ENGLISH–5

SEMESTER

2

Contents

1. 'I don't have a flower'

WARM UP

Match the flowers with their names.

Hibiscus   Marigold   Chrysanthemum   Jasmine

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. What were distributed at the emperor's castle?

   (a) Gold coins ☐   (b) Seeds ✓   (c) Fruits ☐

2. Chang loved growing

   (a) flowers ✓   (b) vegetables ☐   (c) silkworms ☐

3. The emperor was happy with Chang because he was

   (a) dishonest ☐   (b) liar ☐   (c) honest ✓

B. Write True or False.

1. The Chinese emperor ruled his country fairly and wisely.   **True**

2. An idea occurred to the emperor when he was sleeping.   **False**

3. Chang was sure that his flower would be the most beautiful.   **True**

4. The emperor admired Chang's flower.   **False**

5. It is all right to be dishonest if no one finds out the truth.   **False**

C. Answer these questions.

1. Why was the emperor worried?

Ans. The emperor was worried because he was afraid that he wouldn't find a good successor.

2. Why was Chang sad?

Ans. Chang was sad because his seed did not flower.

3. How did Chang's father encourage him?

Ans. Chang's father encouraged him by saying that he had tried his best and should show the pot to the king.

4. What did Chang tell the emperor?

Ans. Chang told the emperor the truth. He told the emperor that in spite of his best efforts, the seed did not grow into a flower.

5. Do you think Chang was the right choice to be the next king? Why?

Ans. Yes, because he was an honest and truthful boy.

THINK AND ANSWER

D. Why did the seeds not flower?

Ans. Because they were boiled. Boiling kills the baby plant present in the seed.

GRAMMAR IS FUN

E. Use the following verbs as infinitives and complete the sentences.

> stay   learn   flower   make   bake

1. Tia wanted **to learn** karate.
2. Mother has planned **to bake** a cake in the evening.
3. The teacher told us **to make** a poster on water conservation.
4. I exercise **to stay** fit.
5. Chang wanted the seed **to flower**.

F. Use appropriate gerunds from the box to fill in the blanks.

> smoking   playing   walking   singing

1. Sonam has a sweet voice and is good at **singing**.
2. I enjoy **walking** in the morning in the nearby park.
3. My uncle has decided to stop **smoking**.
4. Mini is good at **playing** the guitar.

SPELL WELL

G. Tick (✓) the correct spellings.

1. The emperor wanted to find a good sucessor/successor✓.
2. An idea occurred✓/ocurred to him.

3. Strangely✓/strangley the seed did not flower.

4. To everyone's amazment/amazement✓, the emperor hugged the boy.

WORD POWER

H. Find ten words connected with honesty in this word grid.

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

I. Underline the phrasal verbs in these sentences.

1. Hari is perfectly <u>cut out</u> to be a soldier.

2. I am looking <u>forward to</u> the holidays.

3. My mother never allows us to <u>get away</u> with laziness.

4. <u>Watch out</u> for the next exciting episode!

5. <u>Turn on</u> the lights please.

LET'S LISTEN

J. Your teacher will read the statements from the listening text or you can listen to them on the Digital Board. Answer Yes or No.

1. <u>**No**</u>

2. <u>**No**</u>

3. <u>**Yes**</u>

4. <u>**Yes**</u>

WRITE WELL

N. Think and write of a situation or a day when you lied to your mother but did not get caught. How did you feel? Write a paragraph about it.

Ans. One day, I was playing with a ball in my room. The ball hit a flower vase and it fell down and broke. After some time, my mother came into the room. She was angry to see the broken flower vase. She called me and asked, "Did you break the vase?" I said, "No". Then I told her that I had seen a cat in the room and it might have broken the vase. My mother did not punish me. Initially, I felt happy but then I began to feel sorry for lying to

my mother. It was very wrong on my part to tell a lie. I went straight to my mother and told her the truth. She patted me and said, "I am really proud of you for telling the truth."

DICTIONARY SKILLS

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

Ans. 1. castle: A large strong building built in the past by a ruler or important person.

2. advisor: A person who gives advice in a particular field.

3. amazement: A feeling of wonder or surprise.

4. hug: To embrace.

ACTIVITY/PROJECT

P. Let's make flowers.

STEP 1: Take blue, yellow and red chart papers.

STEP 2: Cut blue and yellow papers into strips and cut red paper into circular and semicircular shapes.
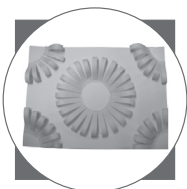
STEP 3: Fold the blue strips in swirl shape from one side.

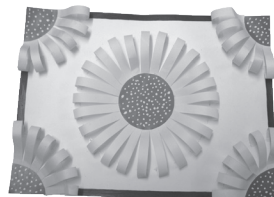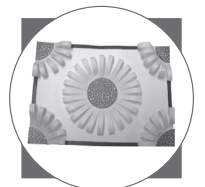**STEP 4:** Paste the blue strips in the corners of the sheet as shown.

STEP 5: Paste the yellow strips in the round shape as shown.

STEP 6: Fold the yellow strips and paste them from one end to other end as shown.

STEP 7: Paste the red semicircles in the corners and circles in the centre. Make dots using yellow colour which enhances the beauty of the flowers.

Ans. Do it yourself.

1. A Poem as Lovely as a Tree (Poem)

ANSWERS

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Who thinks that a tree is a good poem?

   (a) The poet ✓   (b) The tree ☐   (c) God ☐

2. The 'hungry mouth' of a tree is the

   (a) leaves ☐   (b) roots ✓   (c) fruits ☐

3. The poet calls himself

   (a) wise ☐   (b) a fool ✓   (c) poor ☐

4. Who can make a tree?

   (a) God ✓   (b) Poet ☐   (c) Writer ☐

B. Make sentences with the following words.

1. Lovely _____

2. Fool _____

3. Hungry _____

4. Sweet _____

Ans. Do it yourself.

C. Answer these questions.

1. Which is the loveliest poem according to the poet?

Ans. A tree.

2. How does a tree pray?

Ans. She prays by lifting her leafy arms.

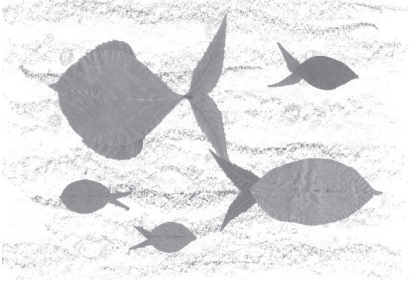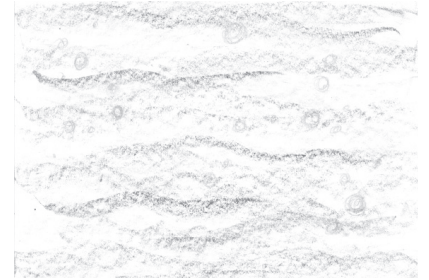3. Who build a nest in the tree?

Ans. Robins.

4. Why does the poet call himself a fool?

Ans. He calls himself a fool because he cannot create what God has created.
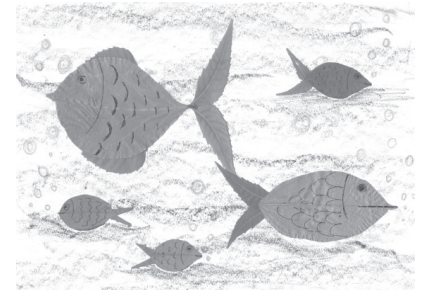
ACTIVITY/PROJECT

D. Follow the steps to make a leaf collage.

STEP 1: First colour the background with crayons as shown.

STEP 2: Collect some fallen leaves from a nearby park and paste them on the sheet in the shape of fish.

STEP 3: Finally, draw the mouth, eye and scales to complete the fish.

Ans. Do it yourself.

2. A Speech to Save the Environment

ANSWERS

WARM UP

Match the following.

1. World Ozone Day — (a) 11 July
2. World Environment Day — (b) 16 September
3. World Population Day — (c) 22 April
4. World Earth Day — (d) 5 June

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Severn Suzuki is speaking on behalf of which organisation?

   (a) UN ☐   (b) ECO ✓   (c) FAO ☐

2. Severn Suzuki is fighting for the

   (a) past ☐   (b) future ✓   (c) present ☐

3. Plants and animals are becoming

   (a) extinct ✓   (b) endangered ☐   (c) surplus ☐

B. Write True or False.

1. Severn Suzuki wants to speak for all generations to come. **True**
2. The air we breathe is good for our health. **False**
3. The money spent on war can be spent on improving the condition of the environment. **True**
4. At school, we are taught how to behave in the world. **True**
5. We should not hurt other creatures. **True**

THINK AND ANSWER

D. What is Ozone Hole? How is it harmful to us?

Ans. The atmosphere of the Earth is divided into many layers. One of the layers is the stratosphere.

In the stratosphere, there is a thin layer of ozone gas. The ozone layer is like a protective umbrella which protects the Earth from harmful ultraviolet rays (UV). In the 1980s, scientists discovered a hole in the ozone layer. The hole was caused by chlorofluorocarbons (CFCs). These are man-made chemicals and are used in refrigerators, air-conditioners

and aerosol sprays. CFCs damage the ozone layer. UV rays can pass through the ozone hole. These rays can cause skin cancer and eye problems. These rays also harm plants and animals.

GRAMMAR IS FUN

E. Pick out the adverbs in these sentences and tell what kind they are.

1. I seldom see cricket matches these days.

Ans. seldom (Adverb of frequency)

2. Where do you live?

Ans. Where (Interrogative adverb)

3. The holidays are almost over.

Ans. almost (Adverb of degree)

4. Many farmers in India depend entirely on the monsoon.

Ans. entirely (Adverb of degree)

5. How are you today?

Ans. How (Interrogative adverb)

6. She is never late.

Ans. never (Adverb of frequency)

F. Fill in the blanks with the correct form of the adverb. One has been done for you.

1. Rohan runs <u>faster</u> than anyone else in his class. (fast)

2. Nita writes **more neatly** than Rani does. (neatly)

3. No one could sing **more sweetly** than Rina. (sweetly)

4. Whoever can throw the frisbee **the farthest** will get a chocolate. (far)

SPELL WELL

G. Tick (✓) the correct spellings.

1. Losing✓/Loosing my future is not losing an election or a few points on the stock market.

2. I am not able to breath/breathe✓ the air because I don't know what chemicals are in it.

3. In Canada, we live the privilaged/privileged✓ life with plenty of food, water and shelter.

4. It makes a tremendous✓/treemendous difference where you are born.

5. I challange/challenge✓ you.

WORD POWER

H. Write the full forms of the following abbreviations. One has been done for you.

1. ECO   <u>Environmental Children's Organisation</u>

2. UN **United Nations**
3. WHO **World Health Corporation**
4. BBC **British Broadcasting Corporation**
5. UNICEF **United Nations International Children's Education Fund**
6. WWF **World Wildlife Fund**
7. TERI **The Energy Research Institute**
8. UNESCO **United Nations Educational, Scientific and Cultural Organization**

I. **Pick suitable suffixes from the box and add to the following words.**

ful   less   ly   hood

1. child **hood/less**   2. care **less/ful**
3. wild **ly**   4. pain **ful/less**
5. joy **less/ful**   6. regular **ly**

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. What is the greenhouse effect?

Ans. Activities such as burning of coal, diesel, petrol and natural gas have increased the amount of greenhouse gases like carbon dioxide and methane in the air. They are good at absorbing heat. This is called the greenhouse effect.

2. What is global warming?

Ans. The rise in the temperature of the Earth due to the increased greenhouse effect is called global warming.

3. What are the harmful effects of global warming?

Ans. The harmful effects of global warming are as follows:

- It destroys crops and affects the life cycles of plants and animals.
- It causes storms and floods. It causes glaciers and ice sheets to melt at the North Pole and South Pole.

WRITE WELL

N. **Write a paragraph of 60–70 words on this picture.**

Ans. The picture shows how smoke from factories is contributing towards air pollution. Air pollution is very harmful. Polluted air can lead to respiratory diseases. To reduce pollution, filters should be used in the chimneys of factories. The factories should be located far away from human settlements. Cottage industries and small-scale industries should be given preference over large-scale industries.

ACTIVITY/PROJECT

O. Discuss in the class the role children can play in saving the environment.

Ans. Do it yourself.

P. Make a poster on the topic 'Stop Pollution to Save Earth'.

Ans. Do it yourself.

2. Sophie (Poem)

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. The speaker expected that there would be _____ in the hall.

   (a) noise ☐   (b) absolute silence ✓   (c) few people ☐

2. The audience got ready to listen to the

   (a) speech ☐   (b) story ☐   (c) poem ✓

3. The speaker started

   (a) slowly ✓   (b) rapidly ☐   (c) hastily ☐

4. 'I know them...'

   Why did the speaker know them?

   (a) The speaker wrote them. ✓

   (b) The speaker learnt them very well. ☐

   (c) The speaker read them from a page. ☐

B. Write True or False.

1. The audience is quiet because it wants to hear Sophie.   **True**
2. Sophie speaks slowly and clearly.   **True**
3. Sophie voice grows weaker and she has to struggle to remember the words.   **False**

C. Answer these questions.

1. What is the speaker going to do?

Ans. The speaker is going to read a poem on stage.

2. How did the speaker begin?

Ans. The speaker began by speaking slowly and clearly.

3. Why does the speaker say the following lines?

   'I see the image of my poem,

   And I think only of what I'm saying...'

Ans. The speaker says the following lines because he wants to focus on his/her recitation only.

ACTIVITY/PROJECT

D. Do the following activity and note down your feelings.

1. Recite a poem (English) in the class.

      (a) Were you afraid of your friends?

      (b) Did you forget the lines of the poem?

      (c) Did the friends laugh at you?

Ans. Do it yourself.

2. Role Play

Make groups of eight students. Any three of them can become judges and the rest five recite a poem or give a speech on any topic before the class. Let the judges decide who has performed the best.

Ans. Do it yourself.

3. Indian Women Shine at the Olympics

ANSWERS

WARM UP

Given below are pictures of some famous Indian sportswomen. Can you recognise them? Write their names correctly below the pictures in the space provided.

> Mithali Raj   Geeta Phogat   Sania Mirza

Geeta Phogat   **Sania Mirza**   **Mithali Raj**

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Mary Kom won a bronze medal in the

   (a) Hong Kong Super Series ☐

   (b) London Olympics 2012 ✓

   (c) Wimbledon Series 2013 ☐

2. Mary Kom was inspired by Dingko Singh to learn

   (a) swimming ☐   (b) cycling ☐   (c) boxing ✓

3. Who was the first Indian woman to win an Olympic silver medal?

   (a) Mary Kom ☐   (b) Sania Mirza ☐   (c) PV Sindhu ✓

B. Answer the following questions briefly.

1. Where and when was Mary Kom born?

Ans. Mary Kom was born on 1 March 1983 in Manipur.

2. How did Mary Kom help her parents when she was a small girl?

Ans. When Mary Kom was small, she helped her parents by assisting them in the fields, while fishing and making charcoal.

3. Why did Mary Kom keep her interest in boxing a secret from her parents?

Ans. Mary Kom kept her interest in boxing a secret because boxing was not considered a good sport for women.

4. When and where was PV Sindhu born?

Ans. PV Sindhu was born on 5 July 1995, in Hyderabad, India.

5. Which medal did PV Sindhu win at the Glasgow Commonwealth Games in 2014?

Ans. She won a bronze medal at the Glasgow Commonwealth Games in 2014.

6. Name any two awards conferred on Mary Kom and PV Sindhu each, by the Government of India.

Ans. Mary Kom: Arjuna Award, the Padma Shri Award, the Rajiv Gandhi Khel Ratna Award (Any two)

PV Sindhu: The Arjuna Award and the Padma Shri Award.

THINK AND ANSWER

C. What do you think are two important reasons behind Mary Kom's and PV Sindhu's excellent performance in their respective fields of interest? Why do they continue to perform well even today?

Ans. Both sportswomen have performed well and continue to perform well because of their hard work and total dedication to their sports.

GRAMMAR IS FUN

D. Change the following sentences from active voice to passive voice.

1. Manipuri boxer Dingko Singh greatly inspired Mary Kom.

Ans. Mary Kom was greatly inspired by Manipuri boxer Dingko Singh.

2. Santa Claus brought gifts.

Ans. Gifts were brought by Santa Claus.

3. The British ruled India till 1947.

Ans. India was ruled by the British till 1947.

4. Pranav gave Raju a present.

Ans. A present was given by Pranav to Raju.

5. Lata borrowed my book.

Ans. My book was borrowed by Lata.

SPELL WELL

E. Fill in the missing letters and complete the words.

inspired   secret   arena   charcoal   athlete   performance

1. a **t** **h** l **e** t **e**
2. i **n** s **p** i **r** **e** d
3. a **r** e **n** a
4. s **e** c **r** e **t**
5. c **h** ar **c** o **a** l
6. p **e** r **f** o **r** m **a** n **c** e

WORD POWER

F. Match the phrases with their correct meanings.

Phrases		Meaning
1. get through		(a) live sociably with someone
2. get over		(b) overcome
3. get along		(c) succeed

(1 → c, 2 → b, 3 → a)

LET'S LISTEN

G. 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. Which medal was won by Saina Nehwal at London Olympics 2012?

Ans. Bronze medal.

2. When the Saina Nehwal born?

Ans. 17 March 1990.

3. Name three awards won by Saina Nehwal.

Ans. 1. Padma Shri Award   2. the Arjuna Award and   3. Rajiv Gandhi Khel Ratna Award

WRITE WELL

K. Imagine Saina Nehwal came to your school. What three questions would you ask from her?

Ans. I would ask her:
- How does she keep herself fit?
- Does she get time to entertain herself?
- Who's her role model?

DICTIONARY SKILLS

L. Use a dictionary and find out the difference between the following sets of words.

1. illustrate   **Provide (a book, newspaper, etc.) with pictures.**

      (b) Serve as an example of

   demonstrate   **(a) Give a practical exhibition or explanation of something.**

      (b) Take part in a public demonstration.

2. acquire   **(a) Buy or get something for oneself.**

      (b) Learn or develop (a skill, habit, etc.)

   require   **Need for a particular purpose.**

3. radically   **In a thorough or fundamental way; completely.**

   moderately   **To a certain extent; fairly.**

M. Make sentences with any of the three words given above.

Ans. Do it yourself.

ACTIVITY/PROJECT

N. Work in groups of five. Make a list of the games you all like to play. Discuss when you play them and with whom. How can you improve your performance? Share with your group.

Ans. Do it yourself.

PERIODIC TEST 3

READ AND ENJOY

A. Tick (✓) the correct answers.

1. The two brothers lived in a/an

   (a) hut   ✓   (b) big house ☐   (c) apartment building ☐

2. The gardener grew vegetables and _____ in the clearing.

   (a) sugarcane ☐   (b) trees ☐   (c) flowers ✓

3. They wanted someone to look after their house and

   (a) play with them ☐   (b) work with them ☐   (c) cook for them ✓

4. Mrs Wilson was proud of the two brothers because they were

   (a) very kind ☐   (b) very hardworking ✓   (c) very helpful ☐

5. Mrs Wilson suggested to the boys that they

   (a) sell their hut ☐

   (b) sell their land ☐

   (c) don't cut more trees than was necessary ✓

B. Answer the following questions briefly.

1. What were the two brothers?

Ans. One brother was a gardener and the other was a woodcutter.

2. Where did the brothers sell their material?

Ans. The brothers sold their material in the village market.

3. The brothers had a problem. What was it?

Ans. The problem of the brothers was that they had no one to look after their house or cook their meals.

4. Who came to look after the brothers?

Ans. Mrs Wilson, who lived in the village, came to look after the brothers.

5. What lesson do we learn from this story?

Ans. We learn that one should not be greedy and not exploit nature for our personal benefit.

WRITING

C. **Write a short paragraph about why it is important to always tell the truth. Write about an occasion when you told the truth even though you knew you could be punished for it.**

Ans. Do it yourself.

GRAMMAR IS FUN

D. **Circle the subject and underline the predicate in the following sentences.**

Ans. 1. (The bees) are buzzing around the plants.

2. (The policeman) stopped the car for rash driving.

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

1. Meenu **goes** (go) for a walk every morning. (Simple Present Tense)
2. He **has eaten** (eat) his lunch. (Present Perfect Tense)
3. Vijay **is playing** (play) the piano in his room. (Present Progressive Tense)
4. Ronit **has left** (leave) for the railway station. (Present Perfect Tense)

F. **Use the verbs given in the brackets as infinitives and complete the sentences.**

1. Tine wanted **to learn** (learn) chess.

2. Pooja has planned **to bake** (bake) a cake in the evening.

G. **Fill in the blanks with the correct form of verb given in the brackets.**

1. Rohan runs **faster** than anyone else in the class. (fast)

2. This problem is **more difficult** than the previous one. (difficult)

H. **Change the following sentences from active to the passive voice.**

1. The watchman opened the gate.

Ans. The gate was opened by the watchman.

2. Father bought gifts for all of us.

Ans. Gifts were bought by father for all of us.

LITERATURE

I. **Answer the following questions.**

1. Why did the king not punish Tenaliraman?

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

2. 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.

3. Why was Chang sad?

Ans. Chang was sad because his seed did not flower.

4. How can we utilise waste material?

Ans. We can utilise waste material by reusing or recycling it. We can share things with needy people.

5. Why did Mary Kom keep her interest in boxing a secret from her parents?

Ans. Mary Kom kept her interest in boxing a secret because boxing was not considered a good sport for women.

4. Three Important Questions

<div align="center">**ANSWERS**</div>

WARM UP

After returning from school, you had lunch and an hour to relax/rest.

According to prior plans,

   (a) a close friend was to pay you a visit.   ☐

   (b) your younger brother wanted you to play video games with him.   ☐

   (c) you wanted to watch TV but suddenly, your
        grandfather slips and falls in the living room.   ☐

Think about all the work that needed your immediate attention within that hour and set your own priorities. Number the above tasks and persons in the order of their importance.

Ans. Discuss the prioritisation in the class – how to handle the activities and in what order. Ideally, Grandpa's fall should be number 1, then the guest and finally the video games.

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

   1. The three things the king wanted to know were

      (a) the right time to begin everything   ☐

      (b) the right people to listen to   ☐

      (c) the most important thing to do   ☐

      (d) all that has been mentioned above   ☑

   2. How did the king approach the hermit?

      (a) The king ordered the hermit to be arrested and brought to his court.   ☐

      (b) The king went to the hermit and offered him riches for answers
           to his questions.   ☐

      (c) The king dressed as a common man and approached the hermit
           with great respect, as well as offered to dig the ground for him.   ☑

      (d) The king disguished himself as another hermit.   ☐

   3. When the bearded man woke up in the morning,

      (a) he attacked the king and tried to kill him.   ☐

      (b) he pleaded with the king for forgiveness and explained why

he repented his plan and attempt to kill him.   ✓

(c) he threatened the king and demanded a part of his kingdom.

(d) he was arrested by the king's guards.

B. Fill in the blanks with suitable words.

In reply to the first question, some stated that one must plan everything in **advance** and **live** according to it. Others said that one should not be engrossed in **idle pastimes** but attend to what was **going** on. Some held the view that he should consult a **council of wisemen**, while others said it was not **practical**. Some also suggested that he should consult only **magicians**.

C. Answer with reference to the context.

1. "Here comes a man running. Let us see who he is."

(a) Who said these words and to whom?

Ans. The hermit said this to the king.

(b) What happened immediately after this?

Ans. Immediately after this, a man who was injured and bleeding came running out of the forest and fell down moaning.

(c) Who is the 'man' being referred to? Why was he running?

Ans. The man was an enemy of the king. His brother had been executed and his property seized by the king. The man wanted to take revenge by killing the king. He was running from the king's bodyguards who had recognised him and attacked him.

2. "You have already been answered, I know for certain!"

(a) Who said these words and to whom?

Ans. These words were said by the hermit to the king.

(b) Was the speaker right in saying so?

Ans. Yes, the speaker was right in saying so.

(c) Was the person spoken to satisfied with this reply?

Ans. The king, to whom this was said, was satisfied with the reply.

D. Answer the following questions.

1. What were the various answers given to the king's second question?

Ans. In answer to the king's second question, the various answers were that he should consult his councillors, priests, doctors or warriors.

2. State the views expressed by different persons in reply to the king's third question.

Ans. To the third question, people suggested that science was the most important task, while others said that warfare was the most important and yet others said that religion was the most important.

3. How did the king help the bearded man?

Ans. The king cleaned and bandaged the bearded man's wound.

4. Why had the bearded man decided to kill the king?

Ans. The king had executed the bearded man's brother and seized his property. Therefore, he wanted to take revenge by killing the king.

5. According to the hermit, what was the most important job, person and time when the bearded man ran out of the wood towards the king?

Ans. According to the hermit, the most important time is now; the task in hand is the most important; and the person with whom you are at present is the most important person.

THINK AND ANSWER

E. Do you think the hermit was truly wise? What did he finally tell the king to always remember? Do you agree with him?

Ans. Do it yourself.

GRAMMAR IS FUN

F. Change the following sentences into reported speech. The first one has been done for you.

1. Mini said, "Sheela is baking a chocolate cake."

   Mini said that Sheela was baking a chocolate cake.

2. Samarth said, "Reena is unwell."

Ans. Samarth said that Reena was unwell.

3. Nidhi said, "Sohan is writing a letter."

Ans. Nidhi said that Sohan was writing a letter.

4. Mathew said, "Tom ate a piece of cake."

Ans. Mathew said that Tom had eaten a piece of cake.

5. Jaspreet said, "Sagar is talking to Minu."

Ans. Jaspreet said that Sagar was talking to Minu.

6. Vineet said, "Reema shifted to her new flat yesterday."

Ans. Vineet said that Reema had shifted to her new flat the day before.

G. Fill in the blanks with 'said' or 'told'.

1. Veena **said** that he loved his friends.

2. Ravish **told** Gagan that the teacher had called him.

3. Shobha **told** her parents about the new library in school.

4. Sarala **said** that her school is very big.

H. Change the following statements from direct to reported speech.

1. Vidisha said, "Netra has gone to Hyderabad."

Ans. Vidisha said that Netra had gone to Hyderabad.

2. Mitu said, "The school is closed today."

Ans. Mitu said that the school was closed that day.

3. Kalyani said, "These pens are new."

Ans. Kalyani said that those pens were new.

4. Suresh said, "Mr Gupta is tired now."

Ans. Suresh said that Mr Gupta was tired then.

I. Fill in the blanks with suitable pronouns from the brackets.

1. Neha said to Puneet, "I will give you the new encyclopaedia."

   Neha told Puneet that __she__ (she/he) would give __him__ (him/her) the new encyclopaedia.

2. Raman said to the policeman, "I will give you a description of the thief now."

   Raman told the policeman that __he__ (he/she) would give __him__ (her/him) a description of the thief then.

3. I asked Tia, "Where are you going so late in the evening?"

   I asked Tia where __she__ (I/she) was going so late in the evening.

SPELL WELL

J. Circle the correct spellings.

1. pempered   (pampered)   pumpered   pampured
2. recass   reces   (recess)   resess
3. (studious)   studeous   stoodius   studieus
4. disatisfaction   disatisfection   dissatisfection   (dissatisfaction)

WORD POWER

K. Match the following idioms with their meanings.

1. bad egg   (a) to be in the situation that another person is in
2. be in somebody's shoes   (b) not brave
3. chicken-hearted   (c) to feel uncomfortable in a situation
4. he is like a fish out of water   (d) an extremely thin person
5. bag of bones   (e) bad person
6. hale and hearty   (f) in good health

LET'S LISTEN

L. 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. In which year and where was Leo Tolstoy born?

Ans. Leo Tolstoy was born in Tula province of Russia in 1828.

2. Who brought up Tolstoy and his siblings?

Ans. Leo Tolstoy and his siblings were brought up by relatives.

3. Name two novels that were part of Tolstoy's trilogy of novels.

Ans. 'Childhood', 'Boyhood', 'Youth'. [any two]

4. Mention the names of any two famous works of Tolstoy.

Ans. 'War and Peace' and 'Anna Karenina'.

5. Who were some great leaders to be influenced by works like 'The Kingdom of God is Within You'?

Ans. Mahatma Gandhi and Martin Luther King were influenced by works like 'The Kingdom of God is Within'.

6. What led to Tolstoy's death?

Ans. Leo Tolstoy died of pneumonia.

WRITE WELL

P. Imagine your teacher scolded you for something which you had not done. Write a diary entry stating your feelings.

Ans. 25 February 2020

Today, our class teacher, Neha Ma'am scolded me for something I had not done. Actually, my benchmate, Anmol was trying to take my new eraser. I was telling him not to do so. Neha Ma'am thought that we were fighting. She asked me to come in front of the class. She scolded me in front of the whole class. I tried to explain but she did not listen. I had tears in my eyes. I came back to my seat and the whole day I was in a sad mood.

Q. Kiran is about to leave home and will not be able to meet Varun. She leaves a message for him. Write the message in not more than 50 words.

MESSAGE

20 January 2020   **9.30 a.m.**

Varun

I am leaving home because I have to meet someone urgently. I will call you in the evening at 6.00 p.m.

Kiran

R. **Work in groups of five and make a list of any four persons who do different kinds of work in your school. Talk to them and find out what they like about their work. Also, find out why they think their work is important.**

Ans. Do it yourself.

4. Abou Ben Adhem (Poem)

READ AND UNDERSTAND

A. Tick (✓) the right answers.

1. The incident takes place
   (a) at mid-day ☐   (b) in the early morning ☐
   (c) at night ✓   (d) in the afternoon ☐

2. Who was writing in a book?
   (a) Abou Ben Adhem ☐ (b) Angel ✓
   (c) Devil ☐   (d) Fairy ☐

3. Whom does Abou Ben Adhem love?
   (a) God ☐   (b) Angel ☐
   (c) Fellowmen ✓   (d) Animals ☐

B. Fill in the blanks with information from the poem.

1. Abou Ben Adhem saw an angel in his **room.**
2. The angel was writing the names who love the **Lord.**

C. Answer the following questions.

1. What did Abou Ben Adhem want to know from the angel?

Ans. Abou Ben Adhem wanted to know whether his name was written in the angel's golden book in the list of those who loved the Lord.

2. What did the angel reply?

Ans. The angel replied that it was not written there.

3. What made Abou Ben Adhem's name lead all the rest?

Ans. Abou Ben Adhem's name led all the rest because he loved his fellow-men, and that had brought him the blessings of God's love.

D. Write any four pairs of rhyming words from the poem.

1. **increase – peace**   2. **room – bloom**   3. **gold – hold**   4. **accord – Lord**

E. Find antonyms of the following words from the poem.

1. decrease   **increase**   2. war   **peace**
3. wither   **bloom**   4. absence **presence**

5. The Happy Man's Shirt

ANSWERS

WARM UP

Tick (✓) the correct option.

To keep healthy, we should

1. exercise every day ✓
2. sleep fifteen hours every day ☐
3. eat junk food ☐
4. eat green vegetables and fruits ✓
5. overeat ☐

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. The king was

   (a) wealthy but not healthy ✓

   (b) healthy but not wealthy ☐

   (c) neither wealthy nor healthy ☐

2. The old man told the King to sleep for _____ night(s) in the shirt of a happy man.

   (a) two ☐   (b) one ✓   (c) three ☐

3. The man having no shirt was

   (a) unhappy ☐

   (b) happy ✓

   (c) neither happy nor sad ☐

4. Hard work and simple life can make a person

   (a) happy ✓   (b) wealthy ☐   (c) unhappy ☐

B. Write True or False.

1. The King had been in the bed for six years.   **False**
2. The cause of the King's disease could not be found out.   **True**
3. There were many happy men in the King's kingdom.   **False**

4. Hard work leads to unhappiness.   **False**

5. The happy man lived a simple life and worked hard.   **True**

6. The King was able to get the happy man's shirt.   **False**

C. Answer these questions.

1. Why were the King's councillors and courtiers worried?

Ans. The King's councillors and courtiers were worried because the king was not getting well in spite of having tried all medicines.

2. Why could the doctors not cure the King?

Ans. The doctors could not cure the King because they were not able to find out the cause of his disease.

3. What did the old man suggest to the King for the cure of his disease?

Ans. The old man suggested to the King that he should sleep just one night in the shirt of a happy man.

4. Why was the man with no shirt happy?

Ans. The man with no shirt was happy because he worked hard and had no time to worry unnecessarily. He lived a simple and carefree life.

5. How was the King cured?

Ans. The King was cured when he understood that he needed to work hard and lead a simple life to become healthy.

THINK AND ANSWER

D. Do you think 'Health is Wealth'? Give reasons for your answer.

Ans. Health is wealth because a sick man cannot enjoy anything. A sick person cannot carry out his/her duties properly and he/she has to be dependent on others. A healthy man/woman is cheerful and brings joy wherever he/she goes. Thus, we see that health is wealth.

GRAMMAR IS FUN

E. Choose suitable question tags from the Help Box and complete the following sentences.

> aren't you   won't they   can't you   shouldn't we   isn't it

1. They will play in the park, **won't they?**

2. You can drive a car, **can't you?**

3. We should sit here, **shouldn't we?**

4. It is a good film, **isn't it?**

5. You are very late, **aren't you?**

F. Report the following questions.

1. She said to Mohit, "What is kept in the big drawer?"

Ans. She asked Mohit what was kept in the big drawer.

2. Mr Sudesh said to Anita, "Where is your office?"

Ans. Mr Sudesh asked Anil where her office was.

3. Grandpa said to Raj, "Who is your class teacher?"

Ans. Grandpa asked Raj who his class teacher was.

4. Mita said to Ratnesh, "Why was Victoria Memorial built?"

Ans. Mita asked Ratnesh why Victoria Memorial was built.

5. Grandma said to Mita, "When will you go to New Market?"

Ans. Grandma asked Mita when she would go to New Market.

G. Report the following questions.

1. Ketaki said to Sneha, "Do you like reading comic books?"

Ans. Ketaki asked Sneha whether she liked reading comic books.

2. Murali said to Mansi, "Are you in class V-A or V B?

Ans. Murali asked Mansi whether she was in class V-A or VI-B.

3. Mahima said to Ravi, "Do you know French?"

Ans. Mahima asked Ravi whether he knew French.

4. Deepak said to Shobha, "Are you a student of Blossoms Public School?"

Ans. Deepak asked Shobha if she was a student of Blossoms Public School.

5. The bank officer said to Anil, "Are you a new customer?"

Ans. The bank officer asked Sunil whether he was a new customer.

6. Tiya asked Parinita, "Is it your dog?"

Ans. Tiya asked Parinita whether it was her dog.

SPELL WELL

H. Tick (✓) the correct spellings.

1. We have priscribed/prescribed✓ bitter herbs and castor oil.

2. Sir, we have sent massengers/messengers✓ all over the kingdom.

3. Hard work gives me apetitie/appetite✓.

4. Is this necessary✓/necesary?

5. All the courtiers✓/courtiars are amazed.

WORD POWER

I. We, sometimes, use different colours to express emotions. For example, green with envy, white with fear, feeling blue (feeling sad), purple with rage.

Now, fill in the blanks using the correct expressions from above.

1. Hina went **green with envy** when she found out that her friend had come first in the class.

2. Mohit went **feeling blue** after he found out someone had stolen his new pen.

3. Mini turned **white with fear** when she saw a thief in her room.

4. Rohit was **purple with rage** after he lost in the finals of the Table Tennis Tournament.

J. Combine words in the two columns to form compound words to fill in the crossword puzzle. The first one has been done for you as an example.

A		**B**
1. stair		(a) side
2. up		(b) let
3. lamp		(c) noon
4. to		(d) case
5. sun		(e) light
6. after		(f) shade
7. every		(g) thing

LET'S LISTEN

K. Your teacher will read the statements from the listening text or you can listen to them on the Digital Board. Answer them as Yes or No.

1. __Yes__   2. __No__   3. __Yes__   4. __No__   5. __Yes__

WRITE WELL

O. Complete the following conversation between two friends using appropriate degrees of adjectives.

Mini : How is your mother today, Vani?

Vani : Well, by God's grace she is **well** today.

Mini : How about her appetite?

Vani : That is **better** than it was before going to hospital.

Mini : In that case, she may be discharged in a day or two from the hospital.

Vani : I don't think so. They say they will discharge her only when her various pathological tests prove it that she is really **better.**

Mini : Would you believe when I say that I am counting my days for her discharge from the hospital. She is my **best** friend.

Ans. Do it yourself.

DICTIONARY SKILLS

P. Refer to a dictionary and find out the meanings of the following words.

1. trace

Ans. (a) To find someone or something that was lost.

(b) To copy a drawing or pattern.

2. remedy

Ans. A successful way of curing an illness or dealing with a problem or difficulty.

3. quarrel

Ans. A fight.

4. incompetent

Ans. (a) Not having the ability to do something as it should be done.

5. labour

Ans. (a) Work that involves hard physical effort.

(b) Workers, especially those who work with their hands.

ACTIVITY/PROJECT

Q. Make a chart titled 'Ten Commandments of Health'. Write ten healthy habits one should always follow.

Ans. Do it yourself.

LIFE SKILLS 2

A. **What do you think is the most important task listed below? Number them according to their importance in your eyes.**

__ Playing after coming back from school

__ Eating a meal

__ Eating an ice cream every day

__ Watching television

__ Doing your homework

__ Doing at least one good deed a day

B. **If your neighbour went on a vacation and you saw the guava tree in his garden laden with fruit, you would**

1. eat the guavas. He won't know who has eaten them anyway.

2. leave them where they are.

3. eat them and then tell your neighbour that you ate them while he was away.

C. **If my friend was cheating during an exam, I would**

1. tell the teacher.

2. keep quiet and then explain to him/her why it is wrong to cheat.

3. cheat along with him/her.

D. **Your mother has to catch up with some office work. You would**

1. help her with the housework without grumbling so that she can catch up on her work.

2. help her with the housework but grumble a great deal.

3. leave her to finish the housework on her own.

E. **Your friends are going for a movie. You know your parents won't give you permission to go because your examinations are at hand. You would**

1. tell them you have extra classes and go for the movie.

2. ask them to let you go and you will put in extra hours of work.

3. sulk and cry.

F. **A bird has fallen out of its nest. You would**

1. let it be.

2. put it back in the nest.

3. let the mother bird figure out what is best for its baby.

G. **A new student has come into your class. You would**

1. let him/her make his/her own friends.

2. try to become friends with him/her.

3. be helpful, but let him/her choose his/her own friends.

H. **Your class has a match. You have not been selected to play. You would**

1. work harder on the field so that you are selected next time.

2. tell your coach you think he is wrong.

3. tell your friends the coach is not fair.

I. You quarrel with your friend. The fault is not yours. You would

1. wait for your friend to realize the mistake.

2. apologize even then.

3. talk to your friend in a cool and calm manner.

J. You lose your favourite pen in school. You assume

1. someone has stolen it.

2. you dropped it and were careless.

3. your parents will buy you a new one.

K. Your father cannot afford to send you on a school trip. It costs too much money. You

1. are angry with him.

2. tell him he should look for a better paying job.

3. tell him you don't mind because you know he would have sent you if he could.

Ans. (A–K): Do it yourself.

MODEL TEST PAPER

READ AND UNDERSTAND

A. Tick (✓) the correct answers.

1. Nobody wanted to play with Bunty because he

   (a) was poor ☐ (b) was a bully ✓ (c) used to tell lies ☐

2. Bunty was a very _____ boy.

   (a) strong ✓ (b) weak ☐ (c) friendly ☐

3. Who was the new boy in the class?

   (a) Shreyas ✓ (b) Chandu ☐ (c) Leena ☐

4. What did Miss Bhushan do?

   (a) She scolded Bunty ☐

   (b) She called the Principal ☐

   (c) She took Shreyasto the hospital ✓

5. What was Shreyas' father?

(a) A farmer ☐

(b) A major in the army ☑

(c) A scientist ☐

B. Answer the following questions.

1. Give two examples of Bunty's bullying.

Ans. Any two of the seven examples in the first paragraph of the story are acceptable.

2. Why were the students afraid of Bunty?

Ans. Bunty was big, strong and rude. So, all the children were afraid of him.

3. Briefly describe the new boy.

Ans. The new boy's name was Shreyas. He was tiny and could not walk. So, he carried crutches to help him walk.

4. Who came back with Miss Bhushan and Shreyas?

Ans. Major Khare, Shreyas' father, came back with Miss Bhushan and Shreyas.

5. Who bully helpless people?

Ans. Only a coward bullies weak and helpless people.

WRITE WELL

C. Write a short paragraph about any great personality that you admire. What are the qualities that you particularly like about him/her?

Ans. Do it yourself.

D. Why do you Chink it is important to be happy in life? Give reasons for your answer.

Ans. Do it yourself.

GRAMMAR IS FUN

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

1. a __gang__ of robbers (team/gang)

2. a __crowd__ of people (crowd/herd)

3. a __fleet__ of ships (colony/fleet)

4. a __flock__ of birds (swarm/flock)

F. State whether the following sentences are in the simple past, past continuous, past perfect or past perfect continuous tense.

1. Mother had cooked the food before the guests arrived. **Past perfect tense**

2. He gave the blanket to the beggar. **Simple past**

3. People were shouting and running in panic. **Past continuous**

4. Yogender had been working in the school as a teacher
for two years.   **Past perfect continuous**

G. Use the appropriate gerunds from the box to fill in the blanks.

> smoking   playing   cycling   singing

1. Sonam has a sweet voice and is good at **singing.**
2. My father has decided to stop **smoking.**
3. I enjoy **cycling** in the morning.
4. She is good at **playing** the guitar.

H. Underline the adverbs in these sentences and write what kind they are.

1. I seldom see football these days.   **seldom; Frequency**
2. Where is your new car?   **Where; Interrogative**
3. The summer vacation is almost over.   **almost; Degree**
4. Many farmers in India depend entirely on the monsoons
for their crops.   **entirely; Degree**

I. Change the following sentences into reported speech.

1. Suresh said, "I am not feeling well today."

Ans. Suresh said that he was not feeling well that day.

2. The beggar said, "I am hungry. Please give me some food."

Ans. The beggar said that he was hungry and requested for some food.

3. She said, "I wish I had a new pair of shoes."

Ans. She said that she wished she had a new pair of shoes.

J. Choose suitable question tags from the box to complete the sentences.

> won't you   won't he   won't she   haven't they

1. You will go shopping, **won't you?**
2. He will be coming to the party, **won't he?**
3. They have got the movie tickets, **haven't they?**
4. She will finish her homework before going to the play, **won't she?**

LITERATURE

K. Answer the following questions.

1. Why was Aunt Polly delighted?

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

2. 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 told them not to eat them.

3. Do you think Chang was the right choice to be the next king? Why?

Ans. Yes, because he was a honest and truthful boy.

4. How did Mary Kom help her parents when she was a small girl?

Ans. When Mary Kom was small, she helped her parents by assisting them in the fields, while fishing and making charcoal.

5. Why was the man with no shirt happy?

Ans. The man with no shirt was happy because he worked hard and had no time to worry unnecessarily. He lived a simple and carefree life.

GRAMMAR WORKSHEETS

GRAMMAR WORKSHEET 1

'I don't have a flower'

Infinitives and Gerunds

A. Read the following sentences and underline the infinitives.

1. I want to eat pizza.

Ans. I want to eat pizza.

2. I like to swim in the river.

Ans. I like to swim in the river.

3. Mother loves to play chess with me.

Ans. Mother loves to play chess with me.

4. We want to sing a song for our teacher.

Ans. We want to sing a song for our teacher.

5. They like to read books.

Ans. They like to read books.

6. I exercise to stay fit.

Ans. I exercise to stay fit.

7. The teacher told us to make posters on water conservation.

Ans. The teacher told us to make posters on water conservation.

B. Complete the following sentences using suitable infinitives.

1. My friend has promised **to help** me whenever needed.
2. Our school Principal asked us **to work** hard.
3. Please don't forget **to post** the invitation letters.
4. All parents and guardians were invited **to attend** the Parents' Day function.
5. I want you **to go** to the market.

C. Fill in the blanks with suitable gerunds formed from the verbs given in the box.

collect   sing   smoke   jump   rule   exercise   copy   install   watch   fly

1. **Jumping** off a bus while it is moving is very dangerous.
2. **Collecting** coins and stamps used to be my favourite hobby as a child.
3. With practice, John became very skilled at **flying** kites.
4. **Watching** a cricket match on television is as exciting as watching it in the stadium.
5. It is well known that **smoking** can ruin one's health.
6. The judge gave his **ruling** and ended the trial.
7. The carpenter said that **installing** the new kitchen cabinets would take just an hour.
8. **Copying** homework from friends can land you in trouble.
9. Rita loves **singing**.
10. **Exercising** is good for health.

GRAMMAR WORKSHEET 2

A Speech to Save the Environment

Adverbs

A. Pick out the adverbs in these sentences and tell what kind of adverbs they are.

1. Why are you angry?   **Why: Interrogative adverb**
2. The hall is totally full.   **totally: Adverb of degree**
3. We should have a bath every day.   **every day: Adverb of frequency**
4. Where did you keep the key?   **Where: Interrogative adverb**
5. He answered the question almost correctly. **almost: Adverb of degree**

B. Fill in the blanks with appropriate adverbs of manner/time/place/frequency/degree from the box.

now   frequently   always   extremely   sincerely

1. Don't worry about what people will say. Do it **sincerely**.
2. Once you give a word to someone, honour it **always**.
3. He worked **extremely** hard for the exam.
4. Her mother goes to meet her aged parents **frequently**.
5. She is very busy right **now**.

C. Fill in the blanks with the positive, comparative or superlative degrees of the adverbs given in the brackets.

1. Of Rohan and Mohan, who lives **nearer** to the school? (near)
2. Of all the teams in the tournament, our team played the **best**. (well)
3. Ashoka ruled his kingdom **more wisely** than any other king. (wisely)

4. Rahim runs the **fastest** of all three friends. (fast)

5. Mohit is **taller** than Puneet. (tall)

D. Change the following words into adverbs and use them in sentences of your own.

1. quick: quickly **The cat ran quickly after the mouse.**

2. nervous: nervously **The magician looked nervously at the audience while performing the difficult trick.**

3. smart: smartly **He was dressed smartly for the interview.**

4. intelligent: intelligently **The parrot used the tools intelligently to get the foor.**

5. cautious: cautiously **Sunil walked cautiously on the slippery road.**

6. careless: carelessly **He spent the money carelessly.**

7. sweet: sweetly **She sang the song sweetly.**

8. faithful: faithfully **The robber faithfully returned the stolen watch.**

9. sincere: sincerely **Arun worked sincerely on the project.**

10. confident: confidently **Priya answered all the questions confidently.**

GRAMMAR WORKSHEET 3

Indian Women shine at the olympics

Active and Passive Voice

A. Identify whether the following sentences are in the active or passive voice. Tick (✓) 'A' for Active and 'P' for Passive.

1. All the passengers of the aircraft were killed in the air crash. (A/P✓)

2. He writes articles for various magazines and newspapers. (A✓/P)

3. Almost all the unauthorised colonies have now been regularised. (A/P✓)

4. The speaker had finished his address before I reached the venue. (A✓/P)

5. There are plenty of branch offices of many multinational companies
   in Noida and Gurgaon. (A/P✓)

B. Change these sentences to the passive voice.

1. Shanta sells apples in the market.

Ans. Apples are sold by Shanta in the market.

2. The children sold tickets at the gate.

Ans. Tickets were sold by the children at the gate.

3. The poor man wore a torn coat.

Ans. A torn coat was worn by the poor man.

4. The electrician will repair the fault in the evening.

Ans. The fault will be repaired by the electrician in the evening.

5. The birds have built a nest in the bushes.

Ans. A nest has been built by the birds in the bushes.

C. Write these sentences in the active voice.

    1. The milk was spilt by the cat.

Ans. The cat spilt the milk.

    2. The plants were watered by the gardener.

Ans. The gardener watered the plants.

    3. Rima was given a car by her father.

Ans. Rima's father gave her a car.

    4. The king was welcomed by the people.

Ans. The people welcomed the king.

    5. The sandwiches were made by the boys.

Ans. The boys made the sandwiches.

D. Tick (✓) 'Yes' if it is possible to change a sentence into passive voice and 'No' if it is not possible.

    1. She is a good dancer. (Yes/No✓)

    2. Children play in the evening. (Yes/No✓)

    3. Her mother has donated all her father's earnings to a charitable trust. (Yes✓/No)

    4. Our teacher has written many books on spoken English. (Yes✓/No)

GRAMMAR WORKSHEET 4

Three Important Questions

Reported Speech

A. Change the following sentences from direct speech to indirect speech.

    1. Rohan said, "I will play in the park with Binny."

Ans. Rohan said that he would play in the park with Binny.

    2. Sumeet said, "The thief ran away."

Ans. Sumeet said that the thief had run away.

    3. Avni said to Sid, "Murali is playing basketball."

Ans. Avni told Sid that Murali was playing basketball.

    4. Mini said, "Raman eats an apple every day."

Ans. Mini said that Raman ate an apple every day.

    5. Mrs Mehra said to the girls, "Stop writing now."

Ans. Mrs Mehra told the girls to stop writing then.

B. Change the following sentences from indirect speech to direct speech.

    1. Rima asked her mother if she could go out to play.

Ans. Rima said to her mother, "Can I go out to play?"

2. Anju said that her mother was resting.

Ans. Anju said, "Mother is resting."

3. Mansi said that she would meet me the next day.

Ans. Mansi said, "I will meet you tomorrow."

4. Soha said that Sadiq would go out.

Ans. Soha said, "Sadiq will go out."

5. Ramesh said that Meena had eaten some porridge.

Ans. Ramesh said, "Meena has eaten some porridge."

C. Report the following sentences. Follow the model.

   Model: The teacher told her parents that she was very intelligent but lazy.

1. She is very beautiful but hasn't much aesthetic sense.

Ans. They/Everyone said that she was very beautiful but hadn't much aesthetic sense.

2. The mobile will never work again if you keep repairing it every now and then yourself.

Ans. He said that the mobile would never work again if I kept repairing it every now and then myself.

3. All the guests and invitees left last evening after the programme was over.

Ans. I was told that all the guests and invitees had left last evening after the programme was over.

4. I must go to Patna next week to know his whereabouts.

Ans. I said that I must go to Patna next week to know his whereabouts.

5. You may have to stay in bed for about a month due to this plaster.

Ans. The doctor said that I might have to stay in bed for about a month due to that plaster.

GRAMMAR WORKSHEET 5

The Happy Man's Shirt

Question tags, More about Direct and Indirect Speech

A. Report the following questions.

1. Shiraz said to Saba, "Where is your drawing book?"

Ans. Shiraz asked Saba where her drawing book was.

2. Divya said to Hitesh, "Who is the new class monitor?"

Ans. Divya asked Hitesh who the new monitor was.

3. Josephine said to Siddhi, "Why was everyone shouting?"

Ans. Josephine asked Siddhi why everyone was shouting.

4. Father said, "When will Rita's exams begin?"

Ans. Father enquired when Rita's exams would begin.

5. Tony said, "Who is making a noise?"

Ans. Tony asked who was making a noise.

B. Tick (✓) the correct options.

1. He said to her, "Why is the auditorium crowded?"

   He (asked✓/said) her why the auditorium (was✓/had been) crowded.

2. The teacher said to the student, "Where is your holiday homework?"

   The teacher (asked✓/enquired) the student where his holiday homework (is/was✓).

3. Mother said to Mini, "Who was knocking at the door?"

   Mother (asked✓/wanted to know) Mini who (had been✓/had) knocking at the door.

C. Change these sentences into questions by adding question tags. Remember, we use positive tags with negative statements and negative tags with positive statements.

1. Thierry Henry is a great football player.

Ans. Thierry Henry is a great football player, isn't he?

2. Gary Sobers is the greatest all-rounder the world has known.

Ans. Gary Sobers is the greatest all-rounder the world has known, isn't he?

3. It never snows in the plains of India.

Ans. It never snows in the plains of India, does it?

4. Winters are cold in north Japan.

Ans. Winters are cold in north Japan, aren't they?

5. Grammar is great fun.

Ans. Grammar is great fun, isn't it?

6. Modern computers are very powerful.

Ans. Modern computers are very powerful, aren't they?

7. The Shatabdi Express is never late.

Ans. The Shatabdi Express is never late, isn't it?

8. Lazy people do not get much work done.

Ans. Lazy people do not get much work done, do they?

D. Write correct questions tags.

1. You are very late, **aren't you?**

2. Sonu sang well, **didn't he?**

3. He always speaks the truth, **doesn't he?**

4. They will win the match, **won't they?**

5. It is a very tasty dish, **isn't it?**

MATHEMATICS–5

SEMESTER

2

Contents

1. Percentage and Average

EXERCISE 1.1

A. Observe the following square grid and write the fraction and percentage that different shades represent.

	Fraction	Percentage
1. Pink	$\dfrac{7}{100}$	7%
2. Orange	$\dfrac{16}{100}$	16%
3. Purple	$\dfrac{11}{100}$	11%
4. Blue	$\dfrac{19}{100}$	19%
5. Green	$\dfrac{10}{100}$	10%
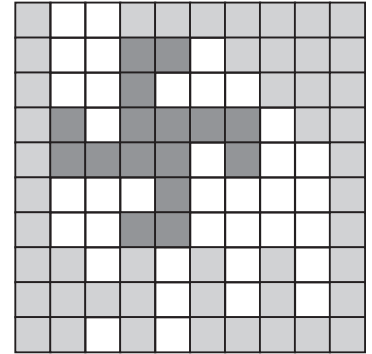
What part of the grid is unshaded in the above square grid? Also, express it into percentage.

Ans. $\dfrac{37}{100}$ 37%

B. Convert the following fractions into percentages.

1. $\dfrac{3}{4}$ 2. $\dfrac{7}{20}$ 3. $\dfrac{4}{25}$ 4. $\dfrac{18}{5}$ 5. $\dfrac{43}{50}$

6. $\dfrac{17}{30}$ 7. $\dfrac{3}{10}$ 8. $\dfrac{6}{15}$ 9. $\dfrac{40}{70}$ 10. $\dfrac{35}{80}$

Ans. 1. 75%   **2.** 35%   **3.** 16%   **4.** 360%   **5.** 86%

6. $56\dfrac{2}{3}\%$ **7.** 30%   **8.** 40%   **9.** $57\dfrac{1}{7}\%$ **10.** $43\dfrac{3}{4}\%$

C. Convert the following percentages into fractions:

1. 50%   2. 20%   3. 40%   4. 90%   5. 65%

6. 48%   7. $12\dfrac{1}{2}\%$ 8. $33\dfrac{1}{3}\%$ 9. $16\dfrac{2}{3}\%$ 10. $6\dfrac{1}{4}\%$

Ans. 1. $\dfrac{1}{2}$ **2.** $\dfrac{1}{5}$ **3.** $\dfrac{2}{5}$ **4.** $\dfrac{9}{10}$ **5.** $\dfrac{13}{20}$

6. $\dfrac{12}{25}$ **7.** $\dfrac{1}{8}$ **8.** $\dfrac{1}{3}$ **9.** $\dfrac{1}{6}$ **10.** $\dfrac{1}{16}$

D. Solve the following word problems.

1. Namita hanged 100 balloons on her birthday. 35 out of 100 balloons were burst. What percentage of balloons was left?

Ans. 65%

2. Kalpana spent ₹25 out of her pocket money of ₹100. Express her savings in percentage.

Ans. 75%

3. Out of a class of 50 students, 45 students passed in Mathematics. What is the percentage of students who passed in Mathematics?

Ans. 90%

4. Out of 24 school days in a month, Riya was absent for 3 days. What was her percentage of attendance in the month?

Ans. $87\frac{1}{2}\%$

EXERCISE 1.2

A. Match the following.

Decimals	Fractions	Percentages
1. 0.2	(a) $\frac{121}{200}$	(i) 73%
2. 0.73	(b) $45\frac{4}{5}$	(ii) 125%
3. 0.605	(c) $1\frac{1}{4}$	(iii) 20%
4. 1.25	(d) $\frac{73}{100}$	(iv) 4580%
5. 45.8	(e) $\frac{1}{5}$	(v) 60.5%
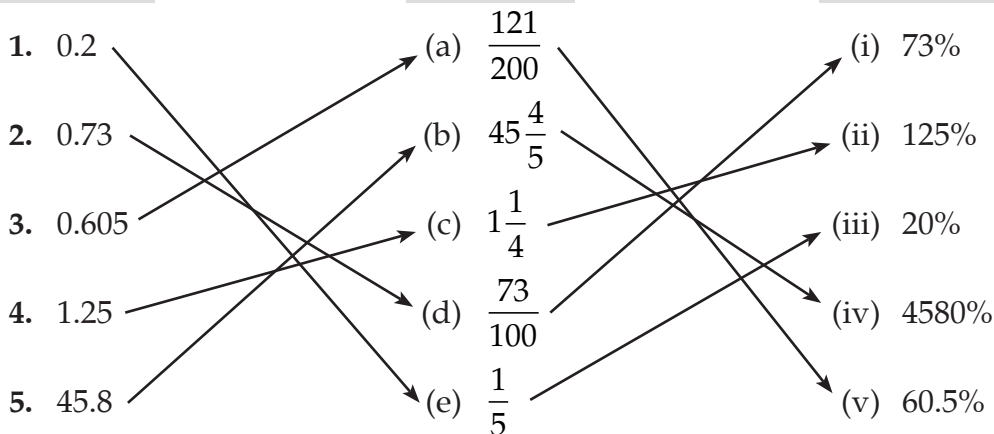
B. Convert the following decimals into percentages.

1. 0.6	**2.** 0.38	**3.** 0.09	**4.** 0.245
5. 1.2	**6.** 2.50	**7.** 12.5	**8.** 8.75

Ans.	**1.** 60%	**2.** 38%	**3.** 9%	**4.** 24.5%
	5. 120%	**6.** 250%	**7.** 1250%	**8.** 875%

C. Convert the following percentages into decimals.

1. 40%	**2.** 11%	**3.** 5%	**4.** 234%
5. 4.2%	**6.** 0.7%	**7.** 82.5%	**8.** 112.4%

Ans.	**1.** 0.4	**2.** 0.11	**3.** 0.05	**4.** 2.34
	5. 0.042	**6.** 0.007	**7.** 0.825	**8.** 1.124

D. Find the value of:

1. 10% of ₹80	**2.** 5% of 60 kg	**3.** 15% of 250 m
4. 25% of 160 L	**5.** $33\frac{1}{3}\%$ of a dozen	**6.** 18% of 750

Ans.	**1.** ₹8	**2.** 3 kg	**3.** 37.5 m
	4. 40 L	**5.** 4 items	**6.** 135

E. Fill in the blanks.

1. 25% of 53 = 53% of __25__.

2. 12% of 24 = __24__ % of 12.

3. 9% of __63__ = 63% of 9.

4. __45__ % of 29 = 29% of 45.

F. Solve the following word problems.

1. In a class of 40 students, 60% are girls and rest are boys. Find the number of girls and boys in the class.

Ans. 24 girls and 16 boys

2. In a tray, there are 40 eggs. If 5% eggs are rotten, find the number of fresh eggs in the tray.

Ans. 38 eggs

3. David was asked to solve 25 questions. He solved 80% of the assignment without his parents' help. How many questions did he solve with his parents' help to complete the assignment?

Ans. 5 questions

4. Out of 72 berths in the coach of a train, 18 berths are reserved for ladies, 14 are occupied by children. What per cent of the berths are available for other passengers?

Ans. $55\dfrac{5}{9}\%$

5. Which amount is more—60% of ₹120 or 75% of ₹108?

Ans. 75% of ₹108

EXERCISE 1.3

A. Find the average of each of the following.

1. First four odd numbers

Ans. 4

2. First six even numbers

Ans. 7

3. First five prime numbers

Ans. 5.6

4. First 8 composite numbers

Ans. 11.75

5. First 7 multiples of 8

Ans. 32

6. All factors of 24

Ans. 7.5

B. Solve the following word problems.

1. The weights of 10 children are given below:

   35 kg, 28 kg, 40 kg, 32 kg, 30 kg, 38 kg, 35 kg, 32 kg, 38 kg, 36 kg

   Find the average weight of them.

Ans. 34.4 kg

2. The rainfall in a city during a week was recorded as follows:

Days	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Rainfall (in mm)	22	16	18	20	23	27	14

   Find the average rainfall during a week.

Ans. 20 mm

3. The sum of maximum temperatures for five days is 205°C. Find the average temperature.

Ans. 41°C

4. The average height of three girls is 135 cm. The two girls have heights 128 cm and 137 cm respectively. Find the height of the third girl.

Ans. 140 cm

5. The average capacity of 4 vessels is 250 mL. If one more vessel is included, the average capacity becomes 300 mL. Find the capacity of the included vessel.

Ans. 500 mL

6. Mikki brought 15 marbles and her sister Nikki brought 23 marbles from the market. Their mother mixed those marbles and gave them equally. How many marbles did each sister get?

Ans. 19 marbles

7. A grocer bought three types of mangoes weighing 7 kg, 4 kg and 7 kg respectively. Then, he packed them in three boxes of equal weight. Find the weight of mangoes in each box.

Ans. 6 kg

THINK AND ANSWER

Kamla earns ₹10,500 per month. Her expenses for six months are ₹8,500, ₹9,000, ₹7,200, ₹8,300, ₹9,700, and ₹9,400. What is her average savings?

Ans. ₹1833.33

VALUE CORNER

Mr Dhawan gives 1% of his income as a donation to an orphanage. Also, he gives 2.5% of remaining income to other NGOs as a donation. If his monthly income is ₹50,000, find the amount of donations given to these organisations in a year.

Ans. ₹20,850

2. Ratio, Proportion and Unitary Method

ANSWERS

EXERCISE 2.1

A. **Express each of the following ratios in its simplest form.**

1. 8:12	**2.** 9:21	**3.** 10:30	**4.** 20:50
5. 80:120	**6.** 35:63	**7.** 27:72	**8.** 48:132

Ans.

1. 2 : 3	**2.** 3 : 7	**3.** 1 : 3	**4.** 2 : 5
5. 2 : 3	**6.** 5 : 9	**7.** 3 : 8	**8.** 4 : 11

B. **Is it possible to find the ratio of the following? If yes, find the ratio.**

1. 8 L to 20 m	**2.** 60 m to 150 m	**3.** 160 kg to 300 kg	**4.** 160 g to ₹200
5. 5 weeks to 7 days	**6.** 6 L to 750 mL	**7.** a paisa to a rupee	**8.** 9 mm to 3 cm
9. 1 h to 45 min			

Ans.

1. No	**2.** Yes, 2 : 5	**3.** Yes, 8 : 15	**4.** No
5. Yes, 5 : 1	**6.** Yes, 8 : 1	**7.** Yes, 1 : 100	**8.** Yes, 3 : 10
9. Yes, 4 : 3			

C. **Write any three equivalent ratios for each of the following.**

1. 1:2	**2.** 3:4	**3.** 12:18	**4.** 40:30
5. 9:12	**6.** 16:36	**7.** 120:300	**8.** 350:700

Ans.

1. 2 : 4, 3 : 6, 4 : 8	**2.** 6 : 8, 9 : 12, 15 : 20	**3.** 2 : 3, 4 : 6, 6 : 9	**4.** 4 : 3, 8 : 6, 80 : 60
5. 3 : 4, 6 : 8, 15 : 20	**6.** 4 : 9, 8 : 18, 12 : 27	**7.** 2 : 5, 4 : 10, 12 : 30	**8.** 1 : 2, 2 : 4, 35 : 70

D. Simmi is 10 years old and her mother is 35 years old. Compare their ages using ratio.

Ans. 2 : 7

E. Out of 60 students in a class, 36 are boys. On last Monday, only 48 students were present in which 20 were girls. Using this information, find the ratio of:

1. total boys : total girls in the class

Ans. 3 : 2

2. total girls : total students in the class

Ans. 2 : 5

3. total students in the class : students present on Monday

Ans. 5 : 4

4. present girls : present boys on Monday

Ans. 5 : 7

	Students	Boys	Girls
Total	60	36	24
Present	48	28	20
Absent	12	8	4

5. absent boys : total boys in the class

Ans. 2 : 9

6. total girls in the class : present girls on Monday

Ans. 6 : 5

7. absent girls : total absent students on Monday

Ans. 1 : 3

F. Anand gets ₹500 as a pocket money for a month. He saves ₹125 during that month. Find the ratio of his:

1. expenses : savings

Ans. 3 : 1

2. expenses : total amount

Ans. 3 : 4

3. total amount : savings

Ans. 4 : 1

G. There is 750 mL of water in a bottle. The bottle can contain 1,200 mL of water in all. Find the ratio between the empty part to the filled part of the bottle.

Ans. 3 : 5

H. Observe the following shapes and find ratios.

1.

12 cm

18 cm

2.

9 m

15 m

12 m
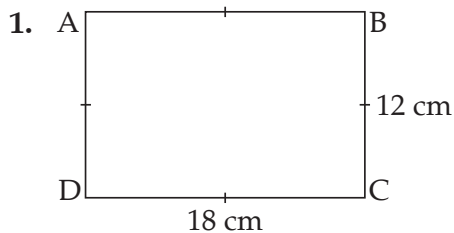
(a) AB : BC

(b) (AB − AD) : (AB + AD)
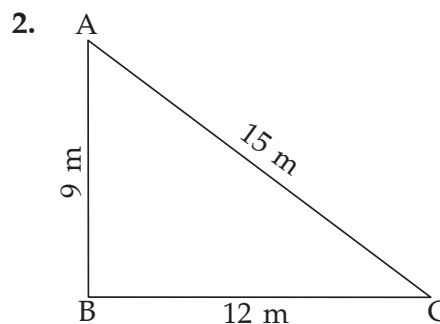
(a) AB : BC   (b) BC : AC   (c) AB : AC

(d) Are (BC − AB) : AB and
  AB : (BC + AC) equal?

Ans. 1. (a) 3 : 2   (b) 1 : 5   **2.** (a) 3 : 4 (b) 4 : 5 (c) 3 : 5 (d) Yes, as 3 : 9 = 9 : 27

EXERCISE 2.2

A. Check whether the following numbers form a proportion.

1. 5, 7, 9, 11   **2.** 2, 3, 4, 6   **3.** 10, 15, 20, 30

4. 12, 15, 40, 50   **5.** 8, 15, 20, 32   **6.** 6, 18, 21, 36

Ans. 1. No   **2.** Yes   **3.** Yes

4. Yes   **5.** No   **6.** No

B. Express each set of numbers in a proportion.

1. 6, 9, 12, 8   **2.** 2, 8, 4, 16   **3.** 4, 10, 35, 14

4. 5, 3, 6, 10   **5.** 8, 4, 2, 1   **6.** 15, 45, 27, 9

Ans. **1.** 6 : 9 : : 8 : 12   **2.** 2 : 8 : : 4 : 16   **3.** 4 : 10 : : 14 : 35

4. 3 : 5 : : 6 : 10   **5.** 8 : 4 : : 2 : 1   **6.** 15 : 45 : : 9 : 27

C. Find the missing terms.

1. 3:8:: 9: 24   **2.** 15:12:: 5 :4   **3.** 6: 21 :: 4:14

4. 1:5:: 9 :45   **5.** 2 :11:: 10:55   **6.** 13: 11 :: 26:22

D. Solve the following word problems.

1. In a cupboard, the number of books in Hindi and English are in the ratio 5:7. There are 75 books in Hindi. How many books are in English?

Ans. 105 books

2. Pratham and Monika collected a number of shells in the ratio 13:16. If Pratham collected 52 shells, find the number of shells collected by Monika.

Ans. 64 shells

3. Mr Kalra earns ₹60,900 per month. His expenses and savings are in the ratio 11:4. Find his savings for a month and a year.

Ans. ₹4060, ₹48720

4. Tapshi and Megha contributed some money in the ratio 4:5 for buying a gift of ₹360. Find their contributions.

Ans. Tapshi ₹160, Megha ₹200

5. A bag full of potatoes and tomatoes weighs 15 kg. The potatoes and tomatoes are in the ratio 1:4. Find the weight of each vegetable.

Ans. Cauliflowers-3 kg, Cabbages-12 kg

EXERCISE 2.3

A. Solve the following word problems.

1. The weight of a cricket ball is 150 g, find the weight of 6 such balls.

Ans. 900 g

2. A bottle contains 250 mL of milk. How much milk is there in 11 such bottles?

Ans. 2 L 750 mL

3. Durga reads 287 pages in 7 days. How many pages does she read per day?

Ans. 41 pages

4. A tray of 48 eggs costs ₹192. Find the cost of each egg.

Ans. ₹4

5. The cost of 8 ice creams is ₹200. Find the cost of 10 ice creams.

Ans. ₹250

6. The cost of a packet of 10 capsules is ₹83. If Rita buys 6 capsules, how much does she pay to the shopkeeper?

Ans. ₹49.80

7. Which is cheaper—4 chocolates for ₹32 or 10 chocolates for ₹70?

Ans. Second option, 10 chocolates for ₹70

8. A typist types 600 words in 30 minutes. How many words can she type in 1 hour 5 minutes?

Ans. 1300 words

9. Ansh solves 15 sums in 1 hour. How long will he take to solve 25 such sums?

Ans. 1 hour 40 minutes

10. A bike covers a distance of 225 km using 3 L of petrol. How much petrol will it need to cover a distance of 375 km?

Ans. 5 L

B. **In each of the following, which is a better deal?**

1.

 or

2 kg surf for ₹165   5 kg surf for ₹400

Ans. 5 kg surf for ₹400

2. or

3 toothbrushes for ₹99   4 toothbrushes for ₹125

Ans. 4 toothbrushes for ₹125

THINK AND ANSWER

1. Perimeter of a rectangular plot is 220 m. Its length and breadth are in the ratio 15:**7.** Find the measure of length and breadth of the plot.

Ans. 75 m, 35 m

2. A triangular park is fenced thrice using barbed wire of length 720 m. The three sides of the park are in the ratio 3:4:**5.** Find the length of each side of the park.

Ans. 60 m, 80 m, 100 m

3. Ansh purchased 11 pens for ₹165 and Mala purchased 8 pens for ₹96. Who gets the pen cheaper?

Ans. Mala

3. Profit/Loss and Bills

ANSWERS

EXERCISE 3.1

A. Calculate the profit or loss in the following.

   1. C.P. = ₹35, S.P. = ₹50
   2. C.P. = ₹120, S.P. = ₹102
   3. S.P. = ₹650, C.P. = ₹605
   4. S.P. = ₹927.50, C.P. = ₹792.50
   5. C.P. = ₹6,000, S.P. = ₹5,905
   6. S.P. = ₹10,500, C.P. = ₹11,200

Ans.
   1. Profit = ₹15
   2. Loss = ₹18
   3. Profit = ₹45
   4. Profit = ₹135
   5. Loss = ₹95
   6. Loss = ₹700

B. Find the cost price in each of the following.

   1. S.P. = ₹25, Profit = ₹8
   2. S.P. = ₹28, Loss = ₹2.50
   3. S.P. = ₹150, Loss = ₹10
   4. S.P. = ₹780, Profit = ₹30
   5. Profit = ₹605, S.P. = ₹15,800, repairing cost = ₹295
   6. Maintenance = ₹250, Loss = ₹100, S.P. = ₹9,100

Ans.
   1. ₹17
   2. ₹30.50
   3. ₹160
   4. ₹750
   5. ₹14,900
   6. ₹8,950

C. Find the selling price in each of the following.

   1. C.P. = ₹77, Profit = ₹7
   2. C.P. = ₹240, Loss = ₹10
   3. C.P. = ₹600.75, Loss = ₹71.25
   4. C.P. = ₹5,420, Profit = ₹460
   5. Transportation = ₹80, C.P. = ₹800, Profit = ₹70
   6. C.P. = 69,000, Profit = 5,490, repairing cost = ₹2,850

Ans.
   1. ₹84
   2. ₹230
   3. ₹529.50
   4. ₹5,880
   5. ₹950
   6. ₹77,340

D. Solve the following word problems.

   1. Aditya bought a bicycle for ₹2,500 and sold it for ₹2,750. Find his gain or loss.

   Ans. Gain = ₹250

   2. A bike was sold for ₹42,500 making a profit of ₹2,700. Find the cost price of the bike.

   Ans. ₹39,800

   3. Nagma sold her sewing machine for ₹3,500 and she incurred a loss of ₹400. What was the cost price of the sewing machine?

   Ans. ₹3,900

4. Varun bought an old car for ₹68,900 and spent ₹10,100 on its repairing. At what price would he sell so that he earns a profit of ₹15,000?

Ans. ₹94,000

5. Nitin bought a CD Player for ₹5,400 and sold it for ₹5,100. Find the profit or loss he made.

Ans. Loss = ₹300

6. A farmer bought a cow for ₹16,800 and a goat for ₹3,200. He sold both for ₹24,600. Find the profit or loss.

Ans. Profit = ₹4,600

EXERCISE 3.2

A. Complete the following table.

S.No.	C.P.	S.P.	Profit	Loss	Profit%/Loss%
1.	₹25	₹35	₹10	×	40%
2.	₹80	₹72	×	₹8	10%
3.	₹120	₹156	₹36	×	30%
4.	₹800	₹700	×	₹100	$12\frac{1}{2}$%
5.	₹9,000	₹8,550	×	₹450	5%
6.	₹37,500	₹50,000	₹12,500	×	$33\frac{1}{3}$%

B. Solve the following word problems.

1. A television is sold at a profit of 12%. If the cost price of the television is ₹8,000, find its selling price.

Ans. ₹8,960

2. A washing machine costing ₹6,500 was sold at a loss of 8%. Find its selling price.

Ans. ₹5,980

3. A trader bought two cows for ₹10,500 and ₹12,000 respectively. He sold both the cows for ₹25,000. Find his profit or loss per cent.

Ans. Profit = $11\frac{1}{9}$%

4. Manju bought a laptop for ₹25,000. What should be the selling price of the laptop so as to make a profit of 16%?

Ans. ₹29,000

5. Aryan bought an old car for ₹80,000 and spent ₹10,000 for its repairing. Then, he sold it making a profit of 15%. Find the selling price of the car.

Ans. ₹1,03,500

6. A businessman sold an article for ₹1,650 making a profit of 10%. Find the cost price of the article.

Ans. ₹1,500

7. A shopkeeper sold a bed for ₹12,600 incurring a loss of 10%. Find the cost price of the bed.

Ans. ₹14,000

8. What would be the cost price of a computer sold for ₹24,440 at a loss of 6%?

Ans. ₹26,000

9. Manisha bought a bicycle for ₹2,800 and sells it at a loss of 8%. How much does she sell it for?

Ans. ₹2,576

10. A cupboard is bought for ₹2,500 and sold at ₹3,000. Find the profit or loss in this transaction. Also, find its percentage.

Ans. Profit = ₹500, 20%

11. A packet of 10 pencils is bought for ₹15. Each loose pencil is sold for ₹1.50. Find the profit or loss per cent on a packet of pencils.

Ans. No profit or loss

12. A grocer bought 5 dozen of apples at the rate of ₹60 per dozen. He sold all the apples at a profit of 25%. What was the selling price of each apple?

Ans. ₹6.25/apple

13. Naveen bought a computer for ₹20,000 and sold it to Pawan at a profit of 10%. If Pawan sold it to Rajni at a profit of 12%, how much did Rajni pay for it?

Ans. ₹24,640

EXERCISE 3.3

A. **Complete the bill.**

GOEL GARMENTS			
Bill No. 0786			Date 31.01.2019
Particulars	**Rate**	**Quantity**	**Amount**
Trousers	₹110	2	₹220
Caps	₹75	4	₹300
Vests	₹82	3	₹246
		Total	₹766

B. Each of the following bills has some errors. Check and prepare a correct bill.

1.

Bill No. 0008			Sun Shine Textile
Date 25.02.2019			Old Washermenpet, Chennai–21

Item	Rate (₹ per unit)	Quantity	Amount (in ₹)
Richwood Jeans	495.00	2	890.00
Shirts	325.00	4	1,300.00
Shorts	45.00	7	285.00
		Total	2,375.00

Ans. Richwood Jeans = ₹990; Shirts = ₹1300; Shorts = ₹315; Total = ₹2605

2.

	CASH MEMO		
Bill No. 123			Redif Stationery
Date 14.03.2019			Salaiyappan Street, Bengaluru–60

Item	Rate (in ₹ per pc)	Quantity	Amount (in ₹)
Notebooks	23.50	24	564.00
Pens	12.25	35	420.75
Pencils	2.00	70	140.00
Geometry box	45.50	6	270.00
		Total	1,394.75

Ans. Notebooks = ₹564.00; Pens = ₹428.75; Pencils = ₹140.00; Geometry box ₹273.00, Total = ₹1405.75

3.

	BILL		
Gupta Store			Receipt No. 195/14
Station Road, Sonepat			Date: 20.02.2019

Particulars	Quantity	Rate	Amount
Moong dal	4 kg	₹80/kg	₹320
Arhar dal	3 kg	₹84/kg	₹242
Urad dal	5 kg	₹65/kg	₹325
Basmati rice	40 kg	₹60/kg	₹2,400
India gate rice	25 kg	₹56/kg	₹1,400
Flour	30 kg	₹24/kg	₹720
Vegetable oil	15 kg	₹95/kg	₹1,525
		Total	₹4,842

Ans. Moong dal = ₹320; Arhar dal = ₹252; Urad dal = ₹325; Basmati rice = ₹2400; India Gate rice = ₹1400; Flour = ₹720; Vegetable oil = ₹1425; Total = ₹6842

C. Solve the following sums.

1. Shubham purchased 4 kg guavas at ₹40 per kg, 3 kg apples at ₹120 per kg and 5 kg oranges at ₹60 per kg. Prepare the bill. If Shubham gave two 500-rupee notes at the counter, how much balance did he get back?

Ans.

BILL			
Particulars	**Quantity**	**Rate**	**Amount**
Guava	4 kg	₹40/kg	₹160
Apple	3 kg	₹120/kg	₹360
Orange	5 kg	₹60/kg	₹300
		Total	₹820

, **₹180**

2. Anuradha bought 3 packets of biscuits at ₹12.50 per packet, 8 packets of namkins at ₹15 per packet, 9 packets of candies at ₹36.50 per packet and 6 packets of chips at ₹20 per packet. Prepare a bill for this purchase. How much did she pay at the counter?

Ans.

BILL			
Particulars	**Quantity**	**Rate/packet**	**Amount**
Biscuit	3 packets	₹12.50	₹37.50
Namkin	8 packets	₹15.00	₹120.00
Candies	9 packets	₹36.50	₹328.50
Chips	6 packets	₹20	₹120.00
		Total	₹606.00

3. Make a bill for each of the following.

   (a) 6 soap bars at ₹25 per piece, 8 detergent bars at ₹16 per piece, 4 kg detergent powder at ₹48 per kg and 2 bottles of indigo at ₹35 per bottle.

   (b) 5 storybooks at ₹48 each, 12 notebooks at ₹18 each, 6 pens at ₹7.50 each, a geometry box for ₹85 and a set of water colours for ₹110.

Ans. 3(a)

Particulars	Quantity	Rate (₹/unit)	Amount
BILL			
Soap Bar	6	₹25	₹150
Detergent Bar	8	₹16	₹128
Detergent Powder	4	₹48	₹192
Indigo Bottle	2	₹35	₹ 70
		Total	₹540

Ans. 3(b)

Particulars	Quantity	Rate (₹/unit)	Amount
BILL			
Storybook	5	₹48	₹240
Notebook	12	₹18	₹216
Pen	6	₹7.50	₹ 45
Geometry Box	1	₹85	₹ 85
Water Colours Set	1	₹110	₹110
		Total	₹696

FUN ZONE

PRICE LIST

A. How much money does Riya need to buy a polished silver top shell, 2 beautiful yellow shells and 4 purple clam shells?

orange cone shell	₹9.50
purple clam shell	₹2.50
beautiful yellow shell	₹6.50
oyster shell	₹9.50
polished silver top shell	₹6.00

Ans. ₹6.00 + 2 × 6.50 + 4 × 2.50 = ₹29.00

B. Rehana has ₹7,250. How much money will Rehana have left if she buys 5 dozen souvenir cups, 8 sand castle magnets, 9 dozen pink flamingo pens and a palm tree magnet?

pink flamingo pen	₹325/dozen
souvenir cup	₹190/dozen
souvenir spoon	₹575/dozen
palm tree magnet	₹83/piece
sand castle magnet	₹78/piece

Ans. Total cost = 5 × ₹190 + 8 × ₹78 + 9 × ₹325 + ₹83 = ₹4582

₹7250 − ₹4582 = ₹2668

4. Simple Interest

ANSWERS

<u>**EXERCISE 4.1**</u>

A. Compute the simple interest and the amount for each of the following.

   1. P = ₹600, R = 6%, T = 5 years   **2.** P = ₹1,000, R = 8%, T = 4 years

   3. P = ₹4,500, R = $12\frac{1}{2}$%, T = 3 years   **4.** P = ₹12,000, R = $6\frac{1}{4}$%, T = 6 years

   5. P = ₹25,000, R = 9%, T = $2\frac{1}{2}$ years   **6.** P = ₹48,000, R = 11%, T = $4\frac{3}{4}$ years

Ans. **1.** S.I. = ₹180, A = ₹780   **2.** S.I. = ₹320, A = ₹1,320   **3.** S.I. = ₹1,687.50, A = ₹6,187.50

     4. S.I. = ₹4,500, A = ₹16,500   **5.** S.I. = ₹5,625, A = ₹30,625 **6.** S.I. = ₹25,080, A = ₹73,080

B. Solve the following word problems.

   1. On a deposit of ₹20,000, Madan received ₹20,800 at the end of 1 year. What interest does he get after 1 year? What interest will he get after 5 years for the same deposit?

  Ans. ₹800, ₹4,000

   2. Mr Prabhakar invested ₹4,000 in a saving scheme for 5 years at the rate of 8% interest per annum. What interest will he get after the given period of time?

  Ans. ₹1,600

   3. Savita borrowed a sum of ₹50,000 at the rate of 12% per annum for 3 years from a private finance company. How much money will she pay after 3 years to the company?

  Ans. ₹68,000

   4. What amount of money will Sukhwinder get after 7 years if he deposits ₹6,000 at $7\frac{1}{2}$% per annum interest rate?

  Ans. ₹9,150

   5. Who gets more interest—Harmanpreet who invests ₹800 for 2 years at $8\frac{1}{4}$% interest rate or Daljeet who invests ₹600 for 3 years at $7\frac{1}{2}$% interest rate?

  Ans. Harmanpreet gets = ₹132, Daljeet gets = ₹135, Daljeet gets more interest by ₹3

   6. Find the simple interest and amount on ₹75,000 for 4 years at the rate of $6\frac{1}{4}$% per annum.

  Ans. S.I. = ₹18,750, A = ₹93,750

7. T. Rangarajan borrowed ₹6,00,000 at the rate of 8% interest per annum for 3 years. He purchased a plot using this money in a city. After 3 years, he sold the plot to pay the loan he borrowed. After the settlement of a loan, he was left a sum of ₹1,75,000.

   (a) Find the interest and the amount he paid to the bank.

   (b) At what amount did he sell the plot?

   (c) How much profit did he earn from the plot?

   Ans. (a) Interest = ₹1,44,000, A = ₹7,44,000   (b) ₹9,19,000   (c) ₹3,19,000

EXERCISE 4.2

A. Compute the principal for each of the following.

   1. S.I. = ₹300, R = 6%, T = 5 years

   2. S.I. = ₹720, R = 8%, T = 3 years

   3. S.I. = ₹1,440, R = 9%, T = $2\frac{2}{3}$ years

   4. S.I. = ₹6,000, R = $12\frac{1}{2}$%, T = 8 years

Ans. 1. ₹1,000   2. ₹3,000   3. ₹6,000   4. ₹6,000

B. Find the time for each of the following.

   1. P = ₹500, S.I. = ₹120, R = 6%

   2. P = ₹1,800, S.I. = ₹360, R = 4%

   3. P = ₹6,250, S.I. = ₹625, R = 10%

   4. P = ₹40,000, S.I. = ₹2,500, R = $12\frac{1}{2}$%

Ans. 1. 4 years   2. 5 years   3. 1 year   4. $\frac{1}{2}$ year

C. Find the rate of interest for each of the following.

   1. P = ₹900, S.I. = ₹180, T = 2 years

   2. P = ₹2,100, S.I. = ₹1,050, T = 4 years

   3. P = ₹14,000, A = ₹23,800, T = 15 years

   4. P = ₹60,000, A = ₹67,500, T = $7\frac{1}{2}$ years

Ans. 1. 10%   2. $12\frac{1}{2}$%   3. $4\frac{2}{3}$%   4. $1\frac{2}{3}$%

D. Solve the following word problems.

   1. Shantana invested a sum of money in a bank for 4 years, which gives 9% interest per annum. If she got ₹1,800 as an interest, calculate the principal.

   Ans. ₹5,000

   2. In a savings account, ₹6,200 is deposited for 5 years at a certain rate of interest. If the total amount received is ₹9,300, find the rate of interest.

   Ans. 10% p.a.

   3. In how many years, will a deposit of ₹16,000 earn an interest of ₹2,000 at the rate of 5% simple interest?

Ans. $2\dfrac{1}{2}$ years

4. A certain sum is amounted to ₹720 in 2 years at the rate of 10% per annum. Find the sum.

Ans. ₹600

5. In how many years ₹9,000 at the rate of 8% simple interest will be ₹11,060 in a bank?

Ans. $2\dfrac{31}{36}$ years

PUZZLE

BANKING

Bank	Rates for the time		
	Up to 3 years	4 or 5 years	More than 5 years
Bank A	6%	7%	8%
Bank B	7%	$7\dfrac{1}{2}\%$	8%
Bank C	$5\dfrac{1}{2}\%$	8%	9%

1. Mr Prem wants to invest a sum of ₹50,000 for 3 years in a fixed deposit scheme. In which bank will you suggest him to deposit? How much will the bank return in all for the given sum?

Ans. Bank B, ₹60,500

2. Mr Rakesh got an amount of ₹25,600 after 4 years for the deposit of ₹20,000. Can you recognise the bank in which Mr Rakesh had invested?

Ans. Bank A

3. Calculate the interests and arrange them in ascending order.

In Bank A, ₹1,00,000 for 3 years

In Bank B, ₹75,000 for 5 years

In Bank C, ₹40,000 for 8 years

Ans. ₹18,000; ₹28,125; ₹28,800

PERIODIC TEST 3

A. Say True or False.

1. Every prime number is an odd number. | **False**

2. 16:24 and 20:30 are equivalent ratios. | **True**

3. $\dfrac{2}{5}$ is greater than 20%. | **True**

4. 100% means 1 whole. | **True**

5. 5 bananas for ₹18 is cheaper than 12 bananas for ₹40. | **False**

B. Tick (✓) the correct option.

1. $1 + \underline{\hspace{2cm}} = 1\dfrac{2}{3}$

   (a) $\dfrac{1}{3}$ ☐   (b) 0 ☐   (c) $\dfrac{2}{3}$ ✓   (d) $\dfrac{1}{4}$ ☐

2. The unit of a ratio is

   (a) m ☐   (b) sq. m ☐

   (c) cu. cm ☐   (d) none of these ✓

3. Which of the following shows a right proportion?

   (a) 6:2:: 12:3 ☐   (b) 9:18:: 18:36 ✓

   (c) 5:15:: 60:12 ☐   (d) 4:10:: 12:20 ☐

4. A grocer bought the roses at ₹12/dozen and sold 2 roses for ₹3. For each rose, the profit is

   (a) ₹0.50 ✓   (b) ₹1.00 ☐   (c) ₹1.50 ☐   (d) ₹0.05 ☐

5. On a sum of ₹100 at 8% per annum, the interest for 4 years will be

   (a) ₹4 ☐   (b) ₹8 ☐   (c) ₹12 ☐   (d) ₹32 ✓

C. Match the following.

1. 2 kg oil at ₹85/kg   (a) ₹60
2. 3.5 kg rice at ₹42/kg   (b) ₹130
3. 1.5 kg sugar at ₹40/kg   (c) ₹170
4. 5 kg flour at ₹26/kg   (d) ₹147

D. **Fill in the blanks.**

1. XXX ÷ V = ___VI___ .
2. 1:3:: ___9___ :27.
3. ___Loss%___ = $\dfrac{(\text{C.P.} - \text{S.P.}) \times 100}{\text{C.P.}}$.
4. ___Amount___ = principal + simple interest.

E. Divide 18 hours 45 minutes 30 seconds by 5.

Ans. 3 hours 45 minutes 6 seconds

F. Find the S.P., if, C.P. = ₹5,420 and Profit = ₹460.

Ans. ₹ 5,880

G. The sum of maximum temperatures for five days is 205°C. Find the average temperature.

Ans. 41° C

H. Shridhi ate $\dfrac{3}{4}$ of a pizza and shrey ate $\dfrac{3}{16}$ of the same pizza. How much of the pizza is left?

Ans. $\dfrac{1}{16}$

I. Find the volume of a block whose each edge is 8 cm.

Ans. 512 cu. cm

J. In how many years, on ₹800 at the rate of 6% per annum, the interest will be ₹240?

Ans. 5 years

5. Metric Measures

ANSWERS

LET US RECALL

A. Tick the correct unit in each of the following statements.

1. Length of your finger is about 6.5 mm/cm✓/m/km.
2. Diameter of a 1-rupee coin is about 20 mm✓/cm/m/km.
3. Height of a building is about 12 mm/cm/m✓/km.
4. Your weight is about 35 g/kg✓.
5. Weight of a bangle is about 12 g✓/kg.
6. A glass can contain about 250 mL✓/L water.

B. Put the decimal point at right place to make the measure correct.

1.	Length of a pencil	135 cm
2.	Distance between school and home	2,550 km
3.	Weight of a watermelon	4,255 kg
4.	Capacity of a teaspoon	5 L
5.	Height of a 10-year old boy	135 m

Ans. 1. 13.5 cm **2.** 2.550 km **3.** 4.255 kg **4.** 0.005 L **5.** 1.35 m

EXERCISE 5.1

A. Fill in the blanks by converting the given measures into the corresponding units.

1. 4 dam : **0.04** km = **0.4** hm = **40** m = **400** dm = **4000** cm = **40000** mm
2. 58 dg : **0.0058** kg = **0.058** hg = **0.58** dag = **5.8** g = **580** cg = **5800** mg
3. 248 mL : **0.000248** kL = **0.00248** hL = **0.0248** daL = **0.248** L = **2.48** dL = **24.8** cL
4. 3.17 kg : **31.7** hg = 3**17** dag = **3170** g = **31700** dg = **317000** cg = **3170000** mg
5. 0.025 m : **0.000025** km = **0.00025** hm = **0.0025** dam = **0.25** dm = **2.5** cm = **25** mm
6. 0.832 hL : **0.0832** kL = **8.32** daL = **83.2** L = **832** dL = **8320** cL = **83200** mL
7. 7,513 cm : **0.07513** km = **0.7513** hm = **7.513** dam = **75.13** m = **751.3** dm = **75130** mm

B. Express the following into the unit indicated against each.

1. 8 kg 5 hg 9 dag 7 g (in g)
2. 4 g 7 dg 8 cg 2 mg (in mg)
3. 17 km 8 hm 2 dam 4 m (in km)
4. 95 dm 1 cm 6 mm (in m)
5. 3 kL 8 daL 4 L 5 dL (in dL)
6. 5 hL 9 daL 1 L 5 cL (in kL)
7. 4 hm 7 m 8 cm (in km)
8. 6 dag 5 dg 3 cg 9 mg (in g)

Ans. 1. 8597 g   **2.** 4782 mg   **3.** 17.824 km   **4.** 9.516 m
 5. 30845 dL   **6.** 0.59105 kL   **7.** 0.40708 km   **8.** 60.539 g

C. Arrange the following measures in ascending order.

1. 0.25 kg, 5 hg, 126 g, 70 dag
2. 0.3 daL, 57 dL, 2 L, 86 mL

3. 0.01 hm, 0.023 dam, 92 cm, 185 mm   **4.** 0.3 km, 1 hm, 87 dm, 61 mm

Ans. 1. 126 g, 0.25 kg, 5 hg, 70 dag   **2.** 86 mL, 2 L, 0.3 daL, 57 dL

      3. 185 mm, 0.023 dam, 92 cm, 0.01 hm   **4.** 61 mm, 87 dm, 1 hm, 0.3 km

EXERCISE 5.2

A. Add the following using place-value chart.

   1. 7 kL 8 hL 2 daL 9 L 6 dL, 3 kL 7 hL 4 L 8 dL and 3 hL 7 daL 2 L 6 dL

  Ans. 11 kL 9 hL 7 L

   2. 4 g 2 dg 8 cg 4 mg, 9 g 6 dg 5 cg 3 mg and 8 g 5 dg 2 cg 6 mg

  Ans. 2 dag 2 g 4 dg 6 cg 3 mg

   3. 2 kg 7 hg 5 dag 4 g 8 dg, 8 kg 3 dag 2 dg and 9 hg 7 dag 5 g 4 dg

  Ans. 11 kg 7 hg 6 dag 4 dg

   4. 9 dam 8 m 7 dm 4 cm 5 mm, 2 m 3 dm 8 cm 4 mm and 3 dam 8 m 7 mm

  Ans. 1 hm 3 dam 9 m 1 dm 3 cm 6 mm

B. Add the following.

1.	**2.**	**3.**
4 2 . 3 5 7 km	3 5 6 4 . 8 g	4 2 8 . 5 3 L
9 . 2 8 3 km	1 3 0 1 . 9 g	6 9 2 . 4 7 L
+ 3 5 . 7 3 0 km	+ 6 5 2 . 7 g	+ 8 3 4 . 7 5 L
8 7 . 3 7 0 km	**5 5 1 9 . 4 g**	**1 9 5 5 . 7 5 L**

C. Subtract the following using place-value chart.

   1. 8 m 7 dm 4 cm 5 mm from 9 m 4 dm 8 cm 2 mm

  Ans. 7 dm 3 cm 7 mm

   2. 4 kg 6 hg 9 dag 4 g 5 dg from 6 kg 3 hg 4 g 2 dg

  Ans. 1 kg 6 hg 9 g 7 dg

   3. 6 hL 3 daL 9 L 5 dL 8 cL from 9 hL 2 daL 8 L 4 dL 3 cL

  Ans. 2 hL 8 daL 8 L 8 dL 5 cL

   4. 6 km 8 m 7 dm 3 mm from 8 km 3 hm 2 dam 4 m 5 dm 1 cm 4 mm

  Ans. 2 km 3 hm 1 dam 5 m 8 dm 1 cm 1 mm

D. Subtract.

1.	**2.**	**3.**
4 2 3 . 4 5 6 g	5 2 . 7 4 3 kL	8 2 3 . 5 4 6 m
− 1 5 7 . 3 8 9 g	− 9 . 2 5 8 kL	− 7 9 . 8 3 0 m
2 6 6 . 0 6 7 g	**4 3 . 4 8 5 kL**	**7 4 3 . 7 1 6 m**

E. A tank had 1 kL water. From this tank, 3 drums of capacities 150 L, 200 L and 225 L were filled. How much water was left in the tank?

Ans. 425 L

F. Raghav, Meetu and Raj, having respective weights 34 kg 5 hg, 32 kg 4 hg and 36 kg 5 hg 6 dag, went for a ride in the amusement park. There was a restriction that it can carry only two people not exceeding 70 kg together. Decide which two cannot go on

that ride together?

Ans. Raghav and Raj

<u>EXERCISE 5.3</u>

A. Multiply each of the following using place-value chart.

   1. 3 m 5 dm 4 cm 8 mm by 2   **2.** 4 g 7 dg 2 cg 9 mg by 3

   3. 4 L 2 cL 6 mL by 6   **4.** 9 hm 7 dam 4 m by 8

   5. 3 dag 4 g 5 cg 3 mg by 9   **6.** 2 hL 3 daL 8 L 4 dL by 7

Ans. **1.** 7 m 9 cm 6 mm   **2.** 1 dag 4 g 1 dg 8 cg 7 mg

     3. 2 daL 4 L 1 dL 5 cL 6 mL   **4.** 7 km 7 hm 9 dam 2 m

     5. 3 hg 6 g 4 dg 7 cg 7 mg   **6.** 1 kL 6 hL 6 daL 8 L 8 dL

B. Express the following in the units indicated in brackets and multiply.

   1. 2 kg 5 hg 7 dag 4 g by 11 (in kg)   **2.** 5 hL 8 daL 7 L 2 dL by 15 (in kL)

   3. 4 km 7 hm 8 m by 24 (in km)   **4.** 4 m 7 dm 8 cm 3 mm by 28 (in m)

   5. 6 daL 8 L 3 cL by 42 (in L)   **6.** 3 g 5 dg 3 mg by 34 (in g)

Ans. **1.** 28.314 kg   **2.** 8.808 kL   **3.** 112.992 km

     4. 133.924 m   **5.** 2857.26 L   **6.** 119.102 g

C. Divide each of the following using place-value chart.

   1. 5 m 3 dm 8 cm 4 mm by 4   **2.** 8 L 8 dL 4 cL 4 mL by 6

   3. 9 kg 7 hg 3 dag 7 g by 7   **4.** 7 km 3 dam 2 m by 8

   5. 6 kL 8 hL 5 L by 5   **6.** 6 dag 4 g 7 dg 1 cg by 9

Ans. **1.** 1 m 3 dm 4 cm 6 mm   **2.** 144 dL 7 cL 4 mL   **3.** 1 kg 3 hg 9 dag 1 g

     4. 8 hm 7 dam 9 m   **5.** 1 kL 3 hL 6 daL 1 L   **6.** 7 g 1 dg 9 cg

D. Express the following in the units indicated in brackets and divide.

   1. 45 L 3 dL 7 cL 2 mL by 12 (in L)   **2.** 34 m 7 dm 8 cm 5 mm by 15 (in m)

   3. 19 kg 8 hg 7 dag 5 g by 25 (in kg)   **4.** 34 km 9 hm 5 dam by 15 (in hm)

   5. 23 g 4 dg 8 cg by 20 (in g)   **6.** 216 kL 8 daL 4 L by 24 (in kL)

Ans. **1.** 3.781 L   **2.** 2.319 m   **3.** 0.795 kg

     4. 23.3 hm   **5.** 1.174 g   **6.** 9.0035 kL

<u>VALUE CORNER</u>

A. On the Van Mahotsav Day, Happy planted some trees and fenced them using bamboo sticks. He bought 2 pieces of bamboo each 9 m long and cut them into 1 m 5 dm long pieces. Further, each piece was divided lengthwise into 6 sticks and then used all of them to fence four trees. How many sticks are used for fencing 1 tree?

Ans. Total number of sticks = 2 × 9 ÷ 1.5 × 6 = 72, so, 18 sticks are used for fencing each tree.

B. Collect the amount of water which is leaked from a tap (that has not been closed properly) in a minute or in an hour. Then, calculate the volume of water leaked in a day, a week, a month and a year. Discuss, this result in the class and encourage people to save water.
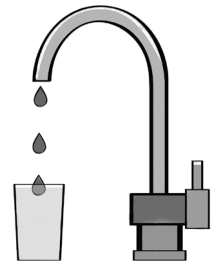
Ans. Do it yourself.

FUN ZONE

Simplify the sums given in the design and colour the portions that give equal result with same colour.

10000 mm

0.225 kg × 4

1 m 5 cm
+ 2 dm 5 cm

40 daL
+ 25 daL

1 hL 3 daL
× 5

2 g 3 dg × 4

4.5 kg ÷ 5

100 dm

0.39 dam
÷ 3

1 kg
− 0.9908 kg

0.92 dag

1 kg − 1 hg

0.041 hg
+ 0.051 hg

1300 mm

1 dam

13 hL ÷ 2

1 kL
− 3.5 hL

6.5 dm × 2

14.3 dag
+ 41.6 dag
+ 34.1 dag

0.01 km
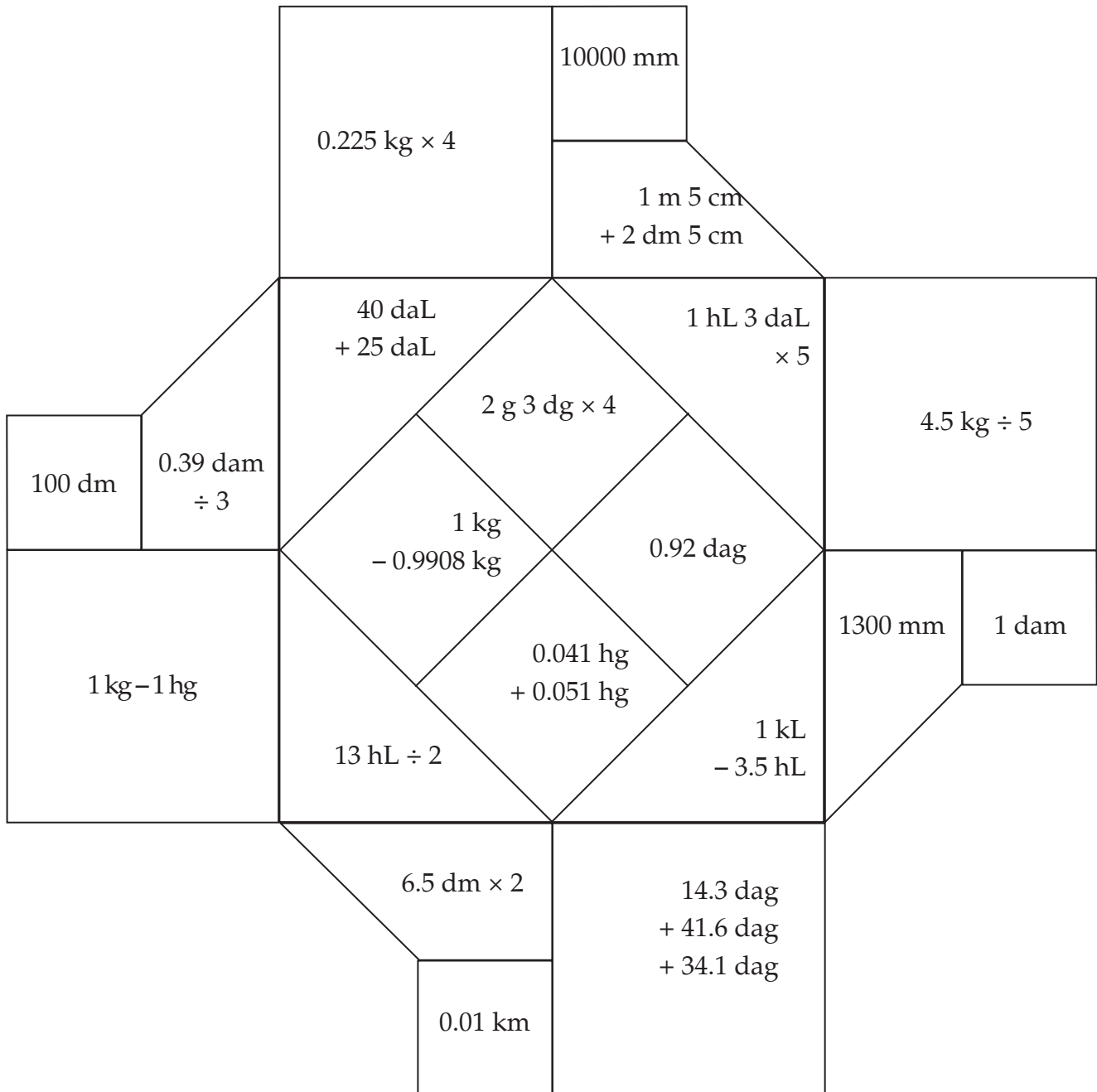
Hint: Same regions have equal value.

Ans. Do it yourself.

6. Basic Geometry

ANSWERS

A. Match

1. Point   (a)   (i) It goes on either side endlessly. It cannot be drawn completely on a sheet of paper.

2. Line segment   (b)   (ii) It has only one end point. It cannot be drawn completely on a sheet of paper.

3. Ray   (c)   (iii) It has two end points and fixed length. It can be drawn on a piece of paper.

4. Line   (d)   (iv) It shows an exact location. It has no length, breadth and height.

Ans. 1. (c) (iv)   2. (a) (iii)   3. (d) (ii)   4. (b) (i)

B. Observe the diagram and recognise the points that lie:
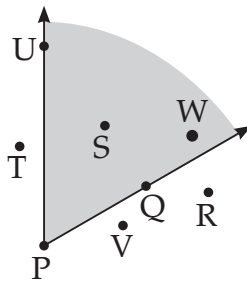
1. In the interior of the angle   __S, W__

2. In the exterior of the angle   __T, V, R__

3. On the angle   __P, Q, U__

EXERCISE 6.1

A. Observe the given diagram and name the following.

1. Line segments
2. Rays
3. Line(s)

Ans. 1. $\overline{BC}$ and $\overline{AC}$ 2. $\overrightarrow{OC}, \overrightarrow{OB}$ and $\overrightarrow{OA}$ 3. $\overleftrightarrow{AB}$
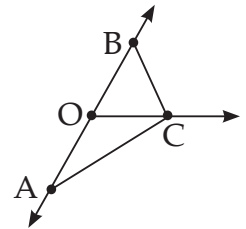
B. Identify the pair of parallel lines and intersecting lines.

1.

2.

3.

4.

5.

6.
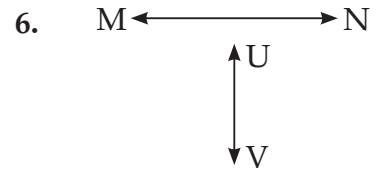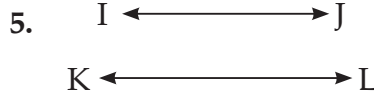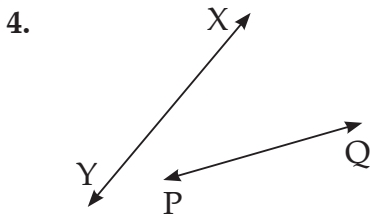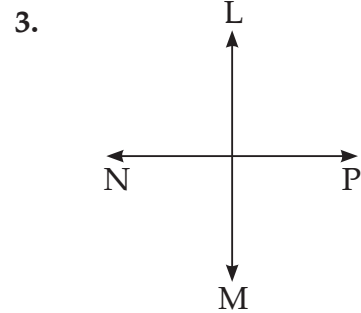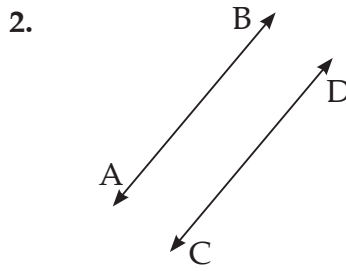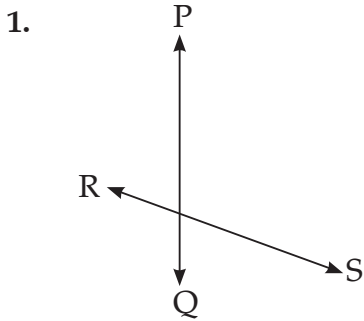
Ans.
1. Intersecting
2. Parallel
3. Intersecting
4. Intersecting
5. Parallel
6. Intersecting

C. Name the vertices, arms and angles in each of the following.

1.

2.

3.
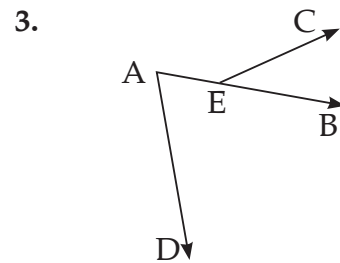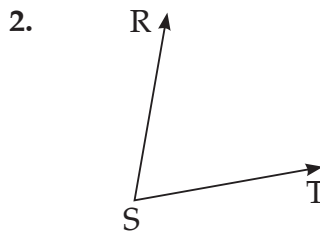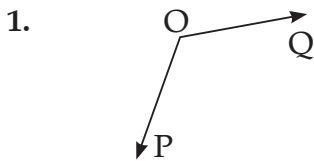
Ans.
1. Vertex : O, Arms : OP and OQ, Angle: ∠QOP or ∠POQ
2. Vertex : S, Arms : SR and ST, Angle: ∠RST or ∠TSR
3. Vertices : A and E, Arms : AB, AD; EC, EB, Angle: ∠BAD; ∠BEC

D. How many angles do you observe in the following figures? Write them.

1.

2.

3.
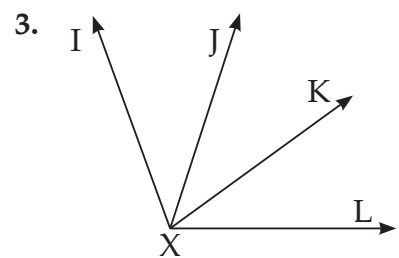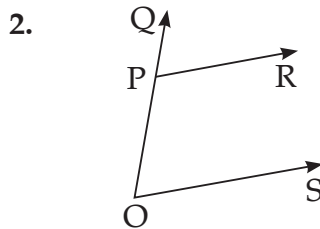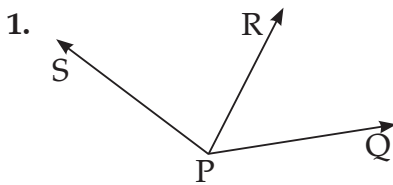
Ans.
1. Three angles; ∠QPR, ∠RPS and ∠QPS
2. Three angles; ∠SOP or ∠SOQ, ∠RPQ and ∠RPO
3. Six angles; ∠IXJ, ∠JXK, ∠KXL, ∠IXK, ∠JXL, ∠IXL

E. Fill in the blanks.

1. A ____**point**____ reflects an exact position in space.
2. If two lines have a common point, the lines are called ____**intersecting**____.
3. In a plane, the two non-intersecting lines are called ____**parallel**____.

4. The number of points which determine a plane is __three__.

5. Each angle has one __vertex__ and two __arms__.

EXERCISE 6.2

A. Measure the following angles using a protractor.

1.
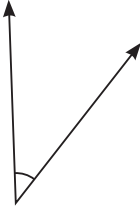
2.
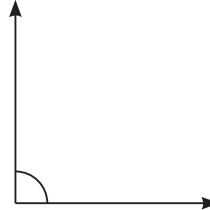
3.
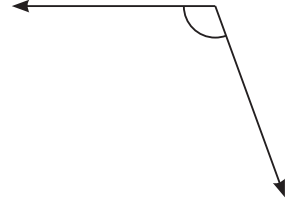
4.
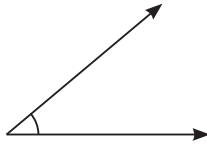
5.
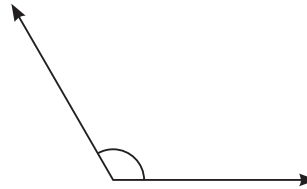
6.
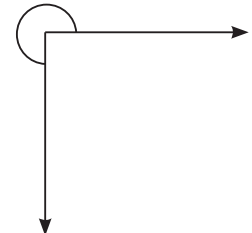
Ans. **1.** 40° **2.** 90° **3.** 110°
4. 40° **5.** 120° **6.** 270°

B. Classify the following angles according to their measures.

1. 25° **2.** 105° **3.** 90° **4.** 0° **5.** 180°
6. 200° **7.** 360° **8.** 150° **9.** 45° **10.** 300°

Ans. **1.** Acute angle **2.** Obtuse angle **3.** Right angle **4.** Zero angle
5. Straight angle **6.** Reflex angle **7.** Complete angle or full angle
8. Obtuse angle **9.** Acute angle **10.** Reflex angle

C. Use a protractor to measure each angle and write its type.

1. ∠AOB = __70°__
   type = __acute angle__

2. ∠BOD = __90°__
   type = __right angle__

3. ∠AOC = __120°__
   type = __obtuse angle__

4. ∠BOE = __110°__
   type = __obtuse angle__

5. ∠COD = __40°__
   type = __acute angle__

6. ∠AOE = __180°__
   type = __straight angle__
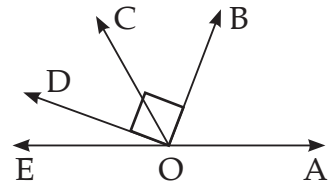
D. Compute the measure of the angles formed between two hands of the clocks indicating times shown below. Also, classify these angles according to their measures.

1.

2.

3.

Ans. __60°, acute angle__   __90°, right angle__   __120°, obtuse angle__

4.

5.

6.

Ans. <u>180°, straight angle</u>   <u>150°, obtuse angle</u>   <u>0°, zero angle</u>

E. Draw any four shapes on the following dot paper. Colour right angle red, acute angle blue and obtuse angle green. One is done for you.
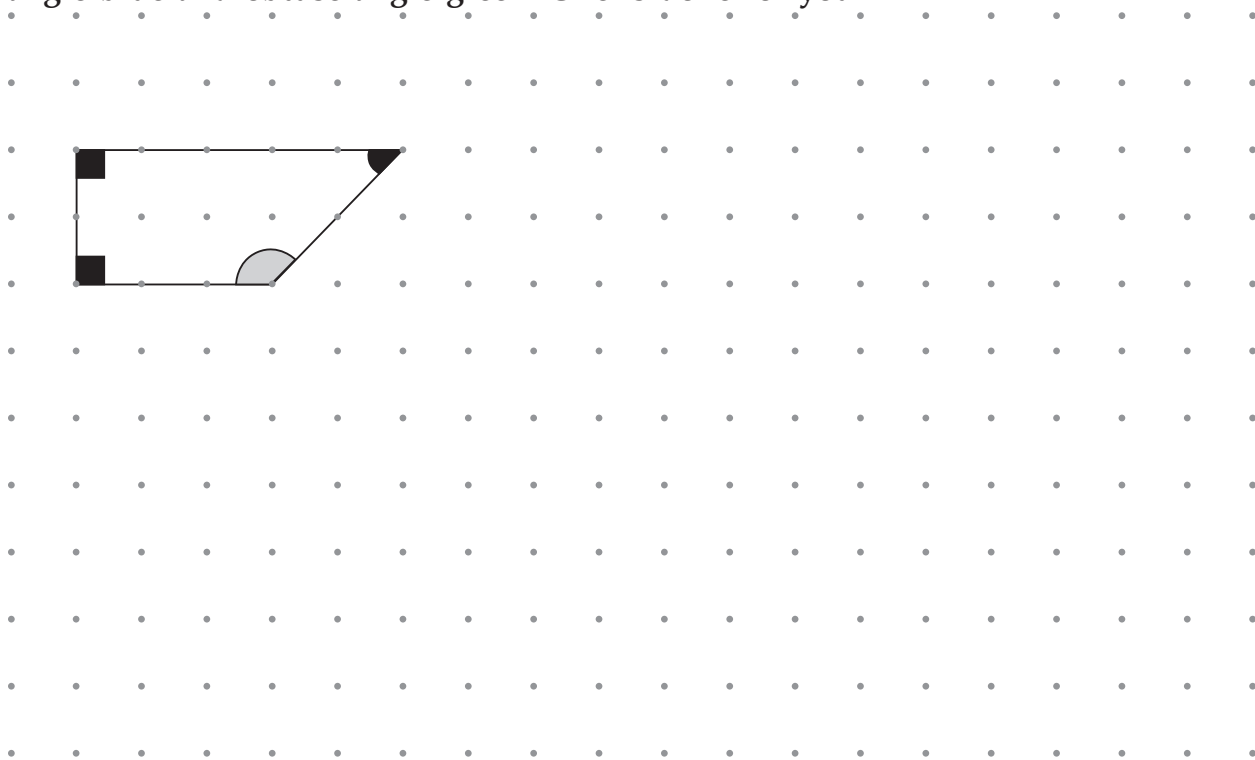
Ans. Draw it yourself.

EXERCISE 6.3

A. Check whether the given angles make a pair of complementary angles.

1. 45°, 45°	**2.** 10°, 80°	**3.** 60°, 30°	**4.** 25°, 75°
5. 90°, 0°	**6.** 85°, 95°	**7.** 40°, 50°	**8.** 15°, 165°

Ans.

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

B. Check whether the given angles make a pair of supplementary angles.

1. 30°, 60°	**2.** 80°, 100°	**3.** 45°, 135°	**4.** 105°, 75°
5. 0°, 180°	**6.** 90°, 110°	**7.** 80°, 120°	**8.** 99°, 81°

Ans.

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

C. **Find the complement of each of the following angles.**

1. 50°	**2.** 80°	**3.** 90°	**4.** 45°
5. 0°	**6.** 55	**7.** 5°	**8.** 63°

Ans.

1. 40°	**2.** 10°	**3.** 0°	**4.** 45°
5. 90°	**6.** 35°	**7.** 85°	**8.** 27°

D. **Find the supplement of each of the following angles.**

1. 70°	**2.** 85°	**3.** 112°	**4.** 155°
5. 180°	**6.** 90°	**7.** 60°	**8.** 135°

Ans.

1. 110°	**2.** 95°	**3.** 68°	**4.** 25°
5. 0°	**6.** 90°	**7.** 120°	**8.** 45°

E. **Draw the angles of the following measures using a protractor.**

1. 60°	**2.** 120°	**3.** 90°	**4.** 75°
5. 115°	**6.** 150°	**7.** 68°	**8.** 144°

Ans. Draw it yourself.

F. **1.** Draw a line AB. Take a point C on the line AB. Draw another line CD making an angle of 90° with AB. Are the lines AB and CD perpendicular to each other?

Ans. Yes,
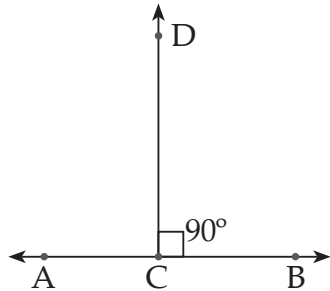
2. Draw a line segment PQ of length 6 cm. Draw two lines LM and XY perpendicular to PQ and passing through the points P and Q respectively. Are the lines LM and XY parallel or intersecting?

Ans. Parallel,
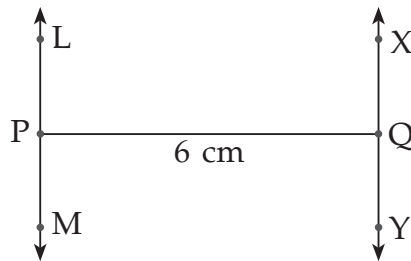
G. **State whether the following statements are True or False.**

1. The sum of complementary angles is 180°. | False |

2. The sum of supplementary angles is 90°. | False |

3. The supplement of an acute angle is an obtuse angle. | True |

4. An angle which is equal to its complementary angle is 45°. | **True** |

5. Two parallel lines are perpendicular to each other. | **False** |

6. Two intersecting lines may or may not be perpendicular lines. | **True** |

7. A straight angle is a supplementary angle. | **False** |

8. A zero angle and a right angle are complementary to each other. | **True** |

FUN ZONE

ANGLE BETWEEN DIRECTIONS

Take a square piece of paper. Fold it into halves vertically, horizontally and diagonally. Then mark the creases so formed and write the name of directions as shown below.

A. Find the measure of angle between

    1. East and North

Ans. 90°

    2. East and West

Ans. 180°

    3. West and South–West

Ans. 45°

    4. North and South-East

Ans. 135°

B. Name the direction(s) which is/are

    1. Perpendicular to South

Ans. East and West

    2. Opposite to North-West

Ans. South-East

    3. At an angle of 45° with North-East

Ans. East and North

    4. At an angle of 135° with East

Ans. North-West and South-West
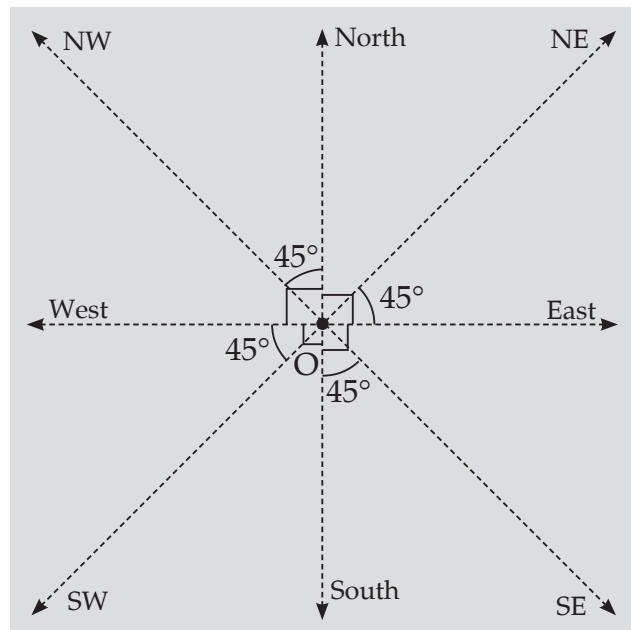
7. Polygons and Circles

ANSWERS

EXERCISE 7.1

A. Draw a rough sketch of each of the following.

1. A polygon with three sides
2. A polygon with five sides
3. A polygon with four angles
4. A polygon with six equal sides
5. A regular polygon with six sides

Ans. Do it yourself.

B. Name each of the following triangles in two different ways based on the sides and angles.

1.
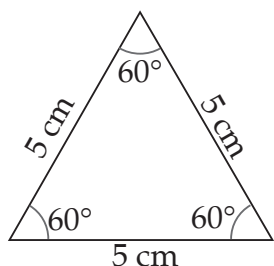
2.
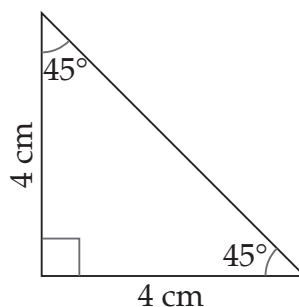
3.
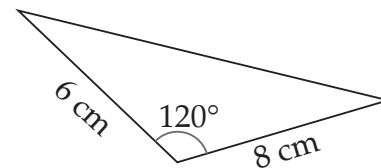
4.
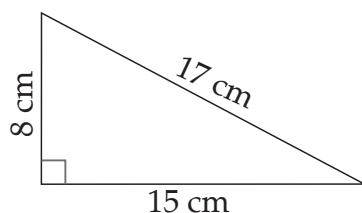
5.
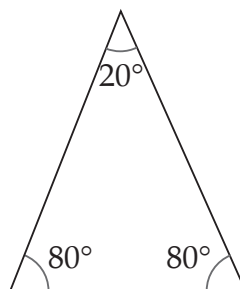
6.
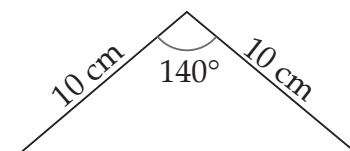
Ans. 1. Equilateral triangle, Acute-angled triangle 2. Isosceles triangle, Right-angled triangle
3. Scalene triangle, Obtuse-angled triangle 4. Right-angled triangle, Scalene triangle
5. Isosceles triangle, Acute-angled triangle 6. Isosceles triangle, Obtuse-angled triangle

C. Classify the triangles that have following measures.

1. **On the basis of sides**

   (a) 3 cm, 4 cm, 5 cm (b) 8 cm, 8 cm, 10 cm (c) 15 cm, 15 cm, 15 cm
   (d) 40 cm, 45 cm, 45 cm (e) 4 m, 3.5 m, 4.5 m (f) 6 cm, 10 cm, 12 cm

   Ans. (a) Scalene triangle (b) Isosceles triangle (c) Equilateral triangle
   (d) Isosceles triangle (e) Scalene triangle (f) Scalene triangle

2. **On the basis of angles**

   (a) 40°, 50°, 90° (b) 60°, 60°, 60° (c) 110°, 35°, 35°

(d) 45°, 90°, 45° (e) 78°, 22°, 80° (f) 91°, 19°, 70°

Ans. (a) Right-angled triangle (b) Acute-angled triangle (c) Obtuse-angled triangle
(d) Right-angled triangle (e) Acute-angled triangle (f) Obtuse-angled triangle

D. Recognise regular polygons in the following shapes.

1.
2.
3.
4.
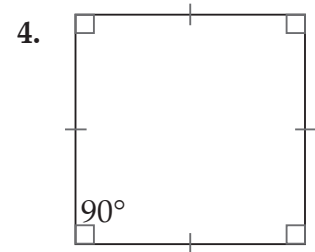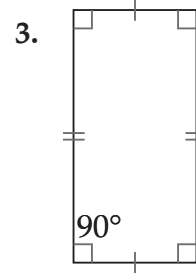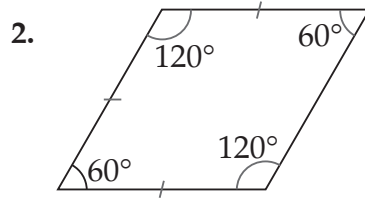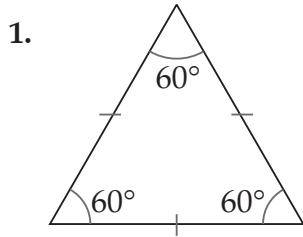
Ans. 1 and 4 are regular polygons.

E. 1. Draw a rough sketch of each of the six types of triangles.
2. Can a right-angled triangle be an equilateral triangle?

Ans. 1. Do it yourself.   **2.** No

EXERCISE 7.2

A. Can a triangle have following measures of angles?

1. 23°, 67°, 90° **2.** 90°, 90°, 0° **3.** 110°, 60°, 10°

4. 75°, 85°, 95° **5.** 105°, 110°, 25° **6.** 40°, 50°, 60°

Ans. 1. Yes **2.** No **3.** Yes

4. No **5.** No **6.** No

B. Find the missing angle of each of the following.

1.
2.
3.
4.
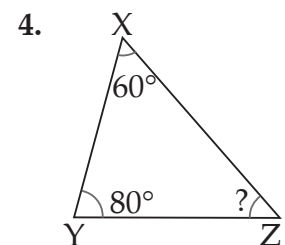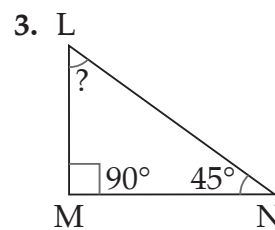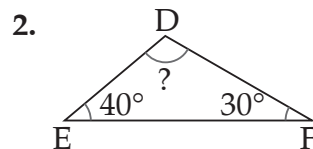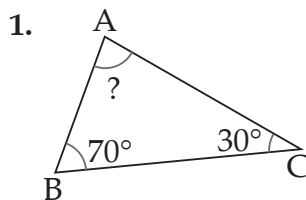
Ans. 1. 80° **2.** 110° **3.** 45° **4.** 40°

C. Can it be possible to form a triangle with the given measures of sides?

1. 4 cm, 5 cm, 8 cm **2.** 3 cm, 5 cm, 10 cm **3.** 8 cm, 4.5 cm, 3.5 cm

4. 18 cm, 18 cm, 18 cm **5.** 6 cm, 6 cm, 15 cm **6.** 12 cm, 15 cm, 9 cm

Ans. 1. Yes **2.** No **3.** No

4. Yes **5.** No **6.** Yes

D. Solve the following word problems.

1. The measures of two angles of a triangle are 30° and 60°. Find the measure of third angle. What kind of a triangle is it?

Ans. 90°, Right-angled triangle

2. The measures of two angles of a triangle are 25° and 50°. Find the measure of third angle and classify the triangle on the basis of sides as well as angles.

Ans. 105°, Obtuse-angled triangle; scalene triangle

3. A triangle has all the angles of equal measure. Find the angles and name the triangle in two different ways.

Ans. 60°, 60°, 60°, Acute-angled triangle; Equilateral triangle

4. A right-angled triangle has two angles of equal measure. Find the angles and give other name of the triangle.

Ans. 90°, 45°, 45°; Isosceles triangle

5. The perimeter of a triangle is 20 cm. Can the triangle have two sides 2 cm and 10 cm? Justify your answer.

Ans. No, in that case third side will be 8 cm, but 2 cm + 8 cm = 10 cm is not possible in a triangle.

EXERCISE 7.3

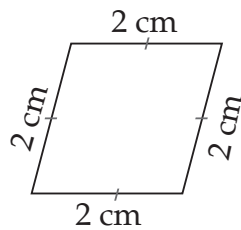**A. Observe the figure and fill in the blanks.**

1. ABCD is a **quadrilateral**.

2. The four sides are **AB**, **BC**, **CD** and **AD**.

3. **∠ABC, ∠BCD, ∠CDA** and **∠DAC** are its four angles.

4. **AC** and **BD** are two diagonals whose intersecting point is **O**.

5. AB and AD are the **adjacent** sides.
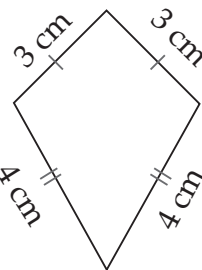
6. A and C are the **opposite** vertices.
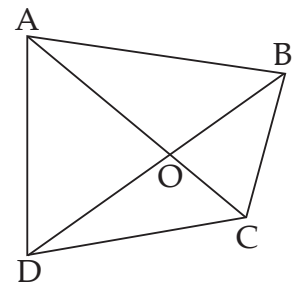
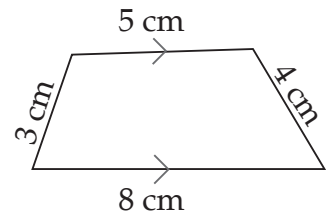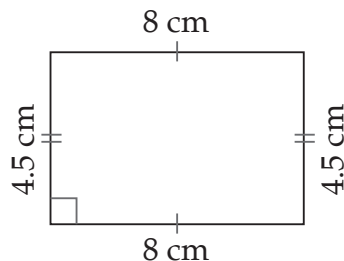**B. Classify the following quadrilaterals on the basis of given sides and angles.**
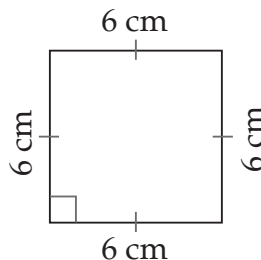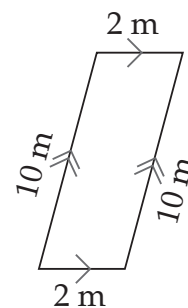

Ans. **1.** Rhombus   **2.** Kite   **3.** Trapezium
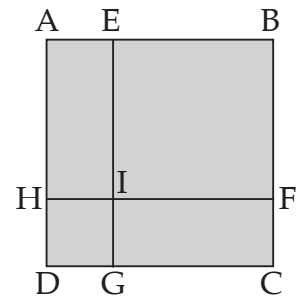**4.** Rectangle   **5.** Square   **6.** Parallelogram

C. How many rectangles and squares are present in the following figure? Write them.

1. Rectangles: <u>**6; AEIH, ABFH, AEGD, CDHF, BCGE, CGIF**</u>

2. Squares: <u>**3; DGIH, BFIE, ABCD**</u>

D. Draw the rough sketch of each of the following.
1. Square   2. Rectangle   3. Parallelogram
4. Trapezium   5. Rhombus   6. Kite

Ans. Do it yourself.

E. Fill in the blanks.
1. A polygon with the least number of sides is called <u>**triangle**</u>.
2. A quadrilateral is a <u>**4-sided**</u> polygon.
3. A <u>**parallelogram**</u> has both pairs of opposite sides parallel.
4. <u>**Rhombus**</u> is a special type of parallelogram whose all sides are equal but angles not 90°.
5. A <u>**rectangle**</u> is said to be a square when its <u>**adjacent**</u> sides are equal.
6. A quadrilateral with only one pair of parallel sides is called <u>**trapezium**</u>.
7. A quadrilateral having only two pairs of consecutive sides equal and opposite sides unequal is called a <u>**kite**</u>.
8. The line segments joining the opposite vertices in a quadrilateral are called its <u>**diagonals**</u>.

EXERCISE 7.4

A. Observe the figure given alongside and identify the following.
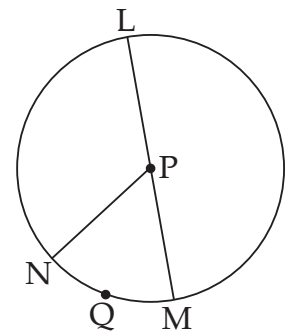
1. P   <u>**Centre**</u>   2. PN   <u>**Radius**</u>

3. LM   <u>**Diameter**</u>   4. $\overset{\frown}{MQN}$ <u>**Minor arc**</u>

5. $\overset{\frown}{MLN}$ <u>**Major arc**</u>   6. PMQNP   <u>**Sector**</u>

B. Draw a rough sketch of a circle. On it, mark and name the following.
1. a chord   2. minor segment   3. a diameter
4. semicircle   5. a sector

Ans. Do it yourself.

C. Write (T) for True and (F) for False.
1. Only one diameter can be drawn in a circle. | F |

2. A number of radii can be drawn in a circle. | T |

3. The longest chord of a circle is its diameter. | T |

4. Every chord divides a circle into two semicircles. | F |

5. The region bounded by two radii and an arc is called the segment of the circle. | F |

6. If the diameter of a circle is 15 cm, its radius will be 7.5 cm. | T |

7. Concentric circles have common radius. | F |

D. **In the circle given alongside shade its interior region. Now, recognise the points which lie:**

1. in its interior.

2. on the circumference.

3. on its exterior.

Ans. **1.** D, H, I, O **2.** B, F, J **3.** A, C, E, G
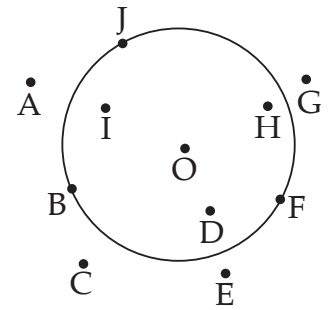
EXERCISE 7.5

A. **Draw a circle for each of the following radii.**

1. 3 cm **2.** 5 cm **3.** 4.5 cm **4.** 6.2 cm

Ans. Do it yourself.

B. **Do as directed:**

1. Draw a circle of diameter 8 cm.

2. Using a pair of compasses, draw a circle of radius 4.8 cm with centre O. Draw a diameter AOB and measure it.

3. Draw a line segment AB of length 6 cm. With the centre A, draw a circle of radius 4 cm and with centre B, draw another circle of radius 2 cm. Do the circles touch each other?

4. With the same centre P, draw three circles of radii 2 cm, 2.5 cm and 3 cm. Find the measure of their diameters.

Ans. Do it yourself.

C. **Find the circumference of the circles having:**

1. diameter = 8 cm **2.** diameter = 14 cm **3.** diameter = 12.4 cm

4. radius = 6 cm **5.** radius = 11 cm **6.** radius = 6.5 cm

Ans. **1.** 24 cm (approx.) **2.** 42 cm (approx.) **3.** 37.2 cm (approx.)

4. 36 cm (approx.) **5.** 66 cm (approx.) **6.** 39 cm (approx.)

D. **Find the approximate radius of the circle whose circumferences are:**

1. 78 cm **2.** 312 cm **3.** 480 cm **4.** 750 cm

Ans. **1.** 13 cm **2.** 52 cm **3.** 80 cm **4.** 125 cm

E. **Construct a circle having approximate circumference 18 cm by finding its radius.**

Ans. Do it yourself.

F. The Parliament House in New Delhi is a circular building with a radius approximately 85.5 m.

    1. What is the diameter of the building?

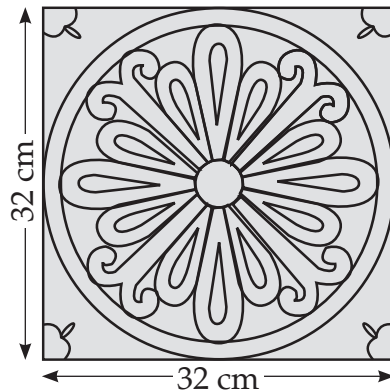   **2.** What is the approximate circumference of the building?
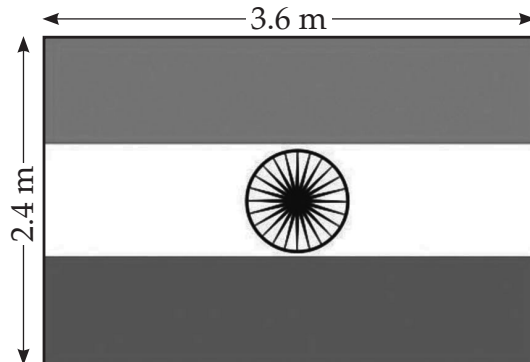

Ans.   **1.** 171 m   **2.** 513 m

PUZZLE

  A. Find the approximate circumference of the circular design made on a square handkerchief shown below.

Ans. 96 cm

  B. Find the diameter of Ashok Chakra made on the Indian National Flag of sizes 3.6 m × 2.4 m. Then, find its approximate circumference and the length of each spike.
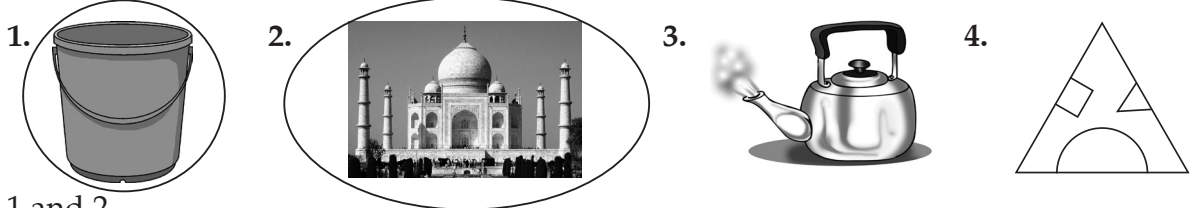

Ans. 80 cm, 240 cm, 40 cm
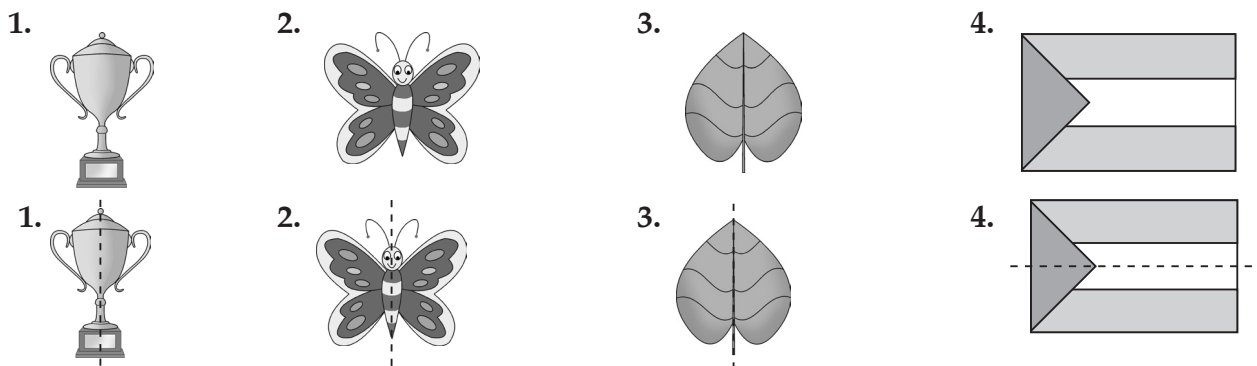
8. Symmetry, Patterns and Nets

ANSWERS

LET US RECALL

A. Ring the symmetrical shapes in the following.

1.   2.   3.   4.

Ans. 1 and 2

B. Draw the line of symmetry for the following figures.

1.   2.   3.   4.

Ans. 1.   2.   3.   4.

C. Observe and extend the number patterns.

1. 1, 2, 4, 8, 16, __32__ , __64__ , __128__

2. 10, 30, 90, 270, __810__ , __2430__ , __7290__

3. 965, 865, 765, 665, __565__ , __465__ , __365__

MENTAL TEST

A boy takes a comb in his left hand and stands in front of a mirror.

In which hand does he find the comb after the reflection of himself?

Ans. Right hand

EXERCISE 8.1

A. Write the letters of English alphabet which has:

1. one line of symmetry
   __A, B, C, D, E, K, M, T, U, V, W, Y__

2. two lines of symmetry
   __H, I, O, X__
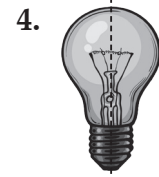
3. no line of symmetry
   __F, G, J, L, N, P, Q, R, S, Z__

B. Do any numbers from 0 to 9 have line(s) of symmetry? Write them.

Ans. Yes; 0, 3, 8

C. Write the name of some symmetrical objects from your surroundings.

Ans. Do it yourself.

D. Draw the line(s) of symmetry of the following solids.

1. 2. 3. 4.

Ans. 1. 2. 3. 4.
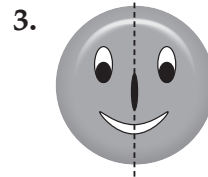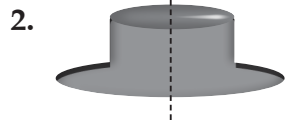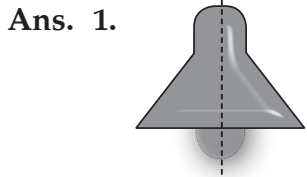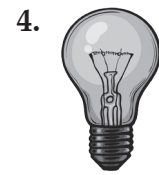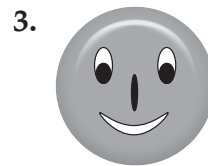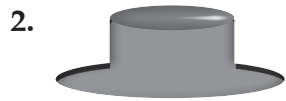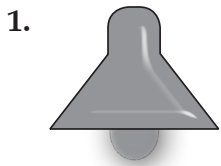
E. Which of the following figures are the reflection along the mirror line M?

1. 2. 3.
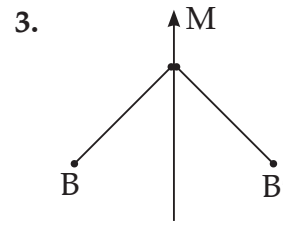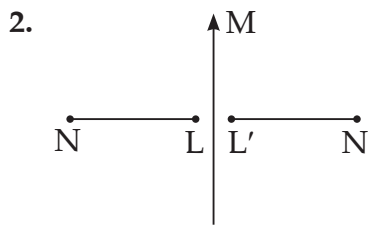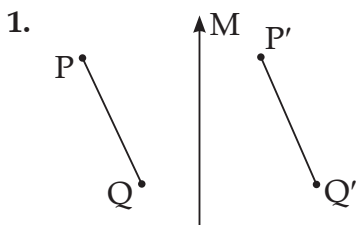
Ans. 2 and 3

F. Draw the reflection of the shapes given below along the mirrors L and M.

1. 2.
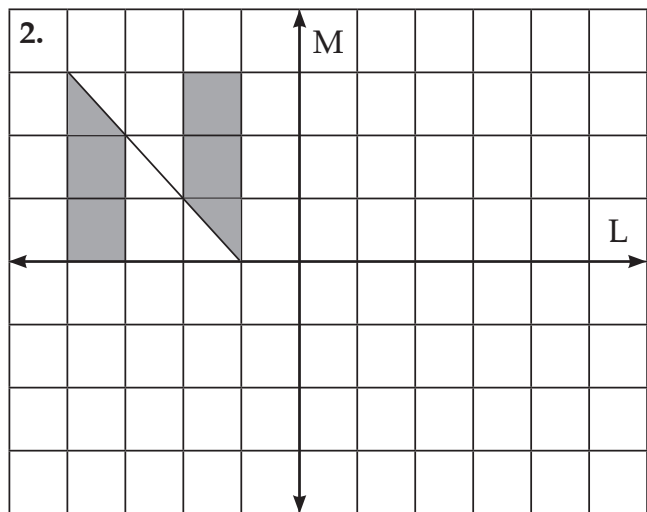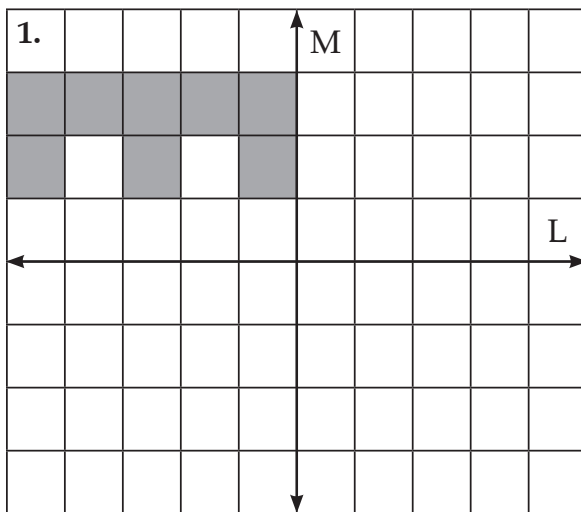
Ans. Do it yourself.

G. Use the bold line as a mirror to draw the reflection of the shapes given below.

1. 2. 3. 4.
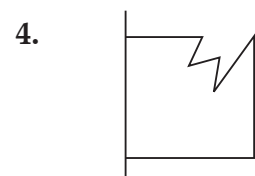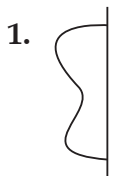
Ans. Do it yourself.

EXERCISE 8.2

A. Recognise the shape that can be rotated at a $\frac{1}{4}$ turn, a $\frac{1}{3}$ turn, a $\frac{1}{2}$ turn and a full turn to look like the original. Write the order of symmetry.

1. 2. 3. 4.

5. 6. 7. 8.
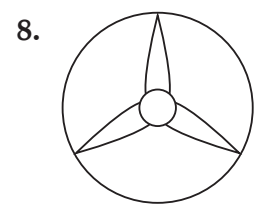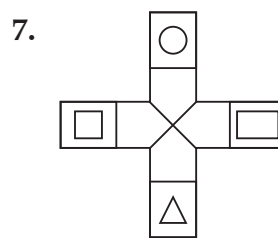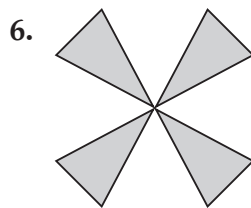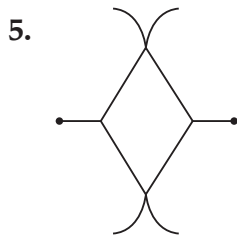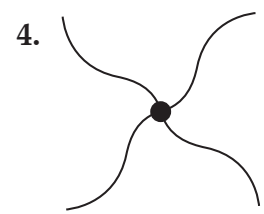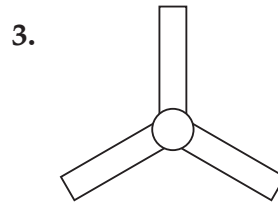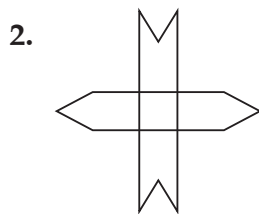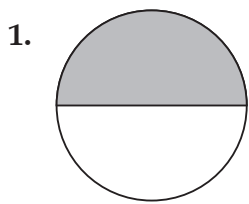
Ans. 1. Full turn 2. $\frac{1}{2}$ turn 3. $\frac{1}{3}$ turn 4. $\frac{1}{4}$ turn 5. $\frac{1}{2}$ turn 6. $\frac{1}{4}$ turn 7. Full turn 8. $\frac{1}{3}$ turn

B. Draw how these shapes will look like after the following turns.

Shape	$\frac{1}{4}$ turn	$\frac{1}{2}$ turn	$\frac{3}{4}$ turn	1 full turn

C. Do as directed.

1. Do any letters of English alphabet have rotational symmetry? Write the letters with their order of symmetry.

2. Which of the digits from 0 to 9 have rotational symmetry?

3. What order of rotational symmetry does a circle have?

Ans. 1. H , I, N, O, S, X, Z; all these letters have 2 as order of symmetry   2. 0 and 8   3. 360

D. Find the order of rotational symmetry of a regular hexagon. Draw rough sketches of it.
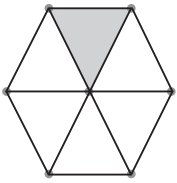
Ans. Six

EXERCISE 8.3

A. **1.** Observe the pattern and find the number of matchsticks required to make 9th and 7th patterns respectively.

Ans. 19 matchsticks, 15 matchsticks

2. How many matchsticks will you need to make 6th and 10th patterns respectively?
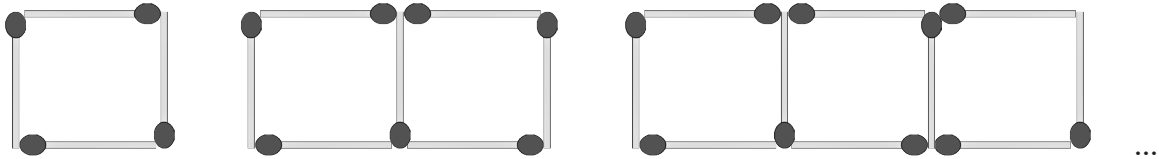
Ans. 19 matchsticks, 31 matchsticks

B. Find the sum of the following patterns.

1. $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$

2. $11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20$

3. $35 + 36 + 37 + 38 + 39 + 40 + 41 + 42 + 43 + 44$

4. $5 + 10 + 15 + 20 + 25 + 30 + 35 + 40 + 45 + 50$

[**Hint:** Use the concept of triangular numbers for adding given natural numbers.]

Ans. **1.** 55　　　　　　**2.** 155　　　　　　**3.** 395　　　　　　**4.** 275

C. **1.** Compute the 11th, 15th and 31st triangular numbers.

2. Find the 12th, 16th and 30th square numbers and split them into two triangular numbers.

3. 6 is a number which can be expressed as a line segment, triangle and a rectangle.

Line segment　　　　　Triangle　　　　　Rectangle
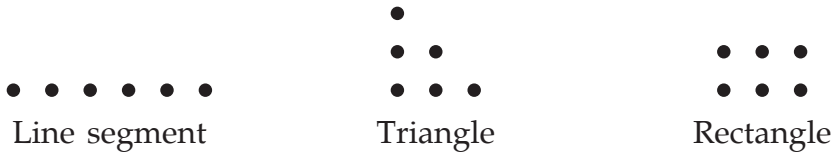
Find the next two numbers that can be shown in the above shapes.

Ans. **1.** 66, 120, 496　**2.** 144 = 66 + 78, 256 = 120 + 136, 900 = 435 + 465　**3.** 10 and 15

D. Can you show any natural number in all the four shapes–line segment, triangle, rectangle and square? Justify your answer.

Ans. Yes, 36 can be shown through all the four given shapes.

EXERCISE 8.4

A. Which of these nets can be folded to make open cube with five faces.

1.

2.

3.

4.

5.

6.
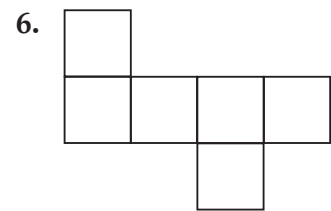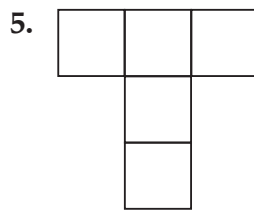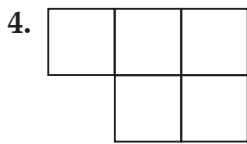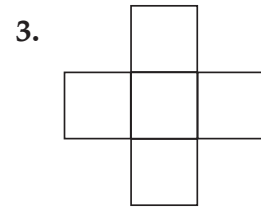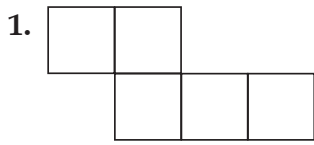
Ans. 1, 3 and 5 can be folded in an open cube with five faces.

B. Match the shapes with their nets.

1.

2.

3.

4.

(a)

(b)

(c)

(d)
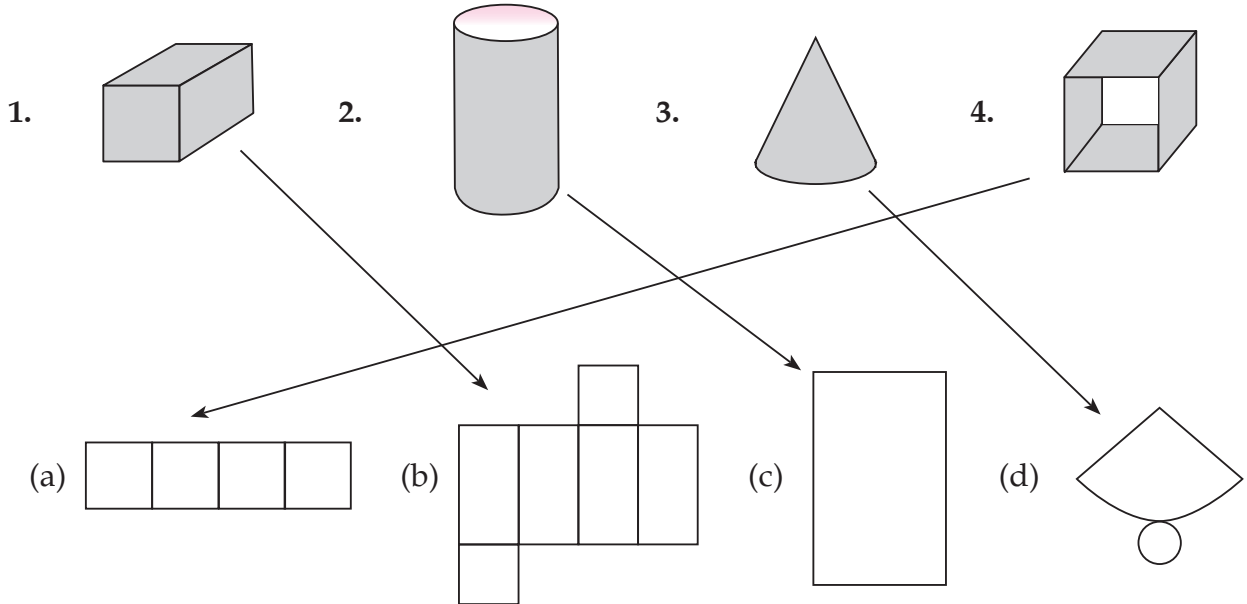
C. Complete the sketches of solids on the square dot paper and isometric dot paper.

1.
(a)　(b)　(c)

2.
(a)　(b)　(c)
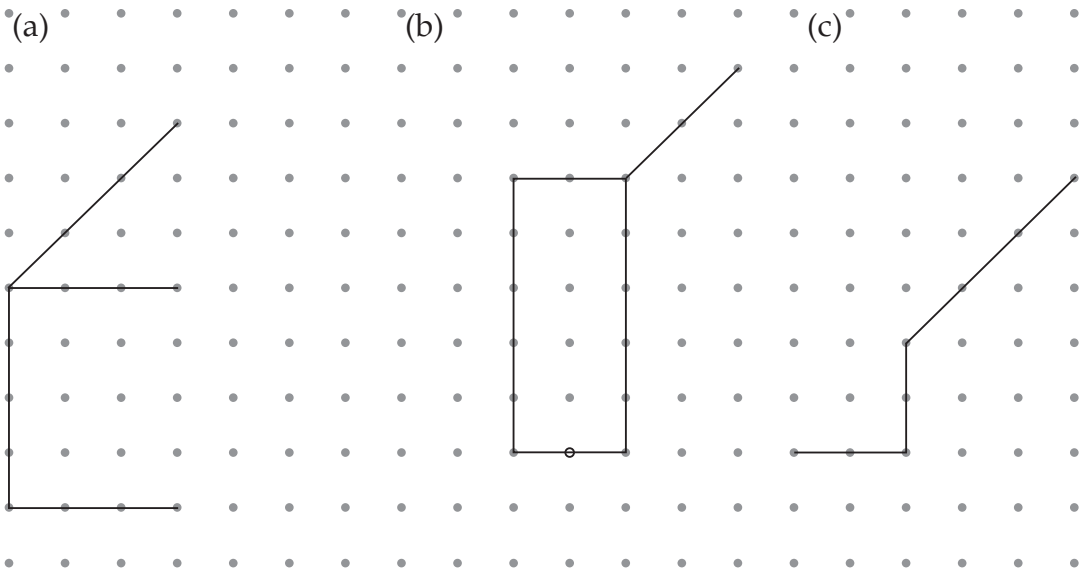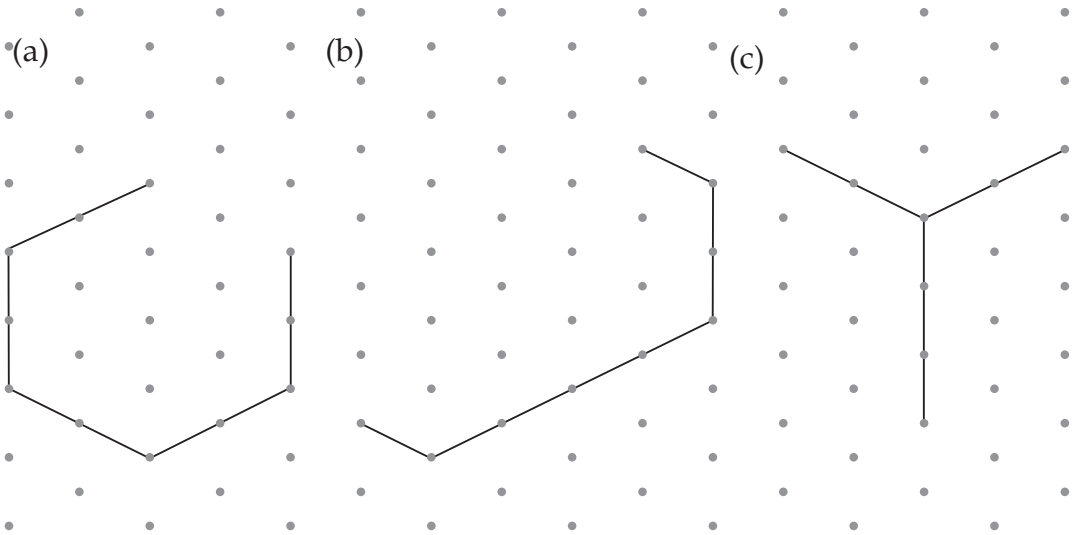
Ans. Do it yourself.

9. Data Handling

ANSWERS

LET US RECALL

A collection of facts and figures regarding a definite objective is called **data.** The data collected from individuals or a group of people is called **raw data.**

Pragya, the class monitor, was collecting money from her classmates for celebrating teacher's day. She was also noting down the amounts in order of the roll numbers as shown below:

1. ₹20	2. ₹25	3. ₹22	4. ₹21	5. ₹22	6. ₹25	7. ₹24	8. ₹23	9. ₹24
10. ₹25	11. ₹24	12. ₹20	13. ₹21	14. ₹22	15. ₹23	16. ₹24	17. ₹23	18. ₹22
19. ₹21	20. ₹20	21. ₹22	22. ₹23	23. ₹25	24. ₹21	25. ₹20	26. ₹25	27. ₹24
28. ₹25	29. ₹24	30. ₹23	31. ₹25	32. ₹25	33. ₹25	34. ₹20	35. ₹20	36. ₹22

Enter the data under the following table using the tally marks:

Amount	Tally marks	No. of students	Total collection
₹20	ɪɲɪ ɪ	6	₹120
₹21	ǀǀǀǀ	4	₹84
₹22	ɪɲɪ ɪ	6	₹132
₹23	ɪɲɪ	5	₹115
₹24	ɪɲɪ ɪ	6	₹144
₹25	ɪɲɪ ǀǀǀǀ	9	₹225
Total		**36**	**₹820**

How much more amount does she need to get a total of ₹1,000? **₹180**

EXERCISE 9.1

A. 1. The number of students enrolled in primary wings is given below. Make a pictograph choosing an appropriate symbol and give a title.

Class	I	II	III	IV	V
No. of students enrolled	35	20	25	15	10

Ans.	Class	Each ☺ stands for 5 students
	I	☺ ☺ ☺ ☺ ☺ ☺ ☺
	II	☺ ☺ ☺ ☺
	III	☺ ☺ ☺ ☺ ☺
	IV	☺ ☺ ☺
	V	☺ ☺

2. The number of milk packets sold by a dairy on different days of a week is shown below.

Days	Mon	Tue	Wed	Thu	Fri	Sat	Sun
No. of milk packets sold	250	300	200	150	100	200	350

Choose a suitable symbol and make a pictograph.

Ans.

Days	Each ⊠ stands for 50 packets
Mon	⊠ ⊠ ⊠ ⊠ ⊠
Tue	⊠ ⊠ ⊠ ⊠ ⊠ ⊠
Wed	⊠ ⊠ ⊠ ⊠
Thu	⊠ ⊠ ⊠
Fri	⊠ ⊠
Sat	⊠ ⊠ ⊠ ⊠
Sun	⊠ ⊠ ⊠ ⊠ ⊠ ⊠ ⊠

B. **1.** The table given below shows the number of different trees on a farm.

Types of trees	Mango	Apple	Orange	Neem	Others
No. of trees	50	30	40	20	35

Draw a bar graph for the above information.

2. The rainfalls recorded for seven days in a city are given below.

Days	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Rainfalls (in mm)	40	35	50	60	20	30	55

Draw a bar graph using the above information and give a title.

Ans. **1.**
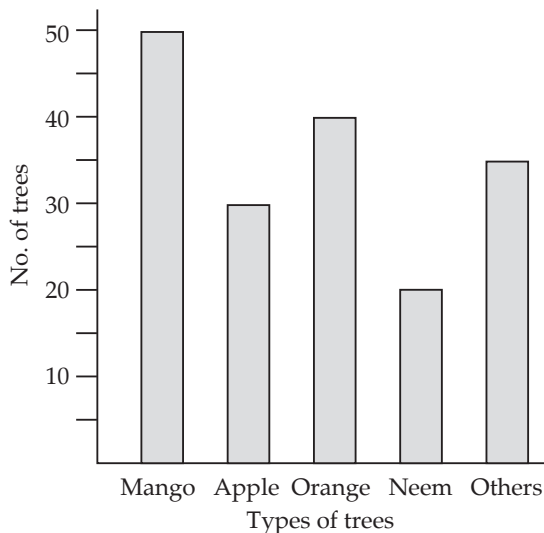
2.
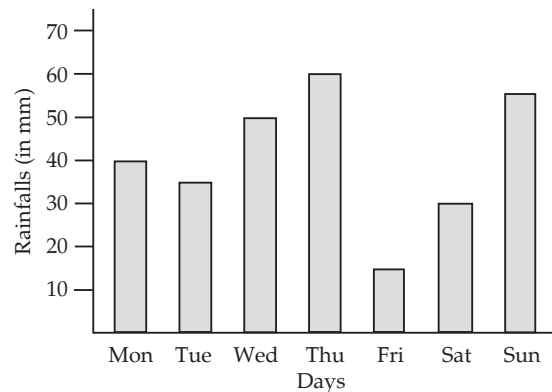
C. **1.** The 45 students of Class V were asked their favourite subjects. The data given below shows their choices.

Subject	Maths	English	EVS	Science	GK
No. of students	15	10	8	7	5

Display the above data on a pie chart.

2. Somya visited a zoo last week. She recorded the number of animals as given below:

Type of animals	Tigers	Elephants	Lions	Monkeys	Deer	Others
No. of animals	10	5	8	20	18	11

Draw a pie chart to show the above information.
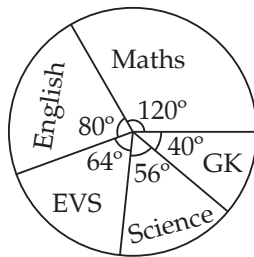
Ans. **1.** **2.**
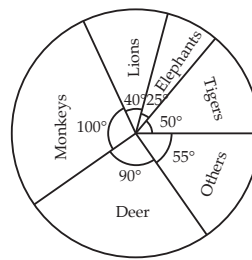
EXERCISE 9.2

A. Here is a circle graph that shows how Avni spent her whole day. Circle has been divided into six equal parts. There are 24 hours in a day, so each equal part represents 4 hours.

Can you complete the table given below using the details in the circle graph?

Activity	Time
Homework	2 hours
Playing	
School	
	1 hour
Sleeping	
	5 hours
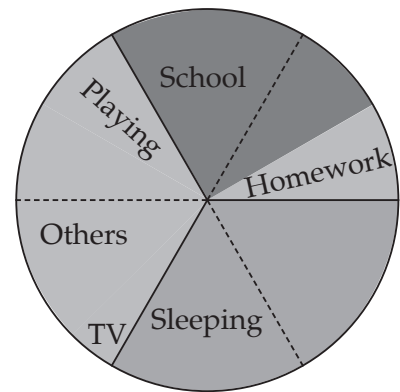
Ans.

Activity	Homework	Playing	School	TV	Sleeping	Others
Time	2 hours	2 hours	6 hours	1 hour	8 hours	5 hours

B. **The given pictograph shows the number of students (of a class) who have opted for the second languages.**

Language	No. of students
Hindi	📕 📕 📕
Sanskrit	📕 📕
Tamil	📕 📕 📕 📕 📕 📕
French	📕 📕 📕 📕
	Each 📕 stands for 3 students.

Observe the graph and answer the following questions:

1. Which language is opted by the least number of students?

Ans. Sanskrit

2. How many students opted for French?

Ans. 12 students

3. How many more students opted for Tamil than Hindi?

Ans. 9 students

C. **The following bar graph depicts the temperatures recorded for seven days in a city:**
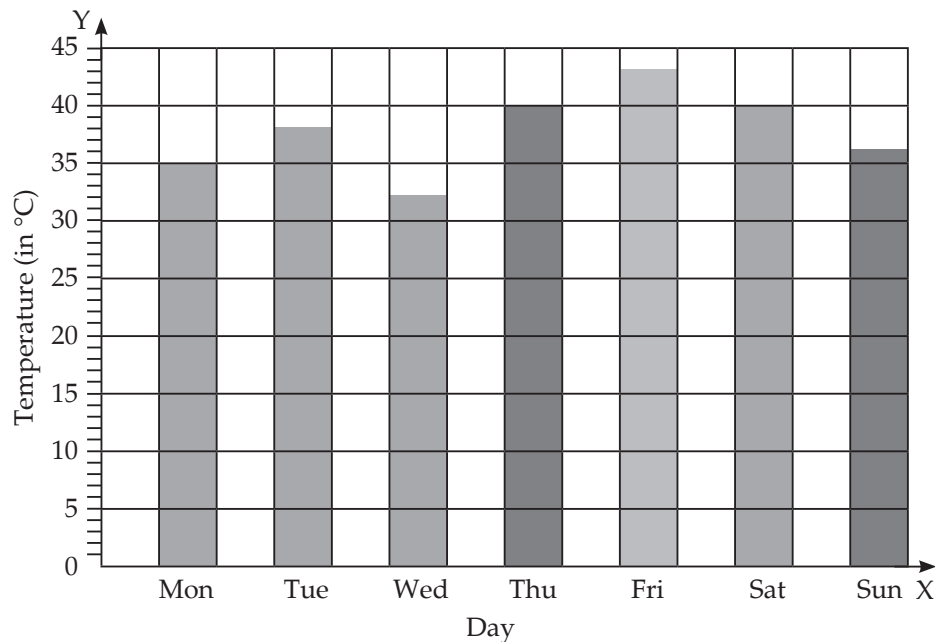
Study the graph and answer the following questions.

1. What was the hottest day?

Ans. Friday

2. When was the temperature less than 35°C?

Ans. Wednesday

3. What was the temperature on Sunday?

Ans. 36°C

4. On which days the temperature was same?

Ans. Thursday and Saturday

5. What is the difference between temperatures on the hottest and the coolest days during the week?

Ans. 43°C − 32° C = 11°C

D. **The pie chart given below shows the percentages of blood types for a group of 200 people.**
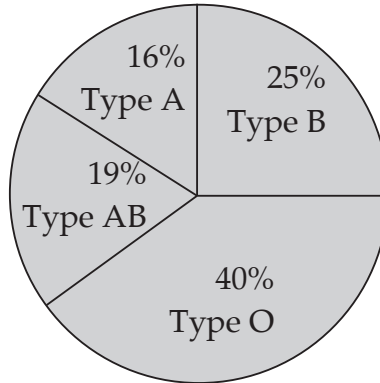
1. How many people have blood type AB in this group?

Ans. 38 people

2. How many people do not have blood type O in this group?

Ans. 120 people

3. How many people have blood type A or B in this group?

Ans. 82 people

VALUE CORNER

Have you heard how the visually challenged persons read and write? Such persons learn a coded language which was developed by Louis Braille. In this language, numbers and letters are coded using a set of 6 dots (2 dots in each of 3 rows) which vary in arrangement. Here is a chart of letters of English alphabet coded in Braille.

Dots are slightly raised in each array. Observe the given chart and prepare a tally table.

Code having	Tally marks	No. of letters
1 raised dot			1
2 raised dots	|||||	5
3 raised dots	||||| ||||	9
4 raised dots	||||| ||||	9
5 raised dots	||	2

Make a bar graph using the table you prepared.

  (a) How many letters are coded with 3 raised dots?

  (b) How many raised dots are used in maximum number of letters?

  (c) What is the difference between the letters which have 2 raised dots and 4 raised dots?

Ans. Draw bar graph yourself.

      (a) 9 letters   (b) either 3 or 4 raised dots   (c) 4

MODEL TEST PAPER

A. Choose the correct answer.

1. The total number of 6-digit numbers is

   (a) 10,000 ☐ (b) 6,00,000 ☐

   (c) 9,00,000 ✓ (d) 9,99,999 ☐

2. The number which is greater than 99 is

   (a) XCIX ☐ (b) XCIV ☐

   (c) CXVI ✓ (d) XCVI ☐

3. The smallest number formed with digits 6, 2, 0, 1, 8 and 3 having 8 at the thousands place is

   (a) 1,02,368 ☐ (b) 1,08,236 ✓

   (c) 1,02,836 ☐ (d) 6,08,321 ☐

4. The largest length among the four is

   (a) 1 km ✓ (b) 50 dam ☐

   (c) 385 m ☐ (d) 8,000 dm ☐

5. The order of rotational symmetry a circle has is

   (a) 1 ☐ (b) 2 ☐

   (c) 4 ☐ (d) 360 ✓

6. Which of the following is shown through sectors?

   (a) Pictograph ☐ (b) Circle graph ✓

   (c) Bar graph ☐ (d) None of these ☐

B. State whether the following statements are True or False.

1. 9 and 11 are a pair of twin primes. | **False**

2. 0.25, 0.025 and 0.250 are equivalent decimals. | **False**

3. 5% of a metre is 5 cm. | **True**

4. When CP is greater than SP, there is a profit. | **False**

5. The sum of two consecutive triangular numbers is a square number. | **True**

6. The sum of all the three angles of a triangle is 180°. | **True**

C. Find the perimeter and area of a square with side 60 cm.

Ans. Perimeter = 240 cm,   Area = 360 cm²

D. Convert 145 days into months, weeks and days.

Ans. 4 months, 3 weeks and 4 days

E. Solve the following:

1. $4,83,759 \times 28$
2. $2\dfrac{1}{2} + 3\dfrac{1}{3} + \dfrac{5}{6}$
3. $4\dfrac{5}{16} \div 5\dfrac{3}{4}$

4. $4.27 + 0.946 + 18.37$
5. 164.95×0.123

Ans. 1. 13545252 2. $\dfrac{20}{3}$ 3. $\dfrac{3}{4}$ 4. 23.586 5. 20.28885

F. Name the solids which can be formed with following nets.

1.
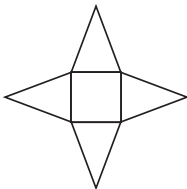
2.

Ans. 1. Square pyramid   2. Triangular prism

G. Find the value of 25% of a dozen.

Ans. 3

H. 1. Compute the profit or loss per cent when CP = ₹6,400 and SP = ₹6,000.
  2. Calculate the simple interest and amount paid after 4 years on a sum of ₹5,000 at 8% simple interest per annum.

Ans. 1. $L\% = 6\dfrac{1}{4}\%$ 2. S.I. = ₹1600, A = ₹6600

I. 1. Express 4 hours to a day in ratio.

Ans. 1 : 6

  2. In a right-angled triangle, the two acute angles are in the ratio 4 : **5.** Find the measure of all the three angles.

Ans. 40°, 50°, 90°

J. Find the complementary and supplementary angles of each of the following.

1. 30°
2. 90°

Ans. 1. 60°, 150°   2. 0°, 90°

K. Solve the following word problems.

  1. An ice block in the shape of a cuboid has length 2 m, width 1.5 m and height 0.9 m. Find its volume.

Ans. 2.7 cu m

  2. Amit's office is 7 km 650 m from his home. How much distance does he travel in 6 days of a week?

Ans. 91 km 800 m

L. **1.** Find the order of symmetry for each of the following.

(a)

(b)
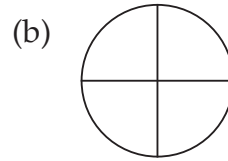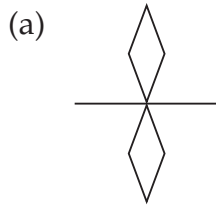
Ans. (a) 2   (b) 4

2. Write next three terms of the following pattern.

3 7 10 17 27 44 __71__ __115__ __186__

M. **1.** Compute the number of books in a library.

Language	Each represents 20 books	No. of books
English		80
Hindi		60
Tamil		100
Telugu		80
French		40

2. Draw a bar graph for the above information.

Ans.
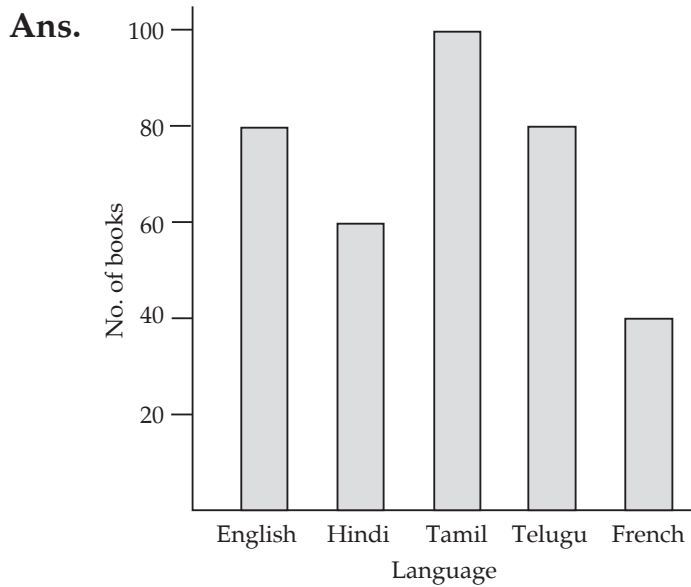
SOCIAL STUDIES–4

SEMESTER

2

Contents

1. India—Mineral Resources

ANSWERS

WARM UP

Winners of the Olympic Games are awarded three types of medals. Can you tell what they are made of? Look at the pictures of the medals and write the metal they are made of.

1. _____Silver_____
2. _____Gold_____
3. _____Bronze_____

CHECKPOINT

Fill in the blanks with information from the text.

1. Metals are derived from _____ores_____.

2. The process of taking out minerals from the Earth is called _____mining_____.

3. The process of separating minerals from ore is called _____smelting_____.

4. Bauxite is the ore of _____aluminium_____.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. It has minerals as a component.
   (a) Air ☐ (b) Water ☐ (c) Rock ✓

2. Metallic minerals include
   (a) iron ✓ (b) coal ☐ (c) CNG ☐

3. Nonmetallic minerals include
   (a) iron ☐ (b) coal ✓ (c) aluminium ☐

4. To make dry cell batteries, we use
   (a) gold ☐ (b) silver ☐ (c) manganese ✓

B. Give an example of each.

1. A utensil made of iron   _____Frying pan_____
2. A vehicle whose body is made of aluminium   _____Aeroplane_____
3. An iron ore producing area in India   _____Odisha_____
4. A coal producing area in India   _____West Bengal_____
5. An oil refinery centre in India   _____Digboi, Assam_____

C. Answer these questions.

1. What is a mineral ore?

Ans. A rock which is rich in one mineral is called the ore of that mineral.

2. Minerals are divided into two groups. Name them and give two examples for each of them.

Ans. (i) Metallic mineral — (a) iron (b) copper.

(ii) Non-metallic mineral — (a) mica (b) limestone.

3. Name any two main iron ore producing states in India.

Ans. Jharkhand and Odisha.

4. Name any two places in India where oil refineries are located.

Ans. Barauni, Bihar and Gujarat Refinery, Gujarat.

5. Name any two big iron and steel plants in India.

Ans. Tisco & IISCO.

THINK AND ANSWER

D. How can you save energy at your home? List three ways.

Ans. (i) Switch off fans when not in use.

(ii) Use solar energy.

(iii) Use CFL.

LET US DO

E. Project

Sometimes, more than one metal is mixed together in a certain amount to make a new metal. The new metal is called an alloy. With the help of the Internet, write the names of two alloys and their uses.

Ans. Do if yourself.

F. Survey

Write 'R' for the things that can be reused.

Glass   Petrol   Plastic   Coal

__(R)__   __(R)__

VALUE CORNER

G. You need to boil some potatoes. What process will you follow? Tick (✓) the energy-saving process.

(a) Boil in an open pan
(b) Boil in a pressure cooker

✓

LIFE SKILLS

H. While buying an electric home appliance, what features will you consider?

Ans. Hint: Consumption of electricity.

2. India—Human Resources

<div style="text-align: center; background: gray;">ANSWERS</div>

WARM UP

Tick (✓) the right answer. To progress, India needs

1. healthy, unskilled human resources ☐
2. unhealthy, skilled human resources ☐
3. healthy, skilled human resources ✓

CHECKPOINT

Tick (✓) the correct statement.

1. Each and every person is considered a human resource in a country. ☐
2. Anyone can run a machine. ☐
3. For progress, every nation must take care of human resources. ✓
4. The population in India is growing at a rapid rate. ✓

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. Educated and skilled people are considered a
   (a) machine ☐　(b) burden ☐　(c) resource ✓
2. India has _____ per cent of the total population of the world.
   (a) 16 ✓　(b) 18 ☐　(c) 25 ☐
3. This is a thickly populated State of India.
   (a) West Bengal ✓　(b) Nagaland ☐　(c) Rajasthan ☐
4. About half of the total population of India is
   (a) rich ☐　(b) poor ✓　(c) very rich ☐
5. The rapid growth of population in India is creating
   (a) problems ✓　(b) prosperity ☐　(c) progress ☐

B. Fill in the blanks with information from the text.

1. About _____70_____ per cent of the our population lives in villages.
2. There are more than _____30_____ cities in India whose population is more than ten lakhs.
3. The ___population___ of India is growing at a rapid rate.

C. Answer these questions.

1. What is the importance of human resources?

Ans. Human resource that is healthy and educated can turn other resources useful.

2. Discuss the pattern of population distribution in India.

Ans. The population in our country is not evenly distributed. Some areas are very thickly populated and some are sparsely populated. The average density of population (2011 provisional) in our country is about 382 persons per square kilometre. It is very high in comparison to the world's average density, which is only 45 persons per square kilometre.

The thickly populated States are Uttar Pradesh, Bihar, Maharashtra, West Bengal and Andhra Pradesh. About half of the total population of India lives in these States. The sparsely populated regions are the desert in Rajasthan, the hilly areas in the northern and north-eastern States and parts of the Deccan Plateau.

3. Give two reasons for poverty in our country.

Ans. Huge population and lack of resources.

4. What problems are created by the rapid growth of population?

Ans. The rapid growth of population creates many problems such as shortage of food, water, housing, schools, hospitals and employment. About half of the total population of India is very poor. It does not have enough to eat. It consists of big families whose income is limited.

5. What are the problems of Metro cities in India?

Ans. Overpopulation; lack of space.

THINK AND ANSWER

D. Do you think education has an important role in making a man a resourceful human being? Discuss the idea of Swami Vivekananda on education in the light of the above question.

Education is the manifestation of the perfection already existing in man—Swami Vivekananda.

Ans. Do it yourself.

LET US DO

E. Discuss

How is rapid growth in population affecting India's development?

Ans. Do it yourself.

VALUE CORNER

F. Tick (✓) your view.

The government of a country should control/ignore the growth of population.

Ans. Control.

3. India—Agriculture

ANSWERS

WARM UP

Name this famous scientist. He is called the 'Father of the Green Revolution' in India.
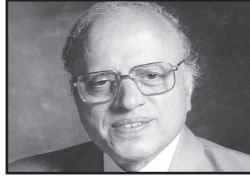
Dr. M.S. Swaminathan

CHECKPOINT

Answer these questions.

1. Which is the most important occupation in India?

Ans. Agriculture.

2. Name a Kharif crop grown in India.

Ans. Rice.

3. What is the rank of India in the world in producing rice?

Ans. India ranks second in rice production.

4. Name a plantation crop.

Ans. Tea.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. Wheat is cultivated in
  (a) the kharif season ☐   (b) the rabi season ✓   (c) both seasons ☐

2. Gram is included in
  (a) millets ☐   (b) pulses ✓   (c) cash crops ☐

3. It is called the 'golden fibre'.
  (a) Wool ☐   (b) Cotton ☐   (c) Jute ✓

4. The Blue Revolution is associated with
  (a) foodgrains ☐   (b) fishes ✓   (c) cattle ☐

B. Match the columns.

Column A	Column B
1. Kharif season	(a) West Bengal, the largest producer
2. Rabi season	(b) groundnut
3. Rice	(c) oilseeds
4. Spices	(d) Green Revolution
5. Progress in agriculture	(e) Kerala and Karnataka

1 → (c), 2 → (b), 3 → (a), 4 → (e), 5 → (d)

C. Answer these questions.

1. Differentiate between the kharif and rabi seasons. Give two crops of each season.

Ans. The kharif season begins with pre-monsoon showers. The main kharif crops are rice, maize, millets, pulses, groundnut, cotton and jute.

The rabi season begins when the rainy season is over. The main rabi crops are wheat, gram, mustard, barley and oilseeds.

2. What is agriculture?

Ans. Agriculture includes the cultivation of crops, horticulture, rearing of animals and fishing.

3. What is the Green Revolution?

Ans. In India, there has been continuous progress in agriculture. This is due to improved irrigation facilities, improved seeds, high use of fertilisers, manures and pesticides. This continuous progress in agriculture production is called the Green Revolution.

4. What climatic conditions are required for growing wheat?

Ans. Wheat needs a cool and moist climate at the time of sowing and growing. The warm and dry climate is useful at the time of harvesting. Wheat grows well in Punjab, Haryana, western Uttar Pradesh, Madhya Pradesh, Bihar, Rajasthan, Gujarat and Maharashtra.

THINK AND ANSWER

D. Why is rice a staple food in India?

Ans. Hint: Rice is produced in large quantity.

LET US DO

E. Activity

Find out the names of different crops in the word grid. Collect a picture of each of them and paste it in your scrapbook.

C	O	T	T	O	N	X	W	T	U
P	I	T	Z	X	Y	W	H	R	P
L	L	J	N	M	T	U	E	X	Z

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

VALUE CORNER

F. Agriculture, in India, solely depends on nature, especially the rainfall. Farmers take lots of pain to produce foodgrains. So, you should never waste food. Wasting food is an insult to the farmers.

Ans. Do it yourself.

LIFE SKILLS

G. If a farmer wants to know from you what crop he should grow in his field, what questions will you ask him before giving him your suggestion?

Ans. Hint: 1. Where does he live?

2. What is the type of soil?

3. What type irrigation system is he using?

4. What is the size of land?

4. India—Industries

WARM UP

Match the companies with their logos.

Company		Logo
1. Ashok Leyland		(a)
2. SAIL		(b)
3. MMTC		(c)
4. Maruti Suzuki		(d)

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. This industry is agro-based.

    (a) Sugar ✓   (b) Chemical ☐   (c) Iron and steel ☐

2. Which one is not a raw material?

    (a) Cloth ✓   (b) Cotton ☐   (c) Gold ☐

3. Which city is not a major industrial region?

    (a) Bengaluru ☐   (b) Chennai ☐   (c) Ayodhya ✓

4. Handloom weaving is a part of

    (a) small-scale industries ☐

    (b) cottage industries ✓

    (c) large-scale industries ☐

B. Name two places where these industries have developed.

1. Cotton textile:	(a) Ahmedabad	(b) Varanasi
2. Automobile:	(a) Mumbai	(b) Gurgaon (Gurugram)
3. Iron and steel:	(a) Jamshedpur	(b) Durgapur
4. Aircraft:	(a) Bengaluru	(b) Nashik
5. Fertiliser:	(a) Nangal	(b) Sindri

C. Write short notes on the following.

1. Large-scale industries

Ans. Large-scale industries require big power-driven plants and employ a large number of skilled and unskilled workers. The production of finished goods is also on a large scale. Examples of large-scale industries are iron and steel plants, textile mills, oil refineries, automobile industry, chemical plants, etc. They play an important role in the development of the country.

2. Agro-based industries

Ans. An agro-based industry is an industry that uses agricultural products as raw materials. Important agro-based industries are cotton textiles, woollen textiles, silk textiles, jute textiles, sugar, vegetable oil, food processing, etc.

3. Household industries

Ans. The household industry is also called the collage industry. It is run by family members. They use locally available raw materials, such as wood, cane, brass, clay, stone, etc. They use simple tools. Carpet weaving, handloom, handicrafts, leather goods, toy making basket making, etc., are cottage industries.

D. Guess what type of industries these are. Write their names.
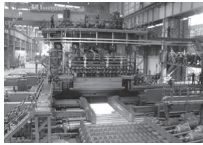
1.   Large-scale   **2.**   Agro-based   **3.**   Cottage

E. Answer these questions.

1. What is a manufacturing industry?

Ans. The process of converting raw materials into useful finished goods is called manufacturing. Manufacturing is done by an industry.

2. How are large-scale industries different from small-scale industries?

Ans. Large-scale Industries require big power-driven plants and employ a large number of skilled and unskilled workers. The production of finished goods is also on a large scale. Examples of large-scale industries are iron and steel plants, textile mills, oil refineries, automobile industry, chemical plants, etc. They play an important role in the development of the country.

Small-scale industries employ a few workers and produce mostly consumer goods. They also use small machines. The factories are also small. The factories producing garments, automobile parts, hosiery goods, plastic goods, furniture, utensils, electrical appliances and leather goods are included in small-scale industries.

3. Distinguish between agro-based and mineral-based industries.

Ans. India has both agro-based industries and mineral-based industries. An agro-based industry is an industry that uses agricultural products as raw materials. Important agro-based industries are cotton textiles, woollen textiles, silk textiles, jute textiles, sugar, vegetable oil, food processing, etc.

A mineral-based industry is an industry that uses minerals as raw materials. Important mineral-based industries are iron and steel, transport equipment, machine tools,

cement, fertilisers and chemicals.

4. What are the main features of the cottage industry?

Ans. The cottage industry is also called the household industry. It is run by family members. They use locally available raw materials, such as wood, cane, brass, clay, stone, etc. They use simple tools. Carpet weaving, handloom, handicrafts, leather goods, toy making, basket making, etc., are cottage industries. The cottage industry needs less investment (capital) and manpower.

5. Which factors influence the establishment of an industry?

Ans. Industries grow where the raw materials, source of power and markets are easily available.

THINK AND ANSWER

F. Imagine that you want to set up a schoolbag-making industry. What necessary things will you need for that? Write them down.

Ans. Raw materials, capital, labour and market.

LET US DO

G. Activity

Fill in the table with information collected with the help of the Internet.

Name of Countries	Automobile Industries	IT Industries
UK	Birmingham	London
USA	Detroit	Silicon Valley (California)
Germany	Berlin	Berlin
Japan	Nagoya	Ota
Russia	Moscow	Moscow

LIFE SKILLS

H. All types of industries cause pollution. Some of them like thermal power, leather and cement industries cause too much pollution. These industries should be set up far away from human settlements.

Ans. Do it yourself.

5. India—Transport and Communication

ANSWERS

WARM UP

Name the road that connects Delhi-Kolkata-Chennai-Mumbai-Delhi. Collect a picture of the road and paste it here.

Ans. Golden Quadrilateral.

CHECKPOINT

Fill in the blanks with information from the text.

1. The first train steamed off from Bombay to _____Thane_____ in 1853.

2. The Indian Railways are divided into _____16_____ zones.

3. _____Air_____ transport was started in India in 1911.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. Which of the following brings people closer?
   (a) Communication ✓ (b) Ocean ☐ (c) Space ☐

2. The Shatabdi Express is a
   (a) local train ☐ (b) goods train ☐ (c) superfast train ✓

3. In India, the national television broadcasting service is
   (a) Zee TV Channel ☐ (b) Discovery channel ☐ (c) Doordarshan ✓

B. Fill in the blanks with information from the text.

1. ____Waterways____ is the most suitable means for transporting heavy goods.

2. ____Airways____ is the fastest means of travel.

3. ____Tankers____ carry oil and petroleum products.

4. We use ____Internet____ to send an e-mail.

C. Answer these questions.

1. How did early man transport goods?

Ans. Early man carried goods himself. Later on, he used animals to carry the goods.

2. What does the National Highway Authority of India (NHAI) do?

Ans. NHAI builds and maintains national highways.

3. Where and when did the first train service start in India?

Ans. Mumbai to Thane. The train service started in 185**3**.

4. Which cities of India have the metro rail service?

Ans. Kolkata, Delhi, Mumbai and Bengaluru.

  5. What role do newspapers and magazines play?

Ans. They bring us information about the different events happening in the world.

THINK AND ANSWER

  D. Why are the railways considered a lifeline of the Indian transport system? Discuss in the class. If possible, collect some necessary data and information.

Ans. Hint: Railways carry lakhs of people and lakhs of tonnes of goods every day.

LET US DO

  E. Project

  Find out why the telegram was discontinued in our country.

Ans. Hint: Due to technological advancement, it became outdated.

VALUE CORNER

  F. Try to use a bicycle as far as possible because it does not cause any pollution and cycling is a good exercise.

LIFE SKILLS

  G. You are supposed to book a ticket for travelling from Mumbai to Chennai. You went to the railway ticket reservation counter. But, you learnt that all the seats had been booked earlier and there was no seat for you. Outside the counter, you met a stranger who said that he would give you a ticket for the said journey. What should you do? Discuss in the class.

Ans. Hint: I should not buy tickets from an unauthorised person.

PERIODIC TEST 3

  A. Tick (✓) the correct answers.

  1. Which of the following is not a Union Territory?
  (a) Chandigarh ☐   (b) Puducherry ☐   (c) Sikkim ✓

  2. Which one affects the climate of an area?
  (a) Mountain ✓   (b) Seaport ☐   (c) Airport ☐

  3. India has _____ per cent of the total population of the world.
  (a) 16 ✓   (b) 18 ☐   (c) 25 ☐

  4. Wheat is cultivated in
  (a) the kharif season ☐   (b) the rabi season ✓   (c) both seasons ☐

  5. Which of the following is not a raw material?
  (a) Cloth ✓   (b) Cotton ☐   (c) Gold ☐

  B. Fill in the blanks.

  1. The Garhwal and ___Kumaon___ regions of the Himalayas form Uttarakhand.

2. Another name of the Rajasthan Canal is the __Indira Gandhi__ Canal.

3. Metals are separated from ore through a process called ____smelting____.

4. The average density of the population of India is _____382_____ per square kilometre.

5. The Indian Railways is divided into _____16_____ zones.

C. State whether True or False.

1. The cottage industry employs a larger number of people. _____False_____

2. Jute is called the golden fibre of India. _____True_____

3. Iron is the ore of aluminium. _____False_____

4. The foothills of the Himalayas are called Terai. _____True_____

5. Radio, television, newspapers and magazines are called means
of mass communication. _____True_____

D. Match the following.

Column A	Column B
1. Anai Mudi, about 2,695 metres high,	(a) lives in villages.
2. Arunachal Pradesh	(b) is the highest peak in the Southern Plateaus.
3. Jaipur, the capital of Rajasthan,	(c) require big power-driven plants and employ a large number of workers.
4. About 70 per cent of India's population	(d) is the largest state in the north-east.
5. Large scale industries	(e) is also called the Pink City.

E. Answer the following questions.

1. How is a Union Territory different from a State?

Ans. The Union Territories are under the control of the Central Government. The States are under the control of their respective State Governments.

2. What are sand dunes and how do they shift from one part of the desert to another?

Ans. Low hills of sand in deserts are called sand dunes. Strong winds can move sand dunes from one part of the desert to another.

3. Name any two trees grown in the thorn forests.

Ans. Babul and Kikar.

4. Which factors influence the establishment of an industry?

Ans. Availability of raw materials, source of power and markets are the main factors that influence the establishment of an industry.

5. Name any two plantation crops.

Ans. Tea and coffee.

6. Our Rights and Duties

ANSWERS

CHECKPOINT

Answer these questions orally.

1. What does a constitution contain?

Ans. A constitution of a country contains the laws of that country.

2. When do we celebrate the Republic Day?

Ans. 26 January every year.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. India has which type of government?
   (a) Monarchical ☐   (b) Dictatorial ☐   (c) Democratic ✓

2. The people of India enjoy _____ Fundamental Rights.
   (a) four ☐   (b) five ☐   (c) six ✓

3. We have _____ Fundamental Duties.
   (a) six ☐   (b) eight ☐   (c) ten ✓

B. Write in one word.

1. A legal document which contains basic laws ___Constitution___

2. The rights given to every citizen of India ___Fundamental Rights___

3. The form of government chosen through elections ___Democratic___

4. A member of a country who has certain rights and is expected to perform certain duties ___Citizen___

C. Answer these questions.

1. What do you mean by a democratic country?

Ans. A democratic country is a country whose government is elected by its people.

2. Why is India called a Secular State?

Ans. This is because in India, every citizen is free to choose and follow any religion.

3. How do Rights give us protection?

Ans. The Rights are protected by courts. We can go to the court if any of our Rights are violated.

4. State any two objectives of the Directive Principles of State Policy.

Ans. (a) Provide proper living conditions

(b) Provide work for everyone.

THINK AND ANSWER

D. Explain the following:

Rights $\rightleftarrows$ Duties

Ans. **Hint:** We can demand our rights only when we fulfil our duties.

LET US DO

E. Project

Frame a few rights and duties for a student.

Ans. Do it yourself.

VALUE CORNER

F. One's rights are secured by one's duties.

7. India—The National Symbols

WARM UP

Write the name of the national symbol that you see in this picture.

Ans. It is our National Emblem.

CHECKPOINT

Fill in the blanks with information from the text.

1. A country's independence and sovereignty is expressed by its ___National Flag___.

2. Our National Flag is called the ___Tricolour___.

3. The wheel of our National Flag has ___24___ spokes.

4. Our National Emblem has ___4___ lions.

5. Our National Song was written by _Bankim Chandra Chatterjee_.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. In our National Flag, saffron stands for
   (a) sacrifice [✓]   (b) wealth [ ]   (c) prosperity [ ]

2. Our National Tree is the
   (a) banana tree [ ]   (b) babul tree [ ]   (c) banyan tree [✓]

3. The National Emblem has been adopted from the Lion Capital of a pillar erected by
   (a) King Chandragupta [ ]   (b) King Ashoka [✓]   (c) King Harsha [ ]

B. Match the columns.

Column A	Column B
1. Green colour	(a) strength
2. The bull	(b) good taste

3. Tiger (c) hard work

4. The peacock (d) prosperity

5. The mango (e) beauty

C. Answer these questions.

1. What is the National Flag of India?

Ans. Tricolour.

2. What is the colour of the wheel?

Ans. Blue.

3. When is the National Flag not hoisted?

Ans. After sunset.

4. What is written at the bottom of our National Emblem?

Ans. 'Satyameva Jayate'.

THINK AND ANSWER

D. You must have noticed that during the inauguration of multi-national sports events like the Olympics, the sportspersons of each country carry their national flag and sing the national anthem. Why do they do so?

Ans. To bring unity and universal friendship.

LET US DO

E. Activity

Draw a picture of our National Flower and colour it. Write about it.

Ans. Do it yourself.

VALUE CORNER

F. We should respect our National Symbols as well as the national symbols of other countries.

8. India's Rich Heritage

ANSWERS

WARM UP

Can you identify this building? Write its name.

Ans. Karnataka Vidhan Saudha

CHECKPOINT

Answer these questions.

1. How many languages and dialects are spoken in India?

Ans. 800.

2. How many official languages have been recognised by the Constitution of India?

Ans. 22.

3. Where is the Gol Gumbaz?

Ans. Bijapur, Karnataka.

4. Where is Carnatic music practised?

Ans. South India.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. This language is spoken in almost all the States of India.

  (a) Hindi   ✓   (b) Telugu ☐ (c) Tamil ☐

2. This language is one of the official languages of India.

  (a) Kannada ☐ (b) Sanskrit ☐ (c) English ✓

3. Bihu dance form is popular in

  (a) Assam ✓ (b) Rajasthan ☐ (c) Kerala ☐

4. Bhimbetka is famous for its

  (a) folk dance ☐ (b) churches ☐ (c) cave paintings ✓

B. Fill in the blanks.

1. The different forms of a language are called _____dialects_____.

2. The style of writing a language is called _____script_____.

3. The small-sized paintings of Rajasthan are called _____miniatures_____.

4. Paintings are displayed in an _____art gallery_____.

C. Answer these questions.

1. What is the dance-drama form? Name any dance drama form.

Ans. In a dance drama, stories are told through dance, e.g., Kathakali.

2. How many types of classical music are there in India? Name them.

Ans. There are two types of classical music in India. These are Hindustani music and Carnatic music.

3. Name a few temples that have excellent architecture.

Ans. India is popularly called the land of temples, forts and palaces. The ancient temples of Madurai, Thanjavur, Belur, Halebid, Dilwara, Ranakpur, Khajuraho, Puri, Konark and the Kailash temple at Ellora are known for their artistic work all over the world.

4. Where is the Lotus Temple situated?

Ans. New Delhi.

THINK AND ANSWER

D. What is the role of languages in cultural diversity? Write a few lines on it.

Ans. Language is a vehicle through which the people of a country or region express their art, literature and culture.

LET US DO

E. Project

Collect information and pictures of a few classical and Carnatic singers of India.

Ans. Do it yourself.

F. Activity

Write the names and collect pictures of a few architectural heritage marvels of your State/ Union Territory.

Ans. Do it yourself.

VALUE CORNER

G. You should respect others' languages and cultures. These enrich the world.

LIFE SKILLS

H. Heritage, especially architectural heritage, is a heritage of the whole mankind, not of any community, race or nation.
During World War II, the Allies (England, France, Poland, etc.) discovered that German soldiers were using the Leaning Tower as an observation post. A US Army sergeant was sent to confirm the presence of German troops in the tower. The sergeant was so impressed by the beauty of the cathedral that he refrained from ordering an artillery strike, thus sparing it from destruction.
What would you have done if you were in the place of that sergeant?

Ans. Do it yourself.

9. They Enriched Our Thoughts

ANSWERS

CHECKPOINT

Tick (✓) the correct statement.

1. The Vedas are the holy books of the (Christians/Hindus✓).
2. The concept, 'Live and Let Live' was given by (Lord Buddha/Lord Mahavira✓).
3. Guru Nanak Dev founded the (Sikh✓/Parsi) religion.
4. Raja Rammohan Roy fought against (corruption/sati system✓).
5. The Battle of Kalinga changed the course of the life of Emperor (Ashoka✓/Akbar).

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. Lord Mahavira was the _____ Tirthankara.
   (a) 14th ☐   (b) 24th ✓   (c) 34th ☐
2. The Upanishads belong to this religion.
   (a) Hinduism ✓   (b) Islam ☐   (c) Zoroaster ☐
3. The holy book of the Muslims is the
   (a) Bible ☐   (b) Zend Avesta ☐   (c) Quran ✓
4. The Parsi religion was founded in
   (a) Iran ✓   (b) India ☐   (c) Nepal ☐

B. Find out the names of religions practised in India hidden in the word grid.

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

C. Answer these questions.

1. What did Raja Rammohan Roy do for the improvement of society?

Ans. Raja Rammohan Roy lived in Bengal about 250 years ago. He fought against the practice of child marriage, caste system and sati (burning of the widow along with the body of her dead husband). He forced the government to pass a law against the sati system.

2. What are the main teachings of Lord Buddha?

Ans. He preached truth and non-violence.

3. What are the main teachings of Kabir?

Ans. Kabir worked against the caste system, blind faith and unnecessary rituals in all religions. He spread his message of love and brotherhood through *dohas* and bhajans.

THINK AND ANSWER

D. Why is Ashoka considered one of the greatest kings?

Ans. Hint: He established peace and nonviolence.

LET US DO

E. Project

Collect information about Ishwar Chandra Vidyasagar's contribution in modernising India.

Ans. Hint: Visit site www.indiansaga.com/history/reforms_vidyasagar.html

VALUE CORNER

F. We should always respect other religions.

MODEL TEST PAPER

A. Tick (✓) the correct answers.

1. The dam built on the Sutlej is
(a) Mahanadi ☐ (b) Bhakra ✓ (c) Hirakund ☐

2. This river flows through the Thar Desert.
(a) Luni ✓ (b) Ganga ☐ (c) Ganga ☐

3. The Shatabdi Express is a
(a) local train ☐ (b) goods train ☐ (c) superfast train ✓

4. The people of India enjoy _____ Fundamental Rights.
(a) four ☐ (b) five ☐ (c) six ✓

5. In our National Flag, saffron stands for
(a) sacrifice ✓ (b) wealth ☐ (c) prosperity ☐

B. Fill in the blanks.

1. The different forms of a language are called _____dialects_____.

2. Lord Mahavira was the _____24th_____ Tirthankara.

3. The National River of India is _____Ganga_____.

4. The staple food of India is _____rice_____.

5. The southernmost tip of India is the _____Indira Point_____.

C. State whether True or False.

1. Uttar Pradesh is the largest State in India. _____False_____

2. At present, about 22 per cent of the total area of India is under
vegetation. _____True_____

3. The Indian Constitution recognises 25 languages. _____False_____

4. In India, air transport was started in 1911. _____True_____

5. 'Protect and take care of public property' is a Fundamental Duty
of every citizen of India. _____True_____

D. Match Column A with Column B.

Column A   **Column B**

1. Making jute bags   (a) mass communication
2. Ganga   (b) composer of the National Anthem
3. Radio   (c) longest river in India
4. Rabindranath Tagore   (d) popular folk dances of Punjab
5. Bhangra and Gidda   (e) agro-based industry

E. Write 'R' for Rights and 'D' for Duties against the following statements.

1. Getting pure drinking water from the municipality. | R |

2. Protecting our monuments. | D |

3. Obeying traffic rules. | D |

4. Going to a place of worship of your choice. | R |

5. I am a person with disability. I want to get admission in an educational
institution as per my merit. | R |

F. Draw and colour the National Flag of India.
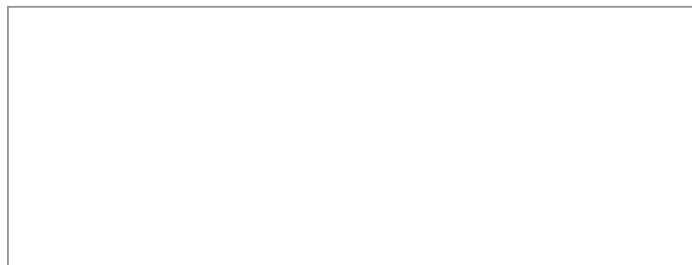
Ans. Do it yourself.

G. Answer the following questions.

1. Write the names of the states in India that produce coal.

Ans. Jharkhand, Odisha, Chhattisgarh.

2. How are Rights and Duties closely related?

Ans. Rights and Duties are inseparable. They are two sides of the same coin. Every Right has a corresponding Duty. For example, if one has a right to vote, it is the duty of that person the exercise that Right judiciously in electing the right candidate without being swayed by religious, caste and monetary considerations.

3. Write the significance of India's National Emblem.

Ans. Our National Emblem has four lions. The lions guard the four lions directions. They are symbols of courage and power. Only three out of the four lions are visible at a time. The base of the lions has galloping horse on the left and a mightly bull on the right. The horse stands for energy and speed. The bull stands for hard work. In between the horse and the bull, lies a Wheel—the wheel of the Law. The wheel on the National Flag has been adopted from it. And below the Wheel of the Law is written 'Satyameva Jayate' which means 'Truth alone triumphs'. The words are written in the Devanagari script.

4. Who was Ramabai Ranade? What role did she play in social reformation in India?

Ans. Ramabai Ranade was a well-known social reformer in Maharashtra. She devoted her life to educate women and get them a place of respect in the society. She started the Poona Sewa Sadan to help women and orphans.

5. Name the main coniferous trees.

Ans. Pine, cedar, fir, chir and spruce.

H. Identify the following pictures.
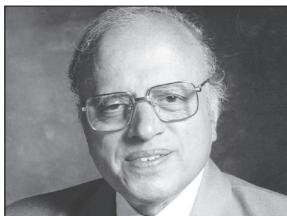
M.S. Swaminathan

National Emblem

Bankim Chandra Chatterjee

Victoria Memorial
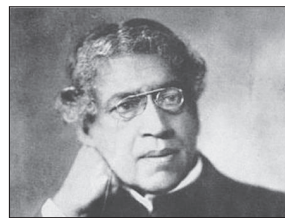
J. C. Bose

SCIENCE–5

SEMESTER

2

Wonders of Air

ANSWERS

WARM UP
On blowing, air takes the space inside the balloon and makes it bigger in size.

CHECKPOINT 1
Rewrite the following statements correctly.
1. Moving air is called atmosphere.
   Moving air is called __wind.__
2. The most abundant gas in air is oxygen.
   The most abundant gas in air is __nitrogen.__
3. Water from water bodies condenses to form water vapour.
   Water from water bodies __evaporates__ to form water vapour.
4. All living things breathe in air to get nitrogen.
   All living things breathe in air to get __oxygen.__
5. Carbon dioxide is used to make fertilisers.
   __Nitrogen__ is used to make fertilisers.

CHECKPOINT 2
Tick (✓) the correct word.
1. Air has colour/mass (✓).
2. Air exerts pressure in all (✓)/sideways directions.
3. Forest fire cleanses/pollutes (✓) air.
4. Acid rain polishes/weakens (✓) iron structures.

CHECK YOUR STUDY
A. Fill in the blanks.
1. The atmosphere extends upto a height of __800__ km.
2. *Oxygen* is needed for burning.
3. Plants get nitrogen from __soil__.
4. Air exerts __pressure__ in all directions.

B. Write True or False.

1. We can live without air.   *False*
2. Air consists of only oxygen and nitrogen.   *False*
3. Air has mass and occupies space.   *True*
4. The most plentiful gas in the atmosphere is carbon dioxide.   *False*
5. The percentage of oxygen in the air keeps changing.   *False*

C. Tick (✓) the correct answers.

1. Which of these gases is present in the highest amount in air?
   (a) Nitrogen ✓   (b) Oxygen
   (c) Carbon dioxide   (d) Helium

2. Which of these gases controls fire?
   (a) Nitrogen ✓   (b) Oxygen
   (c) Both nitrogen and oxygen   (d) None of these

3. What is the percentage of oxygen gas in the air?
   (a) 71   (b) 21 ✓
   (c) 78   (d) 0.03

4. Air pollution can
   (a) cause irritation of eyes, nose and throat
   (b) lead to depletion of ozone layer
   (c) damage the leaves of plants
   (d) all the above ✓

5. Which of these is the property of air?
   (a) Air has no mass   (b) Air does not occupy space
   (c) Air exerts pressure ✓   (d) None of these

D. Answer these questions.

1. What is the composition of air?

Ans. Air is a mixture of 78 per cent nitrogen, 21 per cent oxygen, 0.03 per cent carbon dioxide, 0.97 per cent water vapour and other gases.

2. How is oxygen useful to us?

Ans. All living things breathe in oxygen to live. Oxygen is also needed for burning fire.

3. How is carbon dioxide useful to plants?

Ans. The carbon dioxide present in the air is used by green plants to prepare food by the process of photosynthesis.

4. How is nitrogen useful?

Ans. All living things need nitrogen for making proteins. Nitrogen is used to make fertilisers which help in the growth of plants. Nitrogen does not help in burning of a substance but it helps in controlling fire.

5. What are the properties of air?

Ans. Air has following properties:

   (a) Air has mass.

   (b) Air occupies space.

   (c) Air exerts pressure in all directions.

6. What is air pollution? Write two main man-made causes of air pollution.

Ans. The presence of unwanted and harmful materials in air is called air pollution. Its main causes are smoke and harmful gases released due to burning of fossil fuels in automobiles and industries.

7. Write four effects of air pollution.

Ans. Four effects of air pollution are as follows:

   (a) Air pollution causes diseases like asthma, bronchitis and lung cancer.

   (b) It causes irritation of eyes, nose and throat.

   (c) It damages the ozone layer which protects us from harmful rays of the sun.

   (d) It causes acid rain which damages buildings, monuments and iron structures such as bridges, pillars, etc.

8. Write four ways to reduce air pollution.

Ans. We can reduce air pollution by following four ways:

   (a) We should plant more trees as they remove carbon dioxide from the air and release oxygen into the atmosphere.

   (b) Vehicles should be checked regularly to prevent release of harmful gases.

   (c) We should not burn dry leaves. Instead, we should make compost out of them.

   (d) We should use non-polluting fuels like CNG for cars and buses.

E. Find and encircle the words in the wordsearch with the help of given clues.

1. Blanket of air surrounding the earth – *Atmosphere*
2. Moving air – *Wind*
3. Gas needed for burning – *Oxygen*
4. A disease caused due to air pollution – *Asthma*
5. An instrument used to measure air pressure – *Barometer*
6. The component of air used to make fertilisers – *Nitrogen*

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

F. Give reasons for the following:

1. When you blow up a balloon on which a notebook is kept, the notebook gets lifted.

Ans. On blowing, air takes the space inside the balloon and makes it bigger in size. This lifts the notebook.

2. Your mother asks you to burn less crackers on Deepawali.

Ans. Burning of crackers is harmful to our environment, health and animals. They cause loud noise and release poisonous gases and a lot of smoke into the air. This causes noise as well as air pollution resulting in many respiratory problems. Animals are very sensitive to loud noise. They cannot bear the sounds produced by crackers. Crackers may also cause fire accidents.

3. You can drink juice using a straw.

Ans. We drink juice using a straw because when we suck through the straw, the air pressure inside the straw becomes low and the air pressure exerted on the surface of juice is more. Due to this pressure difference, the juice is pushed inside the straw and reaches our mouth.

4. You cannot drink juice using a straw having a small hole in it.

Ans. A straw having a hole in it will have same air pressure inside and outside. In this case, the juice will not be pushed when we suck through the straw.

5. Maria can make bubbles from chewing gum.

Ans. The chewing of chewing gum makes it soft. When air is blown into the gum, it takes the space inside the gum making it in bubble shape.

Matter

ANSWERS

WARM UP

Water is shown in solid state. Other states of water are liquid and gaseous states.

CHECKPOINT 1

Fill in the blanks:

1. Anything that occupies __space__ and has __mass__ is called matter.
2. Matter exists as __solid__, __liquid__ and __gas__.
3. A cup is a __solid__, whereas milk is a __liquid__ matter.
4. Atoms combine to form a __molecule__.
5. Molecules in a liquid are __loosely__ packed as compared to solids.
6. Hydrogen is an __element__, whereas water is a __compound__.
7. Air is a __mixture__ of gases.

CHECKPOINT 2

Name the process.

1. Change of state from solid to liquid   __Melting__
2. Changing a liquid into a solid   __Freezing__
3. A temporary change   __Physical change__
4. The property of dissolving of a substance in water   __Solubility__

CHECK YOUR STUDY

A. Fill in the blanks.

1. Everything in nature is made up of __matter__.
2. _Solids_ have a definite shape and volume.
3. _Gases_ flow in all directions.
4. Oil and water are __immiscible__ liquids.
5. A new substance is formed in a __chemical__ change.

B. Write True or False.

1. Molecules of gases are very loosely arranged.   __Teue__
2. There are only 105 elements known in nature.   __False__
3. Gases cannot dissolve in water.   __False__

4. Physical changes are permanent changes. *False*

5. Making of curd from milk is a chemical change. *True*

C. Tick (✓) the correct answers.

1. Which of these are pure substances?

(a) element   (b) compound

(c) mixture   (d) both (a) and (b) ✓

2. Copper is

(a) an element ✓   (b) a compound   (c) a mixture   (d) none of these

3. Water is

(a) an element   (b) a compound ✓

(c) an atom   (d) none of these

4. The process of changing of a liquid into a solid is called

(a) melting   (b) freezing ✓   (c) evaporation   (d) condensation

5. A mixture of lemon juice mixed in water is an example of

(a) miscible liquids ✓   (b) immiscible liquids

(c) chemical change   (d) None of these

D. Classify the following into elements, compounds and mixtures.

SALT   IRON   SUGAR   WATER   AIR   SOIL   CARBON   GOLD
BAKING SODA   SODA WATER   HYDROGEN   SEA WATER

Elements	Compounds	Mixtures
Iron	*Salt*	*Air*
Carbon	*Sugar*	*Soil*
Gold	*Water*	*Soda water*
Hydrogen	*Baking soda*	*Sea water*

E. State whether each of the following is a chemical change or a physical change.

1. Boiling of water   *Physical change*

2. Melting of ice cream   *Physical change*

3. Lighting of a matchstick   *Chemical change*

4. Burning of gas in a stove   *Chemical change*

5. Rusting of a nail   *Chemical change*

6. Tearing of clothes   *Physical change*

F. Answer these questions.

1. What do you understand by matter? Write its different forms.

Ans. Anything that occupies space and has mass is called matter. The different forms of matter are solid, liquid and gas.

2. Explain any three characteristics of solids.

Ans. Three characteristics of solids are:

    (a) Solids have a definite shape and volume.

    (b) Molecules in a solid are very tightly packed.

    (c) Solids cannot flow.

3. Explain any three characteristics of liquids.

Ans. Three characteristics of liquids are:

    (a) Liquids do not have definite shape but have a definite volume.

    (b) Molecules in a liquid are loosely packed.

    (c) Liquids can flow.

4. Explain any three characteristics of gases.

Ans. Three characteristics of gases are:

    (a) Gases neither have a definite shape nor a definite volume.

    (b) Spaces between molecules are very large.

    (c) Gases flow in all directions.

5. Give any four examples of the most abundant elements in the earth's crust.

Ans. The elements that are most abundant in earth's crust are oxygen, silicon, aluminium and iron.

6. Name two gases that are soluble in water? How are they useful?

Ans. Oxygen and carbon dioxide gases are soluble in water. Aquatic animals and plants use oxygen gas dissolved in water for respiration. Aquatic plants use carbon dioxide gas dissolved in water for photosynthesis.

7. Give two examples of

    (a) Miscible liquids

    (b) Immiscible liquids

Ans. (a) Milk and water, Lime juice and water

    (b) Oil and water, Petrol and water

8. Explain the two types of changes with examples.

Ans. (a) **Physical changes:** They are reversible changes without forming new products.

        Examples: Tearing of page, boiling of water.

    (b) **Chemical changes:** They are irreversible changes that form new products.

        Examples: Burning of wood, cooking of rice.

G. Give reasons for the following.

1. Air is a matter.

Ans. Air is considered a matter because it has weight and occupies space.

2. Carbon dioxide gas is a compound.

Ans. Carbon dioxide gas is a compound because it has carbon and oxygen combined in a fixed ratio.

3. Breaking of a stick is a physical change but burning of a stick is a chemical change.

Ans. Breaking of a stick is a physical change because after breaking of the stick no new substance is formed. Burning of stick is a chemical change because on burning, smoke, ash and gases are formed as new substances.

4. Shweta mixed vinegar with baking soda in a bowl. She heard a hissing sound and saw a gas coming out. Mixing of vinegar with baking soda is a chemical change.

Ans. It is a chemical change because on mixing of vinegar and baking soda, a gas is formed as a new substance.

Rocks and Minerals

ANSWERS

WARM UP

Diamond. It is used in making jewellery, for cutting glass, and to make cutting and polishing tools.

CHECKPOINT 1

Tick (✓) the correct answer.

1. Which of these is an igneous rock?
   (a) granite ✓   (b) sandstone   (c) gypsum   (d) scoria
2. Gneiss glitters because of
   (a) slate   (b) mica ✓   (c) granite   (d) shale
3. Limestone is formed from
   (a) sulphate   (b) calcite ✓   (c) granite   (d) quartz
4. Which of these is not a metamorphic rock?
   (a) quartzite   (b) basalt ✓   (c) slate   (d) marble

CHECKPOINT 2

Write True or False.

1. Minerals are found in the earth's crust.   _True_
2. Bauxite is the ore of aluminium.   _True_
3. Gems are used as fuel.   _False_
4. Coal is also called crude oil.   _False_
5. Fossil fuels are reserved for a limited time.   _True_

CHECK YOUR STUDY

A. Fill in the blanks.

1. The outermost layer of the earth is __crust__.
2. Igneous rocks are also called __fire rocks__.
3. The oldest rocks on the earth are __igneous rocks__.
4. __Diamond__ is the hardest non-metallic mineral.
5. __Coal__, __petroleum__ and __natural gas__ are fossil fuels.

B. Classify the following into igneous, sedimentary and metamorphic rocks.

> GNEISS   MARBLE   LIMESTONE   SANDSTONE   PUMICE   SHALE
> SLATE   CONGLOMERATE   OBSIDIAN   GYPSUM   GRANITE

Igneous rocks	Sedimentary rocks	Metamorphic rocks
Pumice	_Limestone_	_Gneiss_
Obsidian	_Sandstone, Shale_	_Marble_
Granite	_Conglomerate_	_Slate_
	Gypsum	

C. Tick (✓) the correct answers.

1. Rocks formed from magma are
   (a) igneous rocks ✓
   (b) metamorphic rocks
   (c) sedimentary rocks
   (d) both a and b

2. Igneous rocks were formed due to
   (a) earthquakes
   (b) volcanoes ✓
   (c) tides
   (d) storms

3. Basalt rocks are also called
   (a) scoria ✓   (b) granite   (c) pumice   (d) obsidian

4. Which is a gemstone?
   (a) scoria   (b) ruby ✓   (c) pumice   (d) obsidian

5. Which fossil fuel is used for generating electricity?
   (a) kerosene   (b) petroleum   (c) natural gas   (d) coal ✓

D. Match the following rocks with the minerals they contain.

Rocks	Minerals
1. Granite	(a) Sulphate
2. Gypsum	(b) Calcite
3. Conglomerate	(c) Quartz
4. Limestone	(d) Silica

E. Answer these questions.

1. How do igneous rocks form?

Ans. Igneous rocks form by the cooling of magma underground or that of lava on the ground.

2. What are metallic minerals and non-metallic minerals? Give three examples of each.

Ans. Minerals which contain metals are called metallic minerals.
For example: iron, copper and aluminium.
Minerals which do not have metals in them are called non-metallic minerals.
For example: talc, Plaster of Paris, chalk.

3. How was coal formed? Write its two uses.

Ans. Coal was formed by the breakdown of dead remains of plants that got buried in swamps 400 million years ago.

(a) Coal is mainly used as a fuel to run steam engines, in thermal power plants for generating electricity and for cooking food and heating homes.

(b) It is used in the production of steel and cement.

4. How was petroleum formed? What is it used for?

Ans. Petroleum was formed by the breakdown of organisms that lived millions of years ago in water and got buried under ocean or river sediments.

Petroleum is used to obtain petrol, diesel, kerosene, lubricating oil, wax and medicinal oils.

5. What is the full form of CNG?

Ans. Compressed Natural Gas.

6. Why do we need to conserve fossil fuels?

Ans. We need to conserve fossil fuels because they are available in limited amount and take millions of years to be formed. If not conserved, they may last only for a limited time.

7. How can we conserve fossil fuels?

Ans. We can conserve fossil fuels by following ways:

(a) Switch off the engine of vehicles at traffic lights.

(b) Walk down or use cycle to go to the nearby market instead of going by a scooter or a car.

(c) Car pool is a good way to reduce the use of fossil fuels.

8. Give the uses of the following:

(a) Granite   (b) Sandstone   (c) Diamond   (d) Kerosene

Ans. (a) Granite is used for building monuments, decoration on buildings, making statues and flooring.

(b) Sandstone is used as building stone.

(c) Diamond is used in making jewellery, cutting glass, and for making cutting and polishing tools.

(d) Kerosene is used for cooking and lighting lamps.

F. Give reasons for the following.

1. Why do you think the Earth is called the 'third rock' from the sun?

Ans. Earth is called the 'third rock' from the sun because it is the third planet in order of distance from the sun and is mainly made of rocks.

2. Why does pumice have a sponge-like structure?

Ans. Pumice has a sponge-like structure because it has many small holes.

3. Why does a gneiss rock show alternating patterns?

Ans. Gneiss rocks have been formed by tremendous heat and pressure, due to which, minerals get arranged in alternating patterns.

4. Which of these is a better way to save fuel – using a public transport or an individual self-driven vehicle?

Ans. Using a public transport is a better way to save fuel.

Soil Erosion and Conservation

4

ANSWERS

WARM UP

Water

CHECKPOINT 1

State True or False.

1. Soil contains water but no air.   *False*
2. Soil supports the growth of plants.   *True*
3. Weathering of rocks is a fast process.   *False*
4. Water and wind help in weathering of rocks.   *True*
5. Subsoil is the most fertile layer of soil.   *False*

CHECKPOINT 2

Write SE against the activities which cause Soil Erosion and SC against those which help in Soil Conservation.

1. A land left bare after harvesting a crop   *SE*
2. Farming by cutting steps   *SC*
3. Covering land by planting grass   *SC*
4. Building embankments on rivers   *SC*
5. Grazing by cattle in the same area   *SE*

CHECK YOUR STUDY

A. Fill in the blanks.

1. The uppermost layer of soil is called __*topsoil*__.
2. Breaking up of __*rocks*__ into tiny pieces forms soil.
3. Settling of soil at the bottom of rivers is called __*silting*__.
4. Soil erosion on hill slopes is prevented by __*terrace forming*__.
5. Soil erosion causes __*water*__ pollution.

B. Write True or False.

1. Deforestation causes soil erosion.   *True*
2. The protection of soil against erosion is called weathering.   *False*

3. Soil erosion increases fertility of the soil. *False*

4. Wind does not cause soil erosion. *False*

5. Cutting down of trees increases soil erosion. *True*

C. Name the following.

1. Cutting down of trees on large scale *Deforestation*

2. Carrying away of the topsoil from one place to another by natural agents *Soil erosion*

3. Moving of loose rocks down a slope of a hill *Landslide*

4. Protection of soil from erosion *Soil conservation*

5. Slow, gradual process of soil formation *Weathering*

D. Tick (✓) the correct answers.

1. Decayed remains of plants and animals in the soil is called
   (a) afforestation   (b) deforestation   (c) humus ✓   (d) soil erosion

2. Planting trees in large numbers is called
   (a) deforestation   (b) soil erosion
   (c) weathering   (d) afforestation ✓

3. Which of these causes soil erosion?
   (a) wind   (b) water
   (c) excessive ploughing   (d) all of these ✓

4. Which of these statements is correct?
   (a) The uppermost layer of the soil is least fertile.
   (b) Topsoil is light in colour.
   (c) Topsoil is rich in humus. ✓
   (d) Bedrock is the uppermost layer of soil.

5. Soil erosion can be controlled by
   (a) overgrazing   (b) keeping the land barren
   (c) dumping waste material   (d) growing grass ✓

E. Answer these questions.

1. What is weathering of rocks? How do rocks break and wear away?

Ans. Weathering of rocks is a process by which rocks are broken into fine particles by wind and water. The large rocks are initially broken down into small pieces by natural events like earthquakes. This process is carried further by agents like temperature changes, frost, water, wind and living organisms.

2. Name and explain the different layers of soil.

Ans. Different layers of soil are the topsoil, the subsoil and the bedrock.
   (a) Topsoil is the uppermost dark and most fertile layer of soil. It is rich in humus.
   (b) Subsoil is found just below the topsoil. It is light coloured because it contains less amount of humus as compared to topsoil.
   (c) Bedrock is hard and non-porous layer of soil. It is formed of parent rock.

3. Which human activities cause soil erosion? Explain.

Ans. Following human activities cause soil erosion:

   (a) **Deforestation:** When trees are cut down, soil becomes loose and is easily carried away by water or wind.

   (b) **Overgrazing:** Overgrazing by animals in a particular area makes the land barren and causes soil erosion.

   (c) **Excessive ploughing:** Ploughing of farmland loosens the soil which is easily carried by wind or water.

   (d) **Unprotected soil:** Sometimes soil is left bare for a long time after harvesting. This unprotected soil can be easily blown away by water and wind.

4. What is silting?

Ans. Silting is the deposition of soil at the bottom of a river.

5. What are the effects of soil erosion?

Ans. Soil erosion makes the land barren. It causes floods, water pollution, famines, and landslides in hilly areas which can result in the loss of life and property.

6. What do you understand by soil pollution?

Ans. The accumulation of harmful chemicals, polythene bags, etc. in soil is called soil pollution.

7. What are the different ways by which soil gets polluted?

Ans. Soil gets polluted by following ways:

   (a) Dumping of wastes into open areas.
   (b) Releasing industrial wastes into the soil.
   (c) Excessive use of pesticides, insecticides and chemical fertilisers by farmers.
   (d) Dirty water seeps into the soil from wastes.

8. What is soil conservation? In what ways can soil be conserved?

Ans. The protection of soil from erosion is called soil conservation. Soil can be conserved by following ways:

   (a) **Planting trees or afforestation:** Roots of plants hold the soil particles together and protect the soil from being carried away by wind or water.

   (b) **Terrace farming:** On hill slopes, terrace farming is done. This reduces the speed of water and prevents the soil from being flown downhill.

   (c) **By growing grass:** The grass has spreading roots. It covers the topsoil quickly and holds it firmly. This controls soil erosion.

   (d) **Constructing dams and embankments:** Dams and embankments are built on rivers to check soil erosion by floods or running water.

F. Give reasons for the following.

1. Briju was advised not to leave his cattle in the same forest area for grazing regularly.

Ans. Cattle should not be made to graze at the same place regularly because this would make the land loose and bare leading to soil erosion.

2. Humans are responsible for soil erosion.

Ans. Humans are responsible for soil erosion because human activities such as deforestation, overgrazing by farm animals, too much ploughing of farmland and leaving land bare after harvesting cause soil erosion.

3. Vanmahotsava is celebrated in schools.

Ans. Vanmahotsava is celebrated in schools to encourage children to grow more plants to prevent soil erosion and to conserve soil. It also makes them aware about the importance of plants.

4. Soil erosion is a cause of concern.

Ans. Soil erosion is a cause of concern because it makes land barren, leads to floods, water pollution, famines, landslides, etc. These calamities result in loss of life and property.

5. We need to protect our soil.

Ans. We need to protect our soil because it is important for all living things. Plants grow in the soil. We all are dependent on plants for food, clothing and shelter. Burrowing animals such as rabbit, rat, etc. and many other organisms like bacteria, fungi, worms and insects live in soil. We also build our houses on the soil. Soil is also used for making bricks, pottery, toys, etc. Thus, living things cannot live without soil.

PERIODIC TEST 3

Time: 45 Minutes   **Maximum Marks: 30**

A. Fill in the blanks by choosing correct words from the box.   **(5)**

> balanced   deforestation   chemical   gases   igneous

1. Fertilisers are obtained from __chemical__ substances.
2. Deficiency diseases can be avoided by eating a __balanced__ diet.
3. _Gases_ flow in all directions.
4. The oldest rocks on the earth are __igneous__.
5. The cutting down of trees on a large scale is called __deforestation__.

B. Write True or False against each statement.   **(5)**

1. Tibia is the longest bone in our body.   _False_
2. We need rest and sleep to keep our body fit.   _True_
3. Medicines should be accessible to all the family members.   _False_
4. Nitrogen is the most abundant gas in air.   _True_
5. Weathering of rocks is a fast process.   _False_

C. Match the following.   **(5)**

Column A	Column B
1. Cochlea	(a) Non-porous
2. Melting of wax	(b) Rich in humus
3. Rusting of iron	(c) Physical change
4. Topsoil	(d) Internal ear
5. Bedrock	(e) Chemical change

1. → (d), 2. → (c), 3. → (e), 4. → (b), 5. → (a)

D. Tick (✓) the correct answers.   **(5)**

1. Which of the following is a migratory bird?
    (a) Sparrow   (b) Crow   (c) White stork ✓   (d) Parrot
2. The percentage of oxygen in air is
    (a) 0.03%   (b) 21% ✓   (c) 71%   (d) 78%
3. Water is a/an
    (a) Element   (b) Atom
    (c) Compound ✓   (d) Mixture
4. Which of the following is not a metamorphic rock?
    (a) Basalt ✓   (b) Slate   (c) Marble   (d) Quartzite
5. Which of the following causes soil erosion?
    (a) Water   (b) Wind
    (c) Excessive ploughing   (d) All of these ✓

E. Answer these questions. (10)

1. How is carbon dioxide useful to plants?

Ans. The carbon dioxide present in the air is used by green plants to prepare food by the process of photosynthesis.

2. Explain two types of changes with examples.

Ans. (a) Physical changes: They are reversible changes without forming new products.

Examples: Tearing of page, boiling of water.

(b) Chemical changes: They are irreversible changes that form new products.

Examples: Burning of wood, cooking of rice.

3. How are igneous rocks formed?

Ans. Igneous rocks form by the cooling of magma underground or that of lava on the ground.

4. Why do we need to conserve fossil fuels?

Ans. We need to conserve fossil fuels because they are available in limited amount and take millions of years to be formed. If not conserved, they may last only for a limited time.

5. What are the effects of soil erosion?

Ans. Soil erosion makes the land barren. It causes floods, water pollution, famines, and landslides in hilly areas which can result in the loss of life and property.

Force, Energy and Simple Machines

<div style="text-align: right;">5</div>

ANSWERS

WARM UP

Knife

CHECKPOINT 1

Rewrite the following statements correctly.

1. The force of friction makes a coin move in the downward direction.

   Gravity makes a coin move in the downward direction.

2. Machines apply muscular force to do something.

   Machines apply mechanical force to do something.

3. The downward push of water on an object is called buoyant force.

   The upward push of water on an object is called buoyant force.

CHECKPOINT 2

Fill in the blanks.

1. Wind energy is used to run a __*windmill*__.
2. The energy possessed by an object due to its position is called __*potential energy*__.
3. The energy of the sun is called __*solar*__ energy.

CHECKPOINT 3

Fill in the blanks.

1. A machine makes our work __*easier*__.
2. There are __*three*__ types of levers.
3. A fishing rod is an example of __*third*__ class lever.
4. A __*screw*__ is an inclined plane wrapped around a rod.
5. A pulley helps us by __*changing*__ the direction of the force.

CHECK YOUR STUDY

A. Tick (✓) the correct answers.

1. A force can
   (a) change the shape of an object
   (b) change the speed of an object
   (c) stop a moving object
   (d) all of these ✓

2. A moving car slowly stops when its engine is turned off. Which force is responsible for this?
   (a) muscular force
   (b) magnetic force
   (c) electrostatic force
   (d) frictional force ✓

3. The engine of a train pulls the coaches attached to it. Which force is responsible for this?
   (a) mechanical force ✓
   (b) gravitational force
   (c) magnetic force
   (d) electrostatic force

4. Which energy is used to run a computer?
   (a) heat energy   (b) solar energy
   (c) electrical energy ✓   (d) wind energy

5. The energy possessed by an object due to its position is called
   (a) hydro energy   (b) sound energy
   (c) potential energy ✓   (d) solar energy

B. Fill in the blanks.

1. Buoyant force is also known as __upthrust__.
2. The force caused due to charged objects is called __electrostatic__ force.
3. A __solar cell__ converts solar energy into electrical energy.
4. _Sound_ energy is produced due to vibrations.
5. The point of support on a lever that does not move is called __fulcrum__.
6. A pulley is a small wheel with a __groove__ around its _edge_.

C. Given below is a list of activities. Identify the simple machines which are used to do these activities.

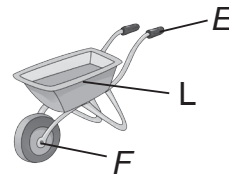|			
Shaving	– _Razor_	Cutting an apple	– _Knife_
Splitting a log	– _Wedge_	Fixing two planks of wood together	– _Screw_
Sharpening a pencil	– _Blade_	Drawing water from a well	– _Pulley_
Lifting an ice cube	– _Tongs_	Pushing a heavy box up a truck	– _Ramp_

D. Identify the kinds of levers given below. Also mark the fulcrum (F), load (L) and effort (E).
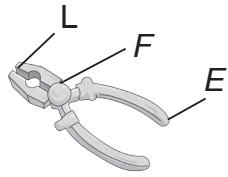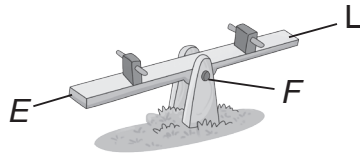
First class lever   _First class lever_   _Second class lever_
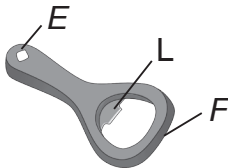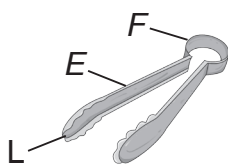
Second class lever   _Third class lever_   _First class lever_
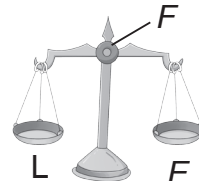
E. Answer these questions.

1. What is a force?

Ans. A force is a pull or push applied on an object.

2. What are the effects of force?

Ans. Following are the effects of force:

A force can

- make an object move.
- stop a moving object.
- change the direction.
- slow down or speed up a moving object.
- change the shape and size of an object.

3. What do you understand by the following forces? Give one example where these forces are used.

(a) muscular

(b) frictional

(c) buoyant

Ans. (a) The force applied by muscles is called muscular force. Muscular force is applied when we push, pull or lift something.

(b) A force which opposes the motion of an object and acts in the opposite direction of motion is called frictional force or friction. Friction is used when a ball rolling on the ground moves some distance and finally stops.

(c) An upward push of a liquid on an object which keeps the object afloat is called buoyant force. Buoyant force is used when something floats on water.

4. What is energy?

Ans. The ability to do work is called energy.

5. Name different forms of energy.

Ans. Different forms of energy are electrical energy, wind energy, solar energy, kinetic energy, potential energy, hydro energy, sound energy and heat energy.

6. Define lever. How many types of levers are there and what is the difference between them?

Ans. A lever is a rigid rod which can turn about one fixed point.

Depending on the position of the fulcrum, load and effort, levers are of three types– first class levers, second class levers and third class levers.

(a) In a first class lever, fulcrum is between load and effort.

(b) In a second class lever, load is between fulcrum and effort.

(c) In a third class lever, effort is between fulcrum and load.

7. What is an inclined plane? What is it used for?

Ans. A sloping surface that reduces the effort required to lift a load is called an inclined plane. It is used as a ramp in hospitals, hotels, airports, etc., to drive the vehicles up, for loading and unloading heavy goods from trucks and on mountains as slopy roads for vehicles to climb up easily.

8. What is a wedge?

Ans. A wedge is a simple machine having two inclined planes joined back to back with a sharp edge. It has both a blunt end and a sharp end.

9. What is a screw? Why is it called the modification of an inclined plane?

Ans. A screw is a simple machine that resembles a nail with grooves in it. It is called the modification of an inclined plane because it is actually an inclined plane wrapped around a rod.

F. Give reasons for the following.

1. Carpenters use screws instead of nails to join two pieces of wood. Why?

Ans. A screw fixes two pieces of wood better than a nail. It is because a screw has grooves in it.

2. A man wants to move a big boulder. As a passerby what would you suggest him?

**Ans.** The man can use a lever (i.e., a strong rod) to move the big boulder.

3. The soles of our shoes wear out after some time. Why?

Ans. The force of friction acts between the soles of shoes and ground. It opposes the motion of the shoes and the shoes get rubbed against hard surface of ground.

4. Which force enables you to hold a paper in your hand?

Ans. Frictional force helps to hold a paper in the hand.

The Universe
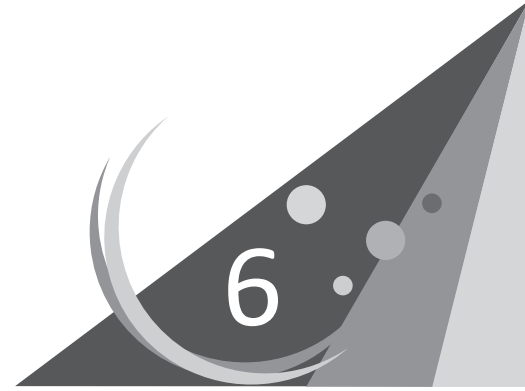
ANSWERS

WARM UP
The Earth as seen from the Moon

CHECKPOINT 1
Answer in one word.
1. It is at the centre of solar system. _Sun_
2. Earth's only natural satellite. _Moon_
3. Type of objects which form shadows. _Opaque_
4. A phenomenon when one celestial body blocks the light of another. _Eclipse_
5. The regular rise and fall of ocean water on the earth. _Tide_

CHECKPOINT 2
Name these.
1. First artificial satellite launched _Sputnik-1_
2. First Indian satellite launched _Aryabhatta_
3. First person to go into space _Yuri Gagarin_
4. First Indian to go into space _Rakesh Sharma_

CHECK YOUR STUDY
A. Fill in the blanks.
1. The large circular hollows on the moon are called _craters_ .
2. A _total_ solar eclipse occurs when the moon covers the sun completely.
3. During a _lunar_ eclipse, the earth comes between the sun and the moon.
4. The highest tides occur at _new moon_ and _full moon_ day.
5. Military satellites are often called _spy_ satellites.

B. Write True or False.
1. The universe is a wide-open space. _True_
2. There is evidence of water at the poles of the moon. _True_
3. We can live on the moon because it has an atmosphere. _False_

4. We can jump higher on the moon than on the Earth.   _True_

5. The highest tides are caused on a no moon day.   _True_

C. Name the following.

1. First woman of Indian origin to go into the space   _Kalpana Chawla_

2. Second woman of Indian origin to go into the space   _Sunita Williams_

3. A weather satellite   _METSAT_

4. A scientific research satellite   _Rohini_

5. A communication satellite   _APPLE_

6. A military satellite   _CARTOSAT_

D. Tick (✓) the correct answers.

1. The natural satellite of the earth is the

(a) sun   (b) moon ✓   (c) planet   (d) star

2. Which of the following is not present on the moon?

(a) craters   (b) atmosphere ✓

(c) gravity   (d) heat

3. What is the gravity on the moon as compared to that of the earth?

(a) one-eighth   (b) one-fifth   (c) one-sixth ✓   (d) one-fourth

4. Which type of objects form shadows?

(a) opaque   (b) translucent

(c) transparent   (d) both (a) and (b) ✓

5. Tides are caused by the gravitational pull of the

(a) stars   (b) moon ✓

(c) earth   (d) moon and earth

E. Answer these questions.

1. What is the sun? How is heat and light produced in the sun?

Ans. The sun is a star. It is a huge hot ball of burning gases.

Inside the sun, hydrogen gas changes into helium gas producing a lot of heat and light.

2. What causes the moon to shine?

Ans. The moon shines when the sun's light falls on its surface and is reflected back to the earth.

3. What are the solar and lunar eclipses?

Ans. Solar eclipse: When the moon comes between the sun and the earth, it casts a shadow on the earth. To the people who fall under this shadow, the sun gets blocked. This is called solar eclipse.

Lunar eclipse: When the earth comes between the sun and the moon, the light from the sun to the moon is blocked. The shadow of the earth falls on the moon due to which the moon gets darkened. This is called lunar eclipse.

4. What is a tide? How are high and low tides caused?

Ans. A tide is a regular rise and fall of ocean water due to gravitational pull by moon on the earth. High tides are caused when ocean water on the moon-facing side of the earth is attracted upwards. Low tides are formed when the ocean water on the side of the earth facing away from the moon rushes towards the moon-facing side of the earth.

5. What is an artificial satellite?

Ans. An artificial satellite is a man-made object that continuously moves in the orbit of the earth or some other body in the space.

6. What are the types of artificial satellites? Give one example of each.

Ans. Following are the types of artificial satellites.

(a) **Weather satellites** – Example: METSAT (KALPANA-1)

(b) **Scientific research satellites** – Example: Rohini.

(c) **Communication satellites** – Example: APPLE.

(d) **Military satellites** – Example: CARTOSAT.

(e) **Navigation or GPS satellites** – Examples: IRNSS1I.

(f) **Earth observing satellites** – Example: RESOURCESAT-1.

F. Give reasons for the following.

1. You cannot have conversation with your friend on the moon.

Ans. Sound waves need air (a medium) to travel and there is no air on the moon.

2. Satellites are a great help to sailors.

Ans. Sailors get help from the navigation or GPS satellites for knowing their location on the earth.

Natural Disasters

ANSWERS

WARM UP
Due to continuous heavy rain.

CHECKPOINT 1
State True or False.

1. A natural disaster may occur at any time.   _True_
2. The crust is the hottest layer of the earth.   _False_
3. The earthquakes that measure 5 or 6 on the Richter Scale cannot be felt.   _False_
4. The study of volcanoes is called seismology.   _False_
5. Volcanoes that have not erupted in recent years but may erupt in the
   future are called active volcanoes.   _False_

CHECKPOINT 2
Fill in the blanks.

1. Tsunami waves are also known as __tidal waves__ or __storm waves__.
2. _Floods_ are caused due to heavy rains.
3. Floods cause __soil__ erosion.
4. Droughts can be prevented by harvesting the __rainwater__.

CHECK YOUR STUDY
A. Fill in the blanks.

1. The sudden shaking of the ground is called an __earthquake__.
2. The earth's crust is made up of many rock __plates__.
3. The tunnel of a volcano is known as __vent__.
4. Hot molten rock that comes out on the ground is called __lava__.
5. Tsunami causes destruction in __coastal__ areas.

B. Match the columns.

Column A	Column B
1. Tasunami	(a) Eruption of lava
2. Earthquake	(b) Water overflowing from rivers
3. Floods	(c) Absence of rains for a long period
4. Drought	(d) Tidal waves
5. Volcano	(e) Shaking of the earth's surface

1. Tasunami — (d) Tidal waves
2. Earthquake — (e) Shaking of the earth's surface
3. Floods — (b) Water overflowing from rivers
4. Drought — (c) Absence of rains for a long period
5. Volcano — (a) Eruption of lava

C. Tick (✓) the correct answers.

1. An earthquake is measured on a
   (a) Metre scale
   (b) Richter scale ✓
   (c) pH scale
   (d) Mohs scale

2. The molten rocks under the earth's crust are called
   (a) Magma ✓
   (b) Lava
   (c) Seismogram
   (d) Vent

3. Seismograph is an instrument that measures
   (a) Tsunamis
   (b) Floods
   (c) Earthquakes ✓
   (d) Droughts

4. Which of these are caused due to heavy rainfall?
   (a) Earthquake
   (b) Drought
   (c) Floods ✓
   (d) Volcanoes

5. Which of these can lead to drought-like conditions?
   (a) No rain for a long period
   (b) Very high temperature
   (c) Hot and dry winds
   (d) All these ✓

D. Name the following.

1. Huge storm waves caused in the sea in coastal regions — *Tsunami*
2. A device used to measure the intensity of an earthquake — *Seismograph*
3. The mass of molten rocks under the surface of the earth — *Magma*
4. Absence of rains over a long period of time — *Drought*
5. The only active volcano in the Indian subcontinent — *Barren island*

E. Answer these questions.

1. What do you understand by a natural disaster?

Ans. A natural event that causes harm to human life, property, animals and the environment is called a natural disaster.

2. What is an earthquake? On which scale is it measured?

Ans. An earthquake is the sudden shaking of ground due to vibrations deep inside the earth. It is measured on Richter Scale.

3. What are the different layers of the earth? Explain.

Ans. The different layers of the earth are the crust, the mantle, the outer core and the inner core.

    (a) The crust is the outer layer where we live. It is made up of many rock plates.

    (b) The next layer is mantle which is made up of semi-molten rocks.

    (c) The outer core is very hot and consists of molten metals such as iron and nickel.

    (d) The inner core is the hottest layer of the earth and is made up of solid iron. It forms the centre of the earth.

4. What is a seismograph? What is it used for?

Ans. A seismograph is an instrument which is used to detect and record seismic waves generated due to an earthquake.

5. What is a volcano? What are its types?

Ans. A volcano is an opening on the earth's surface through which hot and molten rocks, ash and gases erupt from inside the earth. There are three types of volcanoes. They are active, dormant and extinct volcanoes.

6. Give two examples of each (a) active volcano, (b) dormant volcano, (c) extinct volcano.

Ans. (a) Active volcano – Barren Island, Mount Fuji

    (b) Dormant volcano – Mount Kilimanjaro, Mount Edziza

    (c) Extinct volcano – Mount Buninyong, Mount Kulal

7. How are tsunamis caused? What are its effects?

Ans. Tsunamis are caused by an undersea earthquake or by a severe hurricane or cyclone.

They cause destruction of life and property in the area near the seashore.

8. Define flood. Write two harmful effects of flood.

Ans. The condition of continuous heavy rains for many days, causing rivers to overflow and submerge nearby areas is called flood.

Two harmful effects of flood are:

● Floods damage the crop fields, submerge many areas causing great loss to life and property.

● Floods wash away the upper fertile layer of soil causing soil erosion.

9. How can floods be prevented?

Ans. Floods can be prevented by growing more trees, building dams and embankments on the rivers.

10. What is a drought? Why is a drought caused?

Ans. A condition of less or no rains over a long period of time is called drought.

A drought is caused by a large-scale cutting of trees, grazing animals on the same land and overploughing of a crop land.

E. In the following wordsearch, find eight terms that you have read in this lesson.

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

G. How can you say that floods cause soil erosion?

Ans. The upper fertile layer of soil gets washed away with flood water. This causes soil erosion.

H. Growing more and more trees can prevent droughts. How?

Ans. Growing more and more trees can prevent droughts because trees give out water vapour and help in bringing rains.

MODEL TEST PAPER

Time: 1 Hour   **Maximum Marks: 50**

A. Give one word for the following. (5)
1. Moulds and mushrooms produce this for reproduction   _Spores_
2. Moving of loose rocks down a slope of a hill   _Landslide_
3. The energy that we get from the sun   _Solar energy_
4. The only natural satellite of the Earth   _Moon_
5. The layer of the Earth made up of semi-molten rocks   _Mantle_

B. Match the columns. (5)

Column A		Column B
1. Fish		(a) Igneous rock
2. Scoria		(b) Earthquakes
3. Slate		(c) Gills
4. Seismology		(d) Volcano
5. Magma		(e) Metamorphic rock

C. Write True or False. (5)
1. There are 24 pairs of ribs in human body.   _False_
2. The protection of soil against soil erosion is called weathering.   _False_
3. A wedge has two inclined planes joined back to back with a sharp edge.   _True_
4. We can jump higher on the moon than on the Earth.   _True_
5. The crust is the hottest layer of the Earth.   _False_

D. Circle the odd word. (5)

1. Cerebrum   (Ear)   Medulla   Cerebellum

2. Solid   Liquid   Gas   (Compound)

3. Handpump   Hammer   (Pulley)   Seesaw

4. Vent   Lava   Magma   (Seismogram)

5. (Accident)   Earthquake   Volcano   Flood

E. Draw and label the diagrams. (8)
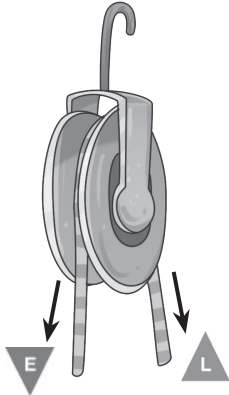1. Formation of solar eclipse

Ans.
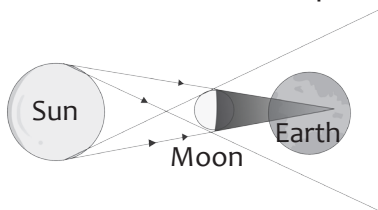
2. A pulley with a rope passing through it

Ans.

F. Fill in the blanks. (6)

1. Fats contain __*double*__ the amount of energy as compared to carbohydrates.

2. The atmosphere extends up to a height of __*800*__ km.

3. A new substance is formed in a __*chemical*__ change.

4. The energy possessed by an object due to its position is called __*potential energy*__.

5. *Floods* are caused due to heavy rains.

6. The tunnel of a volcano is known as __*vent*__.

G. Answer these questions. (10)

1. What is a force? What are its effects.

Ans. A force is a pull or push applied on an object.

Following are the effects of force:

- A force can make an object move.
- Stop a moving object.
- Change the direction.
- Slow down or speed up a moving object.
- Change the shape and size of an object.

2. How are high and low tides caused?

Ans. High tides are caused when ocean water on the moon-facing side of the earth is attracted upwards. Low tides are formed when the ocean water on the side of the earth facing away from the moon rushes towards the moon-facing side of the earth.

3. What is a lever? How many types of levers are there? Name them.

Ans. A lever is a rigid rod which can turn about one fixed point.

Depending on the position of the fulcrum, load and effort, levers are of three types– first class levers, second class levers and third class levers.

4. What do you mean by a natural disaster?

Ans. A natural event that causes harm to human life, property, animals and the environment is called a natural disaster.

5. What is a volcano? What are its types?

Ans. A volcano is an opening on the earth's surface through which hot and molten rocks, ash and gases erupt from inside the earth. There are three types of volcanoes. They are active, dormant and extinct volcanoes.

H. Tick (✓) the correct answers. (6)

1. Which of the following is a bacterial disease?

(a) Dengue (b) Polio

(c) Common cold (d) Cholera ✓

2. Which of the following is a crack or a break in a bone?

(a) Fracture ✓ (b) X-ray

(c) Splint (d) Sling

3. Gneiss glitters because of

(a) Mica ✓ (b) Slate

(c) Shale (d) Granite

4. Tides are caused by the gravitational pull of the

(a) Stars (b) Moon ✓

(c) Earth (d) Moon and Earth

5. An earthquake is measured on a

(a) pH scale (b) Metre scale

(c) Time scale (d) Richter scale ✓

6. Which of the following is not a layer of the Earth?

(a) Core (b) Mantle

(c) Vent ✓ (d) Crust