{4}{5}$	3. $\frac{6}{11}$	4. $\frac{18}{30}$	5. $\frac{32}{40}$
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Ans. 1. $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}, \frac{10}{15}, \frac{12}{18}$ 2. $\frac{8}{10}, \frac{12}{15}, \frac{16}{20}, \frac{20}{25}, \frac{25}{30}$ 3. $\frac{12}{22}, \frac{18}{33}, \frac{24}{44}, \frac{30}{55}, \frac{42}{66}$

4. $\frac{9}{15}, \frac{3}{5}, \frac{6}{10}, \frac{12}{20}, \frac{15}{25}$ 5. $\frac{16}{20}, \frac{4}{5}, \frac{8}{10}, \frac{12}{15}, \frac{24}{30}$

F. Are the pairs of fractions equivalent?

1. $\frac{5}{7}, \frac{10}{14}$	2. $\frac{8}{12}, \frac{12}{18}$	3. $\frac{9}{15}, \frac{21}{35}$	4. $\frac{2}{5}, \frac{4}{9}$
5. $\frac{16}{30}, \frac{4}{7}$	6. $\frac{6}{9}, \frac{10}{15}$	7. $\frac{14}{21}, \frac{40}{60}$	8. $\frac{8}{11}, \frac{24}{36}$

Ans. 1. Yes 2. Yes 3. Yes 4. No
5. No 6. Yes 7. Yes 8. No

EXERCISE 4.2

A. Change the following unlike fractions into like fractions.

1. $\frac{2}{3}, \frac{3}{9}$

2. $\frac{1}{16}, \frac{5}{8}$

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

4. $\frac{5}{14}, \frac{8}{21}$

Ans. 1. $\frac{6}{9}, \frac{3}{9}$ or $\frac{2}{3}, \frac{1}{3}$

2. $\frac{1}{16}, \frac{10}{16}$

3. $\frac{28}{35}, \frac{30}{35}$

4. $\frac{15}{42}, \frac{16}{42}$

B. Compare the following fractions using $>$, $<$ or $=$.

1. $\frac{4}{15} \boxed{<} \frac{7}{15}$

2. $\frac{6}{11} \boxed{>} \frac{6}{14}$

3. $2\frac{1}{2} \boxed{>} 1\frac{5}{6}$

4. $\frac{9}{17} \boxed{>} \frac{5}{13}$

5. $\frac{8}{25} \boxed{>} \frac{3}{25}$

6. $\frac{15}{9} \boxed{>} \frac{15}{12}$

7. $\frac{4}{12} \boxed{=} \frac{3}{9}$

8. $\frac{2}{3} \boxed{>} \frac{4}{7}$

C. Arrange the following fractions in ascending order:

1. $\frac{2}{3}, \frac{4}{5}, \frac{7}{8}, \frac{3}{4}$

2. $\frac{6}{15}, \frac{9}{15}, \frac{4}{15}, \frac{12}{15}$

3. $4\frac{1}{7}, 2\frac{5}{9}, \frac{6}{17}, \frac{6}{11}$

4. $\frac{4}{6}, \frac{5}{15}, \frac{9}{12}, \frac{6}{15}$

Ans. 1. $\frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{7}{8}$

2. $\frac{4}{15}, \frac{6}{15}, \frac{9}{15}, \frac{12}{15}$

3. $\frac{6}{17}, \frac{6}{11}, 2\frac{5}{9}, 4\frac{1}{7}$

4. $\frac{5}{15}, \frac{6}{15}, \frac{4}{6}, \frac{9}{12}$

D. Arrange the following fractions in descending order:

1. $\frac{25}{43}, \frac{25}{17}, \frac{25}{29}, \frac{25}{37}$

2. $\frac{8}{15}, \frac{11}{18}, \frac{4}{11}, \frac{9}{16}$

3. $\frac{4}{12}, \frac{5}{16}, \frac{6}{20}, \frac{8}{32}$

4. $\frac{14}{27}, \frac{19}{27}, \frac{18}{27}, \frac{11}{27}$

Ans. 1. $\frac{25}{17}, \frac{25}{29}, \frac{25}{37}, \frac{25}{43}$

2. $\frac{11}{18}, \frac{9}{16}, \frac{8}{15}, \frac{4}{11}$

3. $\frac{5}{16}, \frac{4}{12}, \frac{6}{20}, \frac{8}{32}$

4. $\frac{19}{27}, \frac{18}{27}, \frac{14}{27}, \frac{11}{27}$

EXERCISE 4.3

A. Find the sum.

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

2. $\frac{2}{7} + \frac{1}{7}$

3. $\frac{5}{12} + \frac{2}{12} + \frac{3}{12}$

4. $\frac{6}{25} + \frac{8}{25} + \frac{17}{25}$

5. $4\frac{1}{17} + 2\frac{1}{17}$

6. $1\frac{1}{9} + 2\frac{2}{9} + \frac{8}{9}$

Ans. 1. $\frac{7}{8}$

2. $\frac{3}{7}$

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

4. $1\frac{6}{25}$

5. $6\frac{2}{17}$

6. $4\frac{2}{9}$

B. Add:

1. $\frac{9}{12}$ and $\frac{1}{3}$

2. $\frac{7}{10}$ and $\frac{2}{5}$

3. $\frac{6}{25}$ and $\frac{18}{75}$

4. $\frac{4}{9}, \frac{5}{12}$ and $\frac{7}{18}$

5. $\frac{8}{15}, \frac{11}{24}$ and $\frac{13}{40}$

6. $4\frac{1}{5}$ and $\frac{12}{25}$

Ans. 1. $1\frac{1}{12}$

2. $1\frac{1}{10}$

3. $\frac{12}{25}$

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

5. $1\frac{19}{60}$

6. $4\frac{17}{25}$

C. Find the difference.

1. $\frac{3}{10} - \frac{1}{10}$

2. $\frac{9}{16} - \frac{5}{16}$

3. $\frac{11}{25} - \frac{6}{25}$

4. $4\frac{7}{40} - 2\frac{3}{40}$

5. $\frac{108}{70} - \frac{3}{70}$

6. $\frac{8}{14} - \frac{1}{14}$

Ans. 1. $\frac{1}{5}$

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

3. $\frac{1}{5}$

4. $2\frac{1}{10}$

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

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

D. Subtract:

1. $\frac{8}{45}$ from $\frac{5}{9}$

2. $\frac{1}{5}$ from $\frac{19}{20}$

3. $\frac{2}{3}$ from $\frac{3}{4}$

4. $\frac{7}{9}$ from $\frac{12}{5}$

5. $2\frac{1}{3}$ from $8\frac{5}{21}$

6. $\frac{17}{8}$ from 8

Ans. 1. $\frac{17}{45}$

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

3. $\frac{1}{12}$

4. $1\frac{28}{45}$

5. $5\frac{19}{21}$

6. $5\frac{7}{8}$

E. Simplify.

1. $\frac{3}{4} + \frac{2}{4} - \frac{1}{4}$

2. $\frac{5}{12} - \frac{8}{12} + \frac{7}{12}$

3. $\frac{2}{3} + \frac{4}{5} - \frac{3}{4}$

4. $\frac{4}{9} - \frac{3}{18} + \frac{8}{36}$

5. $8 - 2\frac{3}{5} - 1\frac{7}{10}$

6. $12 - 13\frac{3}{4} + 2\frac{1}{8}$

Ans. 1. 1

2. $\frac{1}{3}$

3. $\frac{43}{60}$

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

5. $3\frac{7}{10}$

6. $\frac{3}{8}$

F. Solve the following word problems.

1. Which fraction is $\frac{2}{3}$ more than $\frac{5}{9}$?

Ans. $1\frac{2}{9}$

2. What fraction should be added to $\frac{5}{7}$ to get 1?

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

3. What fraction should be subtracted from $\frac{9}{16}$ to get $\frac{1}{2}$?

Ans. $\frac{1}{16}$

4. How much is $\frac{5}{7}$ more than $\frac{3}{5}$?

Ans. $1\frac{11}{35}$

5. Subtract the sum of $4\frac{1}{2}$ and $2\frac{1}{4}$ from $10\frac{5}{8}$.

Ans. $3\frac{7}{8}$

6. What fraction is $\frac{7}{12}$ greater than $\frac{9}{16}$?

Ans. $1\frac{7}{8}$

7. Abhishek bought $2\frac{1}{4}$ kg potatoes, $1\frac{2}{5}$ kg onions, $1\frac{7}{10}$ kg brinjals and 3 kg cauliflowers. Find the total weight of vegetables Abhishek bought.

Ans. $8\frac{7}{20}$ kg

8. Kapil bought $\frac{2}{3}$ basket of mangoes. He gave $\frac{1}{2}$ basket of mangoes to Prabha. How much mangoes were left with Kapil?

Ans. $\frac{1}{6}$ basket

9. Radhika ate $\frac{3}{4}$ of a pizza and Meenakshi ate $\frac{3}{16}$ of the same pizza. How much of the pizza is left?

Ans. $\frac{1}{16}$ of the pizza

10. Manisha takes $12\frac{1}{4}$ minutes while Ridhi takes $15\frac{2}{5}$ minutes to reach the school from their homes. Who takes less time, and by how much?

Ans. Manisha, $3\frac{3}{20}$ minutes

EXERCISE 4.4

A. Multiply.

1. $\frac{4}{7}$ by 28

2. $\frac{2}{5}$ by 15

3. $\frac{8}{15}$ by 10

4. $\frac{3}{8}$ by 16

5. 6 by $\frac{2}{3}$

6. 12 by $\frac{3}{4}$

7. 36 by $\frac{5}{12}$

8. 20 by $\frac{7}{10}$

- Ans. 1. 16 2. 6 3. $5\frac{1}{3}$ 4. 6
 5. 4 6. 9 7. 15 8. 14

B. Find the product of each of the following.

1. $\frac{3}{4} \times \frac{12}{15}$ 2. $\frac{2}{3} \times \frac{9}{16}$ 3. $\frac{18}{35} \times \frac{5}{27}$ 4. $\frac{6}{13} \times \frac{65}{84}$
 5. $\frac{8}{11} \times \frac{77}{112}$ 6. $\frac{60}{91} \times \frac{13}{15}$ 7. $\frac{3}{7} \times \frac{35}{48}$ 8. $\frac{4}{9} \times \frac{45}{56}$

- Ans. 1. $\frac{3}{5}$ 2. $\frac{3}{8}$ 3. $\frac{2}{21}$ 4. $\frac{5}{14}$
 5. $\frac{1}{2}$ 6. $\frac{4}{7}$ 7. $\frac{5}{16}$ 8. $\frac{5}{14}$

C. Multiply and express the result in the simplest term.

1. $1\frac{1}{7} \times 28$ 2. $2\frac{1}{3} \times 9$ 3. $15 \times 3\frac{1}{5}$ 4. $\frac{8}{15} \times 1\frac{1}{2}$
 5. $4\frac{2}{3} \times \frac{18}{35}$ 6. $2\frac{2}{3} \times 4\frac{5}{16}$ 7. $1\frac{1}{11} \times 8\frac{1}{4}$ 8. $8\frac{2}{5} \times 7\frac{1}{7}$

- Ans. 1. 32 2. 21 3. 48 4. $\frac{4}{5}$
 5. $\frac{7}{5}$ 6. $11\frac{1}{2}$ 7. 9 8. 60

D. Solve the following word problems.

1. A bottle can hold $\frac{2}{5}$ L of milk. How much milk can be filled in 15 such bottles?

Ans. 6 L milk

2. A tailor stitches a shirt using $2\frac{1}{4}$ m of a cloth. How much cloth is required to stitch 20 such shirts?

Ans. 45 m

3. The cost of 1 kg of guavas is ₹ $25\frac{1}{2}$. Find the cost of $3\frac{1}{3}$ kg of guavas.

Ans. ₹85

4. Anuradha bought $6\frac{1}{4}$ m rope at the rate of ₹ $6\frac{2}{5}$ per metre. How much money did she pay to the shopkeeper?

Ans. ₹40

5. Out of 36 students in a class, $\frac{1}{3}$ liked apples, $\frac{1}{4}$ liked oranges, 7 liked strawberries and the remaining students liked mangoes. How many students liked mangoes?

Ans. 8 students

6. Find the perimeter of a square whose each side is $1\frac{1}{2}$ m long.

Ans. 6 m

EXERCISE 4.5

A. Find the reciprocal of each of the following.

- | | | | | |
|--------------------|-------------------|-------------------|-------------------|---------------------|
| 1. 4 | 2. 8 | 3. $\frac{1}{9}$ | 4. $\frac{2}{8}$ | 5. $\frac{15}{4}$ |
| 6. $\frac{18}{25}$ | 7. $2\frac{2}{3}$ | 8. $\frac{1}{20}$ | 9. $\frac{13}{6}$ | 10. $20\frac{2}{5}$ |

- Ans.
- | | | | | |
|--------------------|------------------|-------|-------------------|---------------------|
| 1. $\frac{1}{4}$ | 2. $\frac{1}{8}$ | 3. 9 | 4. 4 | 5. $\frac{4}{15}$ |
| 6. $1\frac{7}{18}$ | 7. $\frac{3}{8}$ | 8. 20 | 9. $\frac{6}{13}$ | 10. $\frac{5}{102}$ |

B. Evaluate the following.

1. $15 \div \frac{3}{4}$	2. $12 \div \frac{1}{2}$	3. $24 \div 2\frac{2}{3}$	4. $40 \div \frac{8}{5}$
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5. $16 \div \frac{4}{9}$	6. $30 \div 1\frac{1}{4}$	7. $40 \div \frac{2}{3}$	8. $85 \div 4\frac{1}{4}$
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- Ans.
- | | | | |
|-------|-------|-------|-------|
| 1. 20 | 2. 24 | 3. 9 | 4. 25 |
| 5. 36 | 6. 24 | 7. 60 | 8. 20 |

C. Divide the following.

1. $\frac{4}{9} \div 6$	2. $\frac{15}{22} \div 5$	3. $\frac{12}{17} \div 48$	4. $\frac{1}{4} \div 3$
5. $1\frac{1}{2} \div 9$	6. $2\frac{2}{3} \div 12$	7. $3\frac{3}{4} \div 15$	8. $4\frac{4}{5} \div 60$

- Ans.
- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| 1. $\frac{2}{27}$ | 2. $\frac{3}{22}$ | 3. $\frac{1}{68}$ | 4. $\frac{1}{12}$ |
| 5. $\frac{1}{6}$ | 6. $\frac{2}{9}$ | 7. $\frac{1}{4}$ | 8. $\frac{2}{25}$ |

D. Divide the following fractions.

1. $\frac{1}{3} \div \frac{1}{9}$	2. $\frac{1}{8} \div \frac{1}{48}$	3. $\frac{2}{7} \div \frac{3}{28}$	4. $\frac{21}{22} \div \frac{7}{11}$
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5. $\frac{6}{5} \div \frac{24}{35}$	6. $\frac{8}{11} \div \frac{72}{99}$	7. $2\frac{1}{2} \div 5\frac{5}{8}$	8. $3\frac{3}{5} \div 7\frac{3}{15}$
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- Ans.
- | | | | |
|-------------------|------|-------------------|-------------------|
| 1. 3 | 2. 6 | 3. $2\frac{2}{3}$ | 4. $1\frac{1}{2}$ |
| 5. $1\frac{3}{4}$ | 6. 1 | 7. $\frac{4}{9}$ | 8. $\frac{1}{2}$ |

E. Solve the following word problems.

1. The perimeter of a square is $6\frac{2}{5}$ m. What is the measure of its each side?

Ans. $1\frac{3}{5}$ m

2. There are $\frac{2}{5}$ kg chestnuts in a packet. How many such packets can be packed for 8 kg chestnuts?

Ans. 20 packets

3. A rectangular park is $32\frac{1}{2}$ m long. Find the width of the park if its area is 663 sq. m.

Ans. $20\frac{2}{5}$ m

4. Arnav had ₹480 in his pocket. He spent $\frac{1}{4}$ of the amount for buying a shirt, $\frac{2}{5}$ of the remaining for buying a jeans and $\frac{5}{6}$ of the remaining for purchasing books. How much money was left with Arnav after shopping?

Ans. ₹36

THINK AND ANSWER

Observe the following pattern:

$$\begin{aligned}\frac{1}{2} &= 1 \times \frac{1}{2} = 1 - \frac{1}{2} = \frac{1}{2} \\ \frac{2}{3} + \frac{2}{3} &= 2 \times \frac{2}{3} = 2 - \frac{2}{3} = 1\frac{1}{3} \\ \frac{3}{4} + \frac{3}{4} + \frac{3}{4} &= 3 \times \frac{3}{4} = 3 - \frac{3}{4} = 2\frac{1}{4} \\ \frac{4}{5} + \frac{4}{5} + \frac{4}{5} + \frac{4}{5} &= 4 \times \frac{4}{5} = 4 - \frac{4}{5} = 3\frac{1}{5}\end{aligned}$$

Now, write the facts that will appear in 6th, 7th and 10th rows.

Ans.

6th row: $\frac{6}{7} + \frac{6}{7} + \frac{6}{7} + \frac{6}{7} + \frac{6}{7} + \frac{6}{7} = 6 \times \frac{6}{7} = 6 - \frac{6}{7} = 5\frac{1}{7}$

7th row: $\frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} = 7 \times \frac{7}{8} = 7 - \frac{7}{8} = 6\frac{1}{8}$

10th row: $\frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} + \frac{10}{11} = 10 \times \frac{10}{11} = 10 - \frac{10}{11} = 9\frac{1}{11}$

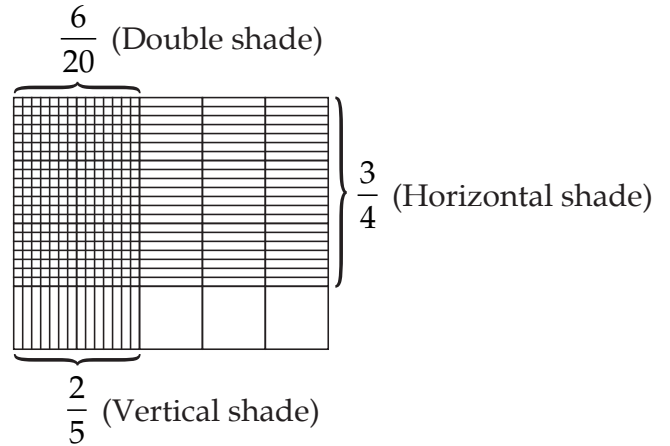
PUZZLE

Can you show the multiplication of two proper fractions through a diagram?

Given below is an example for your help.

Multiply $\frac{2}{5}$ by $\frac{3}{4}$.

- A rectangle is divided into 5 equal parts vertically and shaded 2 parts.
- Again, it is divided into 4 equal parts horizontally and shaded 3 out of 4.
- The double shaded part is $\frac{6}{20}$.



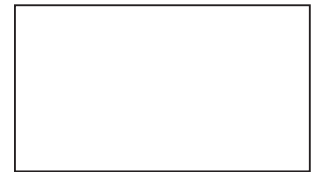
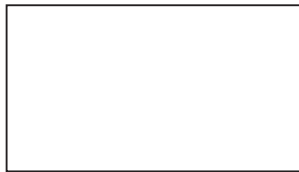
Thus, $\frac{2}{5} \times \frac{3}{4} = \frac{6}{20}$

Represent the following:

1. $\frac{2}{3} \times \frac{1}{4}$

2. $\frac{3}{8} \times \frac{2}{5}$

3. $\frac{5}{6} \times \frac{4}{7}$



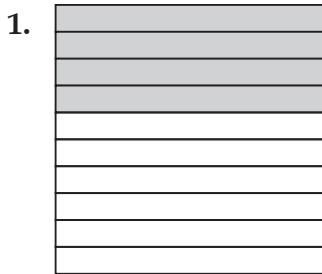
Ans. Do it yourself.

5. Decimals

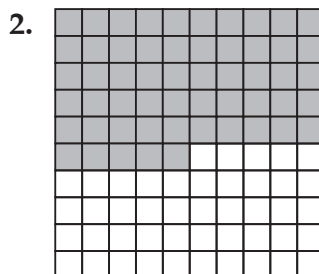
ANSWERS

LET US RECALL

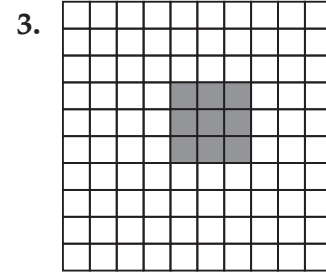
A. What decimal parts of the following figures are shaded? Also, write the fractions for unshaded parts.



$$\underline{0.4}, \frac{6}{10}$$



$$\underline{0.55}, \frac{45}{100}$$



$$\underline{0.09}, \frac{91}{100}$$

B. Read and write the following decimals.

3.2	Three point two	1.985	One point nine eight five
0.67	Zero point six seven	8.001	Eight point zero zero one

C. Tick (✓) the largest decimal and cross-out (X) the smallest one.

1.

6.5✓	2.01	3.125	0.999X
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 2.

1.1	0.11	0.011X	11✓
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D. Fill in the blanks.

1. $6.085 = 6 \times \underline{1} + \underline{0} \times \frac{1}{10} + 8 \times \frac{1}{100} + 5 \times \frac{1}{1000}$

2. $\underline{0.509} = 5 \times 0.1 + 9 \times 0.001$

EXERCISE 5.1

A. Complete the following table by writing decimals in words and figures.

Figure	Word	Figure	Word
2.6	Two point six	4.005	Four point zero zero five
3.21	Three point two one	0.2	Zero point two
81.435	Eight-one point four three five	0.009	Zero point zero zero nine
106.28	One hundred six point two eight	0.03	Zero point zero three

B. Match the following.

Column I	Column II
1. 6.325	(a) 3 at the hundreds place
2. 63.502	(b) 3 at the hundredths place
3. 365.002	(c) 2 at the ones place
4. 65.03	(d) 5 at the tenths place
5. 562.3	(e) 5 at the thousandths place

C. Convert the following decimals into fractions.

1. 1.5	2. 0.8	3. 0.25	4. 1.45
5. 0.725	6. 1.05	7. 0.005	8. 25.625
Ans. 1. $\frac{15}{10}$ or $1\frac{1}{2}$	2. $\frac{8}{10}$ or $\frac{4}{5}$	3. $\frac{25}{100}$ or $\frac{1}{4}$	4. $\frac{145}{100}$ or $1\frac{9}{20}$
5. $\frac{725}{1000}$ or $\frac{29}{40}$	6. $\frac{105}{100}$ or $1\frac{1}{20}$	7. $\frac{5}{1000}$ or $\frac{1}{200}$	8. $\frac{25625}{1000}$ or $25\frac{5}{8}$

D. Convert the following fractions into decimals.

1. $\frac{2}{10}$	2. $\frac{265}{100}$	3. $\frac{15625}{1000}$	4. $\frac{31625}{1000}$
5. $\frac{18}{100}$	6. $\frac{9}{1000}$	7. $\frac{5}{100}$	8. $\frac{13}{10}$
Ans. 1. 0.2	2. 2.65	3. 15.625	4. 31.625
5. 0.18	6. 0.009	7. 0.05	8. 1.3

E. Express the following in decimal form.

1. $20 + 5 + 0.1 + 0.08 + 0.003$	2. $500 + 0.2 + 0.004$
3. $8 + \frac{3}{10} + \frac{6}{100} + \frac{2}{1000}$	4. $700 + 60 + 2 + 0.09$
Ans. 1. 25.183	2. 500.204
	3. 8.362
	4. 762.09

EXERCISE 5.2

A. Identify the equivalent decimals.

1. 2.1, 2.01, 2.10, 2.001	2. 0.63, 0.630, 6.3, 63.00	3. 0.5, 0.05, 0.500, 0.50
Ans. 1. 2.1, 2.10	2. 0.63, 0.630	3. 0.5, 0.500, 0.50

B. State whether the following decimals are like or unlike.

1. 2.68, 3.2	2. 5.81, 0.58	3. 0.561, 0.005
4. 5.100, 1.5	5. 21.1, 1.12	6. 0.4, 0.40, 0.400
Ans. 1. Unlike	2. Like	3. Like
4. Unlike	5. Unlike	6. Unlike

C. Compare the following decimals using $>$, $<$ or $=$.

1. $0.5 \text{ (} = \text{)} 0.500$	2. $5.1 \text{ (} > \text{)} 5.01$	3. $92.8 \text{ (} < \text{)} 192$
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4. $5.61 > 5.601$

5. $0.3 > 0.003$

6. $1 > 0.058$

D. Arrange the following decimals in ascending order.

1. 8.5, 58, 8.58, 58.5

2. 0.105, 0.150, 0.501, 0.51

3. 6.8, 6.080, 0.680, 0.86

Ans. 1. 8.5, 8.58, 58, 58.5

2. 0.105, 0.150, 0.501, 0.51

3. 0.680, 0.86, 6.080, 6.8

E. Arrange the following decimals in descending order.

1. 6.51, 5.61, 1.56, 5.16

2. 0.4, 0.44, 0.40, 0.044

3. 1.9, 9.1, 91, 0.91

Ans. 1. 6.51, 5.61, 5.16, 1.56

2. 0.44, 0.4, 0.40, 0.044

3. 91, 9.1, 1.9, 0.91

EXERCISE 5.3**A. Write the decimals in columns and find the sum.**

1. $42.32 + 18.75$

2. $9.123 + 61.597$

3. $0.155 + 0.32$

4. $6.5 + 95.12 + 0.823$

5. $2.11 + 0.666 + 53$

6. $0.853 + 0.9 + 3$

Ans. 1. 61.07

2. 70.72

3. 0.475

4. 102.443

5. 55.776

6. 4.753

B. Add the following.

1. $₹3.25 + ₹5.50 + ₹1.65$

2. $8.355 \text{ L} + 16.244 \text{ L} + 0.999 \text{ L}$

3. $4.6 \text{ kg} + 29.3 \text{ kg} + 2.58 \text{ kg}$

4. $19.1 \text{ g} + 1.19 \text{ g} + 0.911 \text{ g}$

5. $2.1 \text{ cm} + 1.2 \text{ cm} + 7.5 \text{ cm}$

6. $2.8 \text{ m} + 5.35 \text{ m} + 4.75 \text{ m}$

7. $8.325 \text{ km} + 25.6 \text{ km} + 15.85 \text{ km}$

8. $14.6 \text{ kg} + 3.25 \text{ kg} + 9 \text{ kg}$

Ans. 1. ₹10.40

2. 25.998 L

3. 36.48 kg

4. 21.201 g

5. 10.8 cm

6. 12.9 m

7. 49.775 km

8. 26.85 kg

C. Find the difference.

1. $9.8 - 3.5$

2. $4.6 - 2.8$

3. $83.52 - 48.96$

4. $17.5 - 9.69$

5. $3.582 - 0.88$

6. $453 - 4.789$

Ans. 1. 6.3

2. 1.8

3. 34.56

4. 7.81

5. 2.702

6. 448.211

D. Subtract.

1. 48.5 from 50.3

2. 6.95 from 7.283

3. 0.347 from 1.58

4. 6.248 from 8.1

5. 0.987 from 3

6. 75.576 from 80.4

Ans. 1. 1.8

2. 0.333

3. 1.233

4. 1.852

5. 2.013

6. 4.824

E. Evaluate the following.

1. $₹15.25 + ₹13.5 - ₹25.8$

2. $₹60 - ₹16.5 - ₹18.75$

3. $6.123 \text{ km} - 8.5 \text{ km} + 3.55 \text{ km}$

4. $24.3 \text{ m} + 8.45 \text{ m} - 30 \text{ m}$

5. $100 \text{ L} - 7.56 \text{ L} - 40.8 \text{ L}$

6. $16.5 \text{ kg} - 12.85 \text{ kg} + 3.758 \text{ kg} - 6.1 \text{ kg}$

Ans. 1. ₹2.95

2. ₹24.75

3. 1.173 km

4. 2.75 m

5. 51.64 L

6. 1.308 kg

F. Solve the following word problems.

1. Perna purchased 5.3 kg of pulses, 0.265 kg of tea, 1.52 kg of sugar and 14 kg of rice. What is the total weight of these items?

Ans. 21.085 kg

2. The milometer in a bike reads 1224.4 km in the evening. In the morning, it read 995.8 km. How many kilometres did it cover today?

Ans. 228.6 km

3. Mother gave ₹50.50 to Ram. Ram bought a notebook for ₹12.25 and a sketch pen for ₹5.50. How much money was left with him?

Ans. ₹32.75

4. Find a decimal which is 2.15 more than 25.253.

Ans. 27.403

5. Subtract the sum of 6.94 and 0.694 from the sum of 4.96 and 6.04.

Ans. 5. 3.366

6. By how much is 86.693 less than 100.5?

Ans. 13.807

7. A milkman supplied 4.5 L and 3.75 L of milk to two customers. If he had 10 L of milk, how much milk is left with him?

Ans. 1.75 L

EXERCISE 5.4

A. Multiply the following.

1. 6.27 by 2

2. 8.967 by 4

3. 12.18 by 6

4. 27.5 by 12

5. 29.02 by 25

6. 0.325 by 32

Ans. 1. 12.54

2. 35.868

3. 73.08

4. 330

5. 725.5

6. 10.4

B. Find the product of the following by shifting the decimal point.

1. 8.97×10

2. 61.325×100

3. 9.835×1000

4. 21.6×100

5. 724.3×1000

6. 9.873×10

7. 4.28×1000

8. 92.1×10

Ans. 1. 89.7

2. 6132.5

3. 9835

4. 2160

5. 724300

6. 98.73

7. 4280

8. 921

C. Find the product of each of the following.

1. 2.3×6.4

2. 8.34×1.2

3. 9.74×2.68

4. 8.5×0.2

5. 0.923×3.85

6. 1.125×0.008

Ans. 1. 14.72

2. 10.008

3. 26.1032

4. 1.7

5. 3.55355

6. 0.009

D. Insert the decimal point at the correct position in the product.

1. $1.2 \times 3.6 = 432$

2. $1.65 \times 4.48 = 73920$

3. $0.635 \times 1.5 = 9525$

4. $3.251 \times 0.69 = 224319$ 5. $0.2 \times 0.4 \times 0.1 = 8$ 6. $1.3 \times 0.15 \times 0.06 = 1170$

Ans. 1. 4.32

2. 7.3920

3. 0.9525

4. 2.24319

5. 0.008

6. 0.01170

E. Solve the following word problems.

1. Potatoes cost ₹24.8 per kg. Find the cost of 25 kg of potatoes.

Ans. ₹620

2. A bottle can hold 0.75 L of milk. How much milk 12 such bottles can hold?

Ans. 9 L

3. A park is 40.5 m long and 24.14 m wide. Find the area of the park.

Ans. 977.67 sq. m

4. A sheet of paper costs ₹0.45. Find the cost of a ream of paper.
(Given, 1 ream = 500 sheets)

Ans. ₹225

5. Find the product of 0.25, 0.52 and 5.2.

Ans. 0.676

6. A gold chain weighs 42.346 g. Find the weight of 10 such gold chains.

Ans. 423.46 g

EXERCISE 5.5

A. Divide the following.

1. 36.54 by 9

2. 45.672 by 12

3. 123.45 by 15

4. 8.36 by 5

5. 469.5 by 8

6. 7.596 by 36

Ans. 1. 4.06

2. 3.806

3. 8.23

4. 1.672

5. 58.6875

6. 0.211

B. Convert the following into decimals.

1. $\frac{12}{5}$

2. $\frac{46}{8}$

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

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

5. $\frac{13}{16}$

6. $\frac{9}{15}$

7. $\frac{63}{28}$

8. $\frac{135}{18}$

Ans. 1. 2.4

2. 5.75

3. 0.5

4. 0.75

5. 0.8125

6. 0.6

7. 2.25

8. 7.5

C. Find the quotient without doing actual division.

1. $846.5 \div 10$

2. $7.25 \div 10$

3. $0.964 \div 10$

4. $42.6 \div 100$

5. $837.41 \div 100$

6. $1.42 \div 100$

7. $5837.6 \div 1000$

8. $238.4 \div 1000$

Ans. 1. 84.65

2. 0.725

3. 0.0964

4. 0.426

5. 8.3741

6. 0.0142

7. 5.8376

8. 0.2384

D. Divide the following.

1. $5.4 \div 0.3$ 2. $8.8 \div 1.1$ 3. $15.6 \div 0.4$ 4. $6.496 \div 0.16$
 5. $7.284 \div 0.12$ 6. $469.5 \div 0.15$ 7. $6.8 \div 0.017$ 8. $25.2 \div 0.063$

- Ans.** 1. 18 2. 8 3. 39 4. 40.6
 5. 60.7 6. 3130 7. 400 8. 400

E. Solve the following sums.

1. The product of two numbers is 0.465. If one number is 0.05, find the other.

Ans. 9.3

2. Find the number whose product with the number 3.6 is 4.5.

Ans. 1.25

3. The weight of 4 bags of rice is 86.5 kg. Find the weight of each bag.

Ans. 21.625 kg

4. The cost of one dozen of pencils is ₹45. Find the cost of each pencil.

Ans. ₹3.75

5. There is 1.5 L juice in a jug. It is to be divided equally among 6 friends. What will the share of each friend be?

Ans. 0.250 L

THINK AND ANSWER

1. **Shade the block that matches the decimal given inside.**

a.	$6.295 + 0.01$	$7.125 - 0.28$	6.305×100	$629.5 \div 10$	6.845
b.	$454.6 \div 1000$	$23.23 + 100$	$100 - 54.54$	200×2.223	0.4546
c.	$4.5 - 1.952$	0.213×30	$64.28 \div 0.4$	$3.534 + 0.619$	4.153
d.	8.1×0.05	$6.405 \div 0.021$	$0.423 + 0.012$	$1.123 - 0.678$	0.405

Ans.

a.	$6.295 + 0.01$	$7.125 - 0.28$	6.305×100	$629.5 \div 10$
b.	$454.6 \div 1000$	$23.23 + 100$	$100 - 54.54$	200×2.223
c.	$4.5 - 1.952$	0.213×30	$64.28 \div 0.4$	$3.534 + 0.619$
d.	8.1×0.05	$6.405 \div 0.021$	$0.423 + 0.012$	$1.123 - 0.678$

2. **Abhishek ate 0.625 part of 1 kg of apples. What part of apples was left?**

Ans. 0.375 part

6. Perimeter, Area and Volume

ANSWERS

LET US RECALL

A. Find the perimeter of the following.

1. Triangle with sides 9 cm, 8 cm and 7 cm.

Ans. 24 cm

2. Quadrilateral with sides 11 cm, 12 cm, 13 cm and 16 cm.

Ans. 52 cm

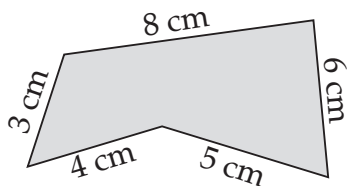
3. Rectangle with adjacent sides 15 m and 11 m.

Ans. 3. 52 m

4. Square with side 13 m.

Ans. 52 m.

5.



Ans. 26 cm

B. Find the area of the following.

1. Square with side 5 cm.

Ans. 25 cm²

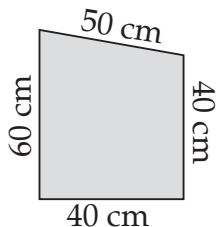
2. Rectangle with sides 5 m and 10 m.

Ans. 50 m²

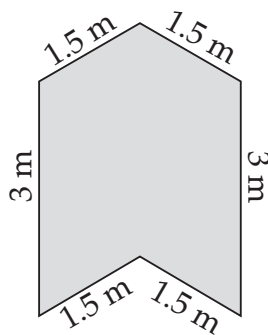
EXERCISE 6.1

A. Find the perimeter of each of the following figures:

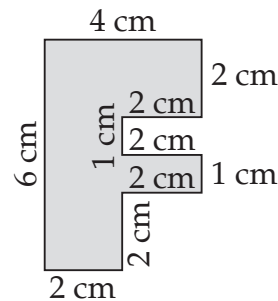
1.



2.



3.



Ans. 1. 190 cm

2. 12 m

3. 24 cm

B. Find the perimeter of the triangle whose three sides (a , b and c) are given below.

S. No.	a	b	c	Perimeter
1.	5 cm	5 cm	8 cm	18 cm

2.	15 m	15 m	15 m	45 m
3.	8 cm	15 cm	17 cm	40 cm
4.	9 m	12 m	15 m	36 m

C. Complete the table with missing measures of rectangles in each case.

S. No.	Length	Breadth	Perimeter
1.	18 m	12 m	60 m
2.	24 cm	16 cm	80 cm
3.	17.5 cm	9.5 cm	54 cm
4.	8.31 cm	4.27 m	25.16 m

D. Complete the table with missing measures of squares in each case.

S. No.	Side	Perimeter
1.	4 cm	16 cm
2.	6 m	24 cm
3.	3.5 cm	14 cm
4.	44 cm	176 cm

E. Solve the following word problems.

- Find the length of the wood required to make the frame of a carom board with each side 80 cm.

Ans. 3 m 20 cm

- Divya wants to fence her garden with barbed wire twice. How many metres of the wire should she buy, if the garden is 45 m long and 30 m wide?

Ans. 300 m

- If the perimeter of a square is 102 cm, then find its side.

Ans. 25.5 cm

- The perimeter of a rectangular platform is 124 m. If its length is 42 m, find its width.

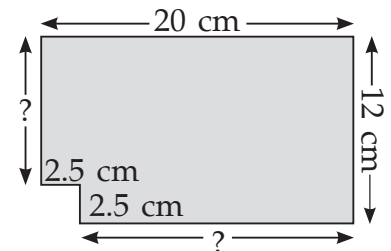
Ans. 20 m

- Neeti walks around a square park of length 60 m twice while Venu walks around a rectangular park of length 50 m and width 30 m thrice. Who walks more distance?

Ans. Both walk equal distance 480 m.

- To make a stamp, Ashok cuts a square from a corner of the postcard. Find the perimeter of the remaining portion of the postcard after finding the length of the missing sides.

Ans. $12\text{ cm} - 2.5\text{ cm} = 9.5\text{ cm}$, $20\text{ cm} - 2.5\text{ cm} = 17.5\text{ cm}$, Perimeter = 64 cm



EXERCISE 6.2

A. Find the area of the rectangle in each case.

1. $l = 8$ cm, $b = 5$ cm

2. $l = 15$ cm, $b = 12$ cm

3. $l = 2.5$ m, $b = 1.5$ m

4. $l = 20.4$ cm, $b = 18.5$ cm

Ans. 1. 40 sq cm 2. 180 sq cm 3. 3.75 sq m 4. 377.4 sq cm

B. Find the area and perimeter of squares whose sides are given below.

1. 6 m

2. 40 cm

3. 12.5 m

4. 24.4 cm

Ans. 1. 36 sq m, 24 m 2. 1600 sq cm, 160 cm 3. 156.25 sq m, 50 m 4. 595.36 sq cm, 97.6 cm

C. Solve the following word problems.

1. Find the area of a rectangular field whose length and breadth are 75 m and 40 m respectively. Also, find its perimeter.

Ans. 3000 sq m, 230 m

2. Find the area of a chessboard whose each side is 32 cm long.

Ans. 1024 sq cm

3. The floor of a hall is 6 m long and 4 m wide. How many square tiles of side 50 cm each would be required for flooring the hall?

Ans. 96 tiles

4. The perimeter of a rectangle is 144 cm. If its length is 48 cm, find the area of the rectangle.

Ans. 1152 sq cm

5. Which has greater area—a rectangle of sides 16 cm by 10 cm or a square of side 13 cm?

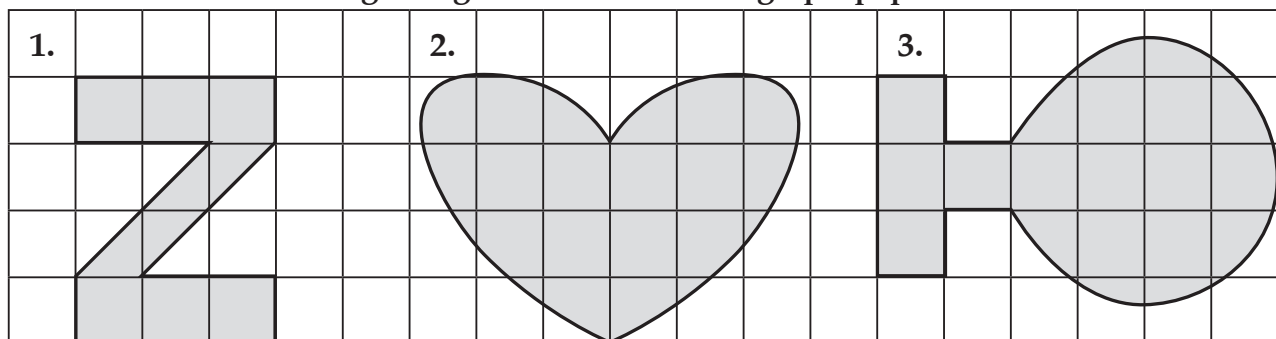
Ans. A square of 13 cm each side

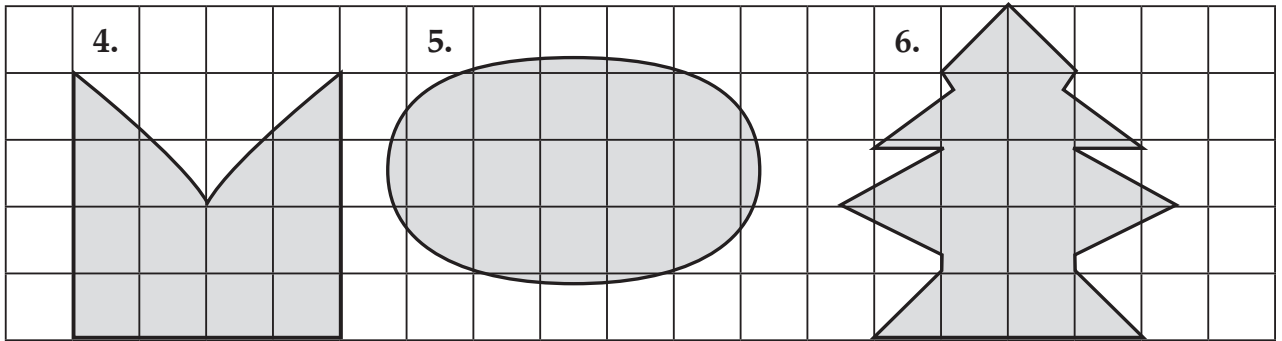
6. The area of a rectangle is equal to the area of a square. If each side of the square is 12 cm and width of the rectangle is 9 cm, find the length of the rectangle. Have the two shapes equal perimeter? Justify.

Ans. Length of a rectangle = 16 cm; Perimeter of a square = 48 cm, Perimeter of a rectangle = 50 cm; No, the two shapes do not have equal perimeter.

EXERCISE 6.3

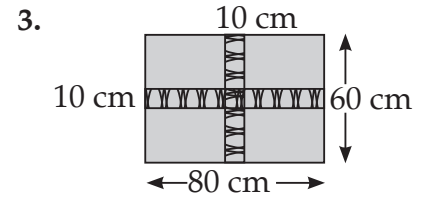
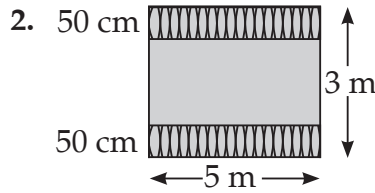
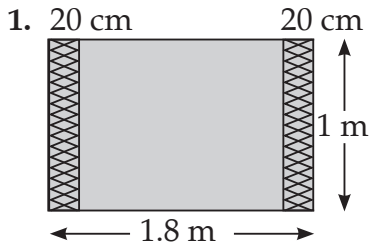
A. Find the area of the figures given below on the graph paper.





- Ans. 1. 8 sq units 2. 17 sq units 3. 16 sq units
 4. 12 sq units 5. 15 sq units 6. 12 sq units

B. Calculate the area of borders shown below.



- Ans. 1. 0.4 sq m 2. 5 sq m 3. 1300 sq cm

C. Solve the following word problems.

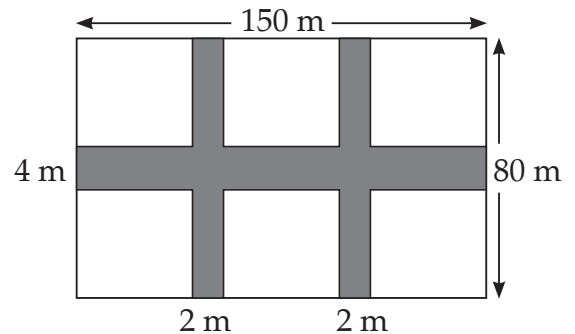
1. In a square plot of side 80 m, a building is constructed in its middle. If the length and breadth of the building are 60 m and 56 m respectively, find the area of the open space.

Ans. 3040 sq m

2. A board of Ludo with each side 32 cm has a border of uniform width 2 cm. Find the area of the border.

Ans. 240 sq cm

3. Find the area of the shaded portion in the given figure. If all the six plots are of equal size, find the area of each plot.



Ans. 904 sq. m, $1849\frac{1}{3}$ sq. m

4. The size of a photo is 30 cm by 20 cm. A frame of width 2.5 cm is made around the photo. Find the area of the photo and area of the frame.

Ans. 600 sq. cm, 275 sq. cm

5. A rectangular stadium is of length 200 m and breadth 180 m. A gallery of width 12 m is made all around the stadium for the viewers. Find the expenses on the construction of the gallery at the rate of ₹125 per sq. m.

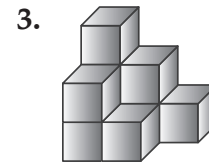
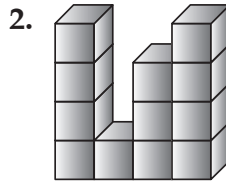
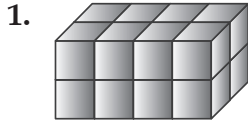
Ans. ₹10,68,000

6. A square lawn is of side 80 m. There are four flowerbeds of size 6 m by 2 m in the middle and four square flowerbeds of size 4 m by 4 m at the four corners. Calculate the cost of laying the grass in the lawn at the rate of ₹20 per sq. m.

Ans. ₹1,25,760

MENTAL TEST

Find the volume of following stacks of cubes. (Each one of 1 cu. cm)



Ans. 1. 16 cu cm

2. 12 cu cm

3. 9 cu cm

EXERCISE 6.4

A. Find the volume of cuboids whose length, breadth and height are given below.

1. 4 cm, 3 cm, 2 cm

2. 8 cm, 6 cm, 4 cm

3. 4.5 m, 3 m, 2.4 m

4. 40 cm, 30 cm, 50 cm

5. 6 m, 4.8 m, 8 m

6. 2 m, 0.8 m, 0.5 m

Ans. 1. 24 cu cm

2. 192 cu cm

3. 32.4 cu cm

4. 60000 cu cm

5. 230.4 cu cm

6. 0.8 cu m

B. Find the volume of a cube whose each edge is:

1. 2 m

2. 12 cm

3. 3.5 m

4. 80 cm

Ans. 1. 8 cu m

2. 1728 cu cm

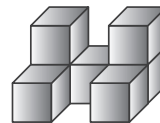
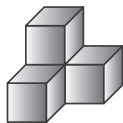
3. 42.875 cu m

4. 512000 cu cm

C. How many more small cubes are required to make it a:

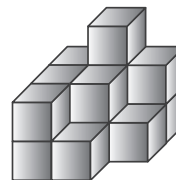
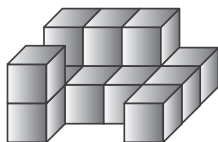
1. Cube of size 2 units each edge

2. Cuboid of size $3 \times 2 \times 2$ units



3. Cuboid of size $4 \times 3 \times 2$ units

4. Cube of size 3 units each edge



Ans. 1. 4 cubes

2. 5 cubes

3. 10 cubes

4. 12 cubes

D. Solve the following word problems.

1. Find the volume of a block whose each edge is 8 cm.

Ans. 512 cu cm

2. Find the volume of a shoebox whose dimensions are 24 cm by 12 cm by 10 cm.

Ans. 2880 cu cm

3. How many cubes of side 3 cm can be cut from a block of size 15 cm × 12 cm × 9 cm?

Ans. 60 cubes

4. A water tank is of length 1 m 80 cm, breadth 1 m 25 cm and height 1 m. How many litres of water can it hold?

Ans. 2250 L

5. How many bricks of size 25 cm × 10 cm × 5 cm will be required to make a wall of size 6 m × 4 m × 15 cm?

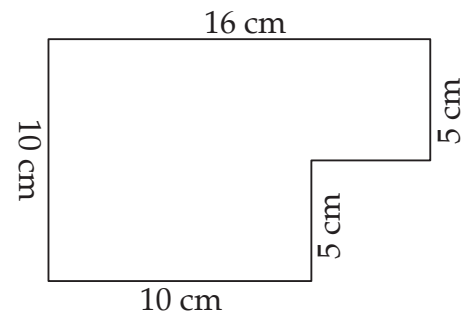
Ans. 2880 bricks

PUZZLE

A. Find the area of the adjoining shape by dividing it into squares/rectangles.

Think about the area of the given figure.

We divide the figure into a square of side 10 cm and a rectangle of dimensions 6 cm by 5 cm as shown below.



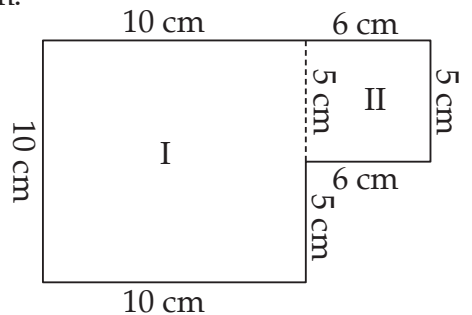
$$\text{Area of the square I} = 10 \text{ cm} \times 10 \text{ cm} = 100 \text{ sq. cm.}$$

and area of the rectangle II = 6 cm × 5 cm

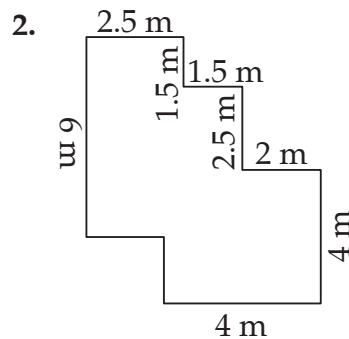
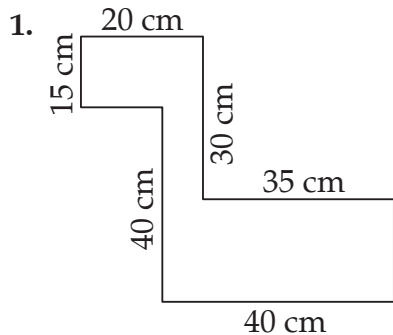
$$= 30 \text{ sq. cm.}$$

Thus, area of the given figure = 100 sq. cm + 30 sq. cm.

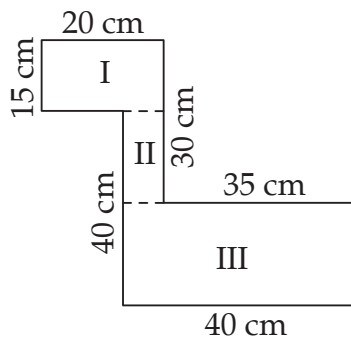
$$= 130 \text{ sq. cm.}$$



Now, find the perimeter and area of the following shapes by dividing them into convenient rectangles and squares.



Ans. 1.



Hint:

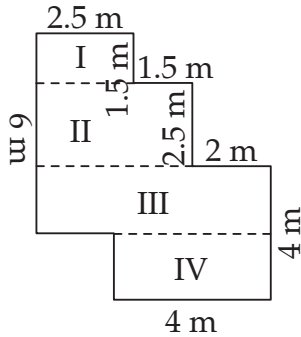
$$\text{Ar I} = 15 \times 20$$

$$\text{Ar II} = 15 \times 5$$

$$\text{Ar III} = 25 \times 40$$

1375 sq cm

2.



Hint:

$$\text{Ar I} = 2.5 \times 1.5$$

$$\text{Ar II} = 4.0 \times 2.5$$

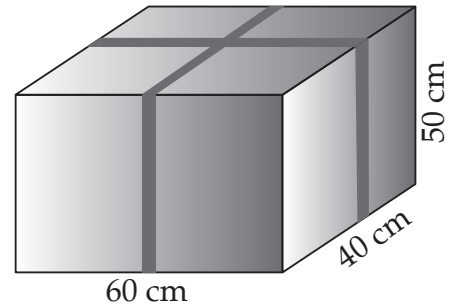
$$\text{Ar III} = 6.0 \times 2.0$$

$$\text{Ar IV} = 4.0 \times 2.0$$

33.75 sq m

B. How many metres and centimetres of tape is required to pack a carton of dimensions 60 cm × 40 cm × 50 cm as shown in the figure?

Ans. 3 m

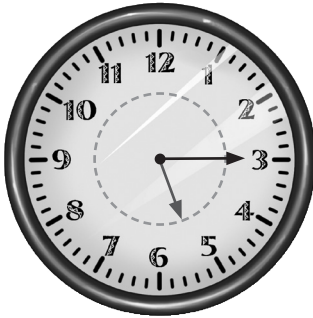


7. Time

ANSWERS

LET US RECALL

A. Read the clock and write the time correctly in the space provided.



5:15

Quarter past 5



7:28

32 minutes to 8



11:08

8 minutes past 11



3:48

12 minutes to 4



4:04

4 minutes past 4



11:19

19 minutes past 11

B. Draw the hands on the clock to show the correct time.

7 o' clock



22 minutes to 6

8:05

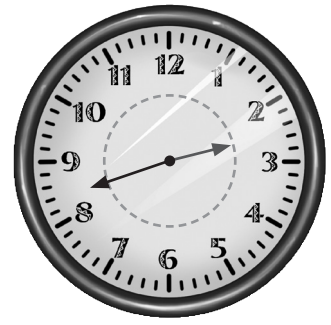


1:27

3:04



42 minutes past 2



C. Write time using a.m./p.m. for the following.

- Half past seven in the morning. 7:30 a.m.
- Quarter past eight in the evening. 8:15 p.m.

D. How many days are there between April 19, 2014 to May 26, 2014?

36 days

EXERCISE 7.1

A. Express the following in 12-hour clock.

- | | | |
|----------------|----------------|----------------|
| 1. 08:40 hours | 2. 15:15 hours | 3. 24:00 hours |
| 4. 06:05 hours | 5. 20:20 hours | 6. 12:30 hours |

- Ans. 1. 8:40 a.m. 2. 3:15 p.m. 3. 12:00 midnight
4. 6:05 a.m. 5. 8:20 p.m. 6. 12:30 p.m.

B. Express the following in 24-hour clock.

- | | | |
|--------------|----------------|--------------|
| 1. 2:05 a.m. | 2. 5:45 p.m. | 3. 7:30 a.m. |
| 4. 12 noon | 5. 12 midnight | 6. 8:25 p.m. |

- Ans. 1. 02:05 hours 2. 17:45 hours 3. 07:30 hours
4. 12:00 hours 5. 24:00 hours or 00:00 hours 6. 20:25 hours

C. The table given below shows the trains' timings for Chennai from Delhi.

Train No.	Train Name	Origin	Departure Time	Destination	Arrival Time	Travel Time	Days of Run						
							M	T	W	T	F	S	S
12642	Thirukkural Express	H Nizamuddin	07:20	Tambaram	18:55	35:35	Y	N	N	N	N	Y	N
12688	DDN MDU SF Express	H Nizamuddin	14:47	Chennai Central	02:15	35:28	Y	N	N	N	Y	N	N
22688	CDG MDU SF Express	H Nizamuddin	14:47	Chennai Central	02:15	35:28	Y	N	N	N	Y	N	N
12612	Mas Garib Rath	H Nizamuddin	16:00	Chennai Central	20:15	28:15	Y	N	N	N	N	N	N

12616	G T Express	New Delhi	18:40	Chennai Central	06:15	35:35	Y	Y	Y	Y	Y	Y	Y
12622	Tamil Nadu Express	New Delhi	22:30	Chennai Central	07:15	32:45	Y	Y	Y	Y	Y	Y	Y

Observe the table and answer the following questions.

1. Thirukkural Express departs at 7:20 a.m. (a.m./p.m.) from H Nizamuddin and arrives Tambaram at 6:55 p.m. (a.m./p.m.).
2. Tamil Nadu Express, that leaves on Wednesday from New Delhi, arrives Chennai Central at 7:15 a.m. a.m./p.m. on Friday.
3. Mas Garib Rath takes 28 hours 15 minutes only during the journey from H Nizamuddin to Chennai Central.
4. The trains G T Express and Tamil Nadu Express are available every day at the time 1840 hours and 2230 hours respectively for Chennai Central.
5. All the trains are available on Monday either from New Delhi or from H Nizamuddin.

EXERCISE 7.2

A. Express the following into seconds.

1. 10 minutes
 2. 2 hours
 3. 4 hours 15 minutes
 4. 2 days
 5. 5 hours 20 minutes 40 seconds
- Ans. 1. 600 seconds 2. 7200 seconds 3. 15300 seconds
4. 172800 seconds 5. 19240 seconds

B. Express the following into hours, minutes and seconds.

1. 1940 seconds
 2. 4820 seconds
 3. 250600 seconds
 4. 42825 seconds
 5. 80420 seconds
 6. 720500 seconds
- Ans. 1. 32 minutes 20 seconds 2. 1 hour 20 minutes 20 seconds
3. 69 hours 36 minutes 40 seconds 4. 11 hours 53 minutes 45 seconds
5. 22 hours 20 minutes 20 seconds 6. 200 hours 8 minutes 20 seconds

C. Express the following into days.

1. 720 hours
 2. 3600 hours
 3. 18 weeks
 4. 9 months
 5. 6 years
 6. 4 years 11 months 3 weeks
- Ans. 1. 30 days 2. 150 days 3. 126 days
4. 270 days 5. 2190 days 6. 1811 days

D. Express the following into years, months, weeks and days.

1. 500 days
2. 1835 days
3. 4000 days
4. 9658 days
5. 46968 hours
6. 216576 hours

- Ans.** 1. 1 year 4 months 2 weeks 1 day 2. 5 years 1 week 3 days
 3. 10 years 4 months 2 weeks 6 days 4. 26 years 5 months 2 weeks 4 days
 5. 5 years 4 months 1 week 5 days 6. 24 years 8 months 3 weeks 3 days

E. Match the following.

- | | | |
|-------------------|---|------------------|
| 1. A leap year | → | (a) 2011–2020 AD |
| 2. A decade | → | (b) 2001–3000 AD |
| 3. A century | → | (c) 2015 |
| 4. A millennium | → | (d) 1901–2000 AD |
| 5. A calendar era | → | (e) 2012 |

F. Calculate the following time periods.

- From 25th February 2012 to 9th September 2012
Ans. 6 months 14 days or 196 days
- From 8th December 2013 to 26th January 2014
Ans. 49 days
- Vinay started going to public school on 21-03-2013.
 How long would he study here till 31-03-2015?
Ans. 2 years 10 days
- Mr Tiwari went to Canada on 6th July 2012 and returned to India on 18th November 2014. How much time did he spend in Canada?
Ans. 2 years 4 months 12 days
- For how much time have you been studying in your present school?
Ans. Do it yourself.

EXERCISE 7.3

A. Add the following.

- 2 h 10 min 20 s and 5 h 40 min 20 s
Ans. 7 h 50 min 40 s
- 16 h 38 min 29 s and 18 h 36 min 45 s
Ans. 35 h 15 min 14 s
- 6 weeks 5 days 12 hours and 4 weeks 4 days 4 hours
Ans. 11 weeks 2 days 16 hours
- 8 years 4 months 14 days and 7 years 8 months 20 days
Ans. 16 years 1 month 4 days

B. Subtract the following.

- 16 h 35 min 28 s from 30 h 40 min 50 s
Ans. 14 h 5 min 22 s

2. 35 h 45 min 24 s from 50 h 40 min 10 s

Ans. 14 h 54 min 46 s

3. 6 weeks 4 days 12 hours from 10 weeks 3 days 10 hours

Ans. 3 weeks 5 days 22 hours

4. 5 years 6 months 2 weeks from 8 years 5 months 3 weeks

Ans. 2 years 11 months 1 week

C. Multiply.

1. 4 h 8 min 10 s by 4

Ans. 16 h 32 min 40 s

2. 6 h 15 min 20 s by 9

Ans. 60 h 3 min

3. 2 weeks 3 days 4 hours by 8

Ans. 19 weeks 4 days 8 hours

4. 5 years 3 months 8 days by 6

Ans. 31 years 7 months 18 days

D. Divide.

1. 40 h 32 min 48 s by 8

Ans. 5 h 4 min 6 s

2. 55 h 40 min 39 s by 9

Ans. 6 h 11 min 11 s

3. 5 months 1 week 6 days by 3

Ans. 1 month 3 weeks 2 days

4. 8 years 9 months 15 days by 5

Ans. 1 year 9 months 3 days

FUN ZONE

FLYING FUN

The table given below shows the schedule of Airlines from Delhi to Chennai for a particular day. Study the table and answer the questions based on it.

Flight	Depart	From	Arrive	To
AI 439	06:55	Delhi (DEL)	09:45	Chennai (MAA)
AI 429	10:30	Delhi (DEL)	13:15	Chennai (MAA)
AI 142	12:35	Delhi (DEL)	15:15	Chennai (MAA)
AI 42	17:15	Delhi (DEL)	20:00	Chennai (MAA)
AI 540	20:55	Delhi (DEL)	23:45	Chennai (MAA)

A. What is the duration of journey of these flights?

1. AI 439 2 h 50 min

2. AI 42 2 h 45 min

3. AI 540 2 h 50 min

B. Display the timetable according to 12-hour clock.

Ans.

Flight	Depart	From	Arrive	To
AI 439	6:55 a.m.	Delhi (DEL)	9:45 a.m.	Chennai (MAA)
AI 429	10:30 a.m.	Delhi (DEL)	1:15 p.m.	Chennai (MAA)
AI 142	12:35 p.m.	Delhi (DEL)	3:15 p.m.	Chennai (MAA)
AI 42	5:15 p.m.	Delhi (DEL)	8:00 p.m.	Chennai (MAA)
AI 540	8:55 p.m.	Delhi (DEL)	11:45 p.m.	Chennai (MAA)

C. Express the duration of journey by AI 142 in seconds.

Ans. 9600 seconds

D. Multiply the travelling time of AI 429 by 5.

Ans. 13 h 45 min

E. Divide the time taken by the flight AI 540 by 3.

Ans. 56 minutes 40 seconds

PERIODIC TEST 2

A. Match the following.

- | | |
|---|-----------------|
| 1. Perimeter of a triangle with sides 8 cm, 15 cm and 17 cm | (a) 23.80 sq. m |
| 2. Area of a square with side 4.2 m | (b) 96 cu. cm |
| 3. Area of a rectangle with length 6.8 m and width 3.5 m | (c) 40 cm |
| 4. Volume of a cuboid with dimensions 8 cm × 6 cm × 2 cm | (d) 17.64 sq. m |
-

B. Fill in the blanks.

- | | |
|---|---------------------------------------|
| 1. 500 thousands = <u>5</u> lakhs. | 2. <u>odd</u> ÷ odd = odd. |
| 3. $20 + \frac{1}{10} + \frac{5}{1000} =$ <u>20.105</u> . | 4. $2 - \frac{3}{4} = 1\frac{1}{4}$. |
| 5. $0.032 \times 1000 =$ <u>32</u> . | 6. <u>23.5</u> ÷ 100 = 0.235. |

C. Put >, < or = in the following boxes.

1. 8,97,65,431 12,34,56,789
2. $\frac{1}{2} + \frac{2}{3}$ $2 - \frac{5}{6}$
3. $40 \times \frac{5}{8}$ $40 \div \frac{5}{8}$
4. $0.2 + 0.02 + 0.002$ $0.3 - 0.03 - 0.003$
5. 20 minutes - 40 seconds 8 minutes 15 seconds + 11 minutes 5 seconds
6. 4 weeks 3 days × 2 201 days ÷ 3

D. The product of two numbers is 2,535 and their HCF is 13. Find the LCM of two numbers.

Ans. L.C.M = 195

E. The weight of 4 bags of rice is 86.5 kg. Find the weight of each bag.

Ans. 21.625 kg

F. Express the following into seconds.

- | | |
|---------------|-----------|
| 1. 10 minutes | 2. 2 days |
|---------------|-----------|

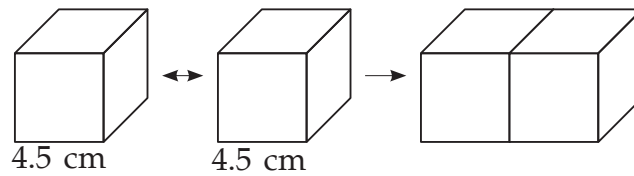
Ans. 1. 600 seconds 2. 172800 seconds

G. Who is the eldest? Dates of birth are given in brackets.

Madhu (15.04.2004), Malaika (11.10.2005), Daniel (06.01.2003)

Ans. Daniel

- H. Two cubes of edge 4.5 cm each are joined face to face. Find the dimensions and hence the volume of a cuboid so formed.



Ans. $l = 9$ cm, $b = 4.5$ cm, $h = 4.5$ cm, volume = 182.25 cu. cm

- I. How many bricks of size 25 cm \times 10 cm \times 5 cm will be required to make a wall of size 6 m \times 4 m \times 15 cm?

Ans. 2880 bricks

**SOCIAL
STUDIES – 5
SEMESTER**

1

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1. Globes and Maps

ANSWERS

WARM UP

1. Map 1 is one of the first maps of the world. It was circular in form and it showed the known lands of the world grouped around the Aegean Sea at the centre. The land was all surrounded by the ocean.
2. Map 2 is the present world map.

1.



2.



Now, what difference do you find between the two? Discuss in the class.

Ans. More lands have been discovered and mapped.

CHECK POINT

Answer these questions.

1. Which is the largest country in the world?

Ans. Russia.

2. What is the shape of the Earth?

Ans. Spherical.

3. Write a quality of a good map.

Ans. It should have a legend or index.

4. What does the title of a map tell us?

Ans. It tells us what the map is about.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. It helps us see the whole Earth at a time.

(a) Satellite pictures (b) A sketch (c) A globe

2. Which of the following shows an accurate physical shape of the Earth?

(a) Globe (b) Map (c) None of these

3. An atlas is a collection of

(a) Maps (b) Globes (c) Countries

B. Answer these questions.

1. How are globes useful to us?

Ans. Globes show the actual shape of the Earth.

2. What are the disadvantages of a globe?

Ans. Globes cannot be made very large. They cannot be handled easily.

3. What are the differences between a map and a globe?

Ans. A map shows the Earth's features in detail whereas a globe does not show details.

4. What are the advantages of maps?

Ans. Maps are easier to carry. They can help in studying the Earth's features in detail. Different types of maps can be used to show a variety of information such as political boundaries, relief features, etc.

5. How is the scale useful on a map?

Ans. The scale helps measure distance on the map and the ground.

6. What is the difference between ground distance and map distance?

Ans. When the distance between two given points on the ground is measured, it is called the ground distance. The distance between the same two points on the map measured along a straight line is called the map distance.

THINK AND ANSWER

C. Why is it necessary to show the directions on a map? Discuss in the class.

Ans. Hint: To identify the location of a place with respect to the parallels and medians.

LET US DO

D. Activity

Draw an outline map of your State/Union Territory and try to point the district/area you belong to.

Ans. Do it yourself.

VALUE CORNER

E. Imagine you are about to trek a peak on the Vindhya Range. Which map would you take?

(a) political map of the area

(b) physical map of the area

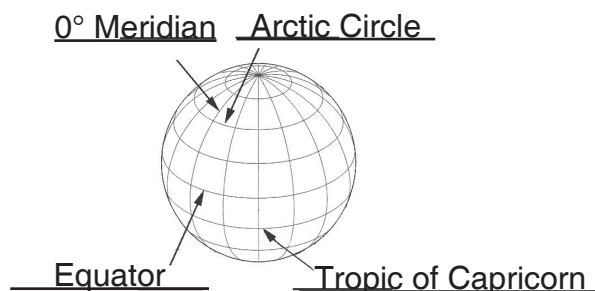
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2. Parallels and Meridians

ANSWERS

WARM UP

Label the following picture.



CHECKPOINT

Fill in the blanks with information from the text.

1. The Earth rotates on its axis.
2. The North Pole is on the 90°N of the globe.
3. The largest circle on the Earth is equator.
4. The parallels are drawn at equal distance from each other.
5. The Arctic Circle is on 66½° N.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. The meridian which passes through Greenwich is marked as
(a) 5° (b) 0° (c) 1°
2. The total number of parallels is
(a) 90 (b) 180 (c) 181
3. The two endpoints of the axis of a globe are called the
(a) Poles (b) Parallels (c) Equator
4. In which country is Greenwich located?
(a) India (b) Russia (c) England
5. The parallels and meridians cut each other at
(a) 150° (b) 180° (c) 90°
6. What is the total number of important parallels on the globe?
(a) 5 (b) 7 (c) 9
7. The equator is marked as _____ latitude.

(a) 90°

(b) 180°

(c) 0°

B. Fill in the blanks with information from the text.

1. The equator divides the Earth into two parts called Northern Hemisphere and Southern Hemisphere.
2. The angular distance north or south of the equator is called latitude.
3. The distance between two meridians is maximum at equator.
4. The lines of longitudes are also known as the meridians.
5. A grid on a map is the network of latitudes and longitudes.

C. Write short notes on the following topics.

1. Axis of the Earth

Ans. The Earth rotates around its axis. The axis is an imaginary line joining the North Pole and the South Pole. The end points of the axis are fixed. The Earth is inclined at an angle of $23\frac{1}{2}^\circ$.

2. Parallels

Ans. The equator and the smaller circles drawn parallel to the equator in both the hemispheres are called parallels. The angular distance north or south of the equator is called latitude. It is measured in degrees. Parallels are also called the lines of latitude. The parallels give the north-south direction.

3. Great circle

Ans. The equator is called the great circle. This imaginary line divides the Earth into equal parts called hemispheres.

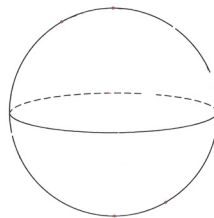
4. Prime Meridian

Ans. According to an agreement, the meridian passing through Greenwich near London in the UK has been taken as the starting point. This meridian is named as the Prime Meridian. The Prime Meridian is marked as 0° .

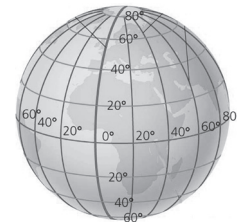
D. Identify the following lines on the Earth.



1. Axis



2. Equator



3. Prime Meridian

E. Answer the following questions.

1. Distinguish between parallels and meridians.

Ans. Parallels

- (i) The equator and the smaller circles drawn parallel to the equator in both the

hemispheres are called parallels.

- (ii) The angular distance north or south of the equator is called latitude.
- (iii) Parallels are also called lines of latitude.
- (iv) The parallels give the north-south direction.
- (v) The parallels are drawn at equal distance from each other.
- (vi) The parallels are complete circles, except the poles, which are points.
- (vii) The equator is the longest parallel.
- (viii) The length of other parallels decreases as we move away from the equator towards the poles.
- (ix) The equator is a great circle, while others are small circles.
- (x) The equator is marked as 0° latitude.
- (xi) Thus, the North Pole and the South Pole are 90° N and 90° S, respectively.
- (xii) If one draws parallels at an interval of 1° from North Pole to South Pole, the total number of parallels, including the equator, will be 181.

Meridians

- (i) The semicircular lines on the globe that join the North Pole and the South Pole are named as meridians.
- (ii) They are equal in length.
- (iii) The distance between any two meridians is the maximum at the equator, which is about 111 kilometres for one degree.
- (iv) The distance decreases towards the north and south of the equator.
- (v) The meridians cross the parallels at right angles (90°).
- (vi) They help us find the east-west direction.
- (vii) The meridian which passes through Greenwich near London in the UK, is named as the Prime Meridian.
- (viii) The angular distance east or west of the Prime Meridian is called longitude.
- (ix) The meridians are also called lines of longitude.
- (x) The Prime Meridian is marked as 0° .
- (xi) The meridian of 180° lies just opposite to the Prime Meridian. Thus, there are 180 meridians towards the east and 180 meridians towards the west of the Prime Meridian (at an interval of 1°). The total number of meridians is 360, because 180° E and 180° W is the same line.

2. Distinguish between latitude and longitude.

Ans. The angular distance north or south of the equator is called latitude. It is measured in degrees. The parallels are also called lines of latitude. The angular distance east or west of the Prime Meridian is called longitude. The meridians are also called lines of longitude.

3. How are the parallels and the meridians numbered on a globe?

Ans. Parallels are drawn at an equal distance towards north and south of the equator. Parallels are drawn at 1° intervals. Parallels are numbered 1° N and 1° S above and below the equator, respectively.

Meridians are drawn at an equal distance towards the east and west of the Prime Meridian. Meridians are drawn at 1° intervals. Meridians are numbered 1° E and 1° W of the Prime Meridian, respectively.

4. Name a few important lines of latitude on the globe.

Ans. Some important latitudes on the globe are as under:

- | | | | |
|-------------------------|------------------|-----------------------|------------------|
| (i) North Pole | – 90° N | (ii) Arctic Circle | – 66.5° N |
| (iii) Tropic of Cancer | – 23.5° N | (iv) Equator | – 0° |
| (v) Tropic of Capricorn | – 23.5° S | (vi) Antarctic Circle | – 66.5° S |
| (vii) South Pole | – 90° S | | |

5. What is a grid?

Ans. The network of parallels and meridians on the globe is called the grid or the graticule. We can locate all places on the Earth's surface with the help of the grid.

THINK AND ANSWER

F. What does the following statement mean? Explain in the class.

Mysuru is located at 12.30° N 76.65° E.

Ans. Hint: The position of Mysuru on the globe is 12.30° N latitude and 76.65° E longitude.

LET US DO

G. Activity

Prepare a globe on your own. Follow the steps.

1. Take a white plastic ball.
2. Draw important longitudes and latitudes on the ball using a black marker.
3. Insert a stick/spoke vertically through the ball.
4. Suspend the stick/spoke. Now, your globe is ready.

Ans. Do it yourself.

H. Project

Using an atlas, find out the latitude and longitude of

1. Allahabad (Prayagraj)

Ans. 25.45° N 81.85° E

2. Delhi

Ans. $28^\circ 36' 36''$ N $77^\circ 13' 48''$ E

3. Kolkata

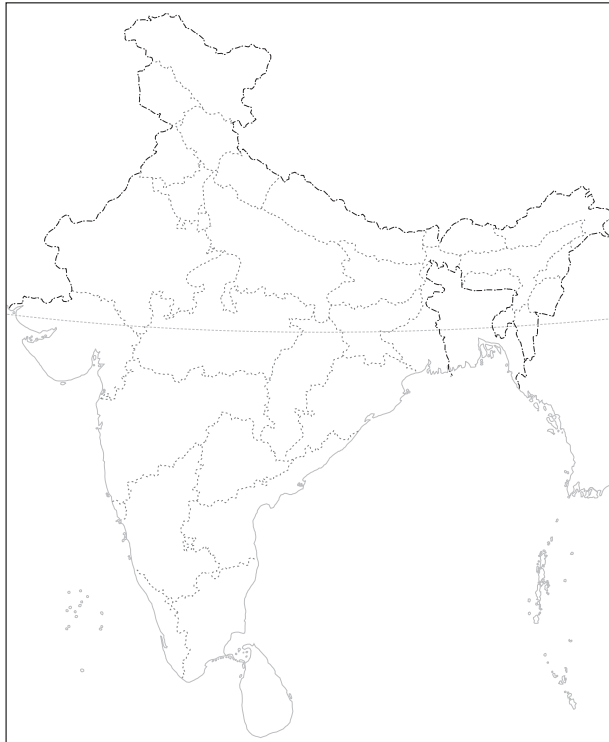
Ans. 22°34' N 88°22' E

4. Mumbai

Ans. 18°58'30" N 72°49'33" E

VALUE CORNER

I. On this outline map of India, mark the Tropic of Cancer and 82½°E longitude.



Ans. Do it yourself.

3. Major Landforms

ANSWERS

WARM UP

Which type of landform gives birth to a waterfall?



Mountains

CHECKPOINT

Cross (X) the wrong statements.

1. The Himalayas are young mountains.
2. The Rockies in North America are a vast plain land.
3. The Plateau of Tibet is surrounded by water on all sides.
4. The plain areas are thickly populated.

<input type="checkbox"/>
X
X
<input type="checkbox"/>

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. The average minimum height of a mountain should be about
(a) 500 metres (b) 800 metres (c) 900 metres
2. Which of the following is not a mountain range?
(a) Rockies (b) Mt Everest (c) Andes
3. Which of the following is a plateau?
(a) Alps (b) Tibet (c) Andes
4. What is the main agent for the formation of plains?
(a) River (b) Weathering (c) Earthquake

B. Answer in one word.

1. What makes the surface of the Earth?

Ans. Land and water.

2. What percentage of the landmass is covered by mountains?

Ans. 20 per cent

3. What are the features of an old mountain?

Ans. An old mountain is low and rounded.

4. Which plateau is surrounded by mountains on all sides?

Ans. Plateau of Tibet.

5. Which landform is highly populous?

Ans. Plains.

C. Write differences between the following.

1. Continent and relief features

Ans. Continents: Continents are big landmasses. There are seven continents.

Relief features: Variations in the Earth's surface are called its relief features. The main types of relief features or landforms are mountains, plateaus, plains, deserts and river valleys.

2. Mountain and plateau

Ans. Mountains: Mountains are elevated parts of the Earth's surface. They are about 900 metres higher than the sea level. Mountains have steep slopes, sharp ridges and peaks. These are the highest landforms on the surface of the Earth.

Plateaus: Plateaus also rise suddenly from the surrounding areas, but have flat tops. They have steep sides and are deeply cut by rivers and streams. Generally, plateaus are found near mountains or surrounded by mountains. Most of the plateaus are very large and spread out over hundreds of kilometres.

3. Desert and plain

Ans. Deserts: Deserts are lands covered by sand and rock with almost no vegetation. They receive low rainfall.

Plains: Plains are generally low and flat areas on the surface of the Earth. These are also called lowlands. The plain areas are generally less than 200 metres in height, but the slope is very gentle.

4. Upper course and lower course of a river

Ans. Upper course of a river: In the upper course, the typical features are rapids, waterfalls or canyons. The river flows swiftly, but has less water.

Lower course of a river: In the lower course, the river flows slowly and most of the rivers form deltas before joining the sea.

D. Match the columns.

Column A

Column B

- | | | |
|-----------------|---|----------------|
| 1. Mountains | → | (a) level land |
| 2. Plateau | → | (b) a landform |
| 3. Plain | → | (c) Himalayas |
| 4. Desert | → | (d) Ganga |
| 5. River Valley | → | (e) Tibet |

E. Answer these questions.

1. List the main types of relief features.

Ans. Mountains, plateaus and plains are main types of relief features.

2. How are plateaus useful to us?

Ans. Plateaus are very useful for us. We can list their importance as follows:

- (i) Some old plateaus are rich in minerals such as iron, copper, silver, gold, mica, coal and precious stones.
- (ii) Plateaus in tropical areas are good for growing crops.
- (iii) Waterfalls provide suitable sites for producing hydroelectricity.
- (iv) Some plateaus have rich grasslands which are used for rearing cattle and sheep.
- (v) The natural landscape attracts tourists from all over the world.

3. What do rivers form before joining a sea?

Ans. Deltas.

THINK AND ANSWER

F. What is the economic value of a plateau? Write a few lines on it.

Ans. Hint: Storehouses of minerals.

LET US DO

G. Project

Complete the following table based on the three courses of the Ganga.

THREE COURSES OF THE GANGA

Course	From	To	Important cities	Important factories
Upper	Gangotri	Haridwar	Rishikesh, Haridwar	Mining of stone
Middle	Haridwar	Prayagraj (Allahabad)	Kanpur, Varanasi, etc.	Different industries
Lower	Prayagraj (Allahabad)	Bay of Bengal	Patna, Kolkata, etc.	Different industries

H. Survey

Visit any river. Answer the following based on your visit to the particular place of the river.

Course: _____

Flow of water: _____

Bank (sandy/clayey, etc.): _____

Agriculture (crops): _____

Factory: _____

Pollution level: _____

Ans. Do it yourself.

VALUE CORNER

I. What are the skills required to climb a mountain? List any two skills.

1. Physical strength and training.
2. Mental strength.

5. Weather and Climate

ANSWERS

WARM UP

Tick (✓) the season that causes it.



- Summer
- Winter
- Rainy
- Spring

CHECKPOINT

Answer the following questions orally.

1. Name an element of weather.

Ans. Rainfall.

2. Name a factor that affects the climate of a region.

Ans. Distance from the sea.

3. What is the relation of temperature with the height of a place?

Ans. As height increases, temperature decreases.

4. What is humidity?

Ans. The moisture in the air is called humidity.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. The climate of a place depends on the temperature of

(a) wind (b) land (c) water

2. Which part of the Earth experiences a hot and humid climate throughout the year?

(a) Temperate zone (b) Frigid zone (c) Tropical zone

3. Which is not an element of weather?

(a) Temperature (b) Pressure (c) Water bodies

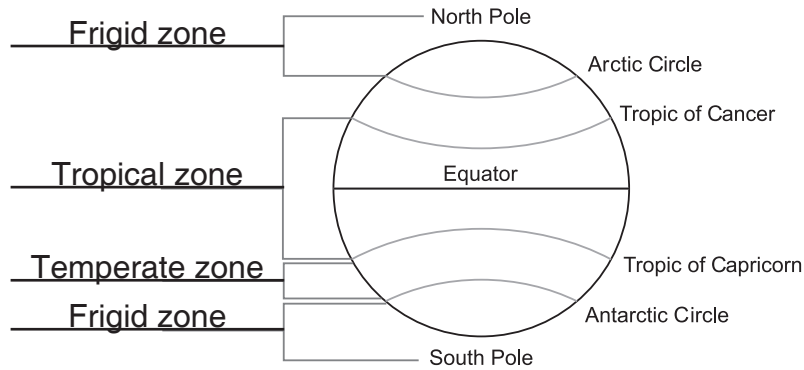
4. Which cannot cause global warming?

(a) Burning of coal (b) Recycling of paper (c) Releasing of CFCs

5. Which of the following is a greenhouse gas?

(a) Carbon dioxide (b) Nitrogen (c) Oxygen

B. Label the heat zones in the following picture.



C. Write short notes on the following.

1. Climate

Ans. Climate is the average weather conditions of a place over a long period of time. The climate of a place remains more or less the same year after year.

2. Humidity

Ans. The moisture in the air is called humidity.

3. Heat zones

Ans. Depending upon the amount of heat received from the sun, the Earth has been divided into three climatic or Heat Zones. These zones are the Tropical, the Temperate and the Polar Zones.

D. Answer these questions.

1. Name the factors that influence the climate of a place.

Ans. A number of factors determine the climate of a place. It is largely dependent upon the temperature of air and the amount of rainfall. Some of these factors are as under:
(i) Distance from the equator (ii) Height above the sea level (iii) Distance from the sea
(iv) Prevailing winds (v) Moisture in the air

2. What are the main elements of weather and climate?

Ans. The main elements of weather are temperature, air pressure, movement of air and moisture in the air.

3. Why are the areas near the equator hot and humid throughout the year?

Ans. The area near the equator extends on both sides of equator from the Tropic of Cancer in the north up to the Tropic of Capricorn in the south. This part of the Earth receives the maximum heat and moisture. Thus, the climate throughout the year is hot and humid.

4. Describe the location and extent of the Heat Zones on the Earth.

Ans. Depending upon the amount of heat received from the sun, the Earth has been divided into three climatic or Heat Zones. These are the Tropical, the Temperate and the Polar Zones.

The Tropical Zone: The Tropical Zone is also known as the Torrid Zone. It extends on both sides of equator from the Tropic of Cancer in the north up to the Tropic of Capricorn in the south.

The Temperate Zone: The Temperate Zone lies in both the hemispheres. In the Northern Hemisphere, it extends from the Tropic of Cancer to the Arctic Circle, and in the Southern Hemisphere, from the Tropic of Capricorn to the Antarctic Circle.

The Polar Zone: The Polar Zone is also known as the Frigid Zone. It also lies in both the hemispheres. In the Northern Hemisphere, it extends from the Arctic Circle to the North Pole and in the Southern Hemisphere, from the Antarctic Circle to the South Pole.

5. What are the main causes of global warming?

Ans. Recently, it has been noticed that the mean temperature of the Earth and of the atmosphere is increasing due to the greenhouse effect, which is causing global warming. The main greenhouse gases are carbon dioxide, methane and CFCs (chlorofluorocarbons). The increase of greenhouse gases in the atmosphere is due to pollution, which is caused by nature and human activity.

Carbon dioxide is added to the atmosphere by burning of wood, coal and petroleum. It is also added by vehicles and industries. Methane gas is added to the atmosphere by the digestive system of herbivores such as cows, horses, goats and sheep. CFCs are released from perfume and deodorant sprays. CFCs are also used in refrigerators.

THINK AND ANSWER

E. 1. Industrialised nations are more responsible than the others in making the Earth warm. How?

Ans. Hint: Industrialised nations have many industries and hence cause pollution.

2. To fight against global warming, we need help of all the countries. Why?

Ans. Hint: It is a global problem.

LET US DO

F. Experiment

Do the following experiment.

Air contains water vapour (humidity)

Step 1: Take an empty glass.

Step 2: Put the glass in the fridge for an hour or so.

Step 3: After an hour, take the glass out and keep it outside the fridge.

Observation: After a few minutes, you will notice that tiny drops of water gather all around the glass.

Conclusion: Since the glass is very cold, the water vapour present in the air becomes

cool which comes close to the glass. The cool water vapour turns into water drops.

Ans. Do it yourself.

VALUE CORNER

G. To save the Earth is the responsibility of

1. people
2. government

✓

PERIODIC TEST 1

A. Tick (✓) the correct answers.

1. The smallest continent on the Earth is

- | | | | |
|---------------|-------------------------------------|-------------------|--------------------------|
| (a) Australia | <input checked="" type="checkbox"/> | (b) South America | <input type="checkbox"/> |
| (c) Europe | <input type="checkbox"/> | (d) Antarctica | <input type="checkbox"/> |

2. Which is the largest country in the world?

- | | | | | | | | |
|-----------|--------------------------|------------|--------------------------|---------|--------------------------|------------|-------------------------------------|
| (a) India | <input type="checkbox"/> | (b) Canada | <input type="checkbox"/> | (c) USA | <input type="checkbox"/> | (d) Russia | <input checked="" type="checkbox"/> |
|-----------|--------------------------|------------|--------------------------|---------|--------------------------|------------|-------------------------------------|

3. The total number of meridians at 1 degree intervals are

- | | | | | | | | |
|---------|--------------------------|---------|-------------------------------------|---------|--------------------------|---------|--------------------------|
| (a) 361 | <input type="checkbox"/> | (b) 360 | <input checked="" type="checkbox"/> | (c) 181 | <input type="checkbox"/> | (d) 180 | <input type="checkbox"/> |
|---------|--------------------------|---------|-------------------------------------|---------|--------------------------|---------|--------------------------|

4. Which of the following is not a relief feature?

- | | | | |
|------------------|-------------------------------------|--------------|--------------------------|
| (a) Soil | <input checked="" type="checkbox"/> | (b) Mountain | <input type="checkbox"/> |
| (c) River valley | <input type="checkbox"/> | (d) Plateau | <input type="checkbox"/> |

5. Which of the following is not an element of weather?

- | | | | |
|-----------------|--------------------------|------------------|-------------------------------------|
| (a) Temperature | <input type="checkbox"/> | (b) Water bodies | <input checked="" type="checkbox"/> |
| (c) Pressure | <input type="checkbox"/> | (d) Moisture | <input type="checkbox"/> |

B. Fill in the blanks.

1. In ancient times, maps were drawn on animals' skins and cloth.
2. The equator divides the Earth into two equal parts.
3. The shape of the Earth is like a sphere.
4. Land covers about 29 per cent of the Earth's surface.
5. The climate of a place remains the same year after year.

C. State whether True or False.

- | | |
|--|--------------|
| 1. We can see the whole Earth at a time. | <u>False</u> |
| 2. Atlas was a Greek mythological hero. | <u>True</u> |
| 3. In ancient times, there was no system of addresses for locating places. | <u>True</u> |
| 4. The Grand Canyon is a mountain range. | <u>False</u> |
| 5. The Torrid Zone receives the maximum heat from the sun. | <u>True</u> |

D. Match the following.

Column A

Column B

- | | |
|---|--------------------------------|
| 1. The ratio between the map distance and ground distance is called the | (a) experience a cool climate. |
| 2. The Earth rotates around its | (b) lowlands. |
| 3. Places at high altitude | (c) 0° latitude. |
| 4. Plains are also called | (d) axis. |
| 5. The Equator is marked as | (e) scale of the map. |

E. Answer the following questions.

1. What is the use of signs and symbols and why are they necessary on a map?

Ans. The signs and symbols help us read and understand the information given on the map. We can show physical or cultural features on a map with the help of signs and symbols. We can show features such as temples, mosques, churches, forts, rivers, bridges, lakes, etc., with the help of signs and symbols. Most of these symbols are used by all countries.

2. What are the limitations of a globe?

Ans. The globe shows continents and oceans in their true shape and size. But the globe has some limitations, such as

- (a) A large-sized globe cannot be made easily.
- (b) It is also difficult to handle a large-sized globe.
- (c) The small globe does not show the details of the Earth's surface.

3. What is the difference between parallels and meridians?

Ans. Parallels

- (i) The equator and the smaller circles drawn parallel to the equator in both the hemispheres are called parallels.
- (ii) The angular distance north or south of the equator is called latitude.
- (iii) Parallels are also called lines of latitude.
- (iv) The parallels give the north-south direction.
- (v) The parallels are drawn at equal distance from each other.
- (vi) The parallels are complete circles, except the poles, which are points.
- (vii) The equator is the longest parallel.
- (viii) The length of other parallels decreases as we move away from the equator towards the poles.
- (ix) The equator is a great circle, while others are small circles.
- (x) The equator is marked as 0° latitude.
- (xi) Thus, the North Pole and the South Pole are 90° N and 90° S, respectively.
- (xii) If one draws parallels at an interval of 1° from North Pole to South Pole, the total

number of parallels, including the equator, will be 181.

Meridians

- (i) The semicircular lines on the globe that join the North Pole and the South Pole are named as meridians.
- (ii) They are equal in length.
- (iii) The distance between any two meridians is the maximum at the equator, which is about 111 kilometres for one degree.
- (iv) The distance decreases towards the north and south of the equator.
- (v) The meridians cross the parallels at right angles (90°).
- (vi) They help us find the east-west direction.
- (vii) The meridian which passes through Greenwich near London in the UK, is named as the Prime Meridian.
- (viii) The angular distance east or west of the Prime Meridian is called longitude.
- (ix) The meridians are also called lines of longitude.
- (x) The Prime Meridian is marked as 0° .
- (xi) The meridian of 180° lies just opposite to the Prime Meridian. Thus, there are 180 meridians towards the east and 180 meridians towards the west of the Prime Meridian (at an interval of 1°). The total number of meridians is 360, because 180° E and 180° W is the same line.

4. What is global warming?

Ans. Recently, it has been noticed that the mean temperature of the Earth and of the atmosphere is increasing due to the greenhouse effect, which is causing global warming. The main greenhouse gases are carbon dioxide, methane and CFCs (chlorofluorocarbons). The increase of greenhouse gases in the atmosphere is due to pollution, which is caused by nature and human activity.

Carbon dioxide is added in the atmosphere by burning of wood, coal and petroleum. It is also added by vehicles and industries. Methane gas is added in the atmosphere by the digestive system of herbivores such as cows, horses, goats and sheep. CFCs are released from perfume and deodorant sprays. CFCs are also used in refrigerators.

5. What is the difference between weather and climate?

Ans. Weather is the condition of the atmosphere at a particular place and time. The climate is the average weather conditions of a place over a long period of time. The climate of a place remains more or less the same year after year.

5. Life in the Evergreen Forests

(The Democratic Republic of the Congo)

ANSWERS

WARM UP

Which of the following animals is found in the evergreen forest?



CHECKPOINT

Fill in the blanks with information from the text.

1. Evergreen forests grow around the equator.
2. The Democratic Republic of the Congo was previously known as Zaire.
3. The Democratic Republic of the Congo is the third largest country in Africa.
4. The capital of Democratic Republic of the Congo is Kinshasa.
5. Tse-tse is a poisonous fly of the evergreen forest.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. This parallel passes through the Democratic Republic of the Congo.

(a) Tropic of Cancer

(b) Tropic of Capricorn

(c) Equator

2. Which country is not around the Democratic Republic of the Congo?

(a) Egypt

(b) Sudan

(c) Angola

3. This tree is not found in the Democratic Republic of the Congo.

(a) Mahogany

(b) Rosewood

(c) Pine

B. Cross (X) the wrong statements.

1. The tropical rainforest is an evergreen forest.

2. There are many lakes along the eastern boundary of DRC.



3. DRC lies only in the Southern Hemisphere.



C. Name the following about the Democratic Republic of the Congo (DRC).

1. Any two countries around DRC

Ans. Angola, Zambia.

2. Any two cash crops produced

Ans. Coffee, rubber.

3. Any two minerals produced

Ans. Cobalt, copper.

4. Any two animals found

Ans. Leopards, zebras.

D. Answer these questions.

1. What is the extent of DRC?

Ans. The Democratic Republic of the Congo is surrounded by Sudan and the Central African Republic in the north, Republic of Congo in the west, Angola and Zambia in the south, and Tanzania, Burundi, Rwanda and Uganda in the east. There are many lakes along the eastern boundary of the DRC.

2. What is the total annual rainfall here?

Ans. 200 cm.

3. Describe the climate of DRC.

Ans. The climate is hot and humid almost throughout the year due to its location near the equator. The sun shines brightly and the heat is unbearable during the daytime. The hilly regions experience comparatively low temperature. In the afternoon, the sky is full of dark clouds, which provides heavy rainfall almost every day. The total rainfall is about 200 cm per year.

4. Why is the transport system not well-developed in DRC?

Ans. The country has a poor system of transport. Roads and railways are difficult to construct due to thick forests and many rivers. Water transport along some of the rivers is now easily available. Air transport is now becoming popular.

5. Describe the lifestyle of Bantu Negroes and Pygmies.

Ans. The Democratic Republic of the Congo is sparsely populated. Most of the people live in villages. Most of the people are Bantu Negroes, who are tall and have curly hair. They speak Bantu language and are fond of music and dance. They follow traditional lifestyles and wear colourful dresses.

The original tribals are pygmies, who are short in height. They live mostly in Ituri forests in the north-east. They still lead a primitive life and move about in search of food.

After independence, the government is developing the resources. The progress is slow but the lifestyle and standard of living are improving.

THINK AND ANSWER

E. Since DRC is on the equator, evergreen forests are found in the country. But evergreen forests are also found in the North-Eastern States of India, which are far away from the equator. Why? Discuss the reason for it in the class.

Ans. Hint: Because both regions experience nearly the same amount of rainfall.

LET US DO

F. Project

With the help of your school library and the Internet, briefly describe the ethnic people of DRC.

Ans. Hint: Visit site [www.classicafrika.com/content/bantu Tribes of Southern Africa.asp](http://www.classicafrika.com/content/bantu%20Tribes%20of%20Southern%20Africa.asp)

G. Name and collect pictures of five animals that are conserved in different national parks in DRC.

Ans. Do it yourself.

VALUE CORNER

H. Do you think the ethnic people living in different forests should be modernised?

1. Yes

2. No

6. The Land of Ice and Snow (Greenland)

ANSWERS

WARM UP

Name this animal.



Ans. Reindeer

CHECKPOINT

Answer the following questions.

1. Where is Antarctica situated?

Ans. At South Pole.

2. Who discovered Greenland?

Ans. Eric the Red.

3. Who named Greenland?

Ans. Eric the Red.

4. What is the ice cover on this island called?

Ans. Ice-cap.

5. What is an umiak?

Ans. It is a large boat used by Eskimos.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. Greenland is located towards the _____ of Canada.

(a) north-west (b) north-east (c) south-east

2. Which European country controls Greenland?

(a) Iceland (b) Ireland (c) Denmark

3. The winter season here is for almost _____ months.

(a) six (b) seven (c) nine

4. What are no longer used by Eskimos for hunting and fishing?

- (a) Harpoons (b) Kayaks (c) Huskies
5. Which one of the following is not associated with the Eskimos?
 (a) Seals (b) Igloo (c) Farming

B. Fill in the blanks with information from the text.

1. Nuuk is the capital of Greenland.
2. Rifle and harpoon are the weapons.
3. Greenland was discovered in the 10th century.
4. The temperature in Greenland is generally below 0°C.
5. Eskimos are also called Inuits.

C. Write in one word.

1. Main occupation of the Eskimos Hunting
2. Main animals found in Greenland Polar bear, reindeer, musk, ox, etc.
3. Main types of vegetation found in Greenland Mosses, lichens, etc.

D. Answer these questions.

1. Describe the location of Greenland.

Ans. Greenland is located towards the North-East of Canada in North America. Greenland lies mostly within the Arctic Circle. The total area of Greenland is about 22 lakh square kilometres. About seventy per cent area of Greenland is towards the north of the Arctic Circle. The island is surrounded by the Greenland Sea in the north-east, Denmark Strait in the south-east, Davis Strait in the south-west, Baffin Bay in the north-west and the Arctic Ocean in the north.

2. Describe natural vegetation found in Greenland.

Ans. Due to the cold climate and frozen land, the vegetation in this region is limited. Plants with deep roots do not grow. The main types of vegetation are shrubs, mosses, lichens and grasses. Some flowering plants grow during the summer months. There are no trees or crops.

3. Why is normal life not comfortable in Greenland?

Ans. In Greenland, the climate is very cold throughout the year. The winter season is for about nine months. Very cold and chilly winds blow during this season. The sun is also not visible for many weeks. There is heavy snowfall and the temperature is generally below freezing point (0°C). This type of climate is not suitable for living. No vegetation can grow. All these factors make living in the region very difficult.

4. Describe the climatic conditions in Greenland.

Ans. In Greenland, the climate is very cold throughout the year. The winter season is for about nine months. Very cold and chilly winds blow during this season. The sun is also not visible for many weeks. There is heavy snowfall and the temperature is generally below freezing point (0°C). During the summer season, there is bright sunshine for many weeks and the sun never sets. We also call this area the Land of the Midnight Sun. The general weather is bright and sunny. However, rainfall is scanty. At many places, the ice melts in this season, but the temperature is near the freezing point (0°C).

5. What changes are taking place in the lifestyle of the Eskimos?

Ans. Nowadays, the lifestyle of the Eskimos is changing fast. Today, Greenland is not an isolated place. These days Eskimos use rifles in place of harpoons for hunting. People

use radios and televisions. They buy goods made in other countries to meet their daily needs. Many of them are now working in mines and oilfields.

THINK AND ANSWER

E. What type of industry can grow in Greenland? Explain your answer.

Ans. Hint: Tourist industry.

LET US DO

F. Project

Imagine your school has decided to arrange an excursion to Greenland. Using the Internet, prepare a tour plan to Greenland. Focus on the following points.

- (a) Transport (route), (b) Means of transport, (c) Food habit,
- (d) Physical fitness, (e) Approximate cost

Ans. Do it yourself.

G. Activity

Collect a picture of a dog-drawn sledge. Is it an adventure to ride a sledge? Can it be used on normal roads? Discuss in the class.

Ans. Do it yourself.

VALUE CORNER

H. How can we keep the wildlife intact in Greenland? Suggest a way.

Ans. Hint: Banning the killing of animals by outsiders.

LIFE SKILLS

I. If you go to visit to Greenland, which of the following activity will you do?

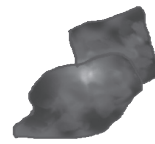


7. The Land of Hot Sand (Saudi Arabia)

ANSWERS

WARM UP

Which of the following is the base of the Saudi economy?



CHECKPOINT

Fill in the blanks with information from the text.

1. The Sahara Desert is in Africa.
2. Riyadh is the capital of Saudi Arabia.
3. The term, 'Rub al khali' means 'empty area'.
4. Saudi Arabia is not rich in wildlife.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. The largest desert in the world is the
(a) Arabian Desert (b) Atacama Desert (c) Sahara Desert
2. Saudi Arabia occupies the Arabian
(a) islands (b) peninsula (c) mountains
3. Temporary streams, formed after the rains, are called
(a) wadis (b) oases (c) streams
4. It is a seaport in Saudi Arabia.
(a) Jeddah (b) Riyadh (c) Mecca

B. Fill in the blanks with information from the text.

1. Most of the deserts are found on the western side of the continents.
2. The winter season in Saudi Arabia is from October to April.
3. The Tropic of Cancer passes through the Arabian peninsula.

4. The holy city of Mecca is situated in Saudi Arabia.
5. The people in Saudi Arabia wear a long cloak over a smock.

C. Write in one word.

1. A nomadic tribe inhabiting Saudi Arabia. Bedouin
2. A spot in a desert where water comes out from an underground spring. Oasis
3. Hills of loose sand. Sand dunes

D. Answer these questions.

1. Name the neighbouring countries of Saudi Arabia.

Ans. The neighbouring countries of Saudi Arabia are Jordan, Iraq, Kuwait, Qatar, Oman, UAE and Yemen.

2. What is the importance of petroleum in Saudi Arabia?

Ans. There are limited economic activities in the sparsely populated Saudi Arabia. The country is very rich in petroleum. It is known as liquid gold due to its economic value in the world. After refining, the crude petroleum gives us petrol, diesel, kerosene, lubricants and gas. Today, Saudi Arabia is the largest producer and exporter of petroleum in the world. The discovery of petroleum has completely changed the life of people in Saudi Arabia.

3. Describe the climatic conditions in Saudi Arabia.

Ans. The climate of Saudi Arabia is hot and dry almost throughout the year. During the daytime, the sun shines very brightly. During the summer season (from May to September), the days are very hot and the nights are cool. The temperature during the daytime can be more than 50°C. During the winter season (from October to April), the days are warm and the nights are very cold. There is a great difference between the day and night temperatures. There is hardly any rainfall. The most common feature in all seasons are the dust storms. The coastal areas have mild climate. Abha, a hill station, is cool in the summer.

4. What is the importance of oases in the desert regions?

Ans. At some places in the hot and dry desert, underground water reaches the surface through a permanent spring. These are called oases. These are the fertile areas in the desert where farming can be done. Date-palms are grown in and around the oasis. Other crops are wheat and barley. Small villages develop around oases.

5. Who are Bedouins and what is their traditional lifestyle?

Ans. Some people in the villages of Saudi Arabia still enjoy the traditional lifestyle. Most of them are nomads, who travel from one place to another in search of water, food and shelter for their animals. They are the Bedouins. They move in groups, forming long rows of camels, called caravans. The Bedouins breed camels, which give them, milk, meat, skin and hair. The Bedouins exchange their goods for dates, foodgrains and other useful things. Now the lifestyle of Bedouins is also changing. Many of them use

jeeps and cars for moving in the desert.

THINK AND ANSWER

E. Saudi Arabia has only one industry—petroleum industry. Why do other industries, e.g., agro-based industry, iron and steel industry and IT industry not develop in Saudi Arabia in spite of it being one of the richest countries?

Ans. Hint: Lack of mineral resources and water.

LET US DO

F. Project

Write a few lines on the modernisation of Saudi Arabia.

Ans. Do it yourself.

G. Activity

Collect pictures of different cities in Saudi Arabia.

Ans. Do it yourself.

VALUE CORNER

H. Imagine you have landed on the Riyadh airport. Your eyes fall on the following banner. Write at least two ways that you can help Arabia save water.

Ans. Do it yourself.

8. The Temperate Grasslands (Prairies in North America)

ANSWERS

WARM UP

Identify the following animal found in Prairies.



Ans. Prairie dog

CHECKPOINT

Answer the following questions.

1. What is the extent of Temperate zone?

Ans. Between $23\frac{1}{2}^{\circ}$ and $66\frac{1}{2}^{\circ}$ latitudes in both the hemispheres.

2. In which season does rain occur in Prairies?

Ans. Summer season.

3. Which river flows through American Prairies?

Ans. Mississippi river.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. Which crop is not important in the Prairies?

(a) Wheat (b) Rice (c) Oats

2. Large areas where cattle are kept and bred are called

(a) homestead (b) ranches (c) fazendas

3. Which of the following is not a temperate grassland?

(a) Steppes (b) Downs (c) Savanna

4. Who converted the Prairies into farmlands?

(a) Europeans (b) Americans (c) Canadians

B. Fill in the blanks with information from the text.

1. The total annual rainfall in the Prairies region is about 50 cm.

2. Corn is grown extensively here.
3. Trees are found only along the banks of rivers here.
4. Beef is the staple diet of Americans.
5. In the Prairies, farming is done by machines.

C. Write in one word.

1. A French word meaning 'grassland' Prairie
2. Very tall bins used for storing cereals Silos
3. A large area where cattle is bred Ranch

D. Answer these questions.

1. What are the main features of the climate in the temperate grassland?

Ans. The entire Prairie region or the temperate grassland is an endless plain area with no obstruction in sight. The average climatic conditions are hot in the summer season and very cold during the winter season. The total annual rainfall is about 50 centimetres. Most of it is during the summer season. There are mild showers during the winter season. Due to its location in the interior of North America, the climate is not affected by the sea. The amount of rainfall also varies greatly from year to year. The northern parts remains under the snow during the winter season.

2. Describe the location and extent of the Prairies in North America.

Ans. The Prairies are situated wholly in the Northern Hemisphere. They are surrounded by the Rocky Mountains in the west and the Great Lakes in the east. The Prairies stretch from Canada in the north, up to Mexico in the south. Thus, the Prairies are almost midway between the equator and the North Pole.

3. Why are the Prairies called the 'wheat basket of the world'?

Ans. The fertile plains of the Prairies are extensively cultivated. The main cereal crops grown in the Prairies are corn (maize), wheat, barley, rye, soyabeans, etc. This region is known as the 'Wheat Basket of the World'. Corn is mostly grown in the eastern part and cotton is the main crop in the southern part of the Prairies. A large part of the total production is exported.

4. What is the importance of cattle in the economy of the Prairie region?

Ans. The western part of the Prairie grasslands is hilly and less fertile. Cattle is reared in the open grasslands. It is reared mostly for meat. Large cattle grazing areas are called ranches. Near the cities, dairy farming is more popular. The milking of cows is done by machines. Beef is the staple diet of the Americans. Thus, most of the beef produced is consumed locally. Chicago is an important centre for slaughtering cattle.

THINK AND ANSWER

E. Who do you think are responsible behind the change in prairies from grasslands to farmlands? What was the effect of this change?

Ans. Hint: Europeans; economic development but environmental degradation.

LET US DO

F. Project

The Dust Bowl, also known as the Dirty Thirties, was a period of severe dust storms that greatly damaged the ecology and agriculture of the US and Canadian Prairies during the 1930s. Collect information about the incident.

Ans. Do it yourself.

VALUE CORNER

G. How can man live in harmony with nature?

Ans. Hint: Through sustainable development.

PERIODIC TEST 2

A. Tick (✓) the correct answers.

1. What can help in locating places on a globe or a map?

(a) Grid (b) Parallels (c) Axis (d) Meridians

2. Which of the following countries is not a neighbour of the Democratic Republic of the Congo?

(a) Uganda (b) Zambia (c) Rwanda (d) Cameroon

3. Which of the following is the main product of Saudi Arabia?

(a) Coal (b) Petroleum (c) Sugarcane (d) Salt

4. Greenland is located towards the northeast of

(a) North Pole (b) Iceland (c) Canada (d) Sweden

5. Which of the following is not a greenhouse gas?

(a) Hydrogen (b) Carbon dioxide

(c) Methane (d) CFC

B. Fill in the blanks.

1. The distance between any two meridians is maximum at the Equator.

2. The Prairies were originally the grazing grounds for bisons.

3. The dense forests in the equatorial region are called tropical rainforests.

4. The Polar regions are the coldest part of our Earth.

5. The holy city of Medina is in Saudi Arabia.

C. State whether True or False.

1. The Tropic of Cancer is marked at $23\frac{1}{2}^{\circ}\text{N}$. True

2. The main language spoken by the people of Saudi Arabia is Persian. False

3. The Prairies are called the 'wheat basket of the world'. True

4. One consequence of global warming is the melting of snow at the

Polar regions.

True

5. In a map, lowlands are shown in dark brown colour.

False

D. Match the following.

Column A

1. DRC is located
2. Greenland is the
3. Grasslands of South America
4. Sand dunes are
5. The Prime Meridian is

Column B

- (a) hills of loose sand.
- (b) are called Pampas.
- (c) marked as 0°.
- (d) largest island in the world.
- (e) in the equatorial region.

E. Answer the following questions.

1. Why is a map less accurate than a globe?

Ans. Unlike a map, a globe can show us the whole Earth at a glance.

2. What is the importance of petroleum for Saudi Arabia?

Ans. Saudi Arabia is very rich in petroleum. It is known as liquid gold due to its economic value in the world. After refining, the crude petroleum gives us petrol, diesel, kerosene, lubricants and gas. Today, Saudi Arabia is the largest producer and exporter of petroleum in the world. The discovery of petroleum has completely changed the life of people in Saudi Arabia.

3. What are the main causes of global warming?

Ans. Recently, it has been noticed that the mean temperature of the Earth and of the atmosphere is increasing due to the greenhouse effect, which is causing global warming. The average increase in the temperature on the Earth and also in the atmosphere is one degree in the last 100 years.

The main greenhouse gases are carbon dioxide, methane and CFCs (Chlorofluorocarbons). The increase of the greenhouse gases in the atmosphere is due to pollution, which is caused by nature and human activity. These gases can easily trap the heat of the sun, and this is called the greenhouse effect.

4. What are the main economic activities in the Prairies?

Ans. European settlers converted these grasslands into farmlands. Now these fertile plains are extensively cultivated. The main cereal crops grown in the Prairies are corn (maize), wheat barley, rye, soyabeans, etc. This region is known as the Wheat Basket of the World. Corn is mostly grown in the eastern part and cotton is the main crop in the southern part of Prairies. A large part of the total production is exported.

5. What is the importance of plateaus?

Ans. A plateau rises suddenly from the surrounding areas and has a flat top. It has steep sides and they are deeply cut by rivers and streams.

The plateaus are very useful for us for the following reasons:

- (i) Some old plateaus are rich in minerals, such as iron, copper, silver, gold, mica,

coal and precious stones.

- (ii) Plateaus in tropical areas are good for growing crops.
- (iii) The waterfalls provide suitable sites for producing hydroelectricity.
- (iv) Some plateaus have rich grasslands which are used for rearing cattle and sheep.
- (v) The natural landscape attracts tourists from all over the world.

ANSWERS

SCIENCE-5
SEMESTER

1

Plant Reproduction



ANSWERS

WARM UP

Baby plants. These structures come from seeds.

CHECKPOINT 1

Name two each of the following:

- | | | |
|--|---------------|---------------|
| 1. Monocotyledonous seeds | <u>Rice</u> | <u>Wheat</u> |
| 2. Dicotyledonous seeds | <u>Bean</u> | <u>Pea</u> |
| 3. Seeds dispersed by wind | <u>Madar</u> | <u>Cotton</u> |
| 4. Seeds dispersed by explosive method | <u>Balsam</u> | <u>Castor</u> |

CHECKPOINT 2

Answer in one word.

- | | |
|--|-----------------------------|
| 1. Plants which do not bear seeds. | <u>Non-flowering plants</u> |
| 2. Moulds and mushrooms produce this for reproduction. | <u>Spores</u> |
| 3. Carrot stores food in this plant part. | <u>Root</u> |
| 4. Rose plant is grown from this part of plant. | <u>Stem</u> |

CHECKPOINT 3

Fill in the blanks.

1. Growing crops in the fields by farmers is called cultivation.
2. Kharif crops are grown in summer season.
3. Fertilisers are obtained from chemical substances.
4. Watering the plants is called irrigation.

CHECK YOUR STUDY

A. Fill in the blanks.

1. Roots, stems, buds and leaves are vegetative parts of a plant.
2. A seed is protected by a seed coat.
3. Water, air and warmth are needed for seed germination.

4. The small shoot emerging from a germinating seed is called a plumule.
5. Plants which are grown in the fields are called crops.

B. Tick (✓) the correct answers.

1. The small root emerging from a germinating seed is called a
 (a) plumule (b) seed coat
 (c) cotyledon (d) radicle
2. Which of these is not a dicotyledonous seed?
 (a) Bean (b) Maize (c) Rajma (d) Pea
3. The seed with a small root and a small shoot is called a
 (a) radicle (b) plumule
 (c) seedling (d) cotyledon
4. Which of these is a rabi crop?
 (a) Wheat (b) Rice (c) Maize (d) Jowar
5. Which of these grow from spores?
 (a) Mushrooms (b) Potato
 (c) Carrot (d) Sweet potato

C. Give one word for the following.

1. Structure formed by flowering plants to produce new plants Seed
2. An agent that helps disperse light-weight seeds Air
3. A method of growing plants from their parts other than seeds Vegetative propagation
4. Planting of healthy seeds Sowing
5. Watering of crops in the fields Irrigation
6. Cutting down of a ripe crop Harvesting

D. Give two examples of each of the following.

- | | | |
|---|--------------------|------------------|
| 1. Plants that reproduce by seeds | <u>Mango</u> | <u>Tomato</u> |
| 2. Plants with two cotyledons | <u>Bean</u> | <u>Pea</u> |
| 3. Seeds which are dispersed by water | <u>Lotus</u> | <u>Coconut</u> |
| 4. Plants that disperse seeds by explosive method | <u>Pea</u> | <u>Castor</u> |
| 5. Plants which reproduce by spores | <u>Mushroom</u> | <u>Mould</u> |
| 6. Plants which reproduce by roots | <u>Carrot</u> | <u>Radish</u> |
| 7. Plants which reproduce by stem cuttings | <u>Rose</u> | <u>Sugarcane</u> |
| 8. Plants that reproduce by leaves | <u>Bryophyllum</u> | <u>Begonia</u> |
| 9. Rabi crops | <u>Wheat</u> | <u>Barley</u> |
| 10. Kharif crops | <u>Rice</u> | <u>Maize</u> |

E. Answer these questions.

1. What are the different ways by which reproduction takes place in plants?

Ans. In plants, reproduction takes place by seeds, spores and plant parts such as roots, stem, buds and leaves.

2. What is the function of a cotyledon?

Ans. A cotyledon stores food for the baby plant inside the seed.

3. How do animals help in seed dispersal?

Ans. Animals eat fruits and throw their seeds here and there. Some seeds get hooked to fur, skin of animals, clothes of people and are carried away to far-off places. In this manner, they help in the dispersal of seeds.

4. What are the features of the seeds dispersed by (a) wind (b) water?

Ans. (a) The seeds dispersed by wind are light and hairy so that they are easily carried away by the wind.

(b) The seeds dispersed by water remain in their fruits. These fruits are either spongy or have fibrous covering which makes them light so that they are carried away by flowing water over long distances.

5. What is germination of seeds?

Ans. The growing of seeds into new plants is called germination of a seeds.

6. What are spores?

Ans. Spores are small, spherical and light structures which help in reproduction. They are found in fungi such as mushrooms and moulds.

7. What is weeding?

Ans. The removal of weeds from the crop is called weeding.

8. What is harvesting?

Ans. Cutting down of a ripe crop is called harvesting.

9. Why are grains stored in godowns?

Ans. Grains are stored in godowns to protect them from getting spoilt by moisture or eaten by rats, birds or insects.

F. Why are seeds usually produced by flowering plants in large numbers?

Ans. Flowering plants usually produce large number of seeds because not all seeds but only those which get suitable conditions for growth are able to grow into new plants.

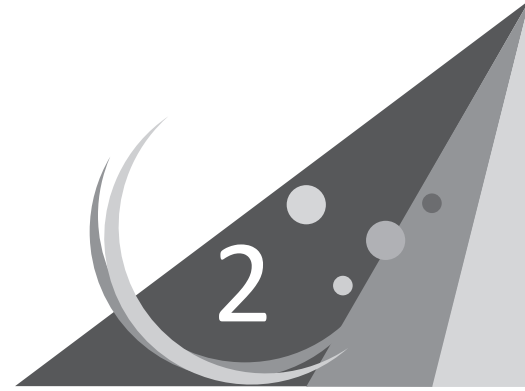
G. Why do cotyledons fall off after the plants grow?

Ans. Cotyledons provide food to the growing seedling. When all the food stored in them is used up and seedling grows into a new plant, they fall off.

H. Amit grows vegetables in his field. He prefers to use manure instead of chemical fertilisers. Is he right in doing so?

Ans. Yes. Manures are made naturally, whereas chemical fertilisers are prepared from chemicals in factories. Excessive use of fertilisers can make the soil less fertile.

Animals and Their Varying Lifestyles



ANSWERS

WARM UP

Sharp spines or Quills on its skin.

CHECKPOINT 1

Name the following:

- | | |
|---|------------------|
| 1. Breathing organs of fish | <u>Gills</u> |
| 2. Small air holes on the sides of an insect's body | <u>Spiracles</u> |
| 3. When on land, a frog breathes through this | <u>Lungs</u> |
| 4. Hair like structures which help <i>Paramecium</i> move | <u>Cilia</u> |
| 5. Long, sucking tube of a butterfly with which it sucks nectar | <u>Proboscis</u> |

CHECKPOINT 2

Write the native place of the following birds and the months during which they visit India.

	Native place	Months of visit
1. Siberian crane	<u>Russia, Siberia</u>	<u>November to February</u>
2. Rosy pastor	<u>Eastern Europe, Central Asia</u>	<u>August to April</u>
3. White stork	<u>Central Europe, West Asia</u>	<u>September to April</u>
4. Spotted sandpiper	<u>Europe, Northern Asia</u>	<u>September to April</u>
5. Brown-headed gulls	<u>Central Asia, Tibet</u>	<u>September to April</u>

CHECK YOUR STUDY

A. Fill in the blanks.

1. Insects breathe through spiracles.
2. The fastest flying insect is dragonfly.
3. Humans who do not eat meat are called vegetarians.
4. A butterfly feeds on nectar with the help of a proboscis.
5. An eel migrates to the Sargasso sea to lay eggs.

B. Write True or False.

1. A fish is an amphibian. False
2. A tiger is a carnivore. True
3. Breathing organs of dogs are gills. False
4. Birds have heavy bones. False
5. Snakes move with the help of scales and legs. False

C. Tick (✓) the correct answers.

1. *Amoeba* breathes through
(a) body surface (b) gills
(c) lungs (d) spiracles
2. A *Paramecium* moves with the help of
(a) legs (b) cilia (c) paws (d) fins
3. An emu is a/an
(a) flying bird (b) flightless bird
(c) reptile (d) insect
4. This is a migratory bird.
(a) Crow (b) Sparrow
(c) Parrot (d) White stork

D. Name the breathing organs in each of the following animals.

1. Frog Skin, Lungs 2. Mosquito Spiracles
3. Man Lungs 4. Cat Lungs
5. Earthworm Skin

E. Define the following.

1. Habitat

Ans. The place where an animal lives, eats, grows and reproduces is called its habitat.

2. Adaptation

Ans. A special feature which an animal develops in order to survive in its habitat is called an adaptation.

3. Herbivores

Ans. The animals which eat only plants are called herbivores.

4. Carnivores

Ans. The animals which eat flesh of other animals are called carnivores.

5. Omnivores

Ans. The animals which eat both plants and flesh of other animals are called omnivores.

6. Migration

Ans. The two-way movement by animals from one place to another to escape harsh weather conditions, in search of food or for reproduction and back again to their place is called migration.

7. Locomotion

Ans. The movement of animals from one place to another is called locomotion.

8. Spiracles

Ans. Small holes on the sides of the body of insects for breathing are called spiracles.

F. Find the odd one out.

1. Locusts, grasshoppers, butterflies, lizards

2. Gills, trachea, legs, spiracles

3. Incisors, fins, flippers, paddles

4. Cassowary, parrot, crow, pigeon

5. Eel, rosy pastor, cat, salmon

G. Answer these questions.

1. How do single-celled animals breathe?

Ans. Single-celled animals breathe through their body surface.

2. How do gills help a fish breathe?

Ans. Gills take oxygen from water and pass it into the blood. They take carbon dioxide from blood and give out into the water. In this way, gills help a fish breathe.

3. What kind of movement do earthworms show?

Ans. Earthworms show crawling movement by changing their body shape.

4. How do different fins of a fish help it swim?

Ans. The paired fins of a fish help it in moving forward and in maintaining balance while tail fin helps in changing the direction while swimming.

5. Explain how birds take off and land while flying.

Ans. Birds take off by flapping their wings in downward and backward directions. This lifts their body upwards and makes them move forwards. Birds use their tail feathers and hindlimbs for landing. Tail feathers act as brakes slowing down their speed and the birds come down on their legs.

6. How are the teeth of herbivores different from those of carnivores?

Ans. Herbivores have large incisors and broad molar teeth that help them cut the grass and leaves, and grind and chew well. Carnivores have sharp canines for tearing the flesh.

7. How does a frog catch its food?

Ans. Frogs have long, sticky tongue folded on the floor of their mouth. It is flipped at the prey. The prey gets stuck and then it is pulled into the mouth.

8. How is a salmon different from an eel?

Ans. A salmon lives in sea and migrates to lay eggs in river water, while an eel lives in river and migrates to Sargasso sea to lay eggs.

9. Write the function of each type of tooth.

Ans. (a) Incisors are used to cut food.

(b) Canines are used to tear flesh.

(c) Premolars and molars are used to chew and grind the food.

10. Name three migratory birds. Why do birds migrate?

Ans. Three migratory birds are Siberian crane, Arctic tern and white stork. Birds migrate to get plenty of food, water and favourable conditions of temperature and for breeding.

H. Give reasons for the following:

1. A cockroach will die if put in water.

Ans. Cockroach breathes through small air holes called spiracles on its body. In water, all the spiracles on its body will get blocked and no exchange of gases would take place. This will stop breathing and the cockroach will die ultimately.

2. A fish dies when taken out of water.

Ans. A fish breathes oxygen dissolved in water through its gills. Outside water, its gills dry up and exchange of gases stops. Hence it dies.

3. Emus and rheas are the exceptions among birds.

Ans. Like other birds, Emus and Rheas have wings but they cannot fly because they have heavy body and weak wings.

4. Birds are like sailors.

Ans. Birds are like sailors because they find their path and direction with the help of the position of sun, moon and stars.

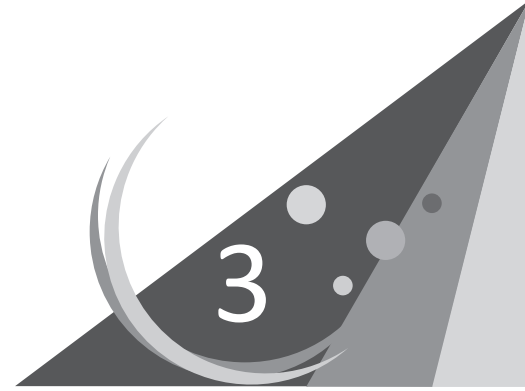
5. Geese fly in a V-shape.

Ans. In V-shape group, geese fly with less efforts. This saves their energy.

6. Snakes do not possess legs.

Ans. Snakes move with the help of plates and scales attached to the underside of their body. This helps them move through their narrow burrows.

The Skeletal System



ANSWERS

WARM UP

X-ray

CHECKPOINT 1

Change the underlined words to make correct statements. Rewrite the correct statements in the space provided.

1. We have 306 bones in our body.
We have 206 bones in our body.
2. The vertebral column is made up of 12 small ring-shaped bones called vertebrae.
The vertebral column is made up of 33 small ring-shaped bones called vertebrae.
3. There are 24 pairs of ribs in human body.
There are 12 pairs of ribs in human body.
4. Knees and elbows are formed of ball and socket joints.
Knees and elbows are formed of hinge joints
5. Tibia is the longest bone in our body.
Femur is the longest bone in our body.

CHECKPOINT 2

Fill in the blanks.

1. Our body has three different types of muscles.
2. Muscles are made up of muscle fibres.
3. Smooth muscles do not have bands.

CHECK YOUR STUDY

A. Fill in the blanks.

1. Bones are held together at a joint by a tissue called ligament.
2. A fatty substance called bone marrow is present inside some bones.
3. The cranium is made up of 8 flat bones.

5. Differentiate between the following:

- (a) ligament and tendon
- (b) hinge joint and ball and socket joint

Ans. (a) Ligament is a tissue that holds the bones together at a joint, while tendon is a tissue which joins muscles to bones.

(b) A joint which allows bones to move in one direction only is called hinge joint. Knees and elbows are formed of hinge joints. The joint which allows movement of bones in almost all directions is called ball and socket joint. This joint is found in our hips and shoulders.

6. What are the voluntary and involuntary muscles?

Ans. Voluntary muscles work under our control, e.g., muscles of arms, legs, hands, etc. Involuntary muscles do not work at our will, e.g., muscles of heart, stomach, etc.

7. How do muscles work?

Ans. Muscles work in pairs by alternately contracting and relaxing causing movements in the body parts.

8. How can we keep our muscles strong?

Ans. We can keep our muscles strong by doing exercises regularly and eating a balanced diet.

E. Complete the crossword puzzle with the help of given clues.

Down

1. This joint is present in our elbows.

3. Tissue which joins muscles to bones .

4. This organ is protected by the skull.

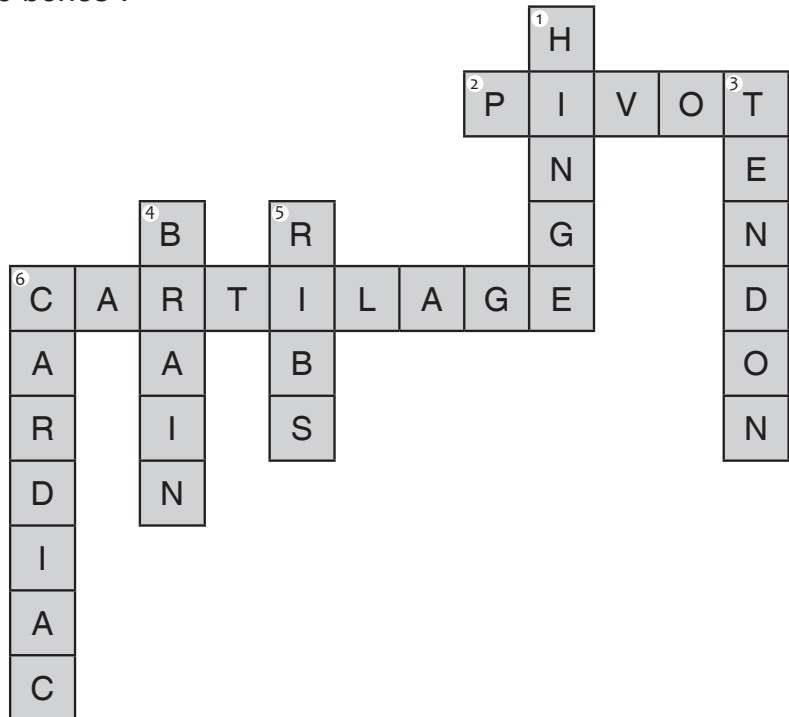
5. They are 12 pairs in our chest.

6. Heart is made up of these muscle fibres.

Across

2. A joint between the first and the second vertebrae.

6. A type of tissue present between most of the vertebrae.



F. Give reasons for the following:

1. Movement of food from the foodpipe to the stomach is involuntary.

- Ans.** The foodpipe is made up of involuntary muscles. Its alternate contraction and relaxation movements pass food to the stomach.
2. The heart keeps working day and night, all through your life.
- Ans.** This is because the heart is made up of strong cardiac muscles which work continuously without getting retired.
3. We can move our neck in all directions but not our knee.
- Ans.** The pivot joint found between the skull and first vertebra of backbone allows neck to move in all directions while the hinge joint found in the knee allows the movement of bones in one direction only.

The Nervous System



4

ANSWERS

WARM UP

A woman is getting her eyes checked up.

CHECKPOINT 1

State True or False.

1. The spinal cord is the control centre of our body. False
2. Motor nerves carry messages from the sense organs to the spinal cord and the brain. False
3. Medulla controls involuntary actions like breathing and heartbeat. True
4. Cerebellum is the largest part of the brain. False
5. Reflex actions are involuntary actions. True

CHECKPOINT 2

Fill in the blanks.

1. Eyelids and eyelashes protect eyes from dust.
2. The eardrum is connected to middle ear.
3. The taste buds have nerve endings in them.
4. Waste through skin comes out as sweat.
5. The hair in nose act as filter to clean the breathed in air.

CHECK YOUR STUDY

A. Fill in the blanks.

1. Cerebrum is the biggest part of the brain.
2. Cerebellum controls our voluntary movements.
3. Each nerve cell has a cell body, dendrites and an axon.
4. The black spot in the centre of eye is called pupil.
5. The motor nerves carry messages from the brain to the muscles.

4. What are the three main parts of our ears?

Ans. The three main parts of our ears are external ear, middle ear and internal ear.

5. How can you take care of your eyes?

Ans. We can take care of the eyes as follows:

- (a) Wash the eyes regularly every morning and evening.
- (b) Do not read in moving vehicles.
- (c) Do not read in dim or very bright light.
- (d) Do not watch television for long, and sit at least ten feet away from it.
- (e) Never lie down while watching the television.
- (f) Do not rub eyes with dirty hands.
- (g) Never wipe the eyes with a dirty handkerchief.

6. Name the different parts of the eye. What are their functions?

Ans. Different parts of the eye and their functions are as follows:

- (a) **Cornea:** Light enters the eye through cornea.
- (b) **Iris:** It controls the amount of light that enters our eyes and gives colour to the eyes.
- (c) **Pupil:** It is an opening through which light enters.
- (d) **Optic Nerve:** This nerve carries messages from the eye to the brain.

7. How can we take care of our ears?

Ans. We can take care of ears as follows:

- (a) Avoid hearing loud music.
- (b) Never use a matchstick or a hairpin to clean ears.
- (c) Use earbuds to clean ears regularly.
- (d) Consult a doctor in case of an earache.

8. How can we take care of our skin?

Ans. We can take care of skin as follows:

- (a) Bathe daily. This removes dirt and sweat from the skin.
- (b) Wear clean and comfortable clothes. Very tight fitted clothes do not allow fresh air to pass through them when the weather is warm.
- (c) An antiseptic cream or lotion should be applied to a cut or a scratch on skin to avoid infection.

E. Why should a pin not be used to clean the ears.

Ans. Using a pin to clean the ears can damage the eardrum. Also, it can lead to infections.

F. What will happen if the cerebrum of a person gets affected?

Ans. If the cerebrum of a person gets affected, he will not be able to think, learn, remember, speak, feel, decide and remember the things.

G. Vartika happened to touch a hot plate accidentally and dropped it immediately. Why did this happen? Which part of the nervous system is playing a role in this? Explain.

Ans. This happened because of an automatic reaction which takes place in our body without our thinking. It is called reflex action. Spinal cord is involved in this reaction.

For example, when we touch a hot object, the sensory nerves from skin convey the message of hotness to the spinal cord. The spinal cord sends instructions through the motor nerves to the muscles of hand to withdraw the hand.

H. Aadya was finding it difficult to read what her teacher had written on the blackboard. Her teacher advised her to go for an eye-checkup. Why?

Ans. Aadya is not able to read, so her teacher advised her to go for an eye-check up to get treated for her defective eyesight.

PERIODIC TEST 1

Time: 45 Minutes

Maximum Marks: 30

A. Fill in the blanks by choosing correct words from the box. (5)

root nerve hooks vegetarians femur

1. Cocklebur seeds have hooks to stick to the fur of animals.
2. Carrot stores food in its root.
3. Humans who do not eat meat are called vegetarians.
4. Femur is the longest bone in our body.
5. The taste buds have nerve endings in them.

B. Write True or False. (5)

1. Sycamore seeds have tuft of hair to float in air. False
2. Birds have hollow air-filled bones. True
3. A butterfly has a long sucking tube called proboscis. True
4. Involuntary muscles work under our control. False
5. Cerebellum is the largest part of the brain. False

C. Match the following. (5)

Column A

Column B

- | | |
|-----------------|------------------|
| 1. Sweet potato | (a) Spores |
| 2. Mushroom | (b) Flippers |
| 3. Insects | (c) Breastbone |
| 4. Penguin | (d) Tuberos root |
| 5. Sternum | (e) Spiracles |

D. Name the following. (5)

1. A monocot seed Rice
2. A plant grown by stem cutting Rose
3. Breathing organs of fish Gills
4. A ring-shaped small bone of spine Vertebra
5. The coloured part of the eye Iris

E. Answer these questions. (10)

1. What is the function of a cotyledon?

Ans. A cotyledon stores food for the baby plant inside the seed.

2. How do birds take off and land while flying?

Ans. Birds take off by flapping their wings in downward and backward directions. This lifts their body upwards and makes them move forwards. Birds use their tail feathers and hindlimbs for landing. Tail feathers act as brakes slowing down their speed and the birds come down on their legs.

3. Why do birds migrate? Name any two migratory birds.

Ans. Two migratory birds are Siberian crane and white stork. Birds migrate to get plenty of food, water and favourable conditions of temperature and for breeding.

4. What are the functions of vertebral column?

Ans. (a) Vertebral column supports the back of our body.

(b) It protects the delicate spinal cord passing through it.

5. What are the functions of the nervous system?

Ans. Nervous system makes us aware of our surroundings. It controls and coordinates the working of all the other systems of the body.



ANSWERS

WARM UP

Yes, the food is nutritious because it contains fresh vegetables and sprouts in it.

CHECKPOINT 1

Give two examples each of the following:

- | | | |
|----------------------------|---------------------|------------------|
| 1. Energy-giving nutrients | <u>Potato</u> | <u>Butter</u> |
| 2. Protective nutrients | <u>Mango</u> | <u>Tomato</u> |
| 3. Fat-soluble vitamins | <u>Vitamin A</u> | <u>Vitamin D</u> |
| 4. Water-soluble vitamins | <u>Vitamin B</u> | <u>Vitamin C</u> |
| 5. Sources of roughage | <u>Whole grains</u> | <u>Nuts</u> |

CHECKPOINT 2

Write True or False.

- | | |
|---|--------------|
| 1. A balanced diet mainly contains energy-giving foods. | <u>False</u> |
| 2. Balanced diet is same for everyone. | <u>False</u> |
| 3. Exercise keeps us healthy. | <u>True</u> |
| 4. We need rest and sleep to keep our body fit. | <u>True</u> |

CHECK YOUR STUDY

A. Fill in the blanks.

1. Glucose, a carbohydrate, gives instant energy.
2. Proteins are required for growth and repair of the body.
3. Fats contain double the amount of energy as carbohydrates.
4. Vitamin K is required for clotting of blood.
5. Iron is present in haemoglobin which carries oxygen.

B. Write True or False.

- | | |
|---|--------------|
| 1. Lemon is a rich source of vitamin A. | <u>False</u> |
| 2. Calcium is required for strong bones, teeth and muscles. | <u>True</u> |

3. Vitamins A, D, E and K are water-soluble vitamins. False
4. Vitamin D keeps the skin healthy. False
5. Water helps in the transport of substances within the body. True

C. Tick (✓) the correct answers.

1. Which of the following is not a nutrient of food?
 (a) Fat (b) Carbohydrate
 (c) Roughage (d) Protein
2. It is an energy-giving food.
 (a) Potato (b) Onion
 (c) Carrot (d) Fish
3. This is the richest source of vitamin C.
 (a) Milk (b) Egg
 (c) Gooseberry (d) Butter
4. To keep bones and teeth healthy we should drink
 (a) Water (b) Cola (c) Tea (d) Milk
5. Water removes waste in the form of urine and
 (a) Sweat (b) Heat (c) Oil (d) Salt

D. Answer these questions.

1. What are nutrients? Name different nutrients.

Ans. Nutrients are the substances, found in food, which keep our body healthy. They are carbohydrates, fats, proteins, vitamins and minerals.

2. How are carbohydrates and fats useful to us?

Ans. Carbohydrates and fats provide energy to our body to do work.

3. Proteins need to be present in the food we eat. Why?

Ans. Proteins help the body to grow, build new cells and tissues, and to repair them when damaged.

4. What is a balanced diet?

Ans. A diet which contains all the nutrients in right amount is called a balanced diet.

5. Why should we drink 6–8 glasses of water every day?

Ans. We should drink 6–8 glasses of water every day to enable the body to carry out all the functions properly.

6. Why is exercise important for us?

Ans. Exercise is important to maintain a healthy body. It keeps us energetic and active.

7. How are vitamins classified? How are they useful to us?

Ans. Vitamins are classified as fat-soluble vitamins such as vitamins A, D, E and K and water-soluble vitamins such as vitamins B and C. Vitamins help us to fight and protect ourselves from diseases. They help in keeping our bones, teeth, gums and eyes healthy.

8. What is the importance of roughage in our diet?

Ans. Roughage is an essential part of our diet because it helps in bowel movement and prevents constipation.

E. Give reasons for the following.

1. Ramu, a labourer, eats eight chapatis for dinner while Radhu, a clerk, eats only two.

Ans. Ramu does more physical work so he needs more carbohydrates in his diet to get more energy. On the other hand, Radhu does not have to do physical work, so he needs less energy and hence, eats only two chapatis.

2. Salma's mother insists that she eat pulses every day for lunch.

Ans. Pulses are rich source of proteins. Proteins help in the growth of the body, building new cells and tissues. As Salma is a child, she needs more proteins for the growth of her body.

3. Peter goes to sleep at ten at night and gets up at five in the morning.

Ans. Proper rest and sleep are important for a healthy body because during sleep, our body repairs its wear and tear.

4. Atharv's mother makes sure that he drinks milk every day.

Ans. Milk contains carbohydrates, fats, proteins, minerals and all the vitamins except vitamin C. It gives energy and helps in the growth of the body. It also makes bones and teeth strong and healthy, and helps to fight against diseases.

Health and Diseases



ANSWERS

WARM UP

Body temperature

CHECKPOINT 1

State True or False.

1. Cholera and jaundice are spread through air. False
2. Immunity is the ability of the body to fight and kill germs. True
3. Malaria is caused by a protozoan which is carried by *Aedes* mosquito. False
4. Vaccine contains dead or weakened germs. True
5. Meningitis is caused by a virus. False

CHECKPOINT 2

Fill in the blanks.

1. Non-communicable diseases are not caused by germs.
2. Deficiency diseases can be avoided by eating a balanced diet.
3. Eating excess of fats causes obesity.
4. Hypervitaminosis affects liver and kidneys.

CHECK YOUR STUDY

A. Fill in the blanks.

1. Diseases can be grouped as communicable and non-communicable diseases.
2. Disease-causing microorganisms are called germs.
3. Malaria spreads through insect (mosquito) bite.
4. Sunlight is a natural disinfectant.
5. Vaccination for chickenpox can be given at any age.

B. Match the following deficiency diseases with the nutrients.

- | | |
|--------------------|-----------------------|
| 1. Anaemia | (a) Vitamin B complex |
| 2. Scurvy | (b) Iodine |
| 3. Beri-beri | (c) Vitamin A |
| 4. Night blindness | (d) Vitamin C |
| 5. Goitre | (e) Iron |

C. Find the odd-one out.

1. Chickenpox, tuberculosis, typhoid, **scurvy**
2. Typhoid, cholera, pneumonia, **malaria**
3. Scurvy, rickets, beri-beri, **obesity**
4. **Malaria**, dengue, measles, polio

D. Tick (✓) the correct answers.

1. Which of these is a bacterial disease?
 (a) cholera (b) common cold (c) polio (d) dengue
2. Which of these diseases is caused by a protozoa?
 (a) measles (b) AIDS (c) malaria (d) dengue
3. Which of these diseases is spread through direct contact?
 (a) malaria (b) dengue
 (c) chickenpox (d) typhoid
4. Which of these symptoms may occur due to the deficiency of vitamin C?
 (a) loss of appetite (b) bleeding gums
 (c) weak bones (d) ulcers in the eye
5. Overeating of fats may lead to
 (a) chickenpox (b) rabies (c) obesity (d) ringworm

E. Answer these questions.

1. What is a disease?

Ans. Disease is an unhealthy condition of the body in which the affected person is not able to carry out normal life activities.

2. Differentiate between communicable and non-communicable diseases.

Ans.

Communicable Diseases	Non-communicable Diseases
1. These are caused by germs.	1. These are caused due to deficiency of some nutrient or over-nutrition or malfunction of a body part.
2. They spread from one person to other persons.	2. They do not spread from one person to other persons.

3. How are infectious diseases spread?

Ans. Infectious diseases spread through direct contact, air, contaminated food and water, animal bite and insects.

4. Give any five ways to prevent communicable diseases.

Ans. Ways to prevent communicable diseases are as follows:

- (a) Keep the surroundings clean.
- (b) Throw garbage into dustbins. Use only covered bins.
- (c) Take bath regularly and wear clean clothes.
- (d) Wash hands before and after meals.
- (e) Do not eat uncovered food from roadside stalls.

5. How does malaria spread?

Ans. When a female *Anopheles* mosquito bites an infected person, malaria-causing protozoa are sucked up alongwith blood. When this mosquito bites a healthy person, the protozoa are transferred into the blood of the person. This causes malaria to the healthy person.

6. What is vaccination?

Ans. The process of injecting or introducing a vaccine into the body for protection against a disease is called vaccination.

7. What is immunity?

Ans. Immunity is the ability of the body to fight and kill the germs.

8. State three wrong food habits.

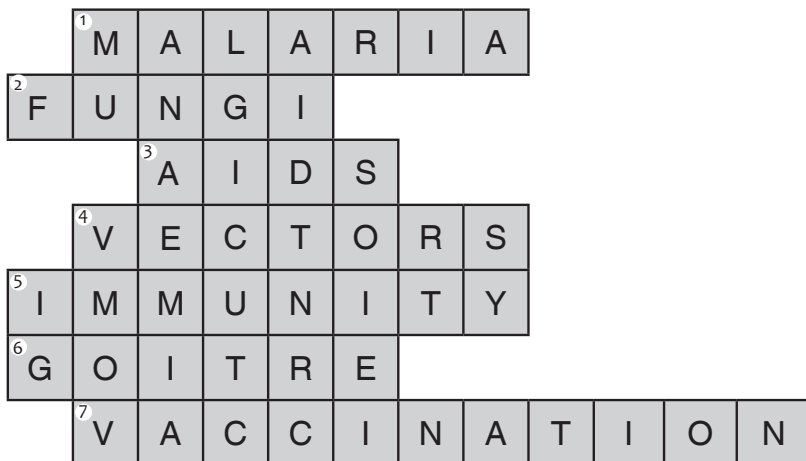
Ans. Three wrong food habits are as follows:

- (a) Taking too much of common salt in diet which may lead to high blood pressure or even obesity.
- (b) Taking excessive fat-soluble vitamins A, D, E and K in the form of pills which can lead to hypervitaminosis.
- (c) Eating excess of fried and fatty foods which leads to obesity.

F. Solve the crossword with the help of given clues.

1. A disease caused by a protozoan
2. Ringworm is caused by this microorganism
3. A viral disease
4. Living organisms which transmit germs
5. Ability of the body to fight and destroy germs
6. A disease caused due to the deficiency of iodine

7. A process of injecting dead or weakened germs into the body of a healthy person



G. Give reasons for the following.

1. Rehan is suffering from rickets. The doctor has advised him to sit in the sun for an adequate period of time.

Ans. Rickets is caused due to the deficiency of vitamin D. Our body prepares vitamin D in the presence of sunlight.

2. Anu's mother changes the water of the cooler every two or three days.

Ans. Changing of the water of cooler every two or three days prevents the breeding of mosquitoes.

3. Tushaar eats burgers and chips every day but does not eat fresh fruits and green vegetables. He gets tired very soon and looks pale.

Ans. Not eating fresh fruits and green vegetables leads to mineral and vitamin deficiencies. This makes the body weak and sick.

4. Mohan and Rohan are brothers. They share their clothing, handkerchief and food. If Mohan suffers from common cold, Rohan too suffers from common cold.

Ans. Common cold is an infectious disease. Sharing towel and handkerchief with a common cold patient spreads the germs and makes a healthy person sick.

5. Your parents do not allow you to meet your friends when you are sick.

Ans. Staying away from a sick person stops the spread of disease.



ANSWERS

WARM UP

U-turn

CHECKPOINT 1

Tick (✓) the correct word.

1. We should follow the traffic rules sometimes/strictly (✓).
2. We should wear nylon/cotton (✓) clothes while cooking.
3. Fire caused by petrol should be put out by throwing water/sand (✓).

CHECKPOINT 2

Write True or False.

1. First aid helps in saving a life. True
2. A burn damages the skin. True
3. Snake poison affects digestive system of the body. False
4. Insect bite causes sprain in the body. False

CHECK YOUR STUDY

A. Fill in the blanks.

1. Sudden events which cause pain, injury or even death are called accidents.
2. We should follow road signs to avoid road accidents.
3. High beam headlights should be avoided at night.
4. Never throw water on fire caused by electricity.
5. Apply antiseptic cream to a wound to prevent infection.

B. Give one word for the following.

1. First help given to the victim before the doctor arrives. First aid
2. Condition when the tissue around a joint gets torn due to a sudden jerk. Sprain
3. Toxic substances harmful to the body Poisons
4. Support used to prevent movement of a fractured bone Splint
5. Watery eruptions on the skin formed as a result of burns Blisters

C. Write True or False.

1. Blisters due to burning should be pricked. False
2. In case of a cut, keep the wound at a level higher than the rest of the body. True
3. Medicines should be accessible to all the family members. False
4. Cotton clothes should be worn while cooking food. True

D. Tick (✓) the correct answers.

1. Road accidents can be caused due to
(a) cooking gas (b) electricity (c) overspeed (d) petrol
2. Which of the following should not be followed by pedestrians?
(a) They should play on the road.
(b) They should always walk on the footpath.
(c) If there is no footpath, they should walk on the right side of the road.
(d) They should not run on the road.
3. In case of a gas leakage, which of the following should not be done?
(a) Open all doors and windows.
(b) Do not light any matchstick.
(c) Switch on all electrical appliances.
(d) None of these
4. Which of the following should not be done while driving a vehicle?
(a) Drive within speed limit (b) Avoid overtaking
(c) Use mobile phones (d) Wear seat belt

E. Answer these questions.

1. What is first aid?

Ans. The first help given to a sick or an injured person before the medical treatment is available is called first aid.

2. What rules should one follow while driving on the road?

Ans. One should follow the following safety rules:

- (a) Follow the traffic rules strictly.
- (b) Do not use mobile phones while driving.
- (c) Wear the seat belt while driving.
- (d) On a two-wheeler, the driver as well as the pillion rider should wear a helmet.
- (e) Avoid zig-zag driving.
- (f) Avoid overtaking. If required, it should be done from the right side.

3. How will you put out a fire caused by faulty wiring?

Ans. Fire caused due to faulty wiring can be put out by throwing sand over it.

4. What will you do if your friend's clothes catch fire?

Ans. When clothes catch fire, make the person roll on the floor or cover with a blanket as it would cut the air supply and extinguish the fire.

5. What first aid should be given in the following cases?
 (a) nose bleed (b) a fracture (c) a sprain (d) cuts and wounds

- Ans.** (a) • Let the person sit upright.
 • Tilt his/her head slightly forward.
 • Press the soft part of the nose for some time.
 • Place an ice-pack or a wet cloth on the nose till the bleeding stops.
 • Ask the person to breathe through the mouth for some time.
- (b) • Do not move the patient.
 • Use an ice pack on the affected area.
 • Use a splint to prevent further movement of fractured arm or leg.
 • Do not let the fractured arm to hang down straight. Use a sling to give support to the broken limb.
- (c) In case of sprain, apply an ice pack followed by pain relieving cream on sprained area and tie a crepe bandage or clean cloth giving complete rest to the affected part.
- (d) In case of cuts and wounds, wash the wound with soap and water, apply an antiseptic cream and tie a bandage or clean cloth over the wound.

6. Write down some precautions for handling poisonous substances at home.

Ans. Poisonous substances should be kept with labels on them, tightly closed and out of the reach of children.

F. Solve the crossword puzzle with the help of given clues.

1. A crack or a break in a bone
2. To make something free from germs
3. An injury when the tissue around a joint gets torn
4. Chemical applied to wounds to kill germs
5. Watery eruptions on the burnt skin
6. This should get done to check for a fracture
7. A substance which is toxic and harmful to the body
8. A person walking on the road

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⁸		P	E	D	E	S	T	R	I	A	N										

G. Give reasons for the following.

1. Micky put sand on fire caused due to an electric short circuit.

Ans. Since water is a good conductor of electricity and one may get an electric shock, the fire caused due to electric short circuit should be extinguished by throwing sand over it.

2. Tarun saw a 'No Smoking' board at a petrol pump.
Ans. Petrol is a highly inflammable substance. A single drop of petrol can catch fire and become hazardous.
3. Your school bus conductor instructs you not to put your hand out of the window.
Ans. Putting a body part out of the window of a moving bus can cause injury.
4. Rajiv's mother asks him not to play on the road.
Ans. Playing on the road may cause an accident and may also put others' life in danger.
5. Sumit saw a person's clothes catching fire. He immediately wrapped a blanket around him.
Ans. Wrapping a blanket around a fire would cut the air supply and the fire will be extinguished.
6. If an animal bites someone, the wound should be washed with soap and lots of water.
Ans. The saliva of animals contains deadly germs. Washing the wound with soap and lots of water will wash away saliva and stop the entry of germs into the body.

PERIODIC TEST 2

Time: 45 Minutes

Maximum Marks: 30

A. Fill in the blanks by choosing correct words from the box. (5)

proteins sling cotton kharif germs

1. Kharif crops are grown in summer season.
2. Proteins are required for growth and repair of the body.
3. The disease-causing microorganisms are called germs.
4. One should wear cotton clothes while cooking food.
5. A sling is a triangular cloth used to support the broken limb.

B. Write True or False. (5)

1. Snakes move with the help of scales and legs. False
2. Vitamin E keeps the skin healthy. True
3. Cholera and jaundice are spread through air. False
4. A car driver can use a mobile phone while driving. False
5. Fire caused by petrol can be put out by throwing sand on it. True

C. Match the following. (5)

- | Column A | Column B |
|-------------|-------------------------------|
| 1. Cerebrum | (a) <i>Anopheles</i> mosquito |
| 2. Iron | (b) Dog bite |
| 3. Malaria | (c) Thinking |
| 4. Rabies | (d) Iodine |
| 5. Goitre | (e) Haemoglobin |

D. Tick (✓) the correct answers. (5)

1. The number of bones in our skull is
(a) 22 (b) 26 (c) 33 (d) 36
2. To keep bones and teeth healthy, we should drink
(a) Tea (b) Milk (c) Water (d) Cola
3. Which of these diseases is spread through direct contact?
(a) Malaria (b) AIDS
(c) Chickenpox (d) Dengue
4. Which of the following is a bacterial disease?
(a) Polio (b) Dengue (c) Cholera (d) Common cold
5. One should cross the road at
(a) Footpath (b) Zebra crossing
(c) Anywhere (d) Left side

E. Answer these questions.

(10)

1. How do single-celled animals breathe?

Ans. Single-celled animals breathe through their body surface.

2. How are vitamins classified? How are they useful to us?

Ans. Vitamins are classified as fat-soluble vitamins such as vitamins A, D, E and K and water-soluble vitamins such as vitamins B and C. Vitamins help us to fight and protect ourselves from diseases. They help in keeping our bones, teeth, gums and eyes healthy.

3. What is the importance of roughage in our diet?

Ans. Roughage is an essential part of our diet because it helps in bowel movement and prevents constipation.

4. What is a disease? How does malaria spread?

Ans. Disease is an unhealthy condition of the body in which the affected person is not able to carry out normal life activities.

Malaria spreads from an infected person to a healthy person. When a female *Anopheles* mosquito bites an infected person, malaria-causing protozoa are sucked up along with blood. When this mosquito bites a healthy person, the protozoa are transferred into the blood of the person. This causes malaria to the healthy person.

5. What first aid should be given in case of a sprain?

Ans. In case of sprain, apply an ice pack followed by pain relieving cream on sprained area and tie a crepe bandage or clean cloth giving complete rest to the affected part.