PruQuest

3

ALL IN ONE

Semester-I

PruQuest

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Semester-I

Content Developed by
A Team of Authors and Subject Consultants

- English Course Book
- English Grammar & Composition
- Mathematics
- Science
- Social Studies
- General Knowledge

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English

A communicative, integrated-skills course

Coursebook

CLASS-3 ✦ SEMESTER-I

1 Lost and Found
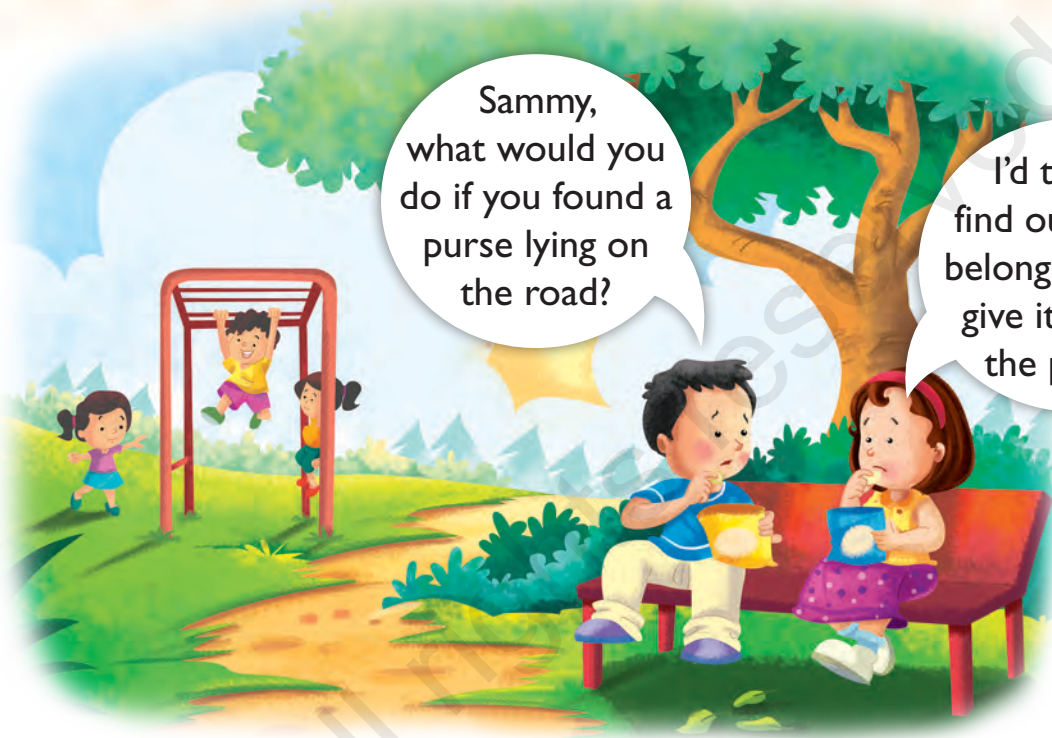
Sammy, what would you do if you found a purse lying on the road?

I'd try and find out who it belonged to and give it back to the person.

You would be doing the right thing, just like Rumi and Runa.

Who are Rumi and Runa? And what did they do?

Let's find out.

AIO-3 (SEM-1)

It was evening, and Runa and Rumi were playing together in the park.

'Try and catch me, Runa!' Rumi said, laughing as she ran away from Runa.

'I'm coming after you. You'd better run fast!' Runa replied.

Suddenly Rumi saw something lying near the bushes. She picked it up.

Runa came up behind her. 'What's that?' she asked.

'It's a purse. Somebody must have dropped it here,' Rumi replied.

The girls sat down and looked at the purse.

'What should we do with it?' Runa asked, looking at Rumi.

'Should we keep it?' Rumi said.

'I don't think we should. It's not ours. The person who lost it might be looking for it,' Runa answered.

'But how will we find out who owns the purse?' Rumi asked.

'Let's look around and see if anyone is looking for it,' Runa said, getting up.

As the two girls got to their feet, a woman came towards them. She was walking really fast and almost bumped into them.

'Oh, I'm sorry! I didn't see you,' the woman said.

'It's OK,' Rumi said.

The woman saw the purse in Rumi's hands. 'Oh!' she said. 'That's my purse. Where did you find it?'

'It was lying near the bushes,' Rumi replied. She handed the purse to the woman.

'Thank you, girls. I am so grateful,' the woman said. 'Let me buy you an ice cream.'

'That's all right, ma'am. You don't have to,' Runa said.

'But I want to. You found my purse for me. That's the least I can do,' the woman said.

The woman got the girls ice creams. The girls thanked her and started to walk back home.

'This was fun,' Rumi said, eating her ice cream. 'We should come and play in the park every day.'

'Yes, who knows, maybe we'll find another purse tomorrow!' Runa said, laughing.

Reading I

(1) Where were Rumi and Runa playing?

(2) What game were they playing?

(3) What did they find?

(4) What did they decide to do with it?

(5) What happened at the end of the story?

(1) Imagine that you have found a purse lying on the ground on your school campus. If you could not find the owner, what would you do with it? **HOTS**

(2) What would you have done if you were in Rumi and Runa's situation? Would you have kept the purse or returned it? Why? **LS**

Grammar

Nouns

ABSTRACT AND CONCRETE NOUNS

Read this sentence:

The *girl* was known for her *bravery*.

The words *girl* and *bravery* are both nouns, but *girl* is a *concrete noun* while *bravery* is an *abstract noun*.

> Nouns that denote a quality, an idea, a feeling or a state are called *abstract nouns*.

> Nouns that denote something physical that we can touch, count or measure are called *concrete nouns*.

Look at the underlined nouns in the sentences below. Say whether they are concrete or abstract.

(1) The <u>aroma</u> of this <u>cake</u> is fantastic.

(2) The <u>man</u> was famous for his <u>kindness</u>.

(3) Justice has been served.

(4) Whenever I come home, my dog's face lights up with happiness.

(5) The child was full of hope.

COUNTABLE AND UNCOUNTABLE NOUNS

Read these sentences:

Would you like a *toffee*?

Have some *milk*.

The words *toffee* and *milk* are both nouns, but *toffee* is a *countable noun* while *milk* is an *uncountable noun*.

Nouns that have singular and plural forms are called countable nouns.

Examples: shoe shoes sock socks

Nouns that cannot be counted and have only the singular form are called *uncountable nouns*.

Examples: milk bread

Look at the underlined nouns in the sentences below. Say whether they are countable or uncountable.

(1) The tree is covered with snow.

(2) Could I have a cup of coffee?

(3) Is there any butter left?

(4) I don't have any money.

(5) The water is cold.

COLLECTIVE NOUNS

Read this sentence:

The *class* was completely quiet.

The noun *class* denotes a collection of students.

> Nouns that denote a collection of similar people, animals or things as a whole are called *collective nouns*.
>
> *Examples*: army (of soldiers)   gang (of thieves)   pride (of lions)

Circle the underlined nouns that are collective nouns.

(1) It was a dark <u>night</u> and the <u>forest</u> looked dangerous.

(2) Where did I keep my <u>bunch</u> of <u>keys</u>?

(3) Look out! There is a <u>swarm</u> of <u>bees</u> coming this way!

(4) The <u>woman</u> felt lost in the <u>crowd</u>.

(5) The <u>team</u> came <u>home</u> with the <u>trophy</u>.

Vocabulary

Alphabetical Order – Using the Second Letter of the Word

Look at the following words:

bat   honey   igloo   shawl   yak

They have been written in alphabetical order.

How do we put words in alphabetical order when the first letters of the words are the same? We arrange them according to the second letters of the words.

Example: meet, manner, mud, moment, mist

manner, meet, mist, moment, mud   (*in alphabetical order*)

Arrange the following words in alphabetical order:

(1) craft, cent, curtain, corner, careful

....

(2) run, rip, role, rags, reel

…………………………………………………..

(3) player, painting, port, peel, pure

…………………………………………………..

(4) wire, wrong, who, wet, wax

…………………………………………………..

(5) travel, tight, tonic, thing, teak

…………………………………………………..

Writing

Picture Composition

Look at the picture below. Write a paragraph about it, using the words in the box.

lake	girl in white	bushes
green grass	tiny ducklings	

Speaking SL

Imagine that you are the woman whose purse was found by Rumi and Runa. Tell the class how you felt when you realised you had lost your purse. Describe how you got it back.

Listening SL

Listen to an audio. Follow each instruction by drawing in the box below.

Can you recognise what you have drawn?

2 Summer Camp

Hey, Mike! Have you ever attended a summer camp?

Yes, Sammy, I did, last year.

I've never been to a summer camp. I'd love to go to one. I wonder what there is to do there.

Summer camps are great fun. Let's read about what Manu did when he went to one.

AIO-3 (SEM-1)

'So what do you think?' Manu's mother asked him.

'I don't know, Mummy,' Manu said. 'No one I know is going. What will I do there?'

Manu's summer holiday was only a week away, and he and his mother were talking about what he was going to do during the holiday. His mother thought that his going to a summer camp would be a good idea.

'You'll have so much to do,' she said. 'You can make new friends there and you'll also get to visit a new place,' she added. She held out the brochure. 'Just take a look at all the activities they have.' Manu took the brochure from her and looked at the list of activities.

'Well, I guess I could go,' he said.

'I think it's a great idea,' his mother said. 'Let's fill up the form.'

A week later, Manu was ready for the summer camp, and on the bus to Dehradun where he would spend the next two weeks.

'Single queue, children,' Ms Murthy, one of the teachers at the camp, said to the children, as they were getting off the bus. Manu looked around and saw children everywhere. Some of them looked like they were from different states.

'All right, children, you will be sleeping in those tents,' Ms Murthy said, as she pointed to a neat row of tents. 'You will be sharing your tent with one other person. Now, in just a moment, I will tell you what your tent number is. Then find your roommate, and go and put your bags in your tent.' When Manu's name

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was called out, he got up and went to find his roommate.

'Hi. Are you Manu?'

Manu turned around and saw a boy with black hair and glasses smiling at him. 'Hi, I'm Mukul,' the boy said. He was going to be Manu's roommate. The boys went to their tent and chose their beds.

'Wow! I'm so **excited**,' Mukul said, putting his bag on the bed. 'What are we going to do today? Have you seen this list of activities?' he asked.

'No. I think I'm going to rest today,' Manu replied. 'I don't like these activities. I've never done any of them before.'

'Come on. You must like something,' Mukul said. 'We have clay modelling today. Do you want to do that with me?'

Manu looked at Mukul. For a moment, he didn't say anything.

'OK, I'll come for clay modelling with you,' he said finally.

Manu and Mukul followed the other children into the art room. Ms Pathak was teaching them clay modelling. At first, Manu was worried. He didn't know what to do. Ms Pathak came over to him. 'Look, start like this,' she said. Manu took the clay from her. He made a colourful caterpillar. He was pleased to see how good it looked. Then he made a tomato. He was having such fun that he was surprised when Ms Pathak said, 'Now that's the end of the class. You can take your clay models with you.'

| **excited** | very happy |

The next day, Manu and Mukul went to the swimming class. Slowly Manu started enjoying the camp. He loved the dancing and singing classes.

'I can't believe dancing is so much fun,' he said to Mukul.

Manu made lots of new friends. The first week flew by, and to his surprise, Manu found that he did not miss home at all.

'I can't wait to see what we will be doing next week,' he said to Mukul. 'I'm definitely coming back next year!'

After the first week was over, Ms John asked the children to write a letter home to their families.

Dear Mummy and Daddy,

The camp is great! I like the food here. We get to eat chocolate every day of the week! Mukul is my roommate. I'm sharing a tent with him. I like him a lot.

This week I did clay modelling. I made a caterpillar and a tomato for you. I also did swimming, singing and dancing. I am learning to dive off the diving board. Mukul is helping me. I tried to jump off it, but I was too scared. I'll practise and get better, though.

There are kids here from all over the country. Some have even come from Assam and Goa. I am going to miss it when I come back. Do you think I can camp in the backyard when I get back? Don't worry. I won't be alone. I'll take Snowy with me.

Love
Manu

Reading 1

(1) Who asked Manu to go to summer camp?

(2) Why did she think a summer camp would be a good idea for him?

(3) Where was the summer camp held?

(4) What did Manu and Mukul do on the first day of camp?

(a) They swam.   (b) They did clay modelling.   (c) They took a dance class.

(5) What did Manu make in the clay-modelling class?

Reading 2

(1) Share your favourite summer holiday memories with the class. Tell your classmates what makes them special.   **LS**

(2) Imagine that Manu is your friend. You are going to summer camp and want him to come along. How will you persuade him to come with you?   **HOTS**

Grammar

Definite Article – *the*

Let's recall how we use the articles *a* and *an*.

We use *a* before singular countable nouns that begin with a consonant sound.

We use *an* before singular countable nouns that begin with a vowel sound.

Now read these sentences:

I saw *a* girl yesterday.

She had *an* egg and *a* tomato on her plate.

She ate *the* egg but not *the* tomato.

In the third sentence, *the* is used in place of *a* and *an*.

We use *a* and *an* when we use a singular countable noun for the first time.

We use *the* when we repeat the noun.

Examples: My sister drew a picture. *The* picture was beautiful.

I saw *an* elephant. *The* elephant was eating sugar cane.

The is called the *definite article*.

Unlike *a* and *an*, we can use *the* before both singular and plural nouns and both countable and uncountable nouns.

Examples: *The* child is crossing the road.

The children are crossing the road.

We also use *the* before nouns that are unique or one of a kind.

Examples: *The* sun is shining brightly.

Ram Nath Kovind is *the* President of India.

We use *the* before the superlative form of an adjective. (See Chapter 7.)

Examples: What is *the* tallest building in the world?

That is *the* most beautiful picture in the gallery.

Complete each sentence below by writing the correct article in the space provided.

Anu   Kaya got …………….. (*a/an/the*)new puppy.

Sachin How nice! Have you seen …………….. (*a/an/the*)puppy?

Anu   I haven't. She has asked me to come over and play with it. I know where she lives, but I don't know how to get there.

Sachin Her house is across the street from …………….. (*a/an/the*)Chinese restaurant that has …………….. (*a/an/the*) best chow mein.

Anu   There are at least four houses across the street from that restaurant, Sachin!

Sachin Hers is …………….. (*a/an/the*) biggest house on that street.

Anu   All right. Thanks.

Vocabulary

Gender

Nouns and pronouns can be divided into four genders.

Nouns and pronouns that denote female persons or animals belong to the *feminine* gender.
Examples: *woman, girl, she*

Nouns and pronouns that denote male persons or animals belong to the *masculine* gender.
Examples: *man, boy, he*

Nouns and pronouns that are neither feminine nor masculine belong to the *neuter* gender.
Examples: *book, computer, game, it*

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Nouns that can be either masculine or feminine belong to the *common* gender.

Examples: *teacher, pupil, doctor, baker*

Look at the underlined nouns and pronouns in the sentences below. Sort them according to their gender, and write each one in the table below.

(1) The <u>moon</u> is hiding behind a <u>cloud</u>.

(2) The <u>teacher</u> scolded the <u>boy</u> because he hadn't done his homework.

(3) I asked my <u>cousin</u> if <u>she</u> wanted to go to the movies with me.

(4) The <u>swimmer</u> who won the silver is as good as the one who won the gold.

(5) This is my favourite <u>book</u>.

Feminine	Masculine	Neuter	Common

Writing

Diary Entry

A diary is meant for one's personal use and a diary entry is an extremely personal piece of writing.

As a diary is not meant to be seen by others, there is no set format for it. However, diary entries are arranged chronologically, that is, according to the date. Therefore, a date is written at the top of each entry. Some people begin their diary entries with 'Dear Diary', as if addressing a living person. You can decide whether or not to do this. When the diary entry ends, you should sign it.

Imagine you are Manu and you are writing a diary entry after the first day of camp is over. Write a diary entry describing how your day went and how you feel about it.

Monday, 13 February 20XX

Dear Diary,

....

....

....

....

....

....

Listening and Speaking **SL**

Role-play

Work in pairs with one of you playing the role of Manu and the other the role of Mukul. Act out what you think happened when Manu and Mukul went to the clay-modelling class for the first time. Your teacher will play the role of the instructor.

AIO-3 (SEM-1)

Little Timmy Likes to Dance

Little Timmy likes to dance,

Swirls and twirls when he gets a chance.

He danced merrily with the band,

Way before he learned to stand.

Timmy can dance all day long,

Even twirling on a boring song.

One hand up to fix the light.

One hand down as he twirls all night.

Little Timmy likes to rock,

Dancing in one woolly sock.

He shifts and twists and twists again,

He looks so funny as he dances in the rain.

Little Timmy, it's your birthday today.

What a good day to swing and sway!

Reading

(1)   What does little Timmy like to do?

(2)   How early did Timmy start dancing?

(3)   Describe how Timmy dances.

Let's Dance

Timmy loves to dance. He creates his own new dance steps as he swirls and twirls and shifts and twists. He has one hand up to fix the light and one hand down as he twirls all night.

You can also create new dance steps. Work in pairs where one student creates a new dance step and the other one has to do it.

Example: Hop and turn left. Hop and turn right.

Hop and turn right. Hop and turn left.

Both hands up and clap twice.

Happy dancing!

Brave Heart Bruno

Cartoons!

Cricket match!

Cartoons!

Cricket match!

Let's ask them what they like watching on television.

Share with us what you like to watch on television.

Percy was watching television with his family. Bruno, Percy's dog, was sitting on his lap. They were watching a show about cats. When the show was over, Dad changed to the news channel.

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Some strange cases of theft have been reported recently in the city. Thieves feed brownies mixed with medicine to a house owner's dog. The medicine in the brownie makes the dog fall asleep. As soon as the dog is asleep, the thieves rob the house.

'Dad, they are mixing medicine in brownies,' Percy said. 'That can be harmful to dogs.' Just then, little Emily looked at Bruno.

'What if the thieves try to feed those brownies to Bruno?' she asked.

Bruno pricked up his ears as soon as Emily said this. He held his head up proudly. 'I will never take anything from a stranger. That's what Mamma taught us,' Bruno thought.

Bruno is very intelligent. He will not take anything from strangers.

Percy looked at Bruno. He hugged him. 'Aw! Our Bruno will never let anyone break into our house. He is my best buddy,' he said.

Bruno's eyes **sparkled** as Percy hugged him. 'I will teach those thieves a lesson if they dare break into my house,' Bruno thought.

One night when everyone was fast asleep, Bruno heard a noise. He opened his eyes. There was a big **chunk** of cake in front of him. Bruno knew immediately that the thieves were there. He **sniffed** the cake. He pretended to eat it and after a few seconds he closed his eyes as if he had fallen asleep.

The thieves smiled at one another. There were three of them. They jumped over the fence and crept towards the front door. Bruno leapt up and started to bark loudly. The thieves got a huge shock. They turned and tried to run out of the garden, but Bruno was blocking their way. He barked as loud as he could. He growled fiercely when one of the thieves tried to run past him.

sparkled   twinkled or shone
chunk   a piece
sniffed   smelled
grinned   smiled broadly, showing one's teeth

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Bruno **grinned** when he saw the lights inside the house come on. Dad rushed out. He had his phone in his hand and had already called the police. Bruno continued to growl fiercely. He only stopped when he saw a police car speeding down the street. The thieves were arrested and taken away in the police car.

Bruno was awarded a medal for his intelligence and bravery. He was also given an enormous cake. His picture was in the newspaper under the headline 'This Time Bruno Can Eat His Cake!'

Reading 1

(1) What show was Percy watching on TV?

(2) What did the thieves use to make the dogs fall asleep?

(3) What had Mamma taught Bruno?

(4) How did Bruno act when he saw the chunk of cake in front of him?

(5) What did Bruno do to scare the thieves?

Reading 2

(1) Circle the adjectives that can be used to describe Bruno. **HOTS**

jealous   intelligent   smart

foolish   brave   lazy

(2) Work in pairs. Talk to your partner about the programmes you like to watch on television and what you learn from them. **LS**

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Suffix -able

We know that a *suffix* is a group of letters that is added to the end of a word to change its meaning.

Examples: care + ful   = careful

care + less = careless

Read the words in the table below.

Word	Suffix	Adjective
read	able	readable
use	able	usable

When we add the suffix -able to a word, it becomes an *adjective*.

> Word   +   *able*   =   to be able to

Read the following sentences:

This letter is not at all *readable*. (able to be read)

The suffix -*able* is added to *read* to get a new word, *readable*. *Readable* means something that can be read.

All these boxes are *usable*. (able to be used)

The suffix -*able* is added to *use* to get a new word, *usable*. *Useable* means something that can be used.

> Drop the e: when we add the suffix -*able* to a root word that ends in a silent *e*, we drop the *e*.

(1) Form adjectives by adding the suffix *-able* to the root words.

Word	Adjective
avoid	
enjoy	
drink	
cure	

(2) Now fill in the blanks using the adjectives from the above table.

(a) Don't worry. This disease can be cured. It is …………………...

(b) I really enjoyed the party. We had an …………………..time together.

(c) That mistake was …………………..if you had read the question carefully.

(d) Don't use that tap. The water is not …………………...

Grammar

Types of Sentences

Read the sentences below.

Su goes to school with her mother.

Her mother is a doctor.

These sentences tell us things about Su. They are describing sentences or *statements*. A statement ends with a full stop.

Read the sentences below.

Su's brother does not like eggs.

Su's brother does not play the violin.

These sentences tell us things Su's brother does not like. They are *negative sentences*. A negative sentence also ends with a full stop.

> A negative sentence includes the word *not.*

Now read the sentences below.

Where does Su's father work?

What does Su's father like to eat?

These sentences ask questions about Su's father. They are called *questions*. A question ends with a question mark (?).

Read the sentences below.

Su's book is so big!

Su's book has very beautiful pictures!

These sentences express wonder. They are called *exclamatory sentences*. Exclamatory sentences express strong feelings. An exclamatory sentence ends with an exclamation mark (!).

(1)   Identify the type of each sentence below.

(a) I am not going to school today.   ………………………… .

(b) Where is your brother?   ………………………… .

(c) We finish our homework on time.   ………………………… .

(d) He is so intelligent!   ………………………… .

(e) How do you write a letter?   ………………………… .

(2)   Write two examples of each kind of sentence.

(a) Statements

…………………………………………………………………………………………

…………………………………………………………………………………………

(b) Negative sentences

....

....

(c) Interrogative sentences

....

....

(d) Exclamatory sentences

....

....

Writing

Imagine that you are Bruno. Write about what happened the night three thieves tried to break into your house.

Speaking and Listening SL

Work in pairs. One student can play the role of Bruno as he is interviewed about the night three thieves tried to break into his house. The other student can play the role of the interviewer. The class can act as the audience and ask questions at the end of the interview.

ENGLISH
GRAMMAR & COMPOSITION

Easy to teach and easy to learn

A child-friendly book like no other

Strictly within the child's mental range

CLASS-3 ✦ SEMESTER-I

1 NAMING WORDS (NOUNS)
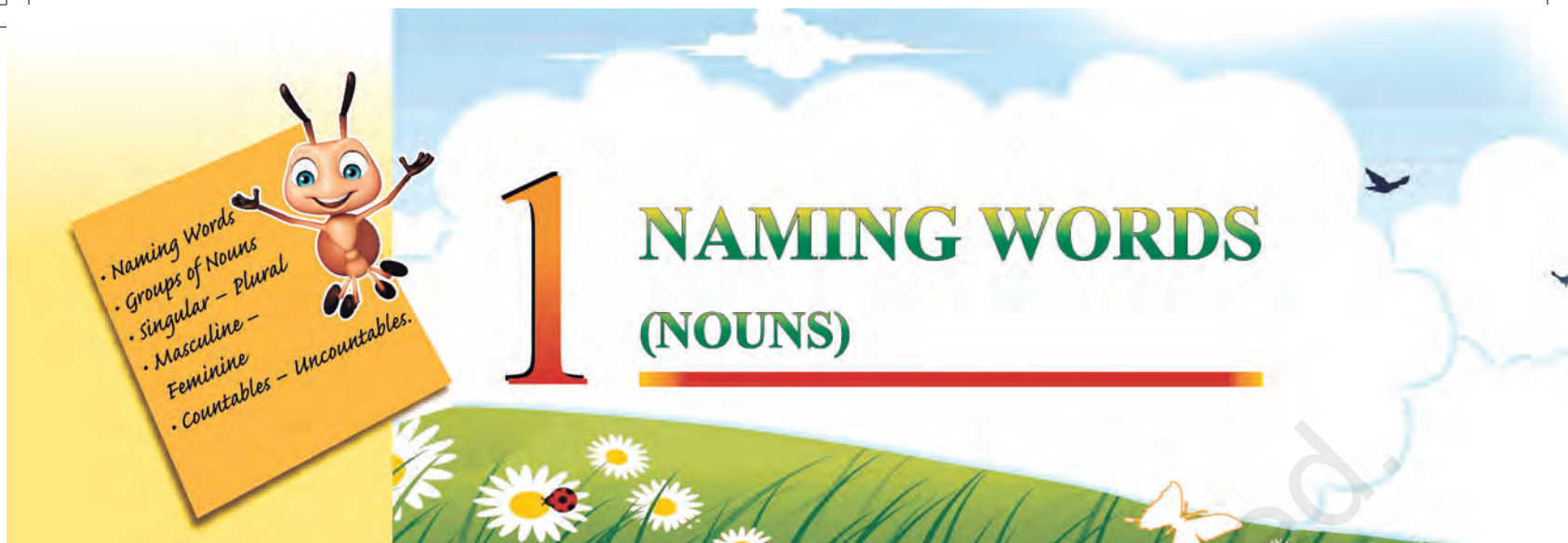
➢ A *noun* is the name of a person, place or thing.

➢ We can put *nouns* in many different groups; as—

1. **Names of Persons :**
   John, Mary, Mohit, Namya

2. **Names of Places :**
   Delhi, Agra, Lucknow, Jaipur

3. **Names of Fruits :**
   apples, mangoes, grapes, bananas
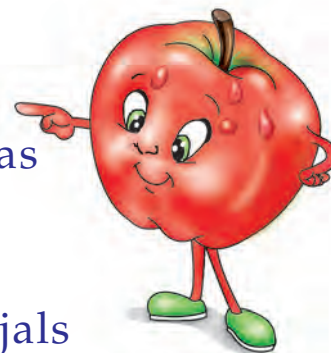
4. **Names of Vegetables :**
   potatoes, tomatoes, onions, brinjals

5. **Names of Birds :**
   crow, hen, sparrow, peacock

6. **Names of Animals :**
   cow, goat, horse, cat

7. **Names of Relations :**
   father, mother, uncle, sister, son

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AIO-3 (SEM-I)

➤ The names of particular persons and places always begin with a capital letter; as—

1. Persons :

   Rohan, Atul, Neha, Lucy, etc.

2. Cities :

   Ludhiana, Shimla, Panipat, etc.

3. Rivers :

   Ganga, Yamuna, Satluj, Beas, etc.

4. Countries :

   India, Nepal, China, England, etc.

5. Days of the Week :

   Sunday, Monday, Tuesday, etc.

6. Months of the Year :

   January, February, March, etc.

Test Yourself

I. Write the names of :

(1) Days of the week :

sunday,

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(2) Months of the year :

January,

_____

(3) Some birds :

crow,

_____

(4) Some vegetables :

carrot,

_____

(5) Some big cities :

Delhi,

_____

(6) Some children in your class :

Lucy,

_____

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(7) Some things in your classroom :

table,

(8) Some articles of dress :

shirt,

(9) Some flowers :

rose,

II. *Underline the noun(s) in each sentence.*

1. Lucy has a new doll.

2. That man is my uncle.

3. We are late for school.

4. These oranges are sweet.

5. I have a pen and a pencil.

6. The elephant is a big animal.
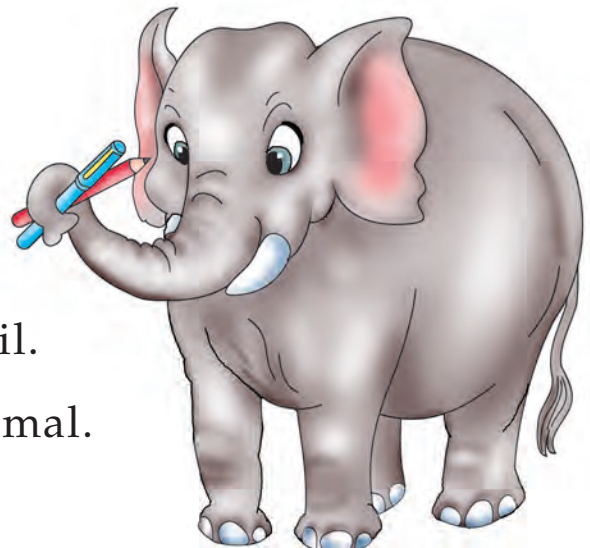
SINGULAR AND PLURAL

➢ A noun is *singular* if it refers to *one* thing; as—

book, dog, pen, flower, etc.

➢ A noun is *plural* if it refers to *more than one thing*; as—

books, dogs, pens, flowers, etc.

FORMATION OF PLURALS

(1) By adding 's'

key	keys	toy	toys
day	days	wall	walls
cap	caps	road	roads
girl	girls	table	tables
boy	boys	orange	oranges
apple	apples	picture	pictures
monkey	monkeys	servant	servants

(2) By adding 'es'

ass	asses	tax	taxes
box	boxes	hero	heroes
class	classes	match	matches
bush	bushes	potato	potatoes
bench	benches	mango	mangoes
buffalo	buffaloes	tomato	tomatoes
branch	branches	mosquito	mosquitoes

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(3) By adding 'ies' in place of 'y'

baby	babies	family	families
body	bodies	fly	flies
city	cities	lady	ladies
country	countries	story	stories

(4) By changing 'f' or 'fe' to 'ves'

calf	calves	shelf	shelves
knife	knives	thief	thieves
leaf	leaves	wife	wives
loaf	loaves	wolf	wolves

(5) Irregular Plurals

child	children	mouse	mice
ox	oxen	foot	feet
man	men	goose	geese
woman	women	tooth	teeth

Test Yourself

I. Write the plural forms of :

toy	leaf	knife
city	lady	branch
foot	table	woman

II. Write the singular forms of :

flies	dolls	babies
men	oxen	thieves
mice	lamps	matches

III. Fill in the blanks with the plural form of the given words.

1. Brush your _____ daily.
   (*tooth*)

2. I have a book of _____.
   (*story*)

3. My _____ are very strong.
   (*ox*)

4. These _____ are very sweet.
   (*mango*)

5. Two _____ live in this house.
   (*family*)

6. Cats and _____ are not friends.
   (*mouse*)

7. The _____ of this tree are green.
   (*leaf*)

AIO-3 (SEM-I)
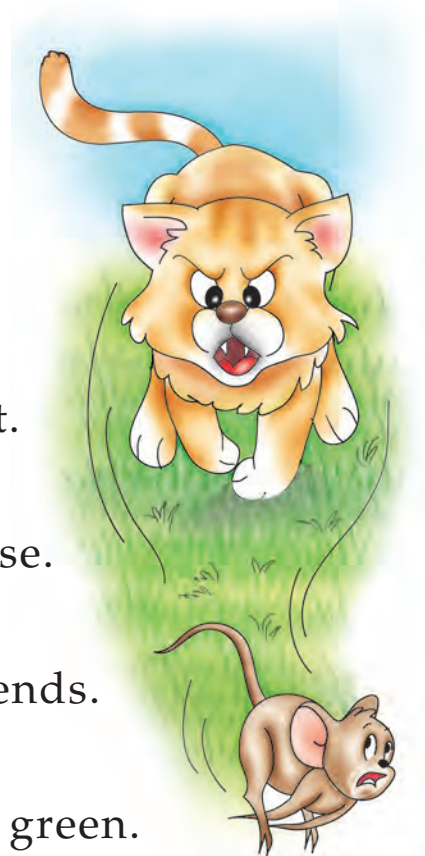
IV. Write six **plural** words for each group.

	Words ending in			
	-s	*-es*	*-ves*	*-ies*
1.				
2.				
3.				
4.				
5.				
6.				

V. Change the singulars into the **plurals**.

1. A dog is an animal.
   Dogs are animals.

2. A husband is a man.
   _____

3. A pencil is like a pen.
   _____

4. A garden has a tree.
   _____

5. A doll is a toy.
   _____

6. A watch is a small clock.
   _____

7. A city is a big town.
   _____

MASCULINE AND FEMININE

1. Cock is a *male* bird.
   Hen is a *female* bird.

2. Ox is a *male* animal.
   Cow is a *female* animal.

3. Man is a *male* person.
   Woman is a *female* person.

➢ *Cock, ox* and *man* are males.
  We call them *masculine*.

➢ *Hen, cow* and *woman* are females.
  We call them *feminine*.

Learn the following table for *masculine* **and** *feminine* **nouns :**

Masculine	Feminine	Masculine	Feminine
sir	madam	hero	heroine
fox	vixen	king	queen
son	daughter	tiger	tigress
boy	girl	uncle	aunt
dog	bitch	horse	mare
god	goddess	father	mother
lion	lioness	brother	sister
man	woman	husband	wife
cock	hen	nephew	niece
ox, bull	cow	gentleman	lady

Test Yourself

I. *Write **M** for masculine words, and **F** for feminine words.*

sir	M	tiger	
fox		sister	
hen	F	niece	
bull		horse	
cow		husband	
aunt		daughter	

II. *Give the feminine of :*

sir   boy   uncle

son   king   father

fox   cock   husband

III. *Give the masculine of :*

cow   bitch   mama

lady   niece   woman

mare   sister   princess

IV. *Rewrite changing masculine words into feminine.*

1. He is a wise boy.
   She is a wise girl.
2. He has two bulls.
3. Sir, he is absent today.
4. The tiger killed the fox.
5. He wrote a letter to his nephew.

COUNTABLES AND UNCOUNTABLES

➤ We can count some nouns. We call them *countables*.

➤ We can use them in the singular and also in the plural.

1. I have a <u>book</u>.

   I have two <u>books</u>.

2. This is an <u>egg</u>.

   These are <u>eggs</u>.

➤ But we can't count some nouns. We call them *uncountables*. We can use them in the singular only. We can't use *a / an* with them. Some uncountables are :

air	oil	coffee	sugar	cotton
tea	milk	water	paper	smoke
ink	food	bread	gold	money

Test Yourself

Put a tick (✓) or a cross (✗) according to the articale used.

1. a shop
2. a food
3. a bread
4. a butter
5. a cotton

6. a sugar
7. a pencil
8. a smoke
9. a money
10. a woman

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2 PRONOUNS
(WORDS IN PLACE OF NOUNS)

➤ A **pronoun** is a word used in place of a noun.

Rahul is a boy.
He has a ball.
(He = Rahul)

Reema is a girl.
She has a doll.
(She = Reema)

Tom and **Bob** are players.
They are good players.
(They = Tom and Bob)

This is a **hen**.
It is a big hen.
(It = hen)

Thus **he**, **she**, **they** and **it** are pronouns.

➤ Look at the pictures. Tell the noun for each pronoun :

I = _Nitin_

I = _____

we = _____ and _____

you = _____

you = _____

you = _____ and _____

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He

he = *Amit*

She

she = ——————

They

Manu

Mona
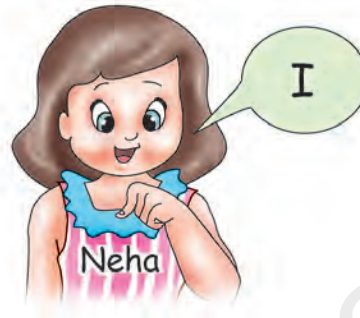
they = —————— and ——————

this

that

this = ——————

that = ——————

it

it = ——————

these = —————

those = —————

We use *it / this / that / those* for animals and life-less things.

➢ Learn these pairs of words :

I	→	my	he	→	his
we	→	our	she	→	her
you	→	your	they	→	their

Test Yourself

Put in each blank the right word.

1. (He, his)

   __He__ is a farmer.

   This is __his__ ox.

2. (I, my)

   ———— am a player.

   This is ———— ball.

3. (She, her)

_____ is a dancer.

This is _____ anklet.

4. (You, your)

_____ are my friend.

I am _____ friend.

5. (They, their)

_____ are soldiers.

These are _____ guns.

6. (We, our)

_____ are students.

These are _____ books.

7. (I, My)

_____ am a postman.

_____ name is Akram.

8. (She, Her)

_____ is Jane.

_____ mother is a teacher.

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9. (He, His)

I have an uncle.

_____ name is Nitin.

_____ is a painter.

10. (You, Your)

_____ have fever.

_____ eyes are red.

11. (They, Their)

Tom and Bob are brothers.

_____ are my friends.

_____ father is a doctor.

12. (We, It, our, her)

Reema is my sister.

I am _____ brother.

_____ are brother and sister.

This is _____ dog.

_____ is a big dog.

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➤ Study the following sentences carefully :

1. This is <u>my</u> book.
   This book is <u>mine</u>.

2. These are our <u>books</u>.
   These books are <u>ours</u>.

3. That is <u>your</u> pen.
   That pen is <u>yours</u>.

4. That is <u>her</u> pen.
   That pen is <u>hers</u>.

5. Those are <u>their</u> cows.
   Those cows are <u>theirs</u>.

➤ We use *my, our, your, her* and *their* before a noun. These words are adjectives.

➤ We don't use any noun with *mine, ours, yours, hers,* and *theirs.* These words are pronouns.

➤ Learn these singular and plural forms :

Singular	Plural
I	we
my	our
me	us
mine	ours
you	you

Singular	Plural
your	your
yours	yours
he, she, it	they
his, her, its	their
him, her	them

AIO-3 (SEM-I)

Test Yourself

Rewrite each sentence in the plural.

1. I am a student.

   We are students.

2. She is a nurse.

   _____

3. He is a doctor.

   _____

4. It is a parrot.

   _____

5. This is my book.

   _____

6. That is his ball.

   _____

7. This is her doll.

   _____

8. I am your friend.

   _____

9. She is my teacher.

   _____

10. This book is mine.

    _____

Subject Pronouns :

| I | you | he | she | it | we | they |

Choose the correct word for each blank.

1. _____ is a big fish.
   (*She / It*)

2. _____ is my teacher.
   (*She / You*)

3. _____ is an old man.
   (*She / He*)

4. _____ are watching TV.
   (*He / They*)

5. _____ am ten years old.
   (*I / We*)

6. _____ are a good player.
   (*It / You*)

7. _____ is plucking flowers.
   (*He / They*)

8. _____ are my best friend.
   (*He / You*)

9. _____ are going to school.
   (*He / We*)

10. _____ is a good storybook.
    (*It / He*)
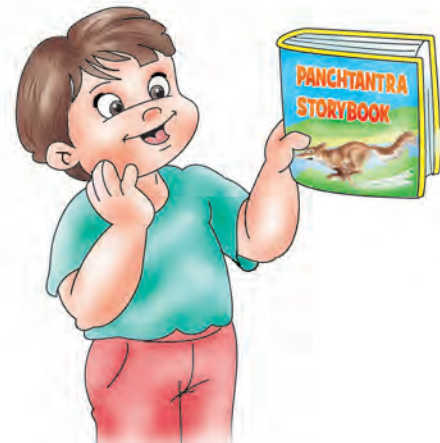
Object Pronouns :

me	you	him	her	them	us

Choose the correct word for each blank.

1. Listen to _____ .
   (*I / me*)

2. She is talking to _____ .
   (*he / him*)

3. Please give _____ a pen.
   (*she / her*)

4. Look at _____ in the river.
   (*they / them*)

5. I gave _____ your message.
   (*he / him*)

6. Grandma told _____ a story.
   (*we / us*)

7. You help _____ . Does _____ help you ?
   (*he / him*)   (*he / him*)

8. Tell _____ _____ should not disturb _____ .
   (*he / him*) (*he / him*)   (*I / me*)

9. _____ are looking at _____ , but _____
   (*We / Us*)   (*she / her*)   (*she / her*)

   is not looking at _____ .
   (*we / us*)

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Possessive Pronouns :

Rewrite each sentence, using the word in brackets.

1. This is my book. (*mine*)

   This book is mine.

2. This house is ours. (*our*)

   _____

3. That book is yours. (*your*)

   _____

4. This is her umbrella. (*hers*)

   _____

5. That is their umbrella. (*theirs*)

   _____

6. These are not our bags. (*ours*)

   _____

7. That was your mistake. (*yours*)

   _____

8. This house is not theirs. (*their*)

   _____

9. These books are not mine. (*my*)

   _____

10. These ribbons are not hers. (*her*)

    _____

Complete the table.

Singular

I	me	my	mine
you		your	
	him		
			hers

Plural

we			
	you		
		their	

Add words from the above tables to complete the sentences.

1. We should respect _____ teachers.

2. My name is Nitin. What is _____ ?

3. Manu is not here. _____ is at school.

4. Tom and _____ wife are school teachers.

5. 'Is this your pen ?' 'No, it is not _____.'

6. I have a problem. Can you help _____ ?

7. Look ! There's Reena. Can you see _____ ?

8. We went to our house; they went to _____.

AIO-3 (SEM-1)

3 ADJECTIVES (DESCRIBING WORDS)

- Some Common Adjectives and Their Opposites
- Some Common Comparisons
- Degrees of Comparison

➤ **Describing words** are words that describe some quality of a person, place or thing. In the language of grammar, we call them **adjectives**; as—

1. a <u>fat</u> cat

2. a <u>new</u> hat

3. a <u>little</u> piglet

a fat cat _____ _____

4. a <u>lovely</u> face
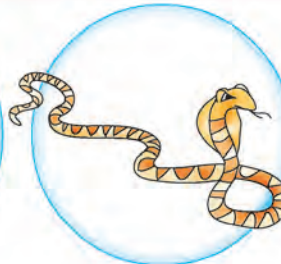
5. a <u>long</u> snake

6. a <u>brown</u> dog

_____ _____ _____

7. a <u>little</u> mouse
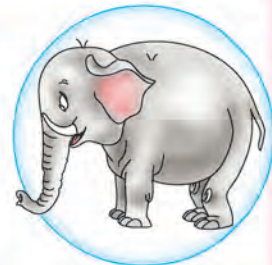
8. a <u>fluffy</u> rabbit

9. a <u>big</u> elephant

_____ _____ _____

I. *Look at the describing words (adjectives) in the two boxes. Match the words with their opposites.*

Box 1	Box 2
old ✓	fat
dry	wet
tall	wild
rich	wise
thin	light
kind	easy
tame	poor
quiet	stale
large	dirty
fresh	blunt
clean	weak
white	short
sharp	cruel
rough	small
heavy	noisy
strong	black
foolish	✓young
difficult	smooth

old — young

_____

_____

_____

_____

_____

_____

_____

_____

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_____

_____

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_____

_____

_____

AIO-3 (SEM-I)
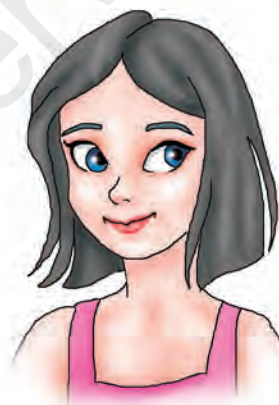
II. Choose a suitable word from the box to complete each comparison.

dog	ass	rose	stone
fire	fox	wolf	grass
bee	lion	dust	honey
silk	well	lamb	feather

1. as soft as ___silk___.

2. as hard as _____.

3. as dry as _____.

4. as hot as _____.

5. as green as _____.

6. as red as a _____.

7. as sweet as _____.

8. as light as a _____.

9. as busy as a _____.

10. as deep as a _____.

11. as brave as a _____.

12. as gentle as a _____.

13. as greedy as a _____.

14. as stupid as an _____.

15. as faithful as a _____.

16. as cunning as a _____.

DEGREES OF COMPARISON

➢ Adjectives have three degrees of comparison :

    1. Positive Degree   :   (tall, big, dark)

    2. Comparative Degree   :   (taller, bigger, darker)

    3. Superlative Degree   :   (tallest, biggest, darkest)
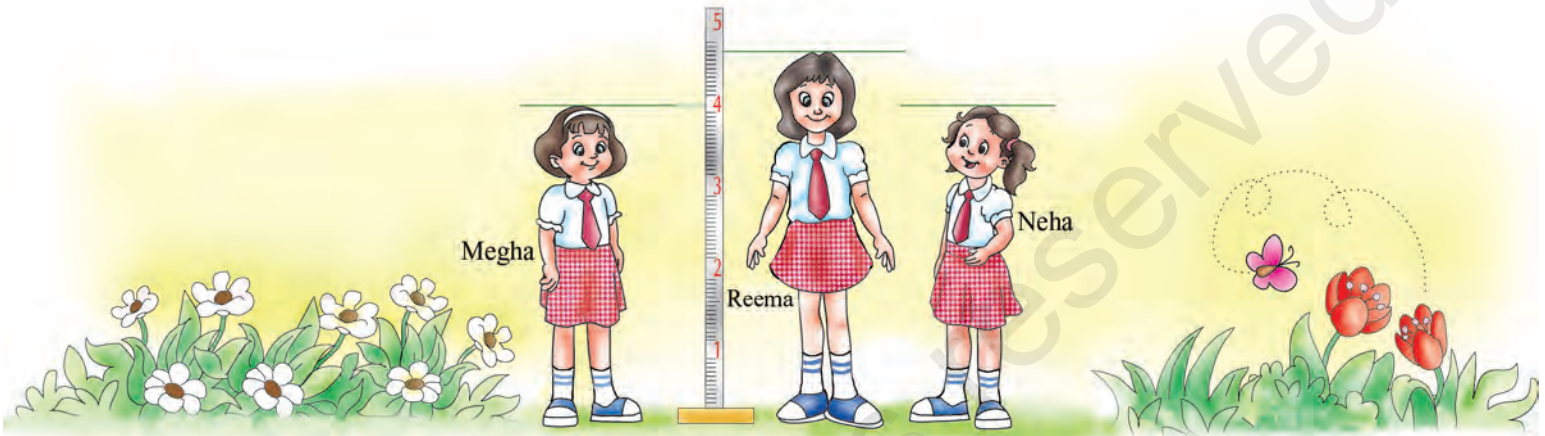
➢ We use the positive degree to describe the quality of some person, place or thing; as—

    Megha is a tall girl.

➢ We can also use as.......as or not so.......as with the positive degree of adjective; as—

    Megha is as tall as Neha.

    Megha is not so tall as Reema.

➢ We use the comparative degree to say how two things or people are different from each other. A comparative degree takes **than** after it.

    Reema is taller than Megha.

➢ We use the superlative degree to compare more than two persons or things. A superlative degree takes **the** before it.

    Reema is the tallest girl in the class.

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AIO-3 (SEM-I)

➤ Learn the following degrees of adjectives. Note their spellings also.

Positive	Comparative	Superlative
old	older	oldest
tall	taller	tallest
high	higher	highest
long	longer	longest
poor	poorer	poorest
fine	finer	finest
wise	wiser	wisest
large	larger	largest
brave	braver	bravest
big	bigger	biggest
fat	fatter	fattest
hot	hotter	hottest
red	redder	reddest
thin	thinner	thinnest
dry	drier	driest
lazy	lazier	laziest
easy	easier	easiest
lucky	luckier	luckiest
happy	happier	happiest
honest	more honest	most honest
painful	more painful	most painful
beautiful	more beautiful	most beautiful

Test Yourself

I. Rewrite each sentence, using the adjective in brackets at the right place.

1. We have got a car. (*new*)

   _____

2. Reema is a woman. (*pretty*)

   _____

3. Swans are birds. (*beautiful*)

   _____

4. My uncle wears clothes. (*simple*)

   _____

5. The boys were playing with a ball. (*big*)

   _____
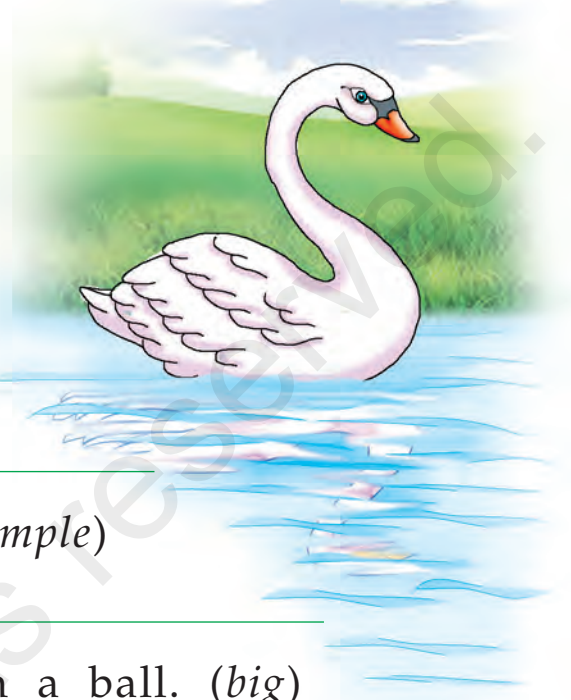
*II. Fill in the blanks with **the** or **than**.*

1. May is hotter _____ April.
2. A lion is bigger _____ a cheetah.
3. A giraffe is taller _____ an elephant.
4. Simi is _____ youngest girl in our class.
5. June is _____ hottest month of the year.
6. The Ganga is _____ longest river in India.
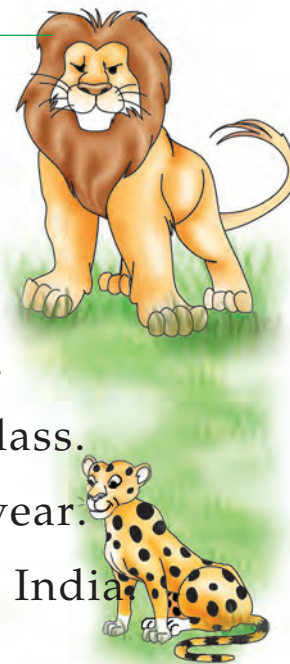
➤ Remember we use —
   - **the** before the superlative degree.
   - **than** after the comparative degree.

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AIO-3 (SEM-I)

III. Choose the correct word for each blank.

1. This is an _____ exercise.
   - A. easy
   - B. easier
   - C. easiest

2. Who is the _____ girl in your class ?
   - A. tall
   - B. taller
   - C. tallest

3. The rose is the _____ of all flowers.
   - A. lovely
   - B. lovelier
   - C. loveliest

4. Manu is the _____ player of our team.
   - A. good
   - B. better
   - C. best

5. The month of June is _____ than May.
   - A. hot
   - B. hotter
   - C. hottest

6. She was wearing a _____ dress.
   - A. beautiful
   - B. more beautiful
   - C. most beautiful

AIO-3 (SEM-I)

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MATHEMATICS

CLASS-3 ✦ SEMESTER-I

Four-Digit Numbers

Learning Objectives

- Describe four-digit numbers
- Count by thousands
- Represent four-digit numbers on Abacus
- Read four-digit numbers
- Find place value of a digit in four-digit numbers
- Write expanded form of four-digit numbers
- Compare four-digit numbers
- Arrange four-digit numbers in increasing or decreasing order
- Make four-digit numbers
- Round off four-digit numbers to the nearest 10
- Identify even and odd numbers

AIO-3 (SEM-1)

LET'S RECOLLECT

(1) Write the number names of the following:
   (a) 372 [   ]
   (b) 865 [   ]

(2) Write the expanded form for each of the following:
   (a) 674 [   ]
   (b) 253 [   ]
   (c) Which of the two numbers is greater? [   ]

REMEMBER

- 10 ones make a ten.
- 10 tens make a hundred.
- 10 hundreds make a thousand.
- Thousand is the place value next to hundred.

FOUR-DIGIT NUMBERS

999 + 1 = 1000, which is read as one thousand.

900 marbles + 90 marbles + 9 marbles + 1 marble = Jar of 1000 marbles
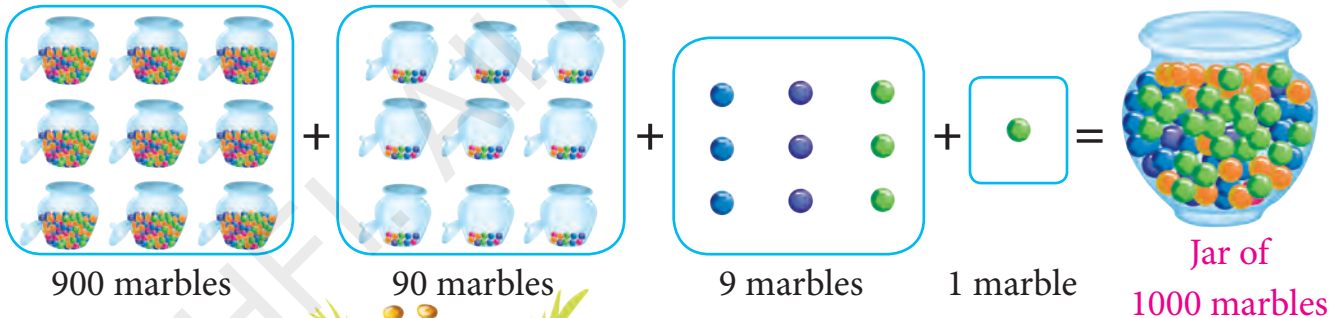
Note:

Jar of 1000 marbles   Jar of 100 marbles   Jar of 10 marbles

1000 is the smallest four-digit number. 9999 is the greatest four-digit number

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AIO-3 (SEM-I)

Counting by Thousands

	1000	One thousand
	2000	Two thousand
	3000	Three thousand
	4000	Four thousand
	5000	Five thousand
	6000	Six thousand
	7000	Seven thousand
	8000	Eight thousand
	9000	Nine thousand
	10000	Ten thousand

$1000 + 1 = 1001$ +
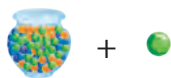
$1000 + 7 = 1007$ +

$1000 + 4 = 1004$ +

$1000 + 10 = 1010$ +
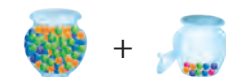
Four-Digit Numbers on Abacus

3000 + 400 + 10 + 3

=

3000 — **Three thousand**

+

Th	H	T	O
3	4	1	3

400 — **Four hundred**

+

10 — **One ten**

+

3 — **Three ones**

Th   H   T   O
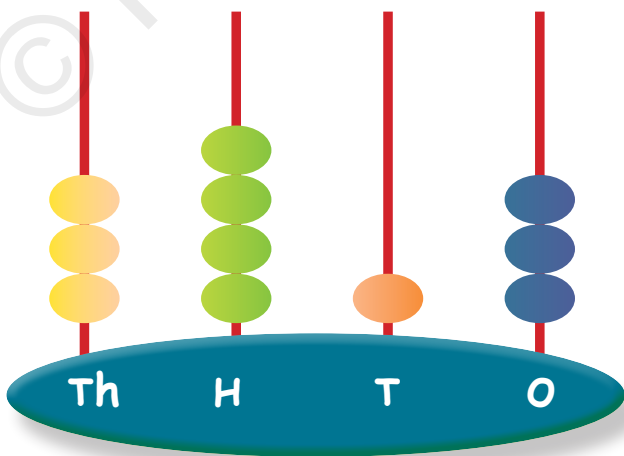
Reading Four-Digit Numbers

Simi, do you know how many languages there are in India?

Yes, Sana, there are about 1,652 languages in India.

How do you read 1,652, and why is there a comma between 1 and 6?

1,652 is a four-digit number. Let me tell you how to read the number.

1	6	5	2
Tells us how many thousands	Tells us how many hundreds	Tells us how many tens	Tells us how many ones
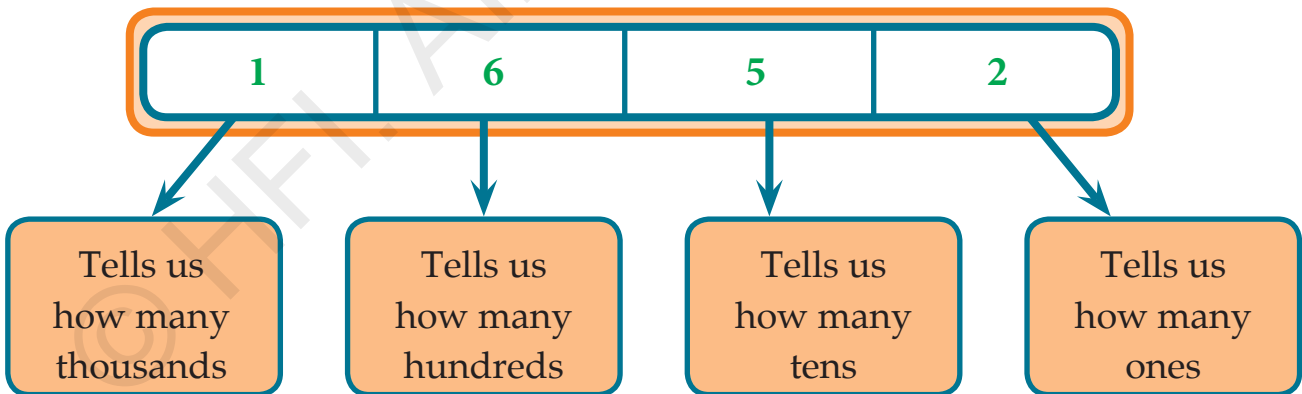
So 1,652 is read as *one thousand six hundred fifty two.*

A comma separates thousands from hundreds.

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SOME EXAMPLES

Write the number.

Th	H	T	O
5	3	2	2

5000 + 300 + 20 + 2

Write the number and its number name.

3428

Th	H	T	O

2753

Th	H	T	O

3428

Th	H	T	O
3	4	2	8

Three thousand four
hundred twenty eight

2753

Th	H	T	O
2	7	5	3

Two thousand seven
hundred fifty three

In each of the following, write the number and its number name:

--   --

2	5	0	0
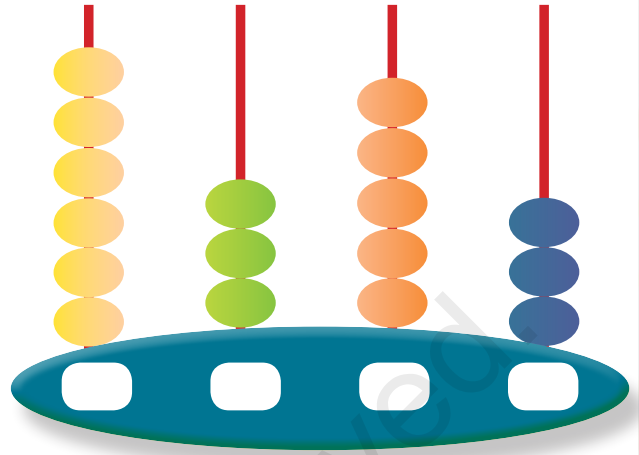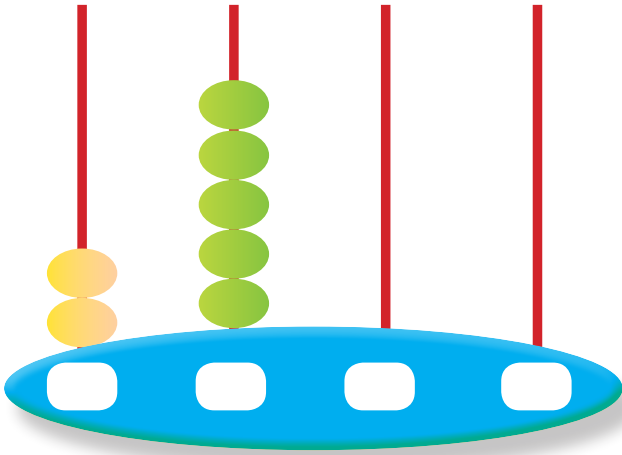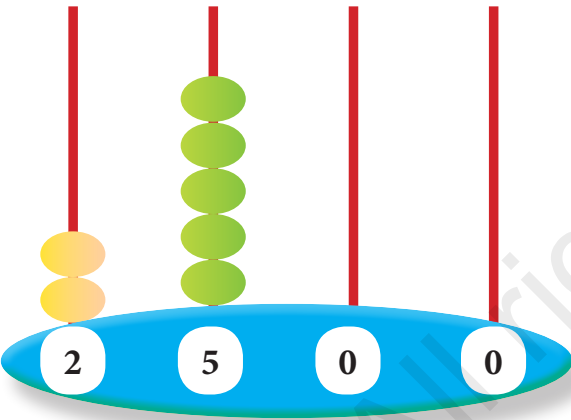
Two thousand five hundred

6	3	5	3
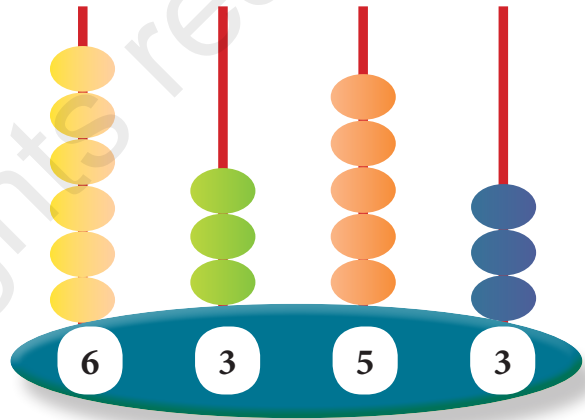
Six thousand three hundred fifty three

PRACTICE EXERCISE 1.1

(1) Write the number for each of the following number names. One has been done as an example.

(a) 1046 — One thousand forty six

(b) ◯ — Two thousand two

(c) ◯ — Five thousand three hundred eighty

(d) ◯ — Five thousand

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(2) In each of the following, write the number and its number name. One has been done as an example.
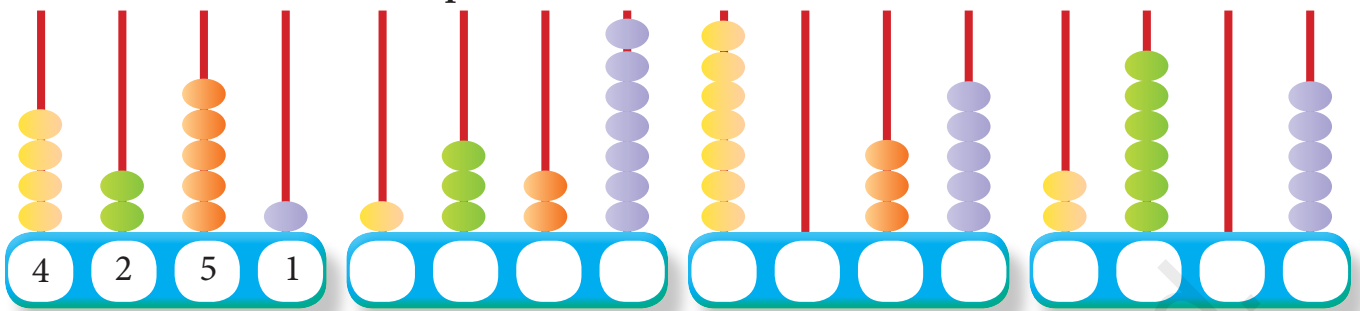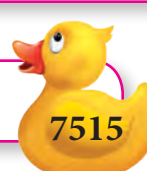
(a) 2
4 5
1
Four thousand two hundred fifty one

(b)

(c)

(d)

(3) Fill in the boxes.

(a) 2437 = ☐ Thousands ☐ Hundreds ☐ Tens ☐ Ones

(b) 5943 = ☐ Thousands ☐ Hundreds ☐ Tens ☐ Ones

(c) 8765 = ☐ Thousands ☐ Hundreds ☐ Tens ☐ Ones

(d) 2430 = ☐ Thousands ☐ Hundreds ☐ Tens ☐ Ones

(4) Write the number name for each of the following:

(a) 3456

(b) 2100

(c) 2436

(d) 7515

PLACE VALUE

AT HOME	AT SCHOOL
Ayana Simi	Ayana Simi
Here, Simi and Ayana are mother and daughter.	Here, Simi and Ayana are teacher and student.

So, the face value of Simi and Ayana remains the same, but as the place changes, the place value changes.

Face value of Simi is [image] and the face value of Ayana is [image] .

But Simi is a (mother) at home and a (teacher) at school.

PLACE VALUE

Similarly, in numbers the face value of each digit in a number remains the same and is the digit itself. For example, the face value of 4 in the number 4347 is 4 irrespective of its position. However, the place value of 4 with respect to the position tens and thousands is 40 and 4000 respectively. We can place the digits in the place value house.
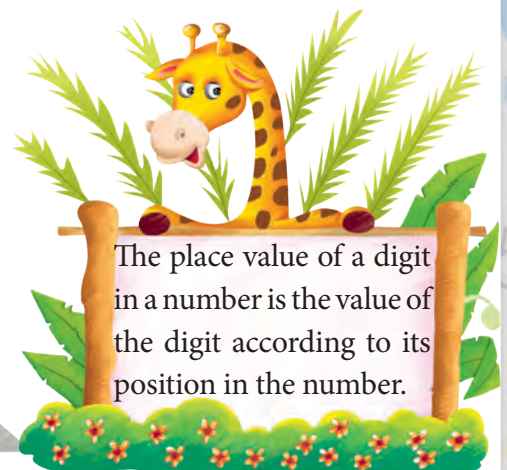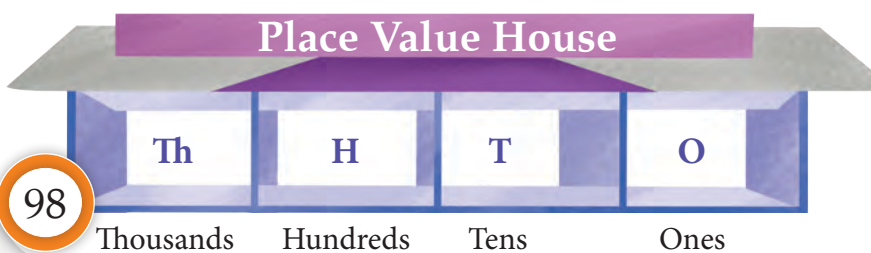
The place value of a digit in a number is the value of the digit according to its position in the number.

Place Value House

Th	H	T	O
Thousands	Hundreds	Tens	Ones

98

SOME EXAMPLES

For each of the following, write the numbers in the place value house, and then write the place value of the digit 6:

Place Value House

> The place value of the digit increases 10 times with each step to the left.

	Th	H	T	O	
6				6	6 ones or 6
6 2			6	2	6 tens or 60
6 2 5		6	2	5	6 hundreds or 600
6 5 7 2	6	5	7	2	6 thousands or 6000

PLACE VALUE ON ABACUS

Thousands Place

Ones Place

Hundreds Place

Tens Place

Th   H   T   O
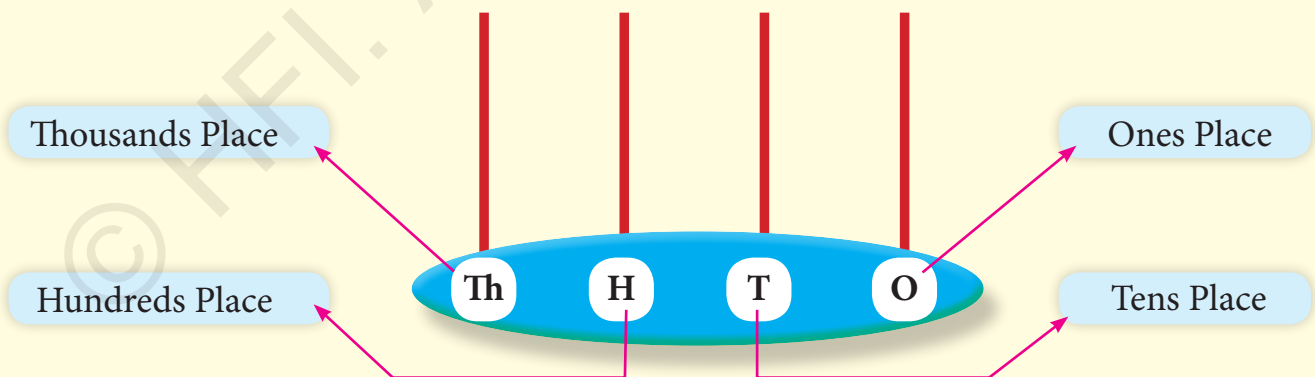
Teacher Tip

Encourage the students to practise representation of numbers and evaluation of the place value of a digit in a number on the abacus.

SOME EXAMPLES

Write the place value of 5 on the abacus in each of the following numbers:

5 Ones or 5

5 Hundreds or 500

| Th | H | T | O |

| Th | H | T | O |
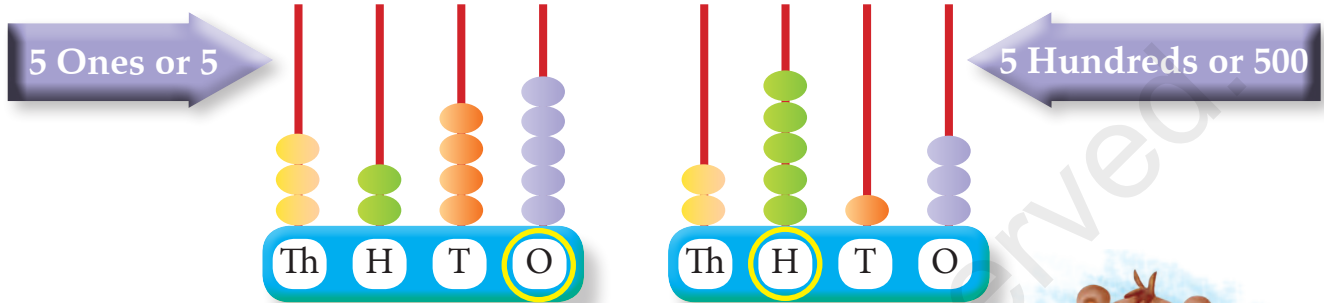
EXPANDED FORM

Write the place values of all the digits in 9784.

Place value of 9 ➡ 9000

Place value of 7 ➡ 700

Place value of 8 ➡ 80

Place value of 4 ➡ 4

The sum of the place values of all the digits in a number written as 9000 + 700 + 80 + 4 is called the *expanded form* of the number.

PRACTICE EXERCISE 1.2

(1) Write the numbers in the place value house.

(a) 2176

(b) 5134

(c) 27

(d) 650

Place Value House

Th	H	T	O

100

(2) In each of the following numbers, write the place value of the digits in blue circles. One has been done as an example.

(a) (1) (3) (5) (4) → 5 tens or 50

(b) (2) (7) (6) →

(c) (3) (4) (9) (7) →

(d) (9) (5) (6) (0) →

(3) Fill in the blanks.

(a) **2 9 5 3**
- 3
- 50
- 900
- 2000

(b) **6 9 4 5**
-
-
-
-

(c) **2 3 0 6**
-
-
-
-

(d)
- 3
- 80
- 0
- 5000
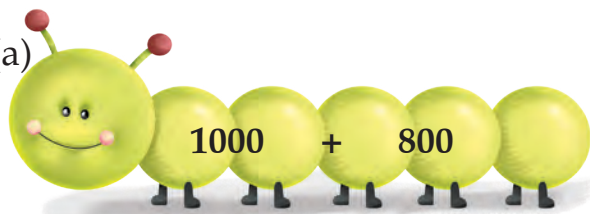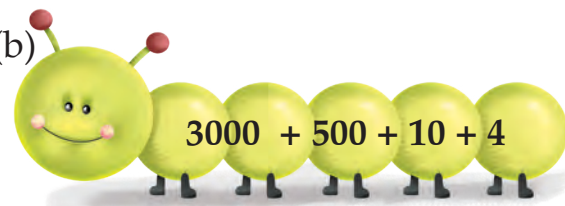
(4) Write the expanded form.
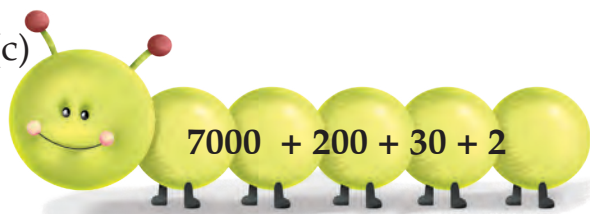
(a) 3124 = 3000 + 100 + 20 + 4

(b) 2176 =

(c) 5167 =

(d) 7328 =
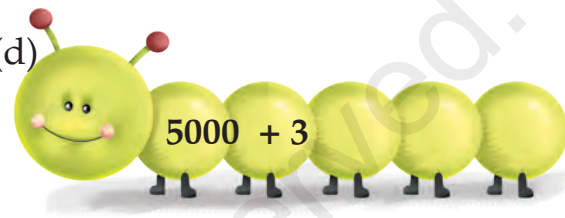
(5) For each of the following expanded forms, write the number:

(a)

1000 + 800

(b)

3000 + 500 + 10 + 4

(c)

7000 + 200 + 30 + 2

(d)

5000 + 3

COMPARING NUMBERS

Mr Bear has found two boxes of treasure. In which box is there more treasure?

3750 coins

870 coins

102

Let us compare these numbers.

<div style="text-align:center">

3 7 5 0

8 7 0

</div>

count the number of digits   ④③②①

count the number of digits   ③②①

Four-digit number   Three-digit number

A four-digit number is always greater than a three-digit number. So 3750 > 870. The box with 3750 coins has more treasure.

3750 Coins

Mr Bear again hunts for treasure.

3572 coins   **3532 coins**

Let us compare these numbers. Both the numbers have same number of digits. So, we start comparing the digits from the highest place value. Here, it is the thousands place.

3572   **3532**

SAME

SAME

7 > 3

Thus, 3572 > 3532.

ORDERING NUMBERS

Ascending order: arranging from smallest to greatest

SOME EXAMPLES

Arrange the following numbers in ascending order:
3405, 7768, 8765, 4376

~~3405~~, 7768, 8765, 4376	➡	3405 (smallest)
~~3405~~, 7768, 8765, ~~4376~~	➡	3405, 4376
~~3405~~, ~~7768~~, 8765, ~~4376~~	➡	3405, 4376, 7768
3405, 7768, 8765, 4376	➡	3405, 4376, 7768, 8765

To arrange numbers in ascending order follow the steps below:
Step 1. Look for the smallest number.
Step 2. Look for the next bigger number.
Step 3. Repeat step 2 until all the numbers are arranged.

BUILDING NUMBERS

Tom and Timi both bought new cars. They have to choose numbers for their number plates. The car dealer gives them 4 digits.

7, 2, 3, 5 are the digits for your wheels. Make a number as you please.

I will choose 7532. It is the greatest number that can be made from the given digits.

I will choose 2357. It is the smallest number that can be made from the given digits.

104

The **largest number** can be made by arranging the digits in decreasing order.

The **smallest number** can be made by arranging the digits in increasing order.

Some Examples

Make the smallest and the greatest number using the digits 8, 5, 4, 9.

Greatest: 9854

Smallest: 4589

Rounding off Numbers (To the Nearest 10)

Kunal and Kanav are twins and want to throw a birthday party.

Father: How many friends do you want to invite?

Kunal: I am not sure. Dhruv will not come if Nikhil and Sunil won't come, and Sana wants to bring her sister.

Father: Don't worry, son. Just tell me an approximate number.

Now, Kunal has made a list of 22 friends. He rounds off 22 to the nearest 10.

An approximate number is a number close to the exact number.

20

22

30

22 lies between 20 and 30
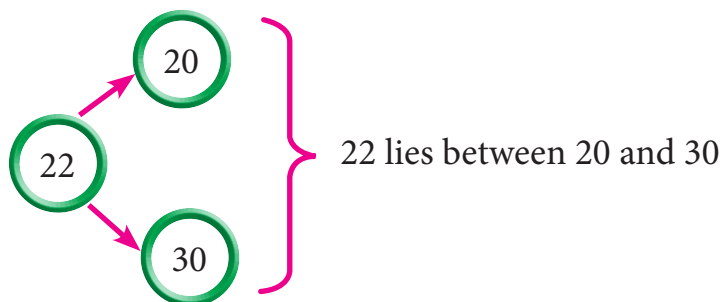
The ones digit 2 is less than 5, so 22 is rounded *down* to 20. That is, keep the tens digit as it is, and replace the ones digit by zero.

Now, Kanav adds the names of his 15 friends to the list. The number of guests become 37. But he is not sure if some of his friends will come with their siblings. So he rounds off 37 to the nearest 10.

30

37 ← 37 lies between 30 and 40

40
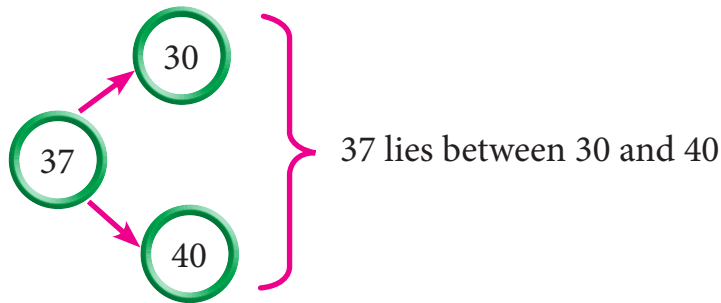
The ones digit 7 is greater than 5, so 37 is rounded *up* to 40 i.e. increase the tens digit by 1 and replace ones digit by zero.

A number is *rounded down* to the nearest 10 if the ones digit is 4 or smaller.

A number is *rounded up* to the nearest 10 if the ones digit is 5 or greater.

Learning Beyond

Rounding off to the nearest 100: To round off a number to the nearest hundred, check the digit at the tens place.

If the tens digit is 0, 1, 2, 3 or 4, then replace the tens and ones digits by 0 and keep the hundreds digit as it is.

If the tens digit is 5, 6, 7, 8 or 9, then add 1 to the hundreds digit and replace the tens and ones digits by 0.

106

EVEN AND ODD NUMBERS

To make a bouquet in art class, the teacher gives each student 8 flowers.

Arrange them in pairs, and see if the total number of flowers is odd or even.

No flower left
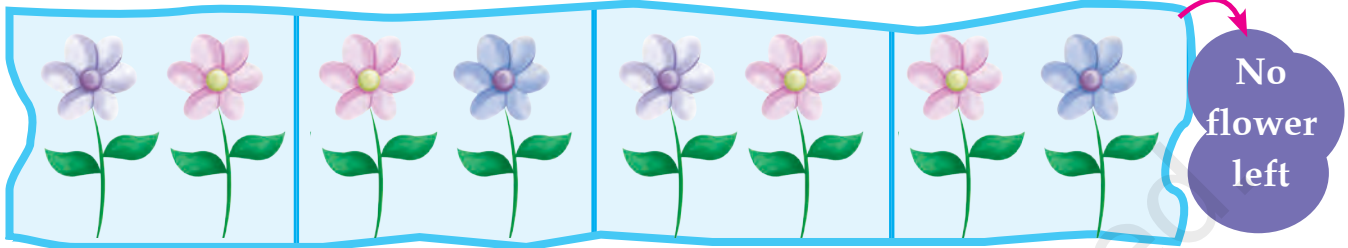
So 8 is an even number. The numbers ending in 0, 2, 4, 6 and 8 are even numbers.

Oh! The petals of one flower have fallen. It cannot be used in the bouquet. So now, we have 7 flowers.
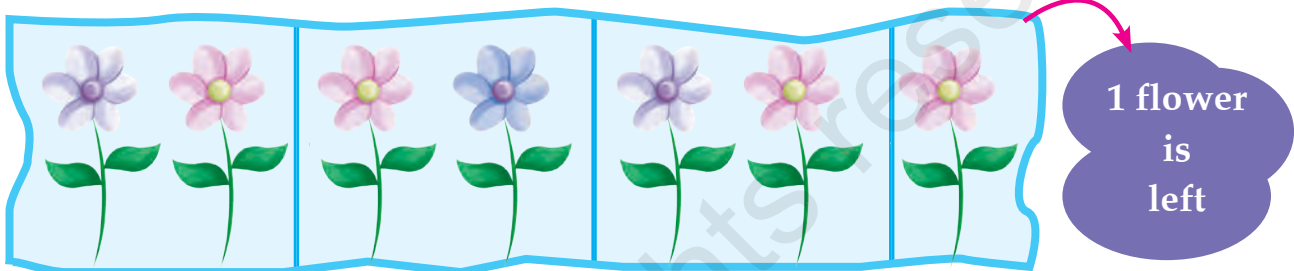
1 flower is left

When we make pairs of these flowers, 1 flower is left. So 7 is an odd number. The numbers ending in 1, 3, 5 and 7 are odd numbers.

PRACTICE EXERCISE 1.3

(1) Compare the numbers.

<
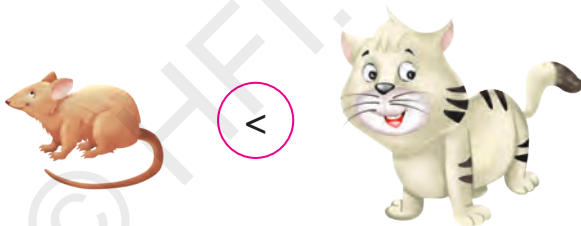
(a) 9231 ⬭ 9321

(b) 327 ⬭ 427

(c) 1234 ⬭ 1324

(d) 8735 ⬭ 8732

(2) Arrange the numbers in ascending order.

(a) 2003, 1001, 1345, 3147, 561, 1563
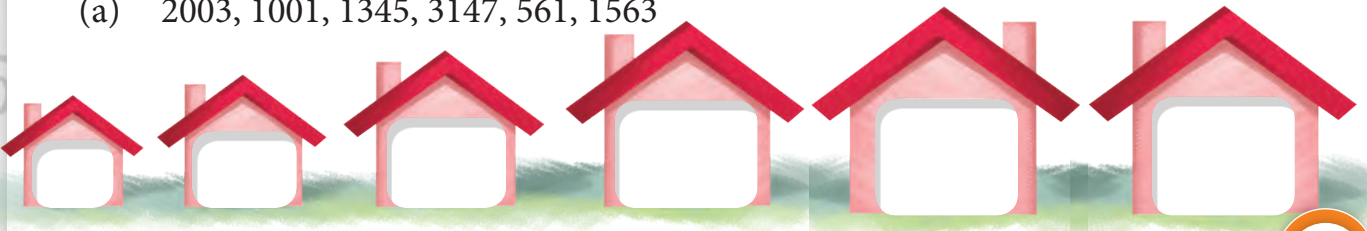
(b)   3408, 808, 8403, 5208, 1007, 8405

(3) Write the largest 4-digit number that can be made by the digits 4, 3, 9 and 7.

(4) Write the smallest 4-digit number that can be made by the digits 2, 4, 7 and 5.

(5) Match the following numbers with the pairs of tens between which the numbers lie:

77   32   58   29

30 40   20 30   70 80   50 60
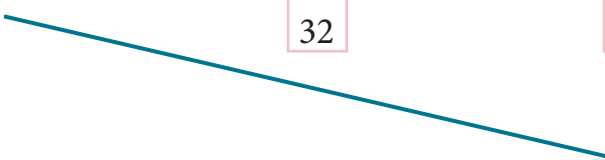
(6) Round off the following numbers to the nearest ten:

(a) 21   (b) 49   (c) 55   (d) 74

(7) Colour the Joker's caps with even numbers in **red** and those with odd numbers in yellow.

31   97   78

42   25   66
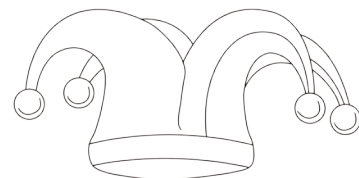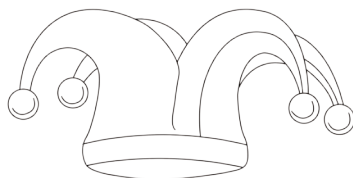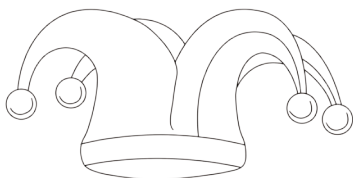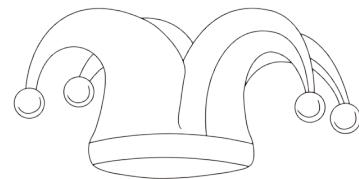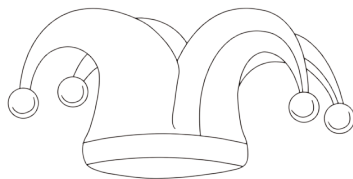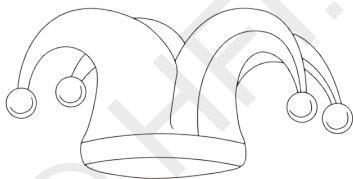
Math Lab Activity

Place the Value!

Materials needed: A board labelled with

Thousands	Hundreds	Tens	Ones

Cards numbered 0–9

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

Instructions:

(1) Ask the students to sit in pairs. Give each pair a board and a deck of 10 cards numbered 0-9.

(2) Ask the students to choose any 4 cards from the deck and place them, face down, on the board.

(3) Ask the students to turn the card at thousands place, then at hundreds place, then at tens place and then at ones place.

(4) When all the numbers are turned, ask the students to rearrange the numbers and make the largest 4 digit number.

(5) The student who creates the largest number first wins.

Fun Activity

Fill in the boxes using the hints below.

Across

(a) One thousand three hundred twenty seven
(c) Eight thousand two hundred sixty seven
(e) Two thousand four hundred seventy three

Down

(a) One thousand five hundred seventy six
(b) Seven thousand four hundred thirty eight
(d) Seven hundred fifty three

MCQs

Tick the correct answer

(1) The number for the expanded form 8 thousands + 3 hundreds + 2 tens + 0 ones is

(a) 8320

(b) 2380

(c) 3280

(d) 832

(2) 3 thousands – 3 tens = ?

(a) 2997

(b) 2970

(c) 2700

(d) 2670

(3) I am greater than 24. I am less than 29. I am even. I am not two times 13. What number am I?

(a) 25

(b) 26

(c) 27

(d) 28

(4) What is the place value and the face value of 5 in the number 6952.

(a) 5 Ones, 5

(b) 5 Tens, 5

(c) 5 Hundreds, 5

(d) 5 Thousands, 5

(5) Which is the greatest number out of 9887, 8897, 7889 and 8798?

(a) 9887

(b) 7889

(c) 8897

(d) 8798

110

WORK IT OUT

(1) Write the number names for each of the following.

(a) 7306   (b) 126

(2) Write the numerals for each of the following number names:

(a) Three thousand one

(b) Eight thousand five hundred sixty two

(3) Write the numbers in the place value house.

(a) 7256   (b) 3427   (c) 523

Place Value House

Th	H	T	O

(4) Write the place value of 3 in each of the following numbers:

(a) 2347   _____

(b) 132   _____

(c) 3421   _____

(d) 1253   _____

(5) Read the abacus and write the place value of

2 in   5 in

| 2 | 1 | 3 | 0 | | 4 | 1 | 5 | 3 |
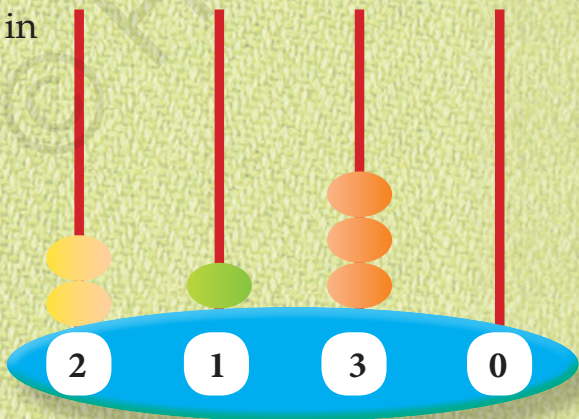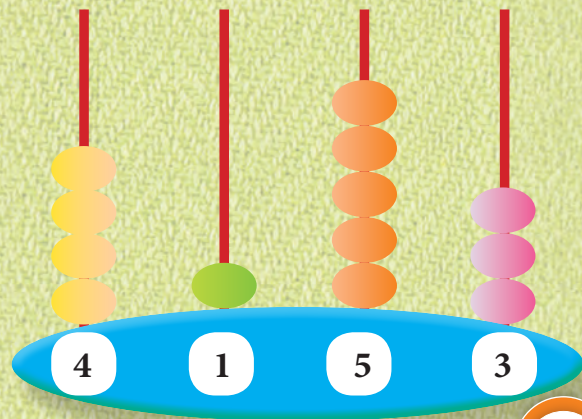
(6) Write the expanded form.

(a) 3254 = _____ + _____ + _____ + _____

(b) 1528 = _____ + _____ + _____ + _____

(7) Write the number for each of the following expanded forms:

(a) 3000 + 200 + 3

(b) 5000 + 300 +20 + 1

(8) Form the smallest 4-digit number from the digits 2, 3, 5 and 1.

(9) Circle the even numbers.

21   53

72   92

33   85   56

(10) Colour the scoop with the greater number.

5341	7632	342	2305
2351	7638	352	2310

Weblinks:
http://www.mathworksheets4kids.com/number-names.html
https://www.youtube.com/watch?v=gmlc_vkuNR4

Addition

Learning Objectives

- Add three-digit numbers without regrouping
- Add three-digit numbers with regrouping
- Add four-digit numbers without regrouping
- Add four-digit numbers with regrouping
- Add using expanded form
- Solve word problems based on addition

LET'S RECOLLECT

(1) Add the following:

 (a) 12 + 36 = ___

 (b) 27 + 34 = ___

 (c) 10 + 14 + 15 = ___

 (d) 43 + 54 + 65 = ____

REMEMBER

- The result of the addition of two or more numbers is called their *sum*, and the numbers that are added are called *addends*.
- When we add two or more numbers, the sum is always greater than or equal to the numbers.
- In addition, changing the order of numbers does not change the sum.
- When 1 is added to a number, the sum is the number just after.
- When 0 is added to a number, the sum is the number.
- In word problems, words like 'in all', 'total', 'altogether' and 'sum' mean addition.

ADDITION WITHOUT REGROUPING

Addition of Three-Digit Numbers

It was the summer holidays, and Jess planned a trip to Chandigarh to his grandmother's house. When he boarded the train, he got curious about the number of passengers on the train. So he asked the TTE (Traveling Ticket Examiner) about the same.

The TTE informed him that there were 753 passengers on the train. Before reaching the destination, he counted that 213 more passengers had boarded the train.

Help Jess calculate the total number of passengers on the train.

 We use the column method for addition of numbers.

In the column method, we write the numbers one below the other under their respective place values and then add.

Add the Ones	Add the Tens	Add the Hundreds

H	T	O
7	5	3
+ 2	1	3
		6

$3 + 3 = 6$
Write 6 at the ones place of the answer.

H	T	O
7	5	3
+ 2	1	3
	6	6

$50 + 10 = 60$
Write 6 at the tens place of the answer.

H	T	O
7	5	3
+ 2	1	3
9	6	6

$700 + 200 = 900$
Write 9 at the hundreds place of the answer.

So, there were 966 passengers in the train when it reached the Chandigarh Station.

SOME EXAMPLES

Add 257 and 321. Write the addition sentence.

H	T	O
2	5	7
+ 3	2	1
		8

H	T	O
2	5	7
+ 3	2	1
	7	8

H	T	O
2	5	7
+ 3	2	1
5	7	8

Addition sentence: $257 + 321 = 578$

Add and write the answer in words.

H	T	O
5	2	6
+ 2	5	3
		9

→

H	T	O
5	2	6
+ 2	5	3
	7	9

→

H	T	O
5	2	6
+ 2	5	3
7	7	9

The sum of five hundred twenty six and two hundred fifty three is seven hundred seventy nine.

115

Addition of Four-Digit Numbers

Four-digit numbers are added the same way as three-digit numbers.

Step1. Add the ones **Step2.** Add the tens
Step3. Add the hundreds **Step4.** Add the thousands

Add 2513 and 1325. Write the addition sentence.

Add Ones	Add Tens	Add Hundreds	Add Thousands

Th	H	T	O
2	5	1	3
+ 1	3	2	5
			8

Th	H	T	O
2	5	1	3
+ 1	3	2	5
		3	8

Th	H	T	O
2	5	1	3
+ 1	3	2	5
	8	3	8

Th	H	T	O
2	5	1	3
+ 1	3	2	5
3	8	3	8

Addition sentence: 2513 + 1325 = 3838

SOME EXAMPLES

Add 1322 and 2476. Write the addition sentence.

Th	H	T	O
1	3	2	2
+ 2	4	7	6
			8

Th	H	T	O
1	3	2	2
+ 2	4	7	6
		9	8

Th	H	T	O
1	3	2	2
+ 2	4	7	6
	7	9	8

Th	H	T	O
1	3	2	2
+ 2	4	7	6
3	7	9	8

Addition sentence: 1322 + 2476 = 3798

Add and write the answer in words.

Th	H	T	O
2	6	1	9
+ 5	1	7	0
			9

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

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

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

116

The sum of two thousand six hundred nineteen and five thousand one hundred seventy is *seven thousand seven hundred eighty nine.*

Practice Exercise 2.1

(1) Find the sum.

(a)
```
   5  0  5
+  1  6  4
_____
```

(b)
```
   3  2  7
+  1  4  1
_____
```

(c)
```
   3  5  6
+  1  2  3
_____
```

(d)
```
   4  2  8
+  1  3  1
_____
```

(2) Add the following using column method:

(a) 3216 + 6171

(b) 6525 + 3414

(c) 3823 + 6176

(d) 2105 + 2621 + 1262

ADDITION WITH REGROUPING

Addition of Three-Digit Numbers

When there are more than 9 ones, we regroup 10 ones as 1 ten.

Add 238 and 147.

Add the ones
8 + 7 = 15

H	T	O
2	^{1}3	8
+ 1	4	7
		5

8 ones + 7 ones = 15 ones

1 ten + 5 ones

Carry over to the tens place

117

Add the tens
3 + 4 = 7 tens
7 + 1 (carry over)
= 8 tens

	H	T	O
	2	^{1}3	8
+	1	4	7
		8	5

Add the hundreds
2 + 1= 3 hundreds

= 7 tens + 1 ten (carry over)

=

These are 8 tens

	H	T	O
	2	3	8
+	1	4	7
	3	8	5

SOME EXAMPLES

Add and write the addition sentence.

H	T	O
2	^{1}4	3
6	7	9
		2

Carry over 1 ten to the tens place →

H	T	O
^{1}2	^{1}4	3
6	7	9
	2	2

Carry over 1 hundred to the hundreds place →

H	T	O
^{1}2	^{1}4	3
6	7	9
9	2	2

Add the ones
3 + 9 = 12 ones
12 ones = 10 ones + 2 ones
10 ones = 1 ten

Add the tens
7 + 4 + 1 = 12 tens
12 tens=10 tens + 2 tens
10 tens = 1 hundred

Add the hundreds
6 + 2 + 1 = 9 hundreds

Addition sentence: 243 + 679 = 922

118

Addition of Four-Digit Numbers

For the addition of four digit numbers, we follow the same steps.

Step 1. Add the ones. (If we have more than 9 ones, regroup 10 ones as 1 ten and carry over 1 ten to the tens place.)

Step 2. Add the tens. (If we have more than 9 tens, regroup 10 tens as 1 hundred and carry over 1 hundred to the hundreds place.)

Step 3. Add the hundreds. (If we have more than 9 hundreds, regroup 10 hundreds as 1 thousand and carry over 1 thousand to the thousands place.)

Add and write the addition sentence.

Th	H	T	O
1	0	6	8
+ 7	9	4	4
			2

Carry over 1 ten to the tens place →

Add the ones
8 + 4 = 12 ones
12 ones = 10 ones + 2ones
10 ones = 1 ten

Th	H	T	O
1	0	^{1}6	8
+ 7	9	4	4
		1	2

Add the tens
6 + 4 + 1 = 11 tens
11 tens = 10 tens + 1 ten
10 tens = 1 hundred

Carry over 1 hundred to the hundreds place ←

Th	H	T	O
1	^{1}0	^{1}6	8
+ 7	9	4	4
	0	1	2

Add the hundreds
9 + 1 = 10 hundreds
10 hundreds = 1 thousand

← Carry over 1 thousand to the thousands place

Th	H	T	O
^{1}1	^{1}0	^{1}6	8
+ 7	9	4	4
9	0	1	2

Add the thousands
7 + 1 + 1 = 9 thousands

Addition sentence: 1068 + 7944 = 9012

While adding three or more numbers, look for numbers in a column that add to 10 to make your calculation easy.

To add

T	O
^{1}1	3
4	5
+ 2	7
8	5

10 + 5

Numbers that add to 10 are grouped.

Mental math tip
To add 99 to a number, add 100 and subtract 1.
537 + 99 = 537 + 100 − 1 = 637 − 1= 636

119

PRACTICE EXERCISE   2.2

Find the hidden fruit!

Add the following. Write the letter corresponding to each sum in the stars below, and find the name of the hidden fruit.

R

Th	H	T	O
	2	4	5
	3	8	4
+	1	3	3
	7	6	2

G

Th	H	T	O
	3	8	2
	2	1	2
+	3	2	7

A

Th	H	T	O
1	3	8	5
2	2	4	1
+1	1	7	9

P

Th	H	T	O
2	1	3	5
5	7	2	4
+1	4	5	7

O

Th	H	T	O
3	4	1	6
1	1	2	6
+2	3	7	8

L

Th	H	T	O
	3	2	6
	5	5	2
+1	1	2	8

N

Th	H	T	O
	1	4	2
	4	3	2
+	2	7	9

E

Th	H	T	O
	1	0	0
	2	3	7
+	4	8	5

⭐ ( )   ⭐ R   ⭐ ( )   ⭐ ( )   ⭐ ( )   ⭐ ( )

| 6920 | 762 | 4805 | 853 | 921 | 822 |

Teacher Tip

Encourage the students to solve the above problems by grouping the numbers that add to ten, and help them observe that the process makes it easier for them to solve a problem.

120

EXPANDED FORM

Let us add 524 and 343 using expanded form.

Expanded form of 524 = 500 + 20 + 4

Expanded form of 343 = 300 + 40 + 3

Therefore, 524 + 343 is the same as

$$
\begin{array}{r}
524 \\
+\ 343
\end{array}
\quad
\begin{array}{r}
500 + 20 + 4 \\
+\ 300 + 40 + 3 \\
\hline
800 + 60 + 7 \\
\hline
\end{array}
$$

800 + 60 + 7 = 867

So, 524 + 343 = 867

Add 247 and 536 using expanded form.

Using expanded form, 247 + 536 is the same as

$$
\begin{array}{r}
247 \\
+\ 536
\end{array}
\quad
\begin{array}{r}
200 + 40 + 7 \\
+\ 500 + 30 + 6 \\
\hline
700 + 70 + 13 \\
=\ 700 + 70 + 10 + 3 \\
=\ 700 + 80 + 3
\end{array}
$$

13 ones = 1 ten + 3 ones = 10 + 3

700 + 80 + 3 = 783

So, 247 + 536 = 783
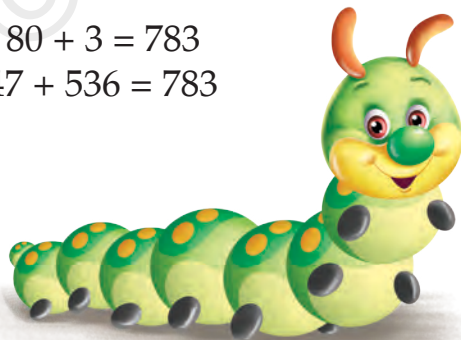
![tiger mascot with chart pointer] **SOME EXAMPLES**

Add 325 and 496 using expanded form.

$$\begin{array}{r} 3\ 2\ 5 \\ +\ 4\ 9\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 300\ +\ 20\ +\ 5 \\ +\ 400\ +\ 90\ +\ 6 \\ \hline 700\ +\ 110\ +\ 11\ =\ 821 \end{array}$$

821

$800 + 20 + 1$

$700 + 100 + 10 + 10 + 1$

$700 + 110 + 11$
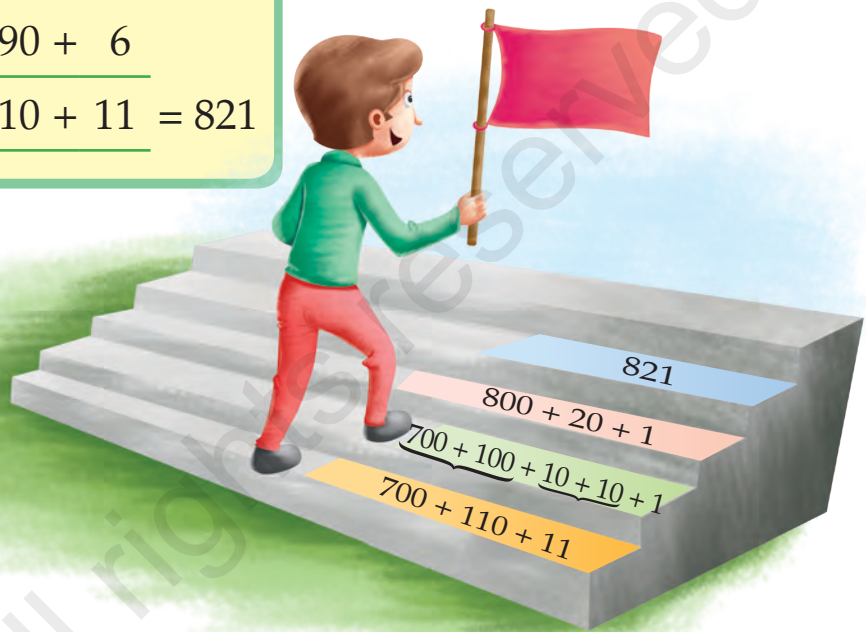
Thus, 325 + 496 = 821

Add 253 and 649

$$\begin{array}{r} 2\ 5\ 3 \\ +\ 6\ 4\ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 200\ +\ 50\ +\ 3 \\ +\ 600\ +\ 40\ +\ 9 \\ \hline 800\ +\ 90\ +\ 12\ =\ 902 \end{array}$$

902

$800 + 100 + 2 = 900 + 2$

$800 + 90 + 10 + 2$

$800 + 90 + 12$
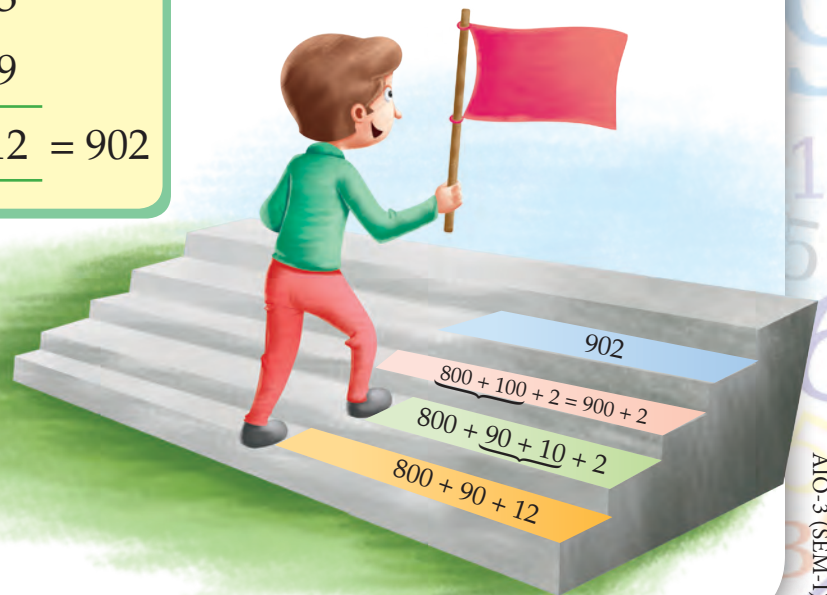
122 Thus, 253 + 649 = 902

WORD PROBLEMS

A farmer brought a sack of rice each from two of his farms to sell in the market. He got 243 kg of rice from first farm and 547 kg of rice from the second farm.

Rice brought from the first farm   = 243 kg

Rice brought from the second farm   = 547 kg

Total amount of rice brought for sale   = 790 kg

H	T	O
2	¹4	3
+ 5	4	7
7	9	0

The farmer brought 790 kg of rice from two of his farms to sell in the market.

Problem Solving

RULE: RENE FINDS DOGS SO CUTE

RENE	FINDS	DOGS	SO	CUTE
E	I	E	O	H
A	N	C	L	E
D	D	I	V	C
		D	E	K
		E		
Read and understand the question	Find the information and write it down	Decide what to do	Solve the problem	Check your solution

The school band is getting ready for a concert. They practised 125 minutes on Monday and 135 minutes on Tuesday. How many minutes did the band practise in all?

FOLLOW THE RULE

READ – On reading the question, we come to know that the school band practised for two days – 125 minutes on Monday and 135 minutes on Tuesday.

We need to find for how long the band practised in all.

FIND – We are given that
the number of minutes for which band practised on Monday = 125
the number of minutes for which band practised on Tuesday = 135

DECIDE – We need to find the total minutes for which they practised in two days. This means we need to add the practice time for the two days.

SOLVE –

H	T	O
1	2	5
1	3	5
2	6	0

+

124

245 candies + 35 candies = _____ candies

Think of a story, and frame a question of your choice.

Question: Jack sold 245 candies, and Jill sold 35 candies. How many candies did they sell altogether?

ESTIMATION OF SUM

At the school fair, Jimy wants to put up a stall of a game. He needs to buy balloons for it. Teacher asked Jimy to find an approximate number of balloons he would need if each student of class 1 and 2 gets a balloon to play the game.

The number of students in class 2 = 223, which can be rounded down to 220

The number of students in class 1 = 246, which can be rounded up to 250

H	T	O
2	2	3
+ 2	4	6
4	6	9

round down to
round up to

H	T	O
2	2	0
+ 2	5	0
4	7	0

Actual Sum

Estimated Sum

To find the estimated or approximate sum, we round off the addends and then add.

The estimated sum of 223 and 246 is 470. So Jimy needs approximately 470 balloons for the stall.

PRACTICE EXERCISE 2.3

(1) **Add the following using expanded form**:
   (a) 915 + 1787   (b) 8057 + 1873
   (c) 1357 + 2785   (d) 4376 + 2815

(2) **Solve the following problems:**
   (a) Rahul bought a water cooler for ₹3475 and a television for ₹4197. How much did he spend in all?

(b) There are 3721 teek trees and 6253 rosewood trees in a forest. How many trees are there in all?

(c) There are 6353 people in village A and 2346 in village B. What is the total population of villages A and B? Find an estimate of the total population and compare it with the actual population.

(3) **Find the estimated sum and compare it with the actual sum.**

(a) 245 + 262   (b) 536 + 675

(c) 1357 + 7586

PROJECT

What will be the sum, even or odd, when you add
(1) an even number to an odd number.
(2) an even number to an even number.
(3) an odd number to an odd number.

You can check with these
(a) 26 + 23   (c) 82 + 12   (e) 21 + 61
(b) 34 + 51   (d) 22 + 44   (f) 43 + 25

FUN ACTIVITY

BOOK CRICKET!
You can play this game with your friend.

Pick up your maths book. Take turns to open a page of the book. Note the page number. The page numbers are your scores. List them under your names.

JACK	JILL
23	55
34	131
...	...

Stop when the ones digit of anyone's score is zero.
Add up all the scores to get the total score for each. See who wins the game.

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MATH LAB ACTIVITY

MAKE THE TRIANGLE!

Materials needed: 2 sets of cards numbered 0 to 9 and a glazed paper

0 1 2 3 4 5 6 7 8 9

Instrutions:

(1)   Cut out a triangle from the glazed paper.

(2)   Place the number cards on the triangle such that the sum of the numbers on each side of the triangle is the same. One has been done as an example.

10

5

2   1

10   3   3   4

10
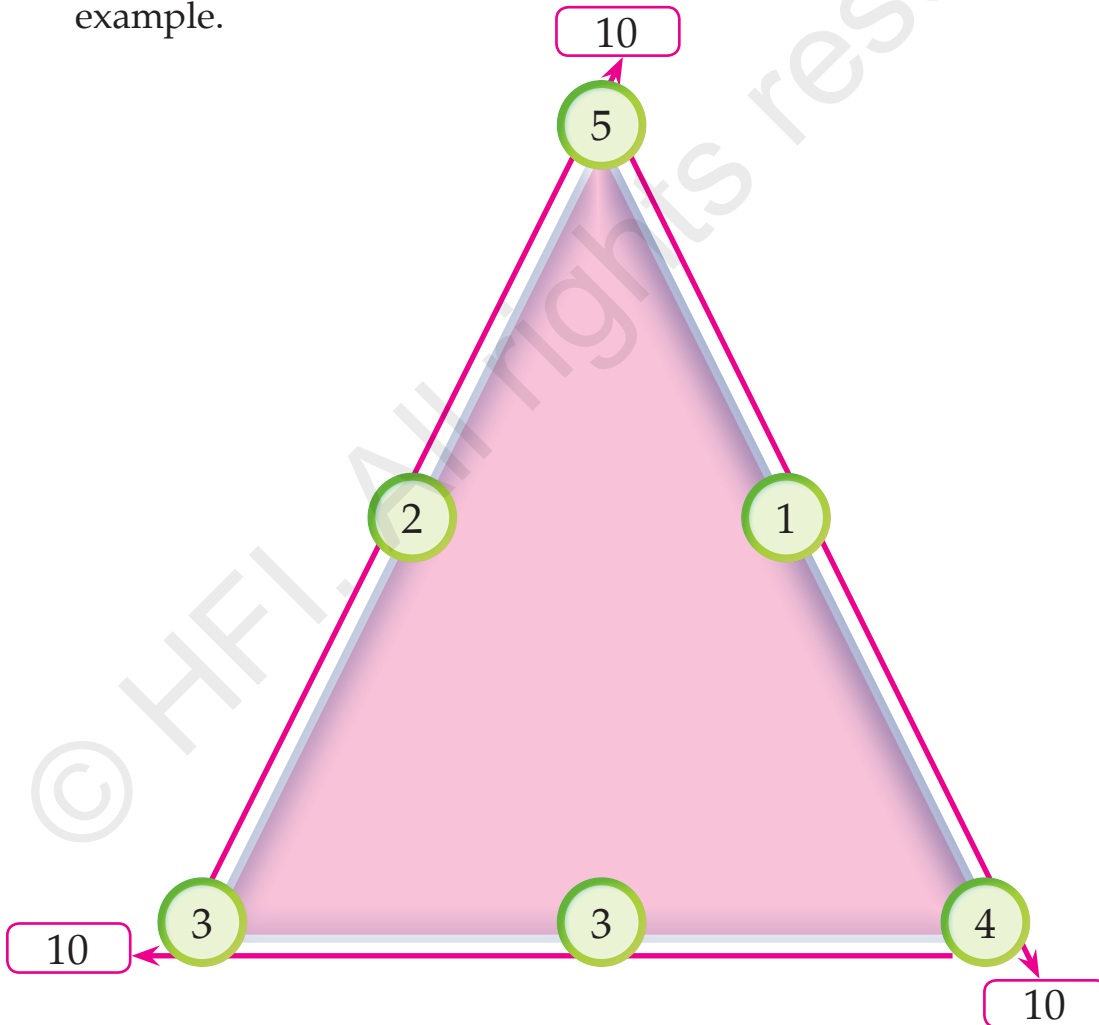
Note: First calculate the sum roughly, and then place the cards on the triangle.

MCQs

Tick the correct answer.

(1) Add 1981 + 1676 + 5014.

(a) 8671

(b) 8670

(c) 8661

(d) 8571

(2) Tini bought 265 doughnuts, and Mini bought 157 doughnuts from a bakery. How many doughnuts did they buy in all?

(a) 412

(b) 422

(c) 322

(d) 312

(3) There are 3823, 2875 and 3223 people living in three different sectors of a locality. How many people are there in the locality in all?

(a) 9912

(b) 9821

(c) 9921

(d) 9911

(4) The sum of 1252 and 6571 is

(a) 7823

(b) 7328

(c) 7723

(d) 7320

(5) The sum of 2 hundreds, 3 tens and 2 ones with 1 thousand is

(a) 3232

(b) 2132

(c) 232

(d) 1232

128

WORK IT OUT

(1) Add the following:

a
```
      4  6  7
         2  3
  +      8  5
_____
```

b
```
      1  9  0
      8  0  9
  +   8  1  0
_____
```

c
```
      3  6  5
      6  7  9
  +   4  8  2
_____
```

d
```
      2  2  2
      5  5  5
  +   8  8  8
_____
```

e
```
   1  7  4  3
   2  3  8  6
  +         3
_____
```

f
```
   1  1  0  0
   2  7  9  6
  +  2  1  4
_____
```

g
```
   3  2  3  9
   2  8  5  5
  + 1  4  3  0
_____
```

h
```
   2  8  1  6
   1  2  7  3
  + 1  5  6  0
_____
```

(2) Find the sum and check.

```
    7  3  9
  + 3  6  5
_____
```

```
    4  8  2
  + 3  0  9
_____
```

```
  1  3  9  8
 +1  5  0  0
_____
```

(3) Add the following using column method:

(a) 3162 + 1446   (b) 2354 + 1367   (c) 5893 + 1014

(4) (a) The number of visitors to the Museum on four consecutive days of a week was 1384, 2538, 2835 and 789. It remained closed for the next three days. What is the total number of visitors to the museum during the week?

(b) At a bakery, Humpty bought 2 cakes for ₹1060, patties for ₹82 and chocolates for ₹750. How much money did he spend in all?

(c) There were 2567 boys in the school. The girls were 300 more than the boys. What is the total number of students in the school?

(d) A poultry farm produced 1639 and 2578 eggs each on two different days. How many eggs were produced in the two days?

Weblinks:
http://www.mathworksheets4kids.com/three-digit-addition.html

Subtraction

Learning Objectives

- Subtract three-digit and four-digit numbers without regrouping
- Subtract three-digit and four-digit numbers with regrouping
- Explain subtraction with zeros and ones
- Estimate the difference
- Solve word problems on subtraction

LET'S RECOLLECT

Smita had 500 beads. Anu took away 345 beads. How many beads were left?
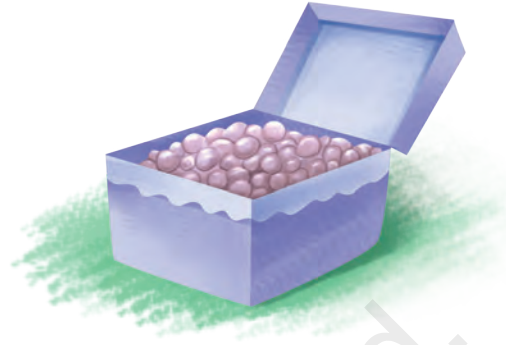
REMEMBER

- Subtraction means taking away a number from a bigger number.
- Subtraction is the opposite of addition.
- The number from which we subtract is called *minuend*.
- The number which is subtracted is called *subtrahend*.
- When we subtract two numbers, the answer is called *difference*.

SUBTRACTION WITHOUT REGROUPING

Subtraction of a Two-Digit Number from a Three-Digit Number

Subtract 27 from 159.

H	T	O
1	5	9
−		2	7
		2

Subtract the ones

H	T	O
1	5	9
−		2	7
	3	2

Subtract the tens

H	T	O
1	5	9
−		2	7
1	3	2

Subtract the hundreds

We always subtract a smaller number from a bigger number.

As the smaller number is a 2-digit number, so for it the digit at the hundreds place will be taken as 0.

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AIO-3 (SEM-1)

SOME EXAMPLES

Subtract 57 from 297. Write the subtraction sentence in words.

H	T	O
2	9	7
–	5	7
		0

Subtract the ones

H	T	O
2	9	7
–	5	7
	4	0

Subtract the tens

H	T	O
2	9	7
–	5	7
2	4	0

Subtract the hundreds

The answer that we get after subtraction is called difference.

The difference of two hundred ninety seven and fifty seven is *two hundred forty*.

Subtract 32 from 564. Write the subtraction sentence.

H	T	O
5	6	4
–	3	2
		2

Subtract the ones

H	T	O
5	6	4
–	3	2
	3	2

Subtract the tens

H	T	O
5	6	4
–	3	2
5	3	2

Subtract the hundreds

Subtraction sentence: 564 – 32 = 532

PROJECT

(1) Count the total number of words on a page of a book. On that page, find the number of words that
(a) do not begin with 'T' (Hint: subtract the number of words that begin with 'T' from the total number of words)
(b) are not proper nouns
(c) are not 'the'

Enrichment

Use the numbers below to make addition and subtraction bonds.

100   60   160

$100 + 60 = 160$
$60 + 100 = 160$
$160 - 60 = 100$
$160 - 100 = 60$

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AIO-3 (SEM-1)

Subtraction of a Three-Digit Number from a Three-Digit Number.

Follow the steps below for subtraction of two three digit numbers.

Step 1: Subtract the ones
Step 2: Subtract the tens
Step 3: Subtract the hundreds

H	T	O
3	5	6
− 2	4	5
		1

Subtract the ones

H	T	O
3	5	6
− 2	4	5
	1	1

Subtract the tens

H	T	O
3	5	6
− 2	4	5
1	1	1

Subtract the hundreds

Some Examples

Subtract 327 from 549. Write the subtraction sentence.

H	T	O
5	4	9
− 3	2	7
		2

Subtract the ones

H	T	O
5	4	9
− 3	2	7
	2	2

Subtract the tens

H	T	O
5	4	9
− 3	2	7
2	2	2

Subtract the hundreds

Subtraction sentence: 549 − 327 = 222

Subtract 695 from 899. Write the subtraction sentence in words.

H	T	O
8	9	9
− 6	9	5
		4

Subtract the ones

H	T	O
8	9	9
− 6	9	5
	0	4

Subtract the tens

H	T	O
8	9	9
− 6	9	5
2	0	4

Subtract the hundreds

The difference of eight hundred ninety nine and six hundred ninety five is *two hundred four*.

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Subtraction of Four-Digit Numbers

Four-digit numbers are subtracted the same way as three-digit numbers. Follow the steps below for subtraction of two four-digit numbers.

Step 1: Subtract the ones

Step 2: Subtract the tens

Step 3: Subtract the hundreds

Step 4 : Subtract the thousands

Subtract 1284 from 2497.

Th	H	T	O
2	4	9	7
− 1	2	8	4
			3

Subtract the ones

Th	H	T	O
2	4	9	7
− 1	2	8	4
		1	3

Subtract the tens

Th	H	T	O
2	4	9	7
− 1	2	8	4
	2	1	3

Subtract the hundreds

Th	H	T	O
2	4	9	7
− 1	2	8	4
1	2	1	3

Subtract the thousands

The difference of two thousand four hundred ninety seven and one thousand two hundred eighty four is *one thousand two hundred thirteen.*

SOME EXAMPLES

Subtract 2415 from 5948. Write the subtraction sentence.

Th	H	T	O
5	9	4	8
− 2	4	1	5
			3

Subtract the ones

Th	H	T	O
5	9	4	8
− 2	4	1	5
		3	3

Subtract the tens

Th	H	T	O
5	9	4	8
− 2	4	1	5
	5	3	3

Subtract the hundreds

Th	H	T	O
5	9	4	8
− 2	4	1	5
3	5	3	3

Subtract the thousands

Subtraction sentence: 5948 − 2415 = 3533

Subtract 4104 from 6508. Write the subtraction sentence in words.

Th	H	T	O
6	5	0	**8**
− 4	1	0	**4**
			4

Subtract the ones

Th	H	T	O
6	5	**0**	8
− 4	1	**0**	4
		0	4

Subtract the tens

Th	H	T	O
6	**5**	0	8
− 4	**1**	0	4
	4	0	4

Subtract the hundreds

Th	H	T	O
6	5	0	8
− 4	1	0	4
2	4	0	4

Subtract the thousands

The difference of six thousand five hundred eight and four thousand one hundred four is *two thousand four hundred four*.

PRACTICE EXERCISE 3.1

(1) Subtract the number at the top of the table from each of the numbers in the first column. One has been done as an example.

(a)

Subtract 652	
888	236
775	
879	
994	

(b)

Subtract 311	
916	
695	
474	
948	

(2) Subtract the numbers in the bubble.

(a)
```
  2  4  3  5
− 1  2  3  2
```

(b)
```
  5  6  1  3
− 2  4  0  1
```

(c)
```
  8  0  2  4
− 5  0  1  2
```

(d)
```
  3  8  9  5
− 1  4  2  3
```

(e)
```
  2  4  6  8
− 1  3  2  6
```

AIO-3 (SEM-I)

Subtraction with Regrouping

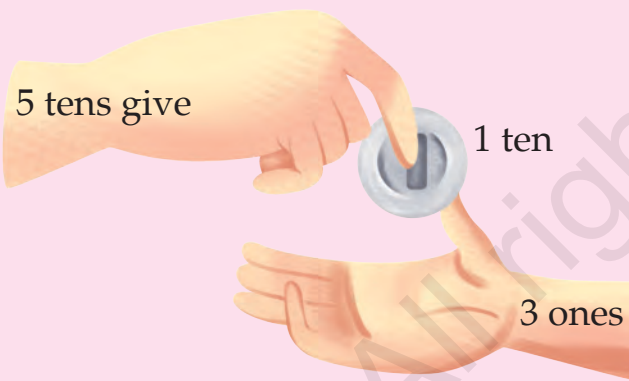## Subtraction of Three-Digit Numbers

Subtract 228 from 953.
Step 1: Subtract the ones

Subtract the ones	H	T	O	At the ones place, 3 < 8, so 8 cannot be subtracted from 3. Thus, we *borrow* one ten from the tens place.
	9	5	3	
−	2	2	8	

5 tens give — 1 ten — 3 ones

5 tens become 4 tens

3 ones + 10 ones (1 ten) = 13 ones

Now 13 > 8

13 − 8 = 5

H	T	O
9	^{4}5	^{13}3
− 2	2	8
		5

Subtract the ones

H	T	O
9	^{4}5	^{13}3
− 2	2	8
	2	5

Subtract the tens

H	T	O
9	^{4}5	^{13}3
− 2	2	8
7	2	5

Subtract the hundreds

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Subtract 191 from 456.

H	T	**O**
4	5	6
− 1	9	1

Subtract the ones

At the tens place, 5 is smaller than 9. So, we borrow 1 hundred from 4 hundreds in the hundreds column, the column on the left.

Borrow 10 tens from the hundreds column

H	T	O
^{3}4̶	^{15}5̶	6
− 1	9	1
	6	5

Subtract the tens

4 hundreds become 3 hundreds
5 tens become 15 tens
5 tens + 10 tens (1 hundred)
= 15 tens

H	T	O
^{3}4̶	^{15}5̶	6
− 1	9	1
2	6	5

Subtract the hundreds

Subtraction of Four-Digit Numbers

Subtract 3519 from 4327.

Th	H	T	O
4	3	^{1}2̶	^{17}7̶
− 3	5	1	9
			8

Subtract the ones

Th	H	T	O
4	3	^{1}2̶	^{17}7̶
− 3	5	1	9
		0	8

Subtract the tens

Th	H	T	O
^{3}4̶	^{13}3̶	^{1}2̶	^{17}7̶
− 3	5	1	9
	8	0	8

Subtract the hundreds

Th	H	T	O
^{3}4̶	^{13}3̶	^{1}2̶	^{17}7̶
− 3	5	1	9
0	8	0	8

Subtract the thousands

$7 < 9$
Borrow 1 ten (= 10 ones) from the tens column. 7 becomes 17 and 2 becomes 1.

$3 < 5$
Borrow 1 thousand (= 10 hundreds) from the thousands column. 3 becomes 13 and 4 becomes 3.

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SUBTRACTION WITH ZEROS AND ONES

Subtraction with Zeros

Subtract 254 from 700. Write the subtraction sentence.

To subtract with zeros and ones, we usually have to regroup twice.

	H	T	O
	7	0	0
−	2	5	4

As 0 < 4, we borrow from the tens place.

The tens digit is also 0.

So, it borrows from the hundreds place

SHORTCUT!
Subtract 1 from both the numbers and subtract.

	H	T	O
	⁶7̶	¹⁰0̶	0
−	2	5	4

7 becomes 6 at the hundreds place.

0 becomes 10 at the tens place. Now, 1 ten is borrowed by 0 at the ones place.

	H	T	O
	6	9	9
−	2	5	3
	4	4	6

	H	₉T	O
	⁶7̶	¹⁰0̶	¹⁰0̶
−	2	5	4
			6

At the tens place 10 becomes 9, and 0 becomes 10 at the ones place.
Subtract the ones
$10 - 4 = 6$

	H	₉T	O
	⁶7̶	¹⁰0̶	¹⁰0̶
−	2	5	4
	4	4	6

Subtract the tens
$9 - 5 = 4$

Subtract the hundreds
$6 - 2 = 4$

Subtraction sentence: $700 - 254 = 446$

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Subtraction with Ones

Subtract 257 from 613.

```
    H   T   O
        0   13
    6   1   3
  – 2   5   7
  _____
            6
```

Subtract the ones

As $3 < 7$, 1 ten is borrowed from the tens column.

At the ones place, 3 becomes 13.

At the tens place, 1 becomes 0.

```
    H   T   O
       10
    5   0   13
    6   1   3
  – 2   5   7
  _____
        5   6
```

Subtract the tens

Now $0 < 5$, so it borrows 1 hundred from 6 at the hundreds place.

At tens place, 0 becomes 10.

At ones place, 6 becomes 5.

```
    H   T   O
       10
    5   0   13
    6   1   3
  – 2   5   7
  _____
    3   5   6
```

Subtract the hundreds

$5 > 2$, so

$5 – 2 = 3$

The difference of six hundred thirteen and two hundred fifty seven is *three hundred fifty six*.

We always subtract a smaller number from a bigger number.

In the column method, two numbers are subtracted by writing the bigger number on the top and the smaller number below it.

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AIO-3 (SEM-I)

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PRACTICE EXERCISE 3.2

(1) Find the difference of the numbers on the first and second hurdles. Then find the difference of the result and the number on the third hurdle and so on.
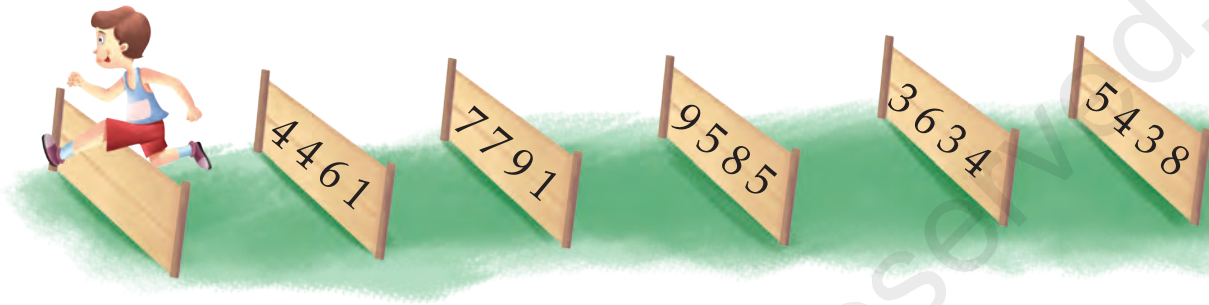
6th	5th	4th	3rd	2nd	1st

4461   7791   9585   3634   5438

Hint:

5438 − 3634 = 1804

9585 − 1804 = ?

(2) Subtract the following using column method:

(a) 384 − 247   (b) 894 − 633

(c) 970 − 56   (d) 883 − 525

(3) Find the difference.

(a)

Th	H	T	O
4	7	0	5
− 2	6	4	8

(b)

Th	H	T	O
7	2	7	3
− 1	5	9	1

(c)

Th	H	T	O
5	0	7	9
− 3	4	1	8

(d)

Th	H	T	O
7	1	2	3
− 2	6	4	1

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WORD PROBLEMS

Jerry has 935 tickets to a football match. He sold 349 tickets. How many tickets are left with him?

Problem Solving

RULE: RENE FINDS DOGS SO CUTE

RENE	**F**INDS	**D**OGS	**S**O	**C**UTE
E	I	E	O	H
A	N	C	L	E
D	D	I	V	C
		D	E	K
		E		
Read and understand the question	Find the information and write it down	Decide what to do	Solve the problem	Check your solution

READ: On reading the question, we come to know the number of tickets Jerry had in the beginning and the number of tickets he sold. We have to find the number of tickets he is left with.

FIND: We are given
Number of tickets with Jerry   = 935
Number of tickets sold by Jerry = 349

DECIDE: According to the question we need to find the number of tickets left with Jerry. Thus, we need to find the difference of 935 and 349.

Left means we need to find the difference.

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SOLVE:

H	T	O
9	3	5
− 3	4	9

H	T	O
8 9	2 12 3	15 5
− 3	4	9
5	8	6

> We need to regroup twice.

So, there are 586 tickets left with Jerry.

CHECK: To check the calculation, we add the subtrahend to the difference. The sum should be the minuend, that is, the total number of tickets.

H	T	O
¹3	¹4	9
+ 5	8	6
9	**3**	**5**

Total number of tickets

So, the answer we calculated is correct.

ESTIMATING THE DIFFERENCE

Aarna went shopping. Her mother gave her ₹8520. She bought a jacket for ₹4850. Estimate the money left with Aarna.

8520 rounds down to 8500

4850 rounds up to 4900

Th	H	T	O
8	5	0	0
− 4	9	0	0
3	6	0	0

Aarna is left with approximately ₹3600 (estimated difference).

Some Examples

Estimate the difference of 438 and 223.

	H	T	O
	4	3	8
–	2	2	3
	2	1	5

438 rounds up to 440

223 rounds down to 220

	H	T	O
	4	4	0
–	2	2	0
	2	2	0

Actual difference is 215.

Estimated difference is 220.

Practice Exercise 3.3

(1) **Estimate the difference**

   (a) 912 – 268

   (b) 606 – 135

   (c) 6283 – 3796

(2) **Solve the following word problems:**

   (a) In a cricket series, the total runs scored by Sachin, Dhoni and Sehwag were 2068. If Sachin scored 1254 and dhoni scored 450, how many runs did Sehwag score?

   (b) Sumit travelled 1500 km. He covered 1100 km by car and 118 km by bus and remaining by train. How much distance did he cover by train?

Math Lab Activity

Roll the Dice!

Materials needed: a pair of dice and a board divided into nine boxes as illustrated below

Instructions: Roll the dice. Note the numbers on the dice, for example 2 and 5, and make a two-digit number, say 25. Note down the number.

Again roll the dice and note the number, say 46.

Subtract the smaller number from the bigger number. That is, 46 – 25 = 21. Write this number in the first box on the board.

21		

The student who completes the card first wins the game.

Weblinks:
http://www.math-aids.com/Mixed_Problems/Mixed_Problems_Worksheets_MV.html
http://www.myschoolhouse.com/courses/O/1/96.asp

MCQs

Tick the correct answers.

(1) Subtract 3240 from 8264.

(a) 5024

(b) 2054

(c) 5004

(d) 5224

(2) There were 2000 blank sheets of paper. Ankit used 1097 sheets, and his sister used 234 sheets. How many blank sheets were left?

(a) 1331

(b) 1669

(c) 669

(d) 699

(3) Find the difference between the greatest four-digit number and the greatest three-digit number.

(a) 899

(b) 999

(c) 9000

(d) 8999

(4) Find the difference between 7083 and 4596.

(a) 2487

(b) 2417

(c) 2407

(d) 2347

(5) Out of 2435 children who attended the annual day party, 1325 had sandwiches, 124 had patties and the rest had burgers. How many children had burgers?

(a) 1110

(b) 1449

(c) 1119

(d) 986

WORK IT OUT

(1) Find the difference.

(n) 2571
− 1503

(a) 5763
− 1531

(b) 2859
− 1636

(c) 7865
− 2316

(d) 1734
−392

(m) 6785
−238

(e) 939
− 135

(l) 2793
− 1154

(f) 2595
− 1454

(k) 8608
− 1155

(j) 4885
− 1278

(i) 2485
− 1253

(h) 5742
− 5231

(g) 6483
− 1127

(2) Ayana sold 786 cups of coffee on Wednesday and Thursday put together. If she sold 253 cups of coffee on Wednesday, how many cups of coffee did she sell on Thursday?

148

(3) There were 9000 invites sent to people for a fundraising concert in a college. Only 5276 people attended the concert. How many people did not come for the concert?

(4) Ankit has an album in which 500 stamps can be pasted. He has collected and pasted 230 stamps in it. How many more does he have to collect to fill the album?

ENRICHMENT 1

(Addition and subtraction)

(1) A rock band is practising for their concert. They practised for 115 minutes on Monday and 125 minutes on Tuesday. How many minutes did they practise on both the days?

(2) Anaya has to complete 91 word problems of addition and subtraction. If there are 39 addition problems, how many subtraction word problems are there?

(3) At a party, 52 girls are wearing red dresses and 25 girls are wearing blue dresses. How many girls are there at the party?

(4) In a bookshop, there are 213 mathematics coursebooks and 72 workbooks. How many books on mathematics are there in the book shop?

(5) Anita works in a shirt-manufacturing company. The company manufactured 150 shirts in the first week of January, 200 shirts in the second week and 175 in the third week. If they manufactured 1000 shirts in the month of January, how many shirts did they make in the last week of January?

(6) Rosa spent ₹356 on snacks and ₹253 on stationery. How much did she spend in all?

(7) There a 772 flowers in a garden. Out of these, 243 are rose flowers. How many flowers are not rose flowers?

(8) There were 156 sheep grazing in the mountains. The shepherd brought 82 more sheep. What is the total number of sheep?

(9) Rina wrote 850 words in a cursive exercise during her summer vacation. If she wrote 175 words in 10 days, how many words did she write on the remaining days of the vacation?

150

Science

CLASS–3 ◆ SEMESTER–I

The Living World

We Will Explore

» Characteristics of living things

» Differences between living and non-living things

Below are a few sentences with pictures. Circle those underlined words that are living things.

(1) A <u>car</u> is moving on the <u>road</u>.

(2) A <u>boy</u> is hitting the ball with his <u>bat</u>.

(3) A <u>girl</u> is looking outside the <u>window</u>.

(4) A <u>boy</u> is writing with his <u>pen</u>.

(5) A <u>girl</u> is playing a <u>video game</u>.

(6) A <u>girl</u> is sitting on a <u>chair</u>.

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AIO-3 (SEM-1)

We see a wide variety of things around us. There are people, roads, animals, birds, trees, flowers, vehicles, buildings, bridges, etc. Out of these, some are living and some are non-living things. Let's learn more about living and non-living things.

Things such as plants, animals and human beings are living things. Nature gives these things to us. So, they are called natural things. Things such as the sun, the moon, the stars, soil, rocks, buildings, roads and vehicles are non-living things. All non-living things are not natural. Vehicles, buildings and roads are made by humans. They are called man-made things. The sun, the moon, the stars, water, soil, rocks and clouds are examples of natural things.

All Things around Us

Living Things

Non-living Things

Plants   Animals   Natural Things   Man-Made Things

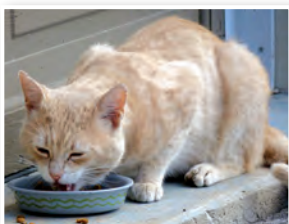# Characteristics of Living Things

Living things need food, they grow, move, feel, breathe, reproduce and die. Let's discuss these characteristics.

LIVING THINGS NEED FOOD

All living things need food to live. Food helps them to grow.

Plants make their own food using air, water and sunlight. Animals get their food from plants and the flesh of other animals.

A rubber doll and a toy bus do not need food. They are non-living things.

LIVING THINGS GROW

All living things grow. A human baby grows into an adult. A small plant grows into a big plant. A puppy grows into a dog.

Non-living things such as toy cars, mobile phones, dolls and rocks cannot grow bigger.
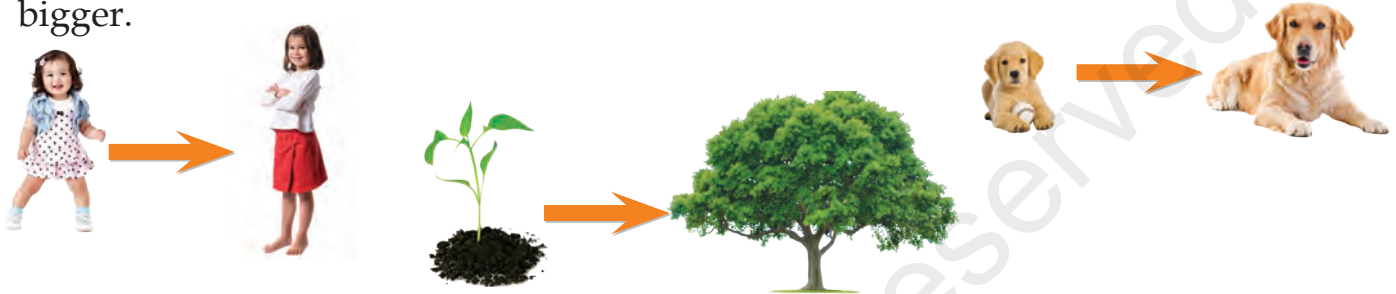
LIVING THINGS MOVE ON THEIR OWN

Animals such as dogs, tigers, deer and cats walk and run. Birds and insects fly. Plants don't move from one place to another, but they show movement in a different form. When we touch the leaves of a touch-me-not plant, it shows a slow movement by closing its leaves. But non-living things such as trains and cars cannot move on their own.

Science Is Fun

Plants show movement.
(1) Ask your teacher or parents to show you a touch-me-not plant.
(2) Touch the leaves of the plant.
(3) Watch the movement of the leaves.
(4) Observe the leaves after some time.
(5) Ask your teacher the reason.

Teacher's Note: Explain the slow movement and sense of feeling in the touch-me-not plant.

LIVING THINGS FEEL

All living things can feel. When someone pinches us, we feel pain. Similarly when we look at the sun directly, our eyes close immediately. We laugh when we are happy. We cry when we are sad. This is because we can feel. Animals and plants also feel. A pet dog barks at a stranger. The leaves of the touch-me-not plant close when we touch them. A doll cannot cry when we pinch it or when we throw it away because it is a non-living thing.

LIVING THINGS BREATHE

We cannot live without breathing. We need air to breathe. Animals and human beings breathe through lungs. Fish breathe through gills. Plants take in air through small pores on their leaves. Those pores are called stomata. Non-living things do not breathe.

Gills

Stomata

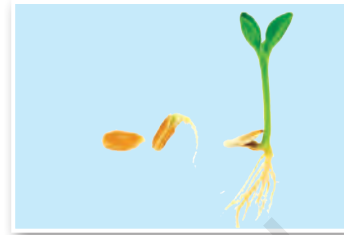**Stomata**: tiny pores found on the underside of the leaves

Science Is Fun

Living things breathe.

(1) Pinch your nose shut and keep your mouth closed for some time.

(2) Do you feel comfortable? (Yes/No)

(3) Can you hold your breath for one hour?(Yes/No)

(4) Discuss the reason with your teacher.

LIVING THINGS REPRODUCE

Living things produce their own kind.

Human beings and animals give birth to young ones. A bird lays eggs. Baby birds come out of the eggs. Most plants produce new plants through seeds.

Non-living things do not produce their own kind. They cannot reproduce.

All living things grow and finally die. Most animals die when they get old. Plants also die.

Knowledge Tree

The baobab tree is a tree which is called the tree of life or miracle plant. It stores water inside its trunk and branches. It lives for several thousands of years.

Differences between Living and Non-Living Things

Living Things	Non-Living Things
(1) Living things grow with time.	(1) Non-living things cannot grow with time.
(2) Living things can move on their own.	(2) Non-living things cannot move on their own.
(3) Living things can feel changes around them.	(3) Non-living things cannot feel changes around them.
(4) Living things need air to breathe.	(4) Non-living things do not need air to breathe.
(5) Living things need food to grow.	(5) Non-living things do not need food to grow.
(6) Living things reproduce. They can give birth to young ones.	(6) Non-living things cannot reproduce. They cannot give birth to young ones.

Read the sentences below. Put a tick (✓) for the correct statements and a cross (✗) for the wrong statements.

(1) Urja says, 'The butterfly is flying; it is a living thing'. ☐

(2) Manav says, 'The big tree is green; it is a living thing'. ☐

(3) Falak says, 'The cat is sleeping; it is a non-living thing'. ☐

(4) Neer says, 'The cloud is moving in the sky; it is a living thing'. ☐

(5) Vana says, 'The plant and the bird both need air; they are living things'. ☐

(6) Bhumi says, 'I can move and feel, and I need food to grow. I am a living thing'. ☐

Teacher's Note: Help the students to think about all the characteristics while deciding whether a thing is living or non-living.

We Have Explored »

1 There are living and non-living things surrounding us.
2 Living things include plants, animals and human beings.
3 Living things need food and can move, grow, breathe, feel and reproduce.
4 Non-living things do not move, feel, grow, breathe and reproduce.
5 Non-living things can be natural or man-made.

Recall and Answer »

(1) Tick (✓) the correct answer.

    (a) Which among the following is a living thing?

        (i) Tree   (ii) Rock   (iii) Soil   (iv) Pen

    (b) Which is a man-made thing?

        (i) Tiger   (ii) Computer   (iii) River   (iv) Cloud

    (c) Fish breathe through

        (i) lungs.   (ii) gills.

        (iii) body surface.   (iv) small pores.

(2) Fill in the blanks with the words given in the box.

> car,   lungs,   natural,   gills,   stomata

    (a) Human beings breathe through _____ .

    (b) A _____ is a man-made thing.

    (c) Rocks, soil and clouds are _____ things.

    (d) Pores on leaves that help the plant take in air are called _____ .

(3) Write down the correct spelling of the following. All of these are non-living things.

    (a) LOUDC: _____

    (b) USB: _____

    (c) OSIL: _____

    (d) ADRO: _____

(4) What are stomata? How do they help plants?

(5) Why do living things need food?

(6) Give three examples of man-made things.

(7) Name two organs that help animals to breathe.

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Think and Answer »

(1) The outer covering of your pencil is made of wood. Wood is obtained from plants.

Answer the following questions:

(a) Pencil is a (man-made/natural) thing.

(b) Pencil is a (living/non-living) thing.

(c) What are the differences between a pencil and a plant?

(2) Below are a few pictures. Write **N** for natural and **M** for man-made things.

[ ] [ ] [ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ] [ ] [ ]

(3) The table below has the names of a few living and non-living things.
Put a (✓) for those characteristics that they have and a (✗) for those they do not have.

Things	Need Food	Move	Grow	Breathe	Reproduce	Feel
Needle						
Tiger						
Tree						
Duck						
Car						
Zebra						
Umbrella						

Create and Learn »

(1) Sorting living and non-living things.

    (a) Collect a few stickers of living and non-living things.

    (b) Sort them into living and non-living.

    (c) Take a drawing sheet and write down the two headings 'Living things' and 'Non-Living things' on the top.

    (d) Paste the sorted pictures below the respective headings.

(2) Colour the following picture. Make a list of things you see in the picture. Write '**L**' for living things and '**N**' for non-living things.
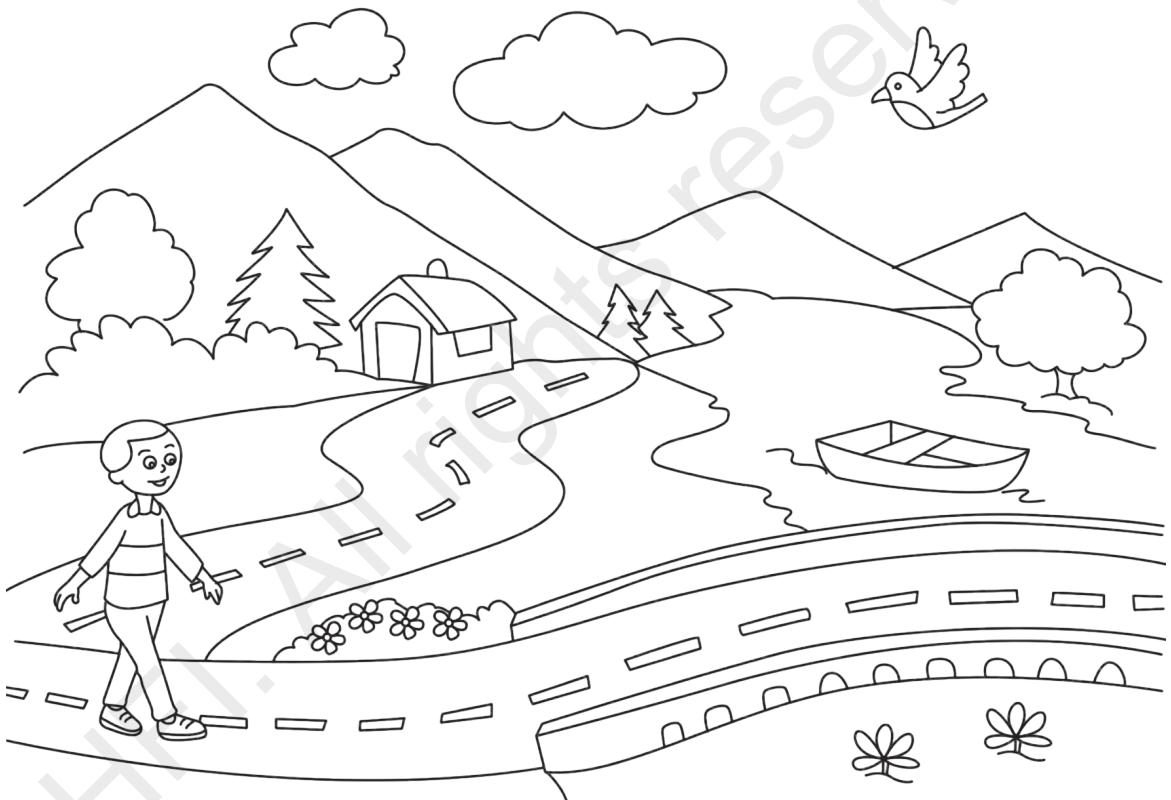
Think Beyond »

(1) Look at the picture on the right.

    (a) It is a robot. It walks and works like human beings. It resembles a human being.

    (b) Will you call it living or non-living? Give reasons for your answer.

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AIO-3 (SEM-1)

Values to Learn »

(1) Both living things and non-living things are important to us. Paper is a non-living thing which is made from plants.

We should not waste paper. We can reuse it for making useful things.

(a) Collect some old newspapers.

(b) Try to learn how to make a paper bag from newspapers from an elder.

(c) Make a few paper bags and use them.

(2) Taking care of living and non-living things

Below are a few tips to take care of things such as books and plants. Write the tips in the correct boxes.

(1) Cover it to protect it.

(2) Keep it in sunlight.

(3) Water it regularly.

(4) Do not tear it or fold it.

(5) Keep it on a shelf.

Plants: Parts and Functions

We Will Explore

» Root system and shoot system

» Functions of different parts of a plant

» Germination

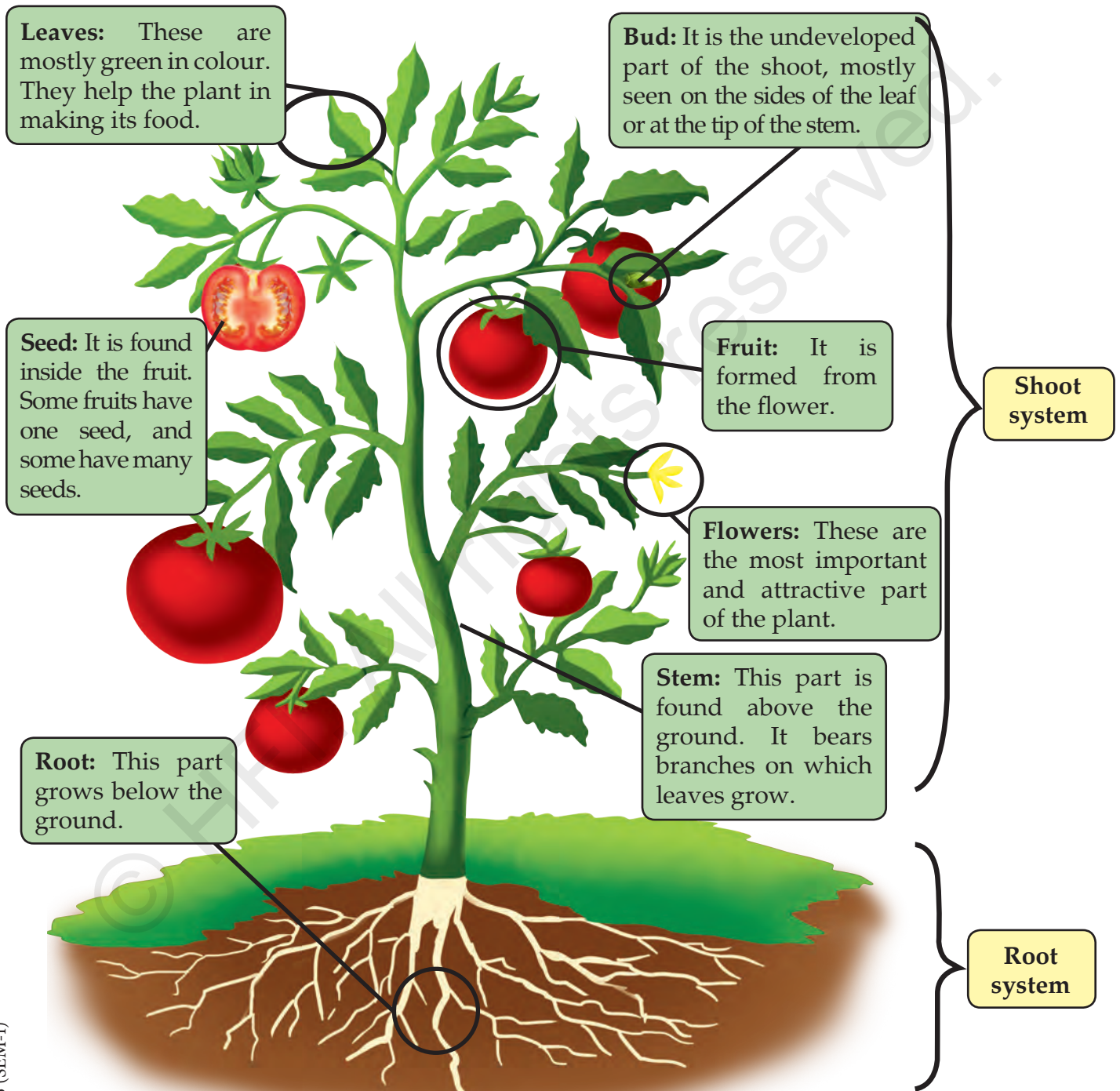Urja is showing a plant to her brother, Manav, in their garden.

Look at this plant. The plant has grown big. It was small a few days back.

Yes, it is growing. The stem looks long, and it has many leaves.

Do plants need food to grow? How do plants get their food?

Yes, plants need food to grow. The leaves of the plant make food with the help of air, sunlight and water.

We all need food to grow. Similarly, plants also need food to grow and to get energy. Do you know how and from where plants get their food? Let's discuss the different parts of plants and their functions.

A plant has two main systems: the root system and the shoot system. The root system consists of a root. The shoot system consists of a stem, branches, leaves, flowers, fruits, buds and seeds.

Root System and Shoot System

Leaves: These are mostly green in colour. They help the plant in making its food.

Bud: It is the undeveloped part of the shoot, mostly seen on the sides of the leaf or at the tip of the stem.

Seed: It is found inside the fruit. Some fruits have one seed, and some have many seeds.

Fruit: It is formed from the flower.

Shoot system

Flowers: These are the most important and attractive part of the plant.

Stem: This part is found above the ground. It bears branches on which leaves grow.

Root: This part grows below the ground.

Root system

ROOT SYSTEM

There are two types of roots: the tap root and the fibrous root.

Tap Root	Fibrous Root
(1) A single, thick root from which some small roots grow at the end of the stem is called the tap root.	(1) Many thin and bushy roots grow at the end of the stem. They are called fibrous roots.
(2) Plants such as beans, mustards and mangoes have tap roots.	(2) Plants such as rice, wheat and grass have fibrous roots.
Tap Root	Fibrous Root

Knowledge Tree

The longest root system is found in the winter rye plant.

SHOOT SYSTEM

The main parts of the shoot system are as follows:

The stem: The stalk of a plant is called the stem. Hard, thick and strong stems are called trunks. Trunks are found in mango, peepal and banyan trees. Banana plants have thick stems, but their stems are weak. Climbing plants such as the pea and money plant have weak stems; therefore, they need support to grow.

Trunk   Stem of banana   Climbing pea

The leaf: The leaf is usually green and has a flat structure attached to a stem. The stalk of a leaf is called the petiole. The flat and broad part is called the lamina. Each leaf has side veins and a main vein called the midrib. Leaves contain chlorophyll that helps in making food.

Lamina
Midrib
Side vein
Petiole
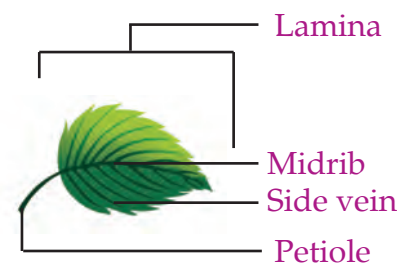
Teacher's Note: Explain chlorophyll and the function of the leaf.

Science Is Fun

Know the various parts of a leaf

(1) Get a leaf from your school garden or home.
(2) Place it between the pages of a book for 4 to 5 days.
(3) Open the book and take out the leaf.
(4) Paste the pressed leaf on a drawing sheet or a plain paper.
(5) Label the parts of the leaf.

Knowledge Tree

Do you know the name of the leaf shown in the picture? This leaf is used as a plate. Mostly South Indian foods are served on this leaf. It is a banana leaf.
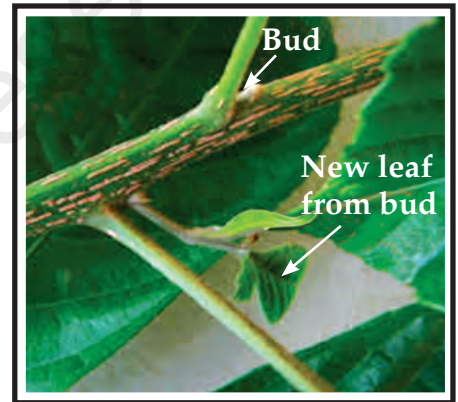
The bud:

Have you seen buds in plants?

A tiny knob-like growth of the plant which develops into a leaf, flower or shoot is called the bud.

When a flower develops from a bud, the bud is called the flowering bud. When a leaf develops from a bud, the bud is called the leaf bud.

Bud

New leaf from bud

The flower: It is the reproductive part of the plant which is often brightly coloured.

Rose   *Hibiscus*   Marigold   Sunflower

Stalk: a long , vertical stem or connecting part of a plant
Lamina: flat broad portion of the leaf
Vein: branching structure found in the leaf
Chlorophyll: the green pigment found in the leaf
Photosynthesis: the process of making food by the leaf
Reproduction: the process related to the production of new plants or animals
Edible: eatable

AIO-3 (SEM-I)

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The fruit and seeds: The fruit is the part of the plant that grows from the flower. Fruits have seeds inside them. The seeds we eat such as rice, wheat, corn, peas, dals and nuts are called edible seeds, and the seeds we cannot eat are inedible seeds.

Single seed of litchi

Multiple seeds of papaya

Some spices such as mustard are seeds, while cumin, coriander and black pepper look like seeds but they are fruits with a single seed.
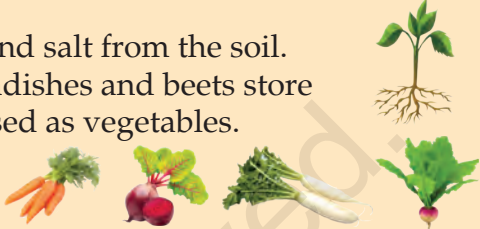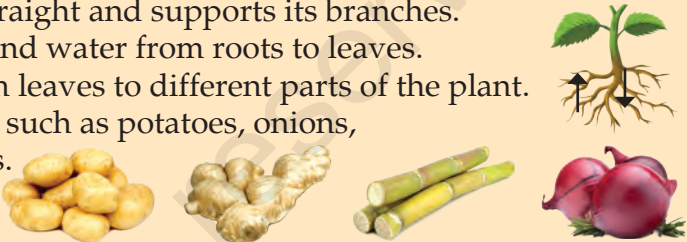

Mustard

Coriander

Cumin

Black Pepper

Science Is Fun

Below are the names of a few fruits and vegetables. Put (✓) and (✗) in the boxes.

Fruits and Vegetables	Single Seed	Many Seeds	Edible Seeds	Inedible Seeds
Mango				
Beans				
Litchi				
Orange				
Apple				
Papaya				
Maize				
Coconut				

AIO-3 (SEM-1)

Functions of Different Parts of a Plant

Part of plant	Functions
Root	(1) Root fixes the plant to the soil. (2) Roots help the plant in taking water and salt from the soil. (3) Some roots such as carrots, turnips, radishes and beets store the food made by the plant and are used as vegetables.
Stem	(1) Stem holds the plant straight and supports its branches. (2) Stem carries minerals and water from roots to leaves. It also carries food from leaves to different parts of the plant. (3) Some stems store food, such as potatoes, onions, sugarcanes and gingers.
Leaf	(1) Leaf makes food for the plant using air, water and sunlight. This process of making food is called **photosynthesis**. So, the leaf is called the **kitchen** of the plant. (2) Leaves help in exchange of gases and give out extra water through small pores called **stomata**. (3) Leaves of some plants store food, such as spinach, lettuce and cabbage.
Flower	(1) Fruit develops from flowers. (2) Some flowers store food and are eaten as vegetables, such as cauliflower and broccoli.
Fruit	Fruits carry and protect the seeds within them.
Seed	Seeds produce new plants. Most plants grow from seeds.

Function: work of a part/person/device

Germination

New plants mostly grow from seeds. A baby plant and its food are present inside a seed. When a seed gets proper sunlight, warmth, air and water, it grows into a baby plant. **Germination** is the process by which a plant grows from a seed.
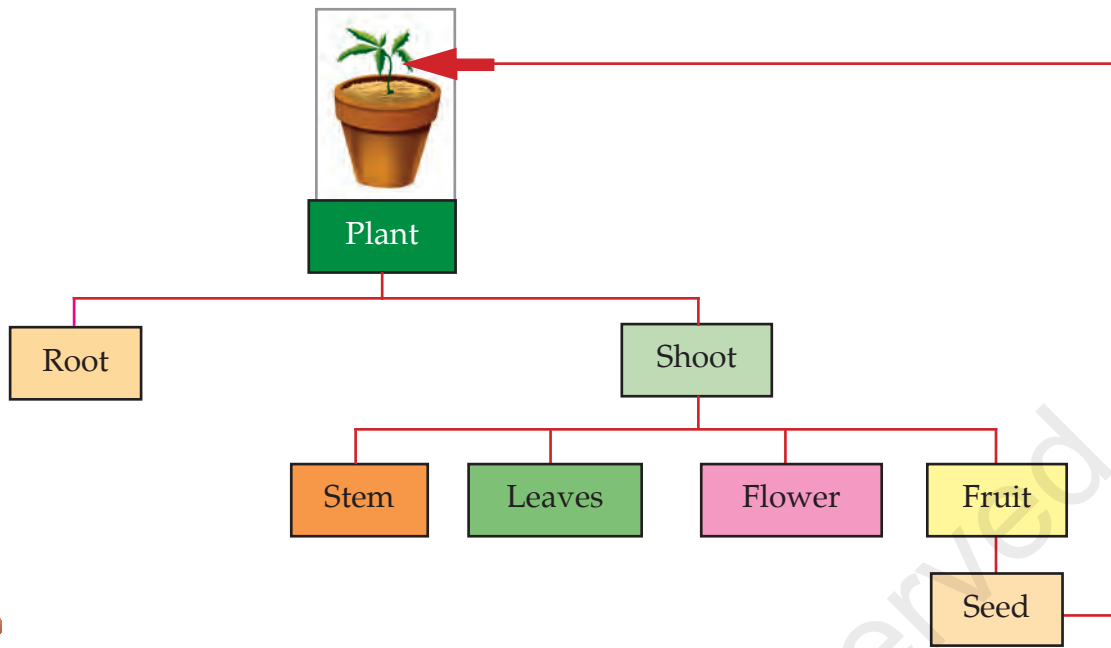

Seed ➡ Tiny plant

Science Is Fun

Grow a plant on your own.

(1) Day 1: Put some *mung* beans in a bowl and add a cup of water.

(2) Day 2: Take the *mung* beans and wrap them in a piece of wet cloth.

(3) Day 3: Open the cloth and see the baby plants (whitish growth) coming out of the seeds.

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```
                    [plant image]
                        |
                     [Plant]
                   /         \
              [Root]        [Shoot]
                        /    |    |    \
                  [Stem] [Leaves] [Flower] [Fruit]
                                            |
                                         [Seed]
```

We Have Explored »

1. A plant has two main parts: the root and the shoot.
2. The shoot includes a stem, branches, leaves, flowers, fruits and seeds.
3. Plants have either tap roots or fibrous roots.
4. The root fixes the plant to the soil and helps in absorbing water and minerals.
5. The stem holds the plant straight and supports it.
6. The leaf helps in making food for the plant.
7. Flowers produce fruits and fruits protect the seeds.
8. Mostly, new plants grow from the seeds.

Recall and Answer »

(1)   Tick (✓) the correct answer.

    (a)   Which of the following parts of the plant is called the kitchen of the plant?

        (i) Flower   (ii)   Leaf   (iii)   Root   (iv)   Stem

    (b)   The stem of this plant is soft, weak and thick.

        (i) Mango   (ii)   Banana   (iii)   Pea   (iv)   Coconut

    (c)   Which of the following flowers is eaten as a vegetable?

        (i) Sunflower   (ii)   *Dahlia*

        (iii) Cauliflower   (iv)   Lily

(d) We eat the leaves of

(i) spinach.   (ii) cabbage.

(iii) lettuce.   (iv) spinach, cabbage and lettuce.

(e) Identify the fruit which has many seeds.

(i) (ii) (iii) (iv)

(2) Write 'T' for true and 'F' for false statements.

(a) The stem of the plant grows below the ground.

(b) Most roots contain chlorophyll.

(c) The flat and broad part of a leaf is called the lamina.

(d) Fruits are formed from leaves.

(3) Match the parts of the plant in column A with their functions in column B.

A	B
Flower	Helps in taking water and minerals from the soil
Root	Makes food for the plant
Leaf	Holds the plant straight and carries food
Fruit	Produces fruit
Stem	Carries and protects the seeds within it

(4) Write the names of three plants which have tap roots.

(5) What does a seed need to grow into a new plant?

(6) How is the stem different from the root?

(7) Name three plants in which stems store the food.

Think and Answer »

(1) Look carefully at the plant in the picture and answer the following questions:

(a) Why flowers are important for plants?

(b) Why does the plant need support?

AIO-3 (SEM-1)

(2) Leaves make food for the plant. How do other parts of the plant get the food? Discuss with your teacher.

(3) In the picture below, trace the way the water moves from the root to the leaves.

Create and Learn »

(1) We use flowers in various ways. Make a flower bouquet and gift it to your friend on his/her birthday.

Things you need: a plastic container, some flowers with leaves, twigs, scissors, a red ribbon, sticky tape, sketch pens of different colours and a small cardboard

- Collect some flowers such as roses, sunflowers and *Dahlias* with some twigs from a nearby flower shop. You can take the help of your parents.

- Arrange the flowers and twigs alternately. Stick them with the tape. Tie a ribbon around them.

- Decorate the plastic pot as you wish, and place the flowers in it.

- Take the cardboard and write, 'Happy Birthday' using sketch pens and stick it to the bucket.

- Gift it to your friend.

(2) Identify the flower in the picture. Colour the flower pink, the leaves green and the stem dark green.

Think Beyond »

(1) Why are most leaves green?

(2) Sometimes when we eat watermelon, we eat its seeds. Why do these seeds not grow into a plant in our body?

Values to Learn »

(1) Vegetables are good for our health. We should eat at least two servings of green leafy vegetables daily. We eat different parts of different plants as vegetables. The table below has a few vegetables. Tick which part of the plant they are.

Vegetable	Root	Stem	Leaf	Flower	Fruit	Seed
Cabbage						
Potato						
Onion						
Capsicum						
Cauliflower						
Spinach						
Mint						
Brinjal						
Peas						

(2) Plants are important to us directly and indirectly. The table below has a few things. Tick those that we get from the plants. Write how we get them. One has been done for you.

Source	Cookies	Milk	Cloth	Pencil	Cheese	Toy car	Plastic box	Book	Box of dry fruits
Plants	✓(Cookies are made from wheat,oil and sugar. All come from plants.)								
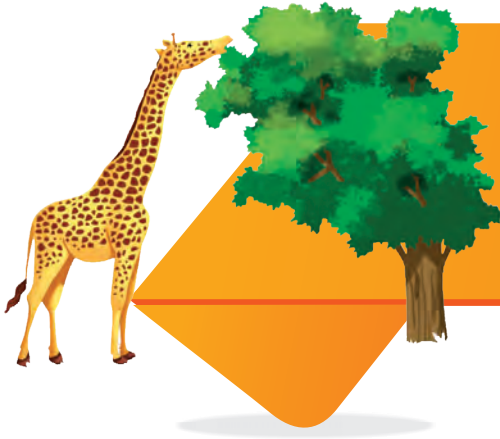
Chapter 3

Eating Habits of Animals

We Will Explore

» Animals and their eating habits

» Feeding habits of animals

» Food chain

» Taking care of animals

Look at the picture below.

The animals shown in the picture eat different things. Write down their names in the table below according to what they eat.

Eat plants	Eat flesh	Eat both plants and flesh

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We know that all living things need food to grow, to stay fit and healthy and to get energy to live. In the same way, animals also need food. Different animals eat different types of food. Let us know about food and feeding habits of the animals.

Animals and Their Eating Habits

Some animals eat only plants; some other animals eat the flesh of other animals and some eat both plants and flesh of other animals. Based on their eating habits, animals are classified as herbivores, carnivores and omnivores.

HERBIVORES

Animals such as zebras, giraffes, cows and elephants eat plants. They are called plant-eating animals or herbivores.

CARNIVORES

Animals such as tigers, lions and wolves eat flesh of other animals. They are called flesh-eating animals or carnivores.

OMNIVORES

Animals such as monkeys and bears eat both flesh of other animals and plants. They are called plant and flesh eaters or omnivores.

Animals

Herbivores (Plant eaters)	Carnivores (Flesh eaters)	Omnivores (Plant and flesh eaters)
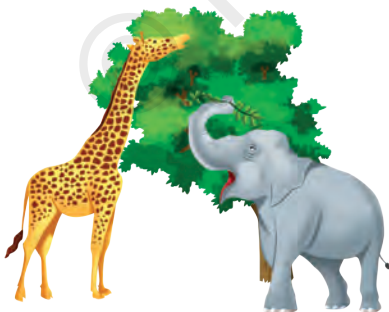
Science Is Fun

Tick the correct option.

(1) Is human being an animal? Yes/No

(2) Human beings eat, sleep and protect themselves from harm and danger like other animals. Yes/No

(3) Human beings are _____ (omnivores/carnivores/herbivores).

Feeding Habits of Animals

Feeding is a process by which animals take their food. All animals cannot take their food in the same way. Different animals take food differently. Based on the feeding habits, animals have different types of teeth.

Animals and Their Feeding Habits	
	Some animals such as snakes and frogs do not have chewing teeth. They swallow their food whole.
	Animals such as tigers, lions, foxes and dogs have sharp, pointed and curved front teeth to tear flesh. They have strong jaws. Their back teeth are broad and flat and are used for chewing the flesh.
	Animals such as rabbits, rats and squirrels have sharp front teeth with which they bite nuts, fruits and seeds.These animals gnaw (to bite something repeatedly) their food.
	Animals such as horses, cows, giraffes and goats have flat, broad front teeth to bite off leaves, grass and swallow their food. Later, they bring the food back into their mouth and chew the cud (half-chewed and swallowed food).

Teacher's Note: Discuss few similarities and differences between human beings and other animals. Make the students understand that human beings are unique animals.

AIO-3 (SEM-1)

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Rats have four long, sharp front teeth, two at the top and two at the bottom. They are used for gnawing. These teeth grow every day through out their lives.
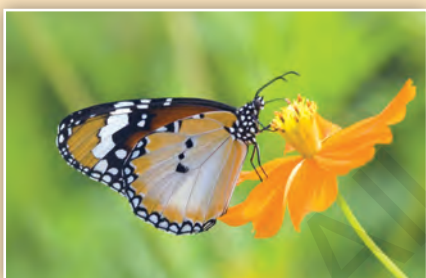

Special Feeding Habits of Some Other Animals

Frogs, lizards and chameleons have a sticky tongue to capture insects.

Elephants use their trunk to break off branches and leaves and push them into their mouth. Trunk is also used for drinking water.

Butterflies and honey bees have long, thin tubes to suck nectar from flowers.

Mosquitoes and leech suck the blood of other animals.

Cats and dogs use their tongue to lap up milk and water.

Giraffes use their long neck to get their food.

Lap up: to take up liquid quickly with the tongue
Nectar: sweet liquid formed in flowers to attract insects

AIO-3 (SEM-1)

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Science Is Fun

Make a colourful mask in the shape of a butterfly. Make the long, thin tube by which it sucks nectar from the flower.

Materials needed: a piece of card board, scissors, pencil, plastic sticks, buttons, colours, feathers/red ribbon, white glue, thread or elastic.

- Draw a butterfly on a cardboard piece.
- Carefully cut around the outline of the butterfly, including eye holes. You can take help of your parents.
- Colour your mask as you like. Decorate it by pasting a few colourful buttons on it.
- Make the long, thin tube at its mouth with plastic sticks.
- Glue some feathers or curly ribbons on sides.
- Make holes on both the sides and attach a thread or elastic to tie the mask.
- Wear your mask and have fun.
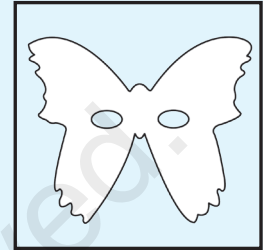
Food Chain

Some animals eat plants. These plant-eating animals are eaten by some other animals. Some animals eat both plants and animals. Thus, all the animals directly or indirectly depend on plants for their food. Thus, food chain is an order or a sequence that shows all animals are dependent directly or indirectly on plants.
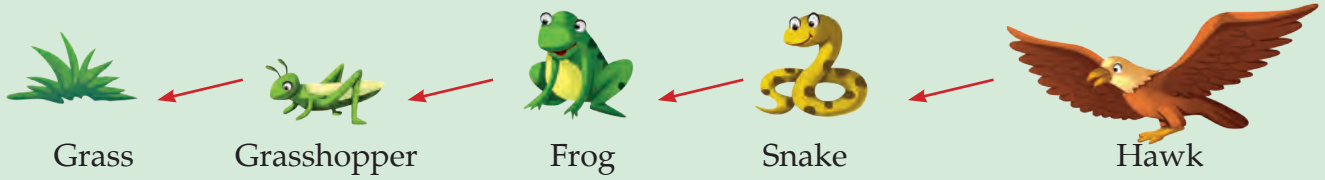
EXAMPLES OF FOOD CHAIN

The grass is eaten by the deer, and the deer is eaten by the tiger.

Grass   Deer   Tiger
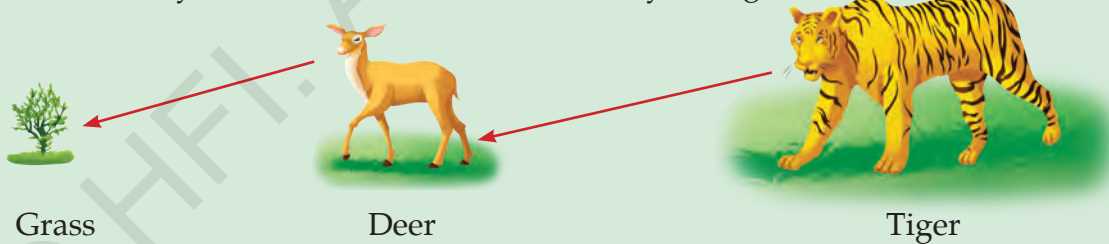
The grass is eaten by the rabbit, and the rabbit is eaten by the fox.

Grass   Rabbit   Fox

AIO-3 (SEM-1)
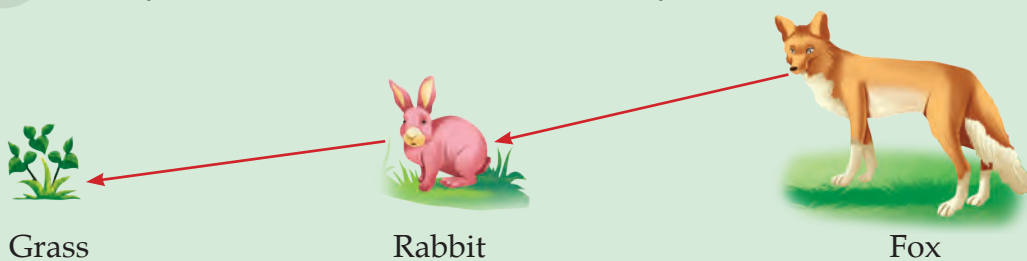
The grass is eaten by the grasshopper; the grasshopper is eaten by the frog; the frog is eaten by the snake; and the snake is eaten by the hawk.

Grass — Grasshopper — Frog — Snake — Hawk

Science Is Fun

Can you form correct food chains for the following. Write down in the space given below.

(1) bug, plant, chicken: _____

(2) man, goat, grass: _____

(3) grasshopper, grass, rat: _____

(4) snake, frog, eagle: _____

Taking Care of Animals

WILD ANIMALS

Wild animals are part of our natural environment. Loss of any animal can affect us directly or indirectly. We should take care of these animals.

- We should not disturb or tease animals.
- We should not destroy their homes by cutting trees.
- We should not hunt them.

Elephants are calm and gentle animals. They too have emotions such as happiness, anger, sadness, etc. just like we have.

DOMESTIC ANIMALS

Domestic animals work for us. Some animals such as donkeys, camels, oxen and horses carry loads and work in fields. They need energy-giving food such as fodder. Animals such as cows and goats give us milk. They eat food such as grass, grains and oilseed cakes to produce milk.

- We should give proper food to domestic animals.
- We should give proper care and protection to them.
- Their shelters should be clean.
- If they fall sick, we should take them to a veterinary doctor (the doctor who treats animals).

Myths and Truths

Myths: snakes drink milk.

Truth: snakes drink water and not milk. They cannot digest milk.

Myths: camels store water in their humps.

Truth: camels store fat (a food component that gives energy) in their humps which can be changed into water and energy.

We Have Explored »

❶ Animals need food to grow, to stay fit and healthy and also to get energy to work.

❷ Some animals eat plants, some animals eat flesh of other animals, and some other animals eat both plants and flesh of other animals.

❸ Animals eat food in different ways: some gnaw, some chew the cud, and some swallow their whole food.

❹ Food chain is an order or a sequence that shows all animals depend on plants directly or indirectly.

❺ We must take care of animals.

Recall and Answer »

(1) Tick(✓) the correct option.

(a) Which of the following is a herbivorous animal ?

    (i) Tiger   (ii) Cow   (iii) Rat   (iv) Wolf

(b) The animal/animals that uses their sticky tongue to capture their food.

    (i) Frog   (ii) Chameleon

    (iii) Lizard   (iv) Frog, chameleon and lizard

(c) Which animal swallows its food whole?

    (i) Bear   (ii) Monkey   (iii) Snake   (iv) Tiger

(d) Mosquitoes and leeches suck

    (i) nectar.   (ii) blood.   (iii) water.   (iv) milk.

(2) Fill in the blanks with the correct word.

(a) An elephant uses _____ to eat and drink.

(b) Animals such as cows, horses, and goats eat _____.

(c) Based on eating habit, lion is a _____.

(d) Rats and rabbits _____ their food.

(3) Write 'T' for true and 'F' for false in the boxes.

(a) Cows, goats and horses gnaw their food. ☐

(b) Butterflies have long, thin tubes in their mouth to suck nectar from flowers. ☐

(c) Dogs have sharp, pointed and curved teeth to tear flesh. ☐

(d) Tigers and lions chew the cud. ☐

AIO-3 (SEM-1)

(4) Match the feeding habits to the animals.

Column A	Column B
Animals with no chewing teeth	Dogs, cats
Animals that have a sticky tongue	Snake
Animals with sharp, pointed curved front teeth	Tigers and lions
Animals with sharp front teeth	Mosquitoes and leeches
Animals with flat, broad front teeth	Frogs and lizards
Animals that suck blood	Cows, horses and giraffes
Animals that lap up milk and water	Rats and rabbits

(5) Name three carnivorous animals.

(6) How should we take care of domestic animals?

(7) How does a frog catch its food?

(8) What do you mean by 'gnaw'? Name two animals that gnaw their food.

Think and Answer »

(1) Guess who I am.

    (a) I chew the cud. I give milk. I am a _____.

    (b) I have a sticky tongue to get my food. I live on land and in water. I am a _____.

    (c) I eat flesh of other animals. I am called a _____.

    (d) I suck the nectar from flowers. I have colourful bright wings. I am a _____.

(2) Unjumble the letters below to get the names of a few animals. All are wild animals.

    (a) gerti   (b) rbea   (c) noli   (d) lepehatn

(3) Circle the odd one out.

    (a) man, goat, cow, horse

    (b) lion, wolf, tiger, cow

    (c) deer, zebra, giraffe, tiger
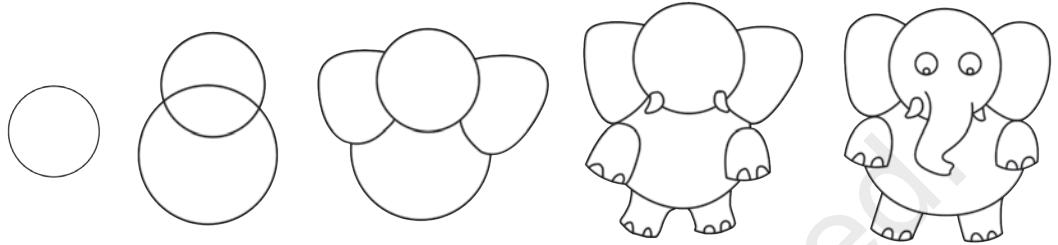
    (d) monkey, bear, man, elephant

(4) Make a food chain which includes you. An example has been given for help.

    Grass- Goat-Human being

Create and Learn »

Try to draw the following animal stepwise. Answer the following questions.

(a) Name of the animal _____.

(b) It eats _____.

(c) It is a/an _____ (herbivore/carnivore/omnivore).

Think Beyond »

(1) Why do you think a lion has sharp and pointed teeth while a cow has broad teeth?

(2) Do you know which is the tallest animal in the world? Write down the eating habit of that animal. You can ask for help from your teacher.

Values to Learn »

Caring for pets.

Do you have any pet dog/cat at home? Here are a few tips to take care of them.

(1) Feed your pets well.

(2) If you have a dog, take it on a walk.

(3) Spend time with your pet.

(4) Make its home neat and clean.

(5) Go to a veterinary doctor if your pet falls sick.

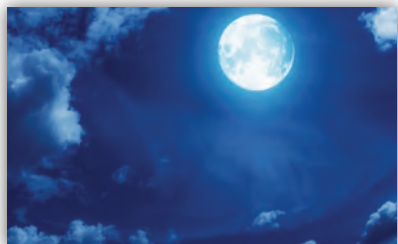# Social Studies

CLASS-3 ◆ SEMESTER-1

You Will Learn

- How the Universe was formed
- The Solar System
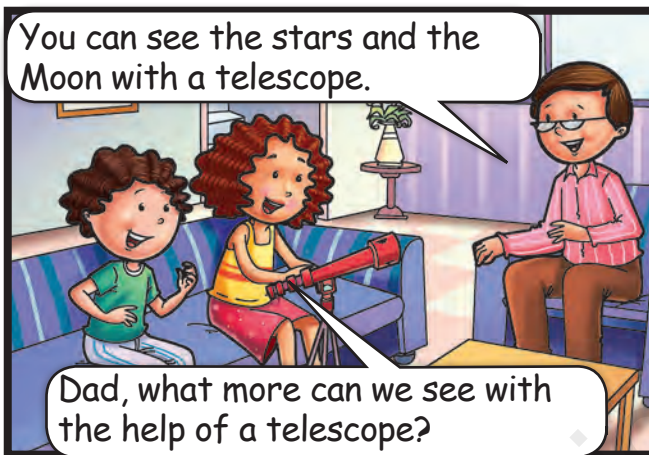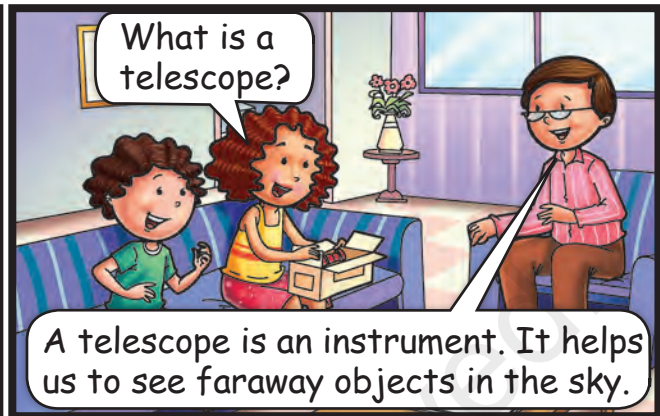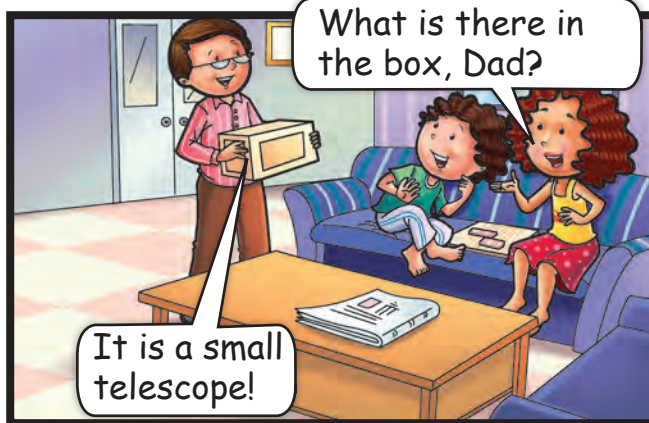- Stars and constellations
- Moon—our bright neighbour

LET US BEGIN

Identify the sky-objects in these pictures. Write two sentences about these objects that you see in the sky.

Objects in the sky	Description
	....
	....
	....

AIO-3 (SEM-1)

HOW THE UNIVERSE WAS FORMED

> What is there in the box, Dad?

> It is a small telescope!

> What is a telescope?

> A telescope is an instrument. It helps us to see faraway objects in the sky.

> You can see the stars and the Moon with a telescope.

> Dad, what more can we see with the help of a telescope?

> You can discover new planets and galaxies with a large telescope.

> I know there are stars and Moon in the sky. What are planets and galaxies?

If you look through a telescope you will see a large space. This large space filled with dust, gases, stars, clouds and planets is called the universe.

The universe is made up of thousands of stars in large groups. A large group of stars and other celestial bodies is called a galaxy. There are many galaxies in the universe. We are part of the Milky Way galaxy.

Many, many years ago everything in the universe was a tiny particle which was very hot. There was a large explosion. Tiny particles blew off and started to cool down. This is known as the Big Bang theory. All celestial bodies such as stars, planets and galaxies are believed to have formed after the Big Bang.


The Milky Way galaxy

explosion: when something blasts or bursts with a loud sound
celestial: objects found in the universe

AIO-3 (SEM-1)

THE SOLAR SYSTEM

Like us, the Sun also has its family. The family of the Sun is called the Solar System. The Sun's family consists of planets, moons or satellites, and other objects such as asteroids and comets. There are eight planets in the Solar System. The Sun is at the centre of the Solar System. All the planets move around the Sun in their own fixed paths. These fixed paths are called orbits.
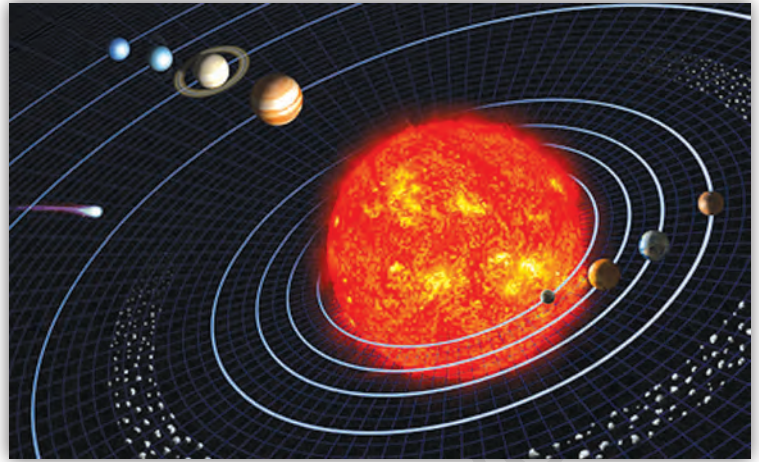
The Solar System

Mercury is the smallest and Jupiter is the largest planet in the Solar System. Saturn has many rings surrounding it. These rings are made up of ice crystals. The Earth is the only planet in the Solar System that has life existing on it. The Sun is the source of light and energy on the Earth.

STARS AND CONSTELLATIONS

Stars are hot balls of burning gases. The Sun is the closest star to the Earth.

We can see many stars in the night sky. Some of these stars appear in groups. They form patterns like a bear or a spoon. Such patterns of stars that we see in the night sky are called constellations.

The Big Dipper and Little Dipper constellations
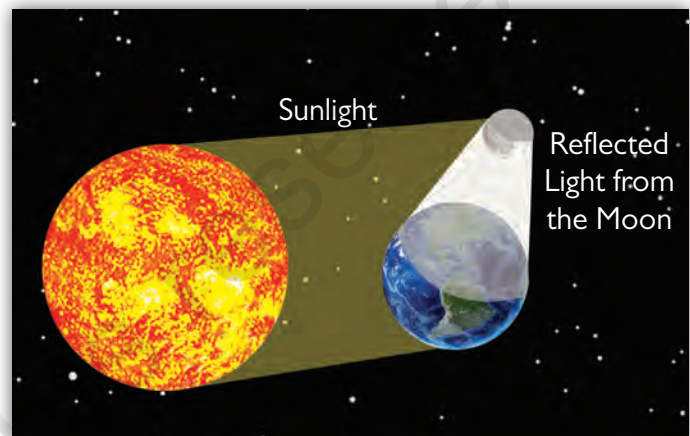
orbit: fixed path along which a planet moves

MOON—OUR BRIGHT NEIGHBOUR

Satellites are celestial bodies that move around the planets. All planets, except Mercury and Venus have satellites. The Moon is the satellite of the Earth. At night, we can see the Moon in the sky along with the stars. The Moon does not have its own light. It gets its shine from the Sun. The Moon moves around the Earth.

Sunlight

Reflected Light from the Moon

This is how the Moon shines.

The Moon appears to change its shape every night.

The light of the Sun falls on different parts of the Moon on different days. We can see only that part of the Moon on which the light of the Sun falls. So it appears that the Moon changes its shape. The Moon does not support any life. It has no air, water or soil. It is dry and rocky.
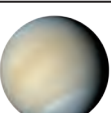
Do You Know?

Planets	Satellites (Moons)
Jupiter	79
Saturn	53
Uranus	27
Neptune	13
Mars	2
Earth	1

	Mercury is the smallest planet in the Solar System. It is nearest to the Sun but not the hottest.
	Venus is similar to Earth in size and is often called the Earth's twin planet. It is also called the Morning Star when seen in the morning and the Evening Star when seen in the evening.
	Earth is the third planet from the Sun. It is the only planet where life exists. Earth has one natural satellite the Moon.
	Mars is known as the Red Planet due to the large amount of red dust on its surface.
	Jupiter is the biggest planet of our Solar System. It is also called the vacuum cleaner as it sucks in all the dust and rocks in the Solar System that come near it.
	Saturn is made up of only gases and there is no land surface on it. It is called the Planet with Rings.
	Uranus is also made up of only gases just like Saturn. It is called the Ice Giant and is believed to be the coldest planet in the Solar System. Uranus has faint rings around it.
	Neptune is the farthest planet in the Solar System. It is also icy cold. It is also called the Windy Planet as continuous strong winds blow on it.

You Have Learnt

- The universe is made up of thousands of stars, dust, gases, clouds and other celestial bodies.
- A large group of stars and other celestial bodies is called a galaxy.
- The Sun and the eight planets form the Solar System.
- The Sun is the closest star to the Earth.
- Patterns of stars that we see in the night sky are called constellations.
- Most planets have satellites that move around them.
- The Moon is the satellite of the Earth.

AIO-3 (SEM-1)

EXERCISES

Let Us Answer

A **Fill in the blanks with the help words and complete these sentences.**

explosion, planets, nearest, Neptune, galaxy

1. A large group of stars and other celestial bodies is called a . . . .

2. The Universe was formed by a large . . . .

3. Mercury is the . . . . planet to the Sun.

4. Satellites are the celestial bodies that move around . . . .

5. . . . . is also called the Windy Planet because of the continuous strong winds that blow on it.

B **Answer the following questions in your exercise book.**
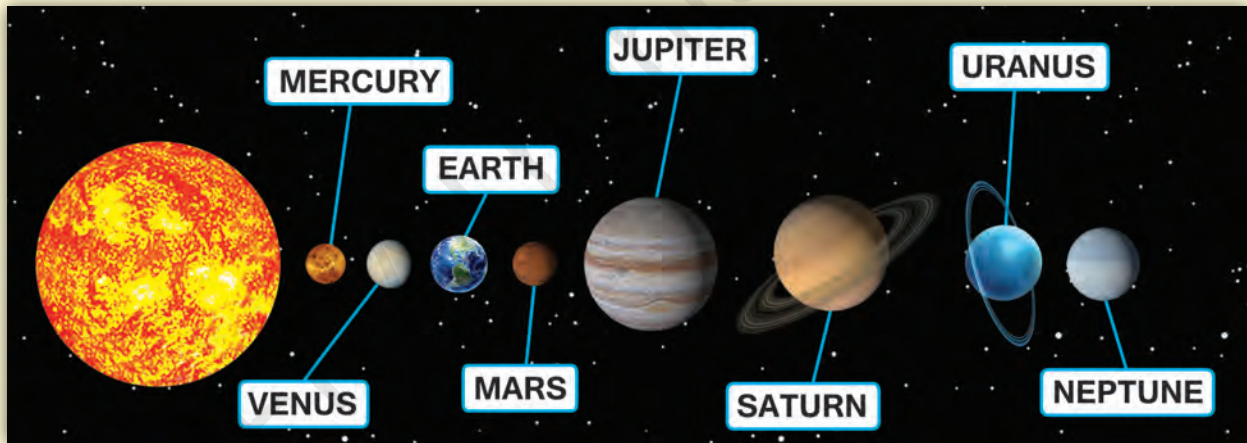
(Remember: We show the Sun and all the planets in one straight line to understand their sequence. In reality, they are never in a straight line with the Sun.)

1. Which two planets are closest to Earth?

2. Which planet is called the Morning Star and why?

3. Which is the biggest planet in the Solar System?

4. Which planet is called the Red Planet and why?

5. What is located in the centre of the Solar System?

C **Find out the names of members of the Sun's family in the word search with help words given in the box.**

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

Sun	Mercury	Venus	Earth	Moon	Mars
Jupiter	Saturn	Uranus	Neptune	Asteroid	Comet
Rings	Milky Way	Solar System			

Think Beyond (HOTS Question)

Solve the following riddle.

I am the second largest planet
and have over 50 moons is my orbit
The reason I am recognizable
is because of all the rings around me

Let Us Do

A Create the night sky on a black chart paper. Cut and paste the Moon from a white glossy paper. Cut out stars of different sizes from shiny paper and paste them on the chart.

B Draw the Earth in your scrapbook. Think of six words connected to the Earth. Make one sentence using each word. One has been done for you.

Moon: The Moon is the only natural satellite of the Earth.

Life Skills (Thinking & Emotional Skills)

Imagine that you have discovered a planet. Where would you like to place your planet in the Solar System so that you can live on it? Would you also like to take your family, friends and pet with you?

INTERNET LINKS

- *http://www.kidsastronomy.com/solar_system.htm*
- *https://solarsystem.nasa.gov/kids/#*

PROJECT TIME

Make Solar System Art!

You will need:

- Black sheet of chart paper
- Spray bottle
- White paint
- Water
- Glue stick
- A variety of bright-coloured pieces of card sheets
- Crayons
- Glitter glue (optional)
- Star stickers (optional)

You must do:

1. Put a small amount of white paint in the spray bottle and mix it with water. Then spray the mixture on the black sheet of chart paper. This gives that 'galaxy-like look' to your picture. Let the paint dry completely.

2. Draw different-sized circles on a variety of bright-coloured card sheets. The circles should match the size of the eight planets. Cut eight circles.

3. Paste these eight circles with glue. Make sure each planet is placed in the correct position from the Sun.

4. Add colourful details you would like to the planets with crayons and glitter.

🐝✏️ **Teacher's Note**

Explain to the children that the Earth is only a small part/member of the Solar System, and the Sun and its planets are tiny objects in the vast space. Inform students that many planets have several known and unknown natural satellites/moons. Explore the chapter in class with the help of a Solar System wall chart. Arrange a trip to a planetarium in your city. Discuss with the children what they have seen and understood from the show on the Solar System.
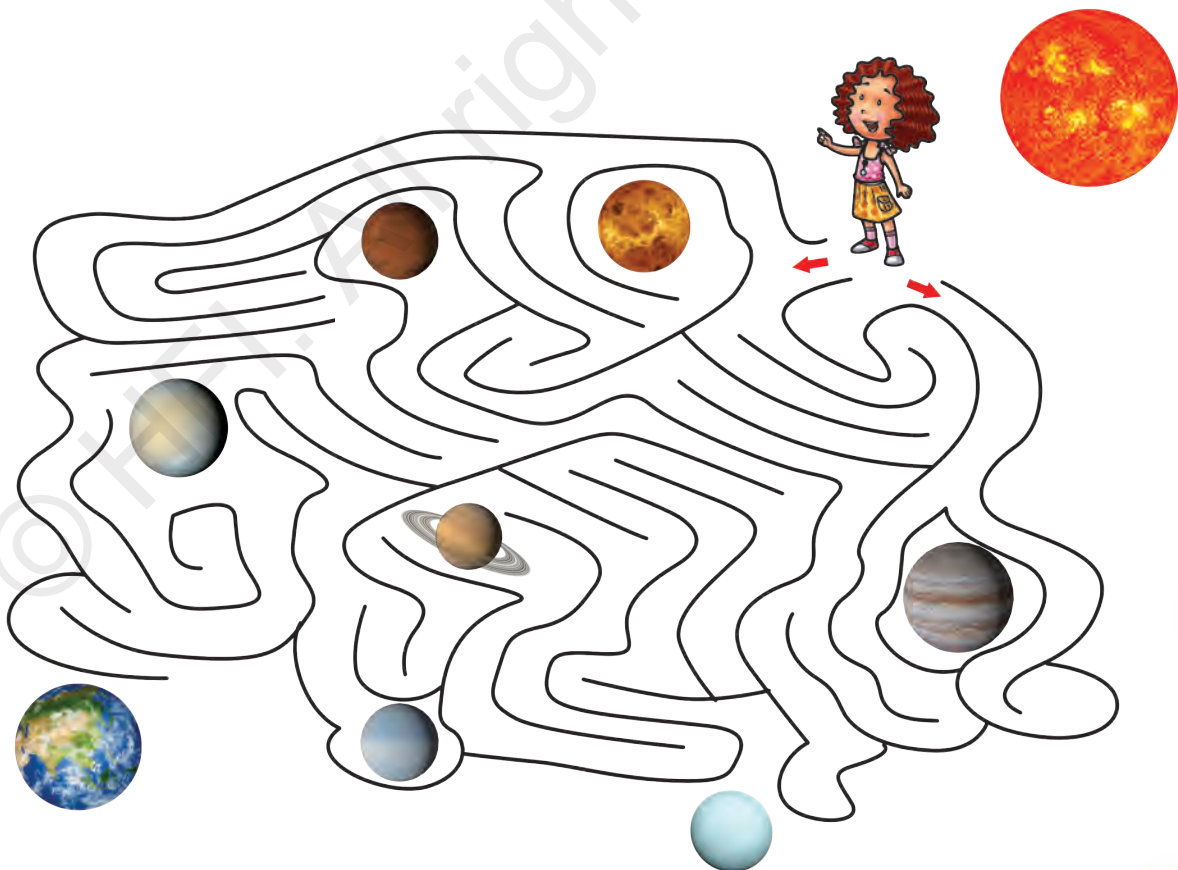
You Will Learn

- Earth is a special planet
- Shape of the Earth
- Movements of the Earth

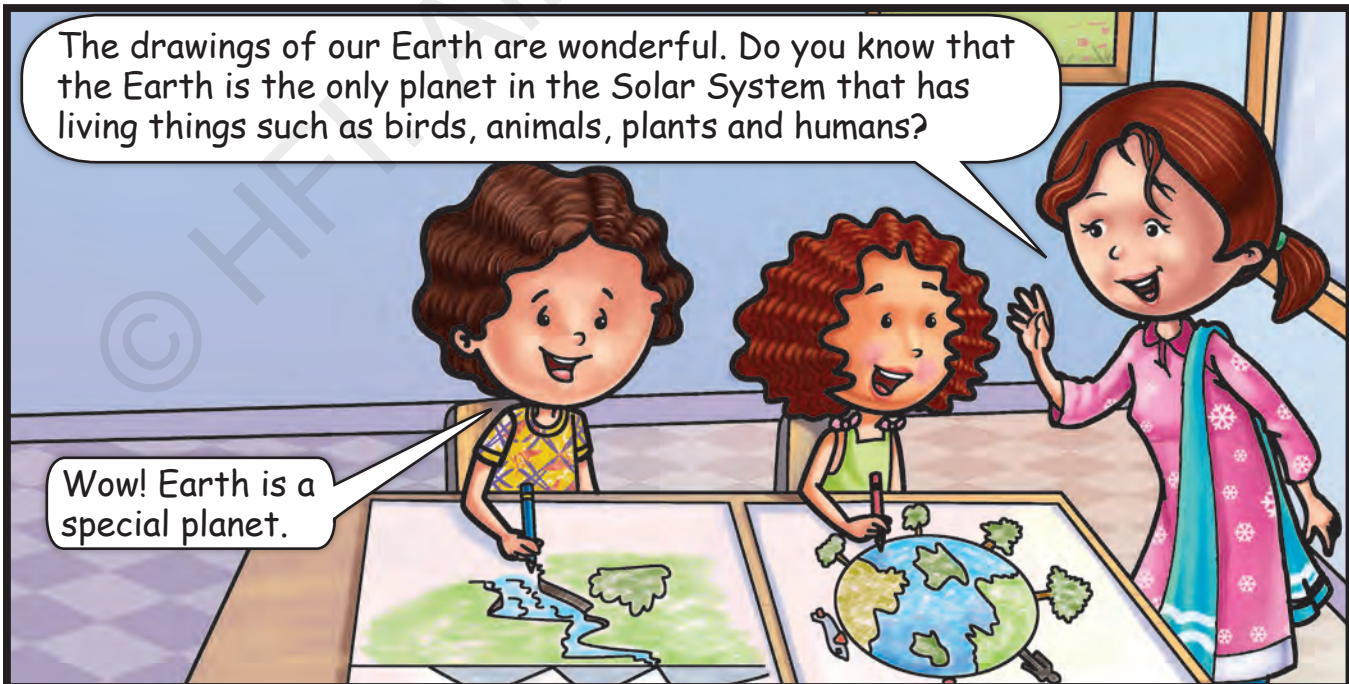## LET US BEGIN

Cheeni is lost in the Solar System maze. Help her to reach the planet which has land, water and air.

EARTH IS A SPECIAL PLANET

AIO-3 (SEM-I)

The presence of life on Earth makes it a unique planet. Let us know the factors that make life possible on the Earth.

- **Neither too hot nor too cold:** The Earth has a favourable temperature that makes life possible on it. The distance of the Earth from the Sun affects the temperature on the Earth. Some places on Earth are warmer than the others but it is not too hot or too cold like the other planets in the Solar System.

- **Availability of water:** All living things need water to live. The Earth is the only known planet that has water. It is often called the blue planet due to the large amount of water found on it in the form of lakes, rivers, oceans, snow and rainfall. This water helps us to live on Earth. There is underground water also.

- **Blanket of air:** If you put your hand in front of your mouth and blow on it, you will feel something on your palm. But you cannot see or touch it. This is air. All living things need air to breathe. The Earth is surrounded by a blanket of air. This blanket of air protects us from the extremely hot and harmful rays of the Sun. This blanket of air is called the atmosphere. The availability of air makes the Earth a special planet.

Talking Point

The Earth is the third planet from the Sun in the Solar System. What would happen if the Earth was closer to the Sun?

SHAPE OF THE EARTH

For many years people thought that the Earth was flat. Later, sailors and explorers found that it is round like a ball. The Earth shown as globes or in pictures looks like a ball but its shape is not perfectly round.

It bulges in the middle and is slightly flat at the top and bottom. The northernmost part of the Earth is called the North Pole and the southernmost part of the Earth is called the South Pole.

Picture of the Earth from the space

favourable: suitable   *bulge:* a swelling or bump

MOVEMENTS OF THE EARTH

You have seen that every day the Sun appears to rise in the morning and set in the evening. Have you wondered how we have day and night? Have you wondered how we experience different seasons in a year? These changes happen due to the movements of the Earth. The Earth has two kinds of movements—rotation and revolution.

Rotation Causes Day and Night

Have you seen a top spinning on its tip? If you draw a line from the lower tip to its upper tip, then you will see a line along which the top is spinning. This is an imaginary line.

Just like the top, the Earth spins on an imaginary line that passes through its two poles. This is called its axis. The Earth constantly spins on its axis from west to east. One spin completed by the Earth on its axis is called rotation. The Earth completes one rotation in 24 hours. We experience day and night due to the Earth's rotation.
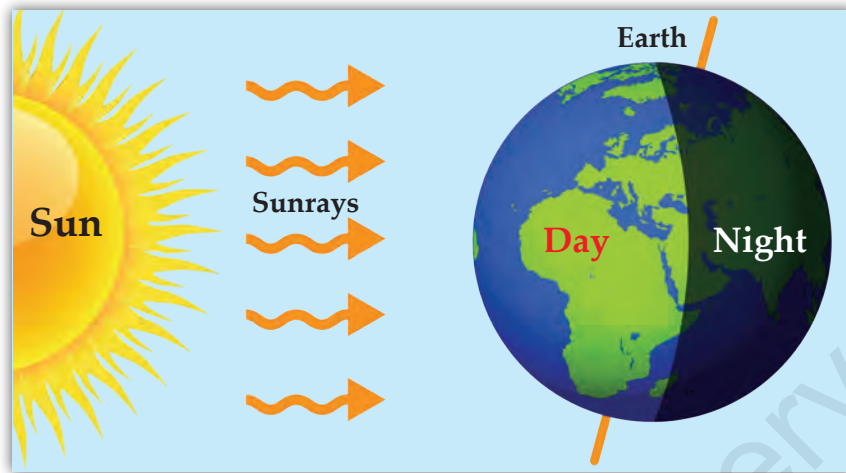

A spinning top

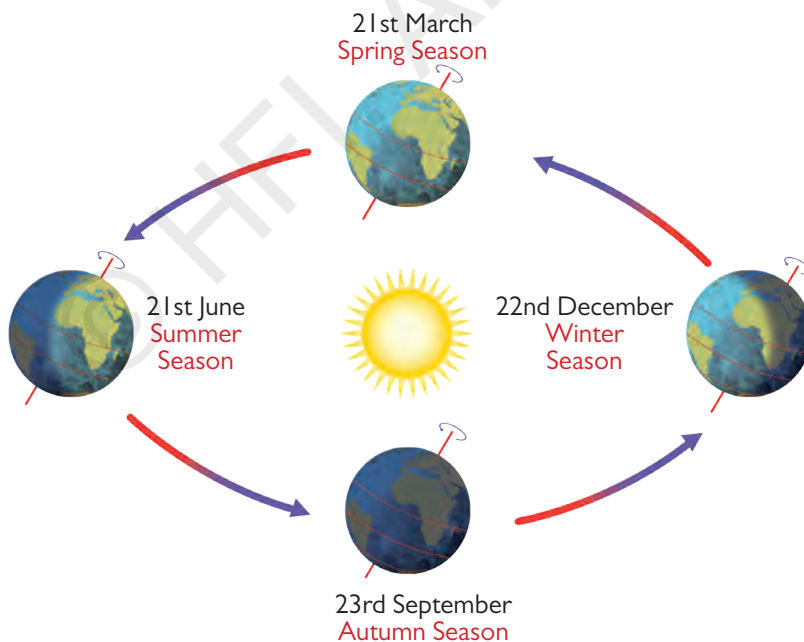*voyage:* a long journey that involves travelling by sea or in space

The part of the Earth that faces the Sun during rotation experiences day. The part that does not face the Sun during rotation experiences night.

Rotation causes day and night.

Revolution Causes Change of Seasons

You already know that the Earth is part of the Solar System. Like all other planets in the Solar System, the Earth also moves around the Sun on an imaginary fixed path called the orbit. This movement of the Earth is known as revolution. The Earth takes one year to go around the Sun. Revolution causes seasons. There are four main seasons—summer, autumn, winter and spring. During this movement, the Sun's rays fall on different parts of the Earth (see picture given below). The part of the Earth facing the Sun gets direct heat and experiences summer. On the other hand, the part of the Earth that does not receive direct heat of the Sun experiences winter.

21st March
Spring Season

21st June
Summer
Season

22nd December
Winter
Season

23rd September
Autumn Season

Revolution causes seasons.

Let Us Explore

Find out the different seasons that are experienced in India.

AIO-3 (SEM-I)

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You Have Learnt

- Suitable temperature, availability of water and the Earth's atmosphere make it a special planet.
- The shape of the Earth is not perfectly round.
- The Earth bulges in the middle and is slightly flat at the poles.
- The Earth has two movements—rotation and revolution.
- The Earth takes 24 hours to complete a rotation and one year to complete a revolution.
- Rotation of the Earth causes day and night.
- Revolution of the Earth, around the Sun, causes seasons.

EXERCISES

Let Us Answer

A **Write T for True and F for False.**

1. One rotation of the Earth is completed in a year.

2. Atmosphere surrounds the Earth.

3. The Earth bulges at the poles.

4. Mercury is the hottest planet in the universe.

5. The Earth revolves on its axis around the Sun in its orbit.

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AIO-3 (SEM-I)

B **Look at the pictures given below and answer the following questions.**
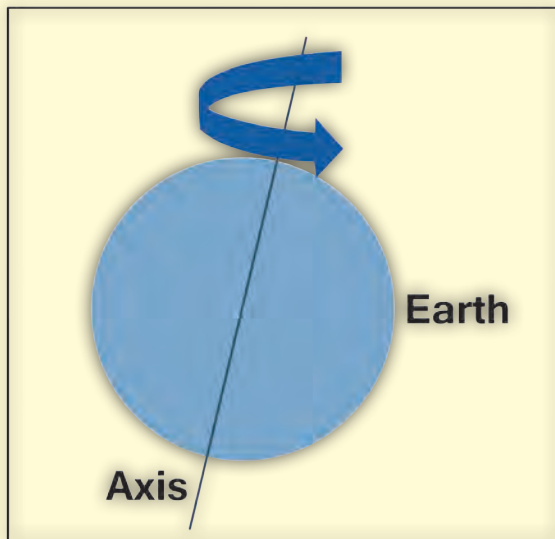
Picture A
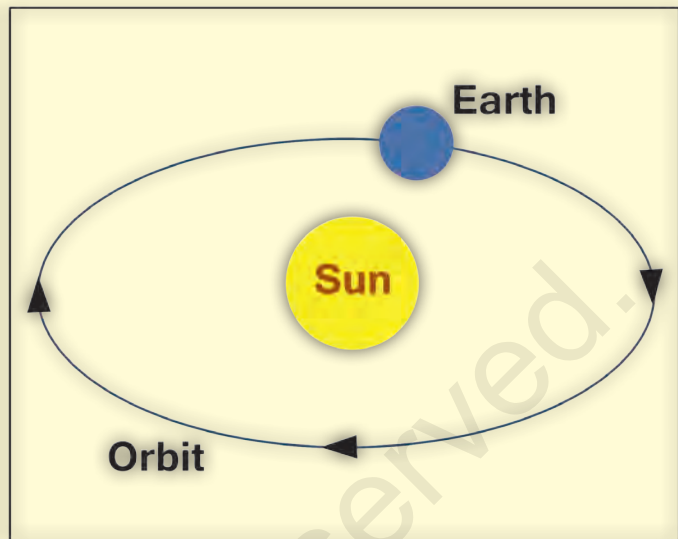
Picture B

1. Which movement is shown in Picture A: rotation or revolution?

....

2. Which movement is shown in Picture B: rotation or revolution?

....

3. An imaginary line on which the Earth spins is called its ....

4. The imaginary fixed path of the Earth around the Sun is called its ....

C **Answer the following questions in your exercise book.**

1. What is the real shape of the Earth?

2. How does availability of water make the Earth a special planet?

3. Name the movement of the Earth that causes day and night.

4. How does the blanket of air that surrounds the Earth protect us?

Think Beyond (HOTS Question)

What changes would you see or feel if the Earth stops rotating on its axis and revolving around the Sun?

Let Us Do

A Collect pictures and make a collage to show why the Earth is called a special planet. Display it in the class and explain.

B Draw the Earth on a chart. Mark the areas of land and water, the poles, and the axis.

Life Skills (Thinking & Environmental Skills)

Have you seen smoke coming out of vehicles and factory chimneys? How do you feel when you suddenly breathe in air mixed with smoke? Share with the class how the air around us is getting polluted and what we can do to stop this.

INTERNET LINKS

- *http://www.britannica.com/EBchecked/topic/175962/Earth*
- *http://www.bbc.co.uk/schools/scienceclips/ages/9_10/earth_sun_moon_fs.shtml*
- *http://www.kidsgeo.com/geography-for-kids/0017-the-earths-movements.php*

PROJECT TIME

Day and Night Experiment

You will need:

- Globe
- Torch
- Dark room
- Black marker/Sticker

You must do:

1. Mark X on the globe with the black marker/paste the sticker.

2. Place the globe on a table and switch on the torch.

3. Show the torch light on one part of the globe. The part of the globe marked X (or with sticker) that gets the light of the torch has day. The part of the globe that does not get the light of the torch has night.

4. Slowly spin the globe from left to right. What do you see?

5. Write your observations here.

   ....

   ....

Teacher's Note

Explain to the students that the Earth is the third planet in the Solar System, therefore, it receives the right amount of heat and light from the Sun. Discuss how air, water and suitable temperature for all living things make the Earth a special planet. Discuss the temperature and other conditions present on the other planets of the Solar System. Show a top or a ball spinning to explain the movement of rotation. Tell the students that rotation refers to the spinning of the Earth on its own axis. The simplest way to demonstrate this concept is with the help of a globe. You may also show revolution of the Earth by showing a video on YouTube.

3 GLOBES AND MAPS

LET US BEGIN

Study the map and tell the directions.

1. In which direction of the Oak Street is Ma's Diner located?

   ……………….. direction

2. Which street runs from east to west?

   ……………….. Street

3. The camping is in the …………….. direction of Ma's Diner.

4. The camping is in the …………….. direction of the Lake.

5. Whose house is in the east direction of the Oak Street?

   ……………….. house

AIO-3 (SEM-1)
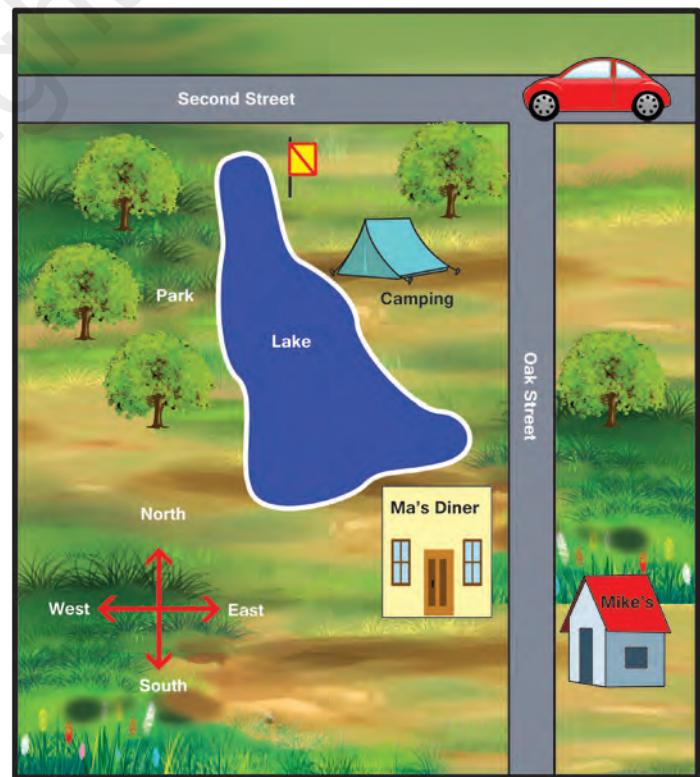
WHAT IS A GLOBE?

Cheeni and Angie are trying to find out New Delhi on the globe. They are spinning the globe to find out New Delhi, the city where they live.

The globe is just like our Earth. It is round and spins!

Mom! How can we find our city on this globe?

This is New Delhi, the capital of India. Our city is marked as a red dot on the globe.

How can travellers or people find out where it is located?

We can use a map. Here is a map of India and a more detailed map of our city.

Wow! This is amazing. We can find our city and neighbourhood on a map.

Let us learn about the different ways to find or search places on Earth with the help of globes and maps.

When we look at the Earth from space, it looks like a huge ball. We are unable to see the whole Earth at one time because it is round and very big.

The Earth

A globe

A globe is a model of the Earth. It helps us to see different places on Earth. We need to spin the globe to see all the parts of the Earth.

MAPS AND ATLAS

When we draw the Earth or a part of it on a flat surface like paper, it is called a map. A map is simply a drawing of any part of the Earth on a flat sheet of paper.

Map of a small area

Map of a country (India)

Maps can be drawn to show a variety of information. It could be anything from a sketch for a visitor to find your school or a detailed map of a town or a mountain range.

When maps are put together in the form of a book, it is called an atlas. Maps are used to show the world, a continent, a country or a small neighbourhood. Many details are shown on maps.

Let us learn about globes and maps at a glance.

Globes	Maps
Globes show some parts of the Earth at a time.	Maps show parts of the Earth on a flat surface.
A globe is a model of the Earth.	A map is a small drawing of parts of the Earth.
Small globes do not have many details. Big globes are difficult to carry.	Maps are easy to carry, mostly made on paper and can be folded or rolled.
We spin the globe to see all parts of the Earth, so it is difficult to compare places on a globe.	Maps show different places of the Earth on one flat piece of paper, therefore, it is easy to compare places on maps.

Let Us Explore

Draw a map to show the route from your house to your school. Show the important buildings that you pass on the way.

OCEANS AND CONTINENTS

Look at the map of the world. Most parts of the Earth are covered with water and the remaining with landmasses. A globe or a map shows the same features of the Earth.

On the map, we can see that the large landmasses are coloured in green and brown. These large landmasses are called continents. The Earth has seven continents—North America, South America, Europe, Africa, Asia, Australia and Antarctica. These continents have many countries. Asia is the largest continent and Australia is the smallest continent. Australia is also a country. India lies in the continent of Asia.

On the map, we can see that the large waterbodies are marked in blue. The water is in form of oceans, seas, rivers, lakes and groundwater. The largest areas covered with water are called oceans. There are five oceans—the Pacific, the Atlantic, the Arctic, the Indian and the Southern. The Pacific Ocean is the largest ocean. The ocean that surrounds the continent of Antarctica is called the Southern Ocean. The Indian Ocean is named after our country—India.

landmass: a large piece of land

AIO-3 (SEM-I)

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Map of the world

Do You Know?

Ferdinand Magellan, a great explorer, discovered the Pacific Ocean. He named it Pacific, meaning 'peaceful sea'.

FINDING DIRECTIONS ON A MAP

A mariner's compass always points towards the north direction. When we read a map, the top of the map shows north, the bottom shows the south, to the right side is the east and to the left is the west. The main directions help us to find different places on a map. Let us see where the continents and the oceans are located on a world map, using a compass rose.

compass rose: a circle showing directions printed on a map

Mariner's Compass

Compass Rose

North America lies between two large waterbodies, the Atlantic Ocean and the Pacific Ocean. It lies on the east of the Pacific Ocean and west of the Atlantic Ocean. South America also lies between the Atlantic Ocean and the Pacific Ocean.

Africa is surrounded on three sides by oceans—Atlantic Ocean, Indian Ocean and Southern Ocean. Europe is on the east of the Atlantic Ocean, and south of the Arctic Ocean. The Atlantic Ocean separates Europe from North America. The continent of Europe shares its eastern borders with the largest continent, Asia.

Asia has the Pacific Ocean to its east and the Indian Ocean to its south. The Pacific Ocean separates Asia from the island continent of Australia. Australia is surrounded by three oceans namely, the Indian Ocean lies to its west, the Pacific Ocean to its east, and the Southern Ocean to its south. India lies in the continent of Asia.

Antarctica lies on the South Pole. It is surrounded by the Southern Ocean. It is almost entirely covered with ice. No humans live in Antarctica permanently.

You Have Learnt

- A globe is a model of the Earth.
- A map is a drawing of the Earth made on a flat sheet of paper.
- An atlas is a book or collection of maps.
- There are five oceans, namely the Pacific, the Atlantic, the Arctic, the Indian and the Southern Ocean.
- There are seven continents, namely North America, South America, Africa, Europe, Asia, Australia and Antarctica.
- The four major directions help us to find any place on a map.

AIO-3 (SEM-I)

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Let Us Answer

A **Name the following.**

1. The largest continent: …………………..

2. An ocean named after a country: …………………..

3. Continent that lies to the east of the Atlantic Ocean and to the south of the Arctic Ocean: …………………..

4. The instrument used to find directions: …………………..

5. The island continent: …………………..

B **Match the following.**

Column A	Column B
a. Large waterbodies	i. Asia
b. Collection of maps	ii. Oceans
c. The largest ocean	iii. Globe
d. Model of the Earth	iv. Pacific
e. The largest continent	v. Atlas

C **Write T for True and F for False.**

1. Oceans are large landmasses.

2. The Earth looks blue as most parts of the Earth are covered with water.

3. Globes are flat drawings of the Earth.

4. The needle of a compass always points towards the north direction.

5. A book of maps is called an atlas.

AIO-3 (SEM-I)

D **Answer the following questions in your exercise book.**

1. What is a globe?

2. What is an atlas?

3. What are continents and oceans?

4. How do we know the directions on a map?
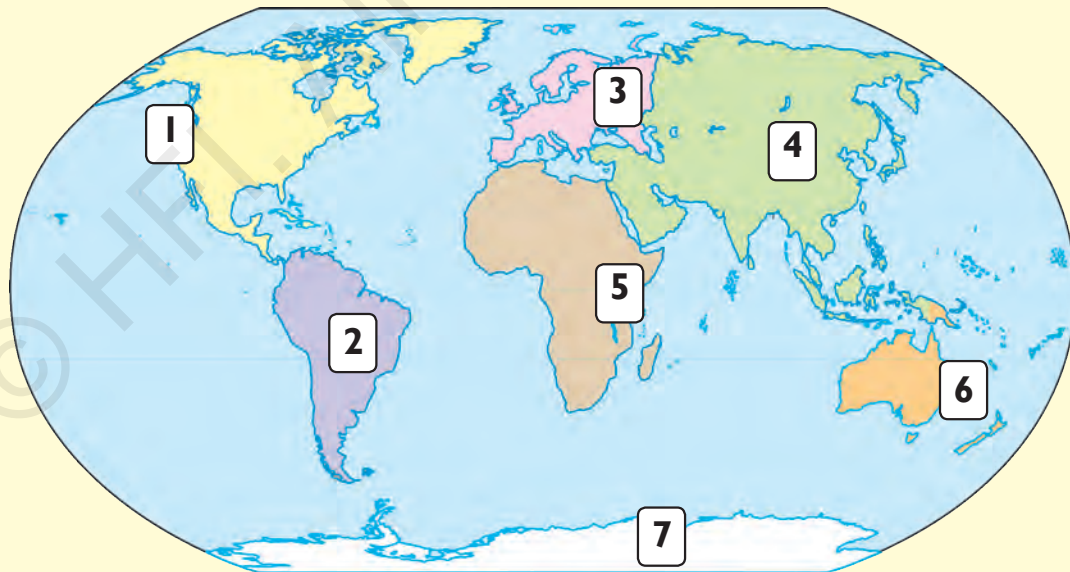
Think Beyond (HOTS Question)

Find out why a map is more useful than a globe.

Let Us Do

A **Do you know the seven continents? Look at the given map of the world. Write the names of each continent according to the numbers.**

Africa, North America, Antarctica, Europe, Asia, South America, Australia

1. .... 2. .... 3. .... 4. ....

5. .... 6. .... 7. ....

B **Look at these pictures showing the drawing of the Earth on an orange. Try to draw the continents on an orange. Now, peel the orange carefully and lay it as one flat piece on the table. The curved skin of the orange cannot be laid as a flat sheet like a map. Do the parts of the Earth look the same on a globe and a map? Think and tell why we draw maps on flat surfaces when the Earth is shaped like an orange.**

Life Skills (Thinking Skills)

Antarctica is covered with snow and ice for the whole year. Can humans, animals and plants live there? What problems will we face in Antarctica?

MAP WORK

Mark and label the five oceans and the seven continents on a map of the world. Colour the oceans blue and use different colours to colour the continents.

INTERNET LINKS

- *http://www.jrank.org/history/pages/8345/How-Do-I-Use-Globes-Maps.html*
- *http://kids.britannica.com/comptons/article-204238/maps-and-globes*
- *http://geography.mrdonn.org/mapskills.html*

AIO-3 (SEM-1)

Make a Papier Mâché Globe!

You will need:

- A large balloon
- Paints
- A brush
- Glue
- An old newspaper

You must do:

Follow these steps and keep a globe as reference to draw the continents correctly:

Teacher's Note

Introduce the concept of sphere and discuss with children that a globe is a model of the Earth. Make children understand that a map is flat and not an accurate representation of the Earth. We find places on Earth with the help of directions. Tell children that maps show a relative position and size of landmasses and water bodies.
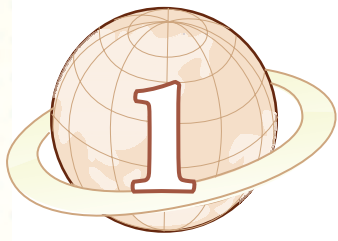
General Knowledge

CLASS-3 ✦ SEMESTER-I

Look at the options given with each statement and write the correct answer in the given space.

1. Our national bird:	a.	b.	c.
2. Our national flower:	a.	b.	c.
3. Our national animal:	a.	b.	c.
4. Our national emblem:	a.	b.	c.
5. Our national flag:	a.	b.	c.
6. Our national anthem:	a. VANDE MATARAM	b. JANA GANA MANA	c. SARE JAHAN SE ACHCHA
7. Our national game:	a.	b.	c.
8. Our national tree:	a.	b.	c.

2 Our Country

Look at the map given below and answer the following questions.

1. Which Indian state is known as 'Heaven on Earth'? ....

2. In which Indian state is Hawa Mahal located? ....

3. Which Indian state is home for lions?

   ....

4. In which Indian state is the Gateway of India located? ....

5. Where is 'Spice Garden of India'?

   ....

6. Which Indian state has Amaravati as its capital? ....

7. Which Indian state is famous for the Indian classical dance named after it?

   ....

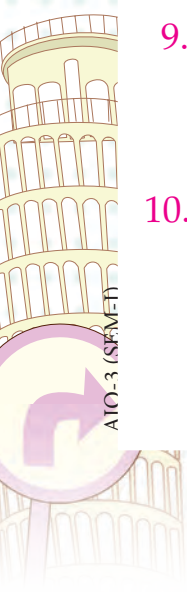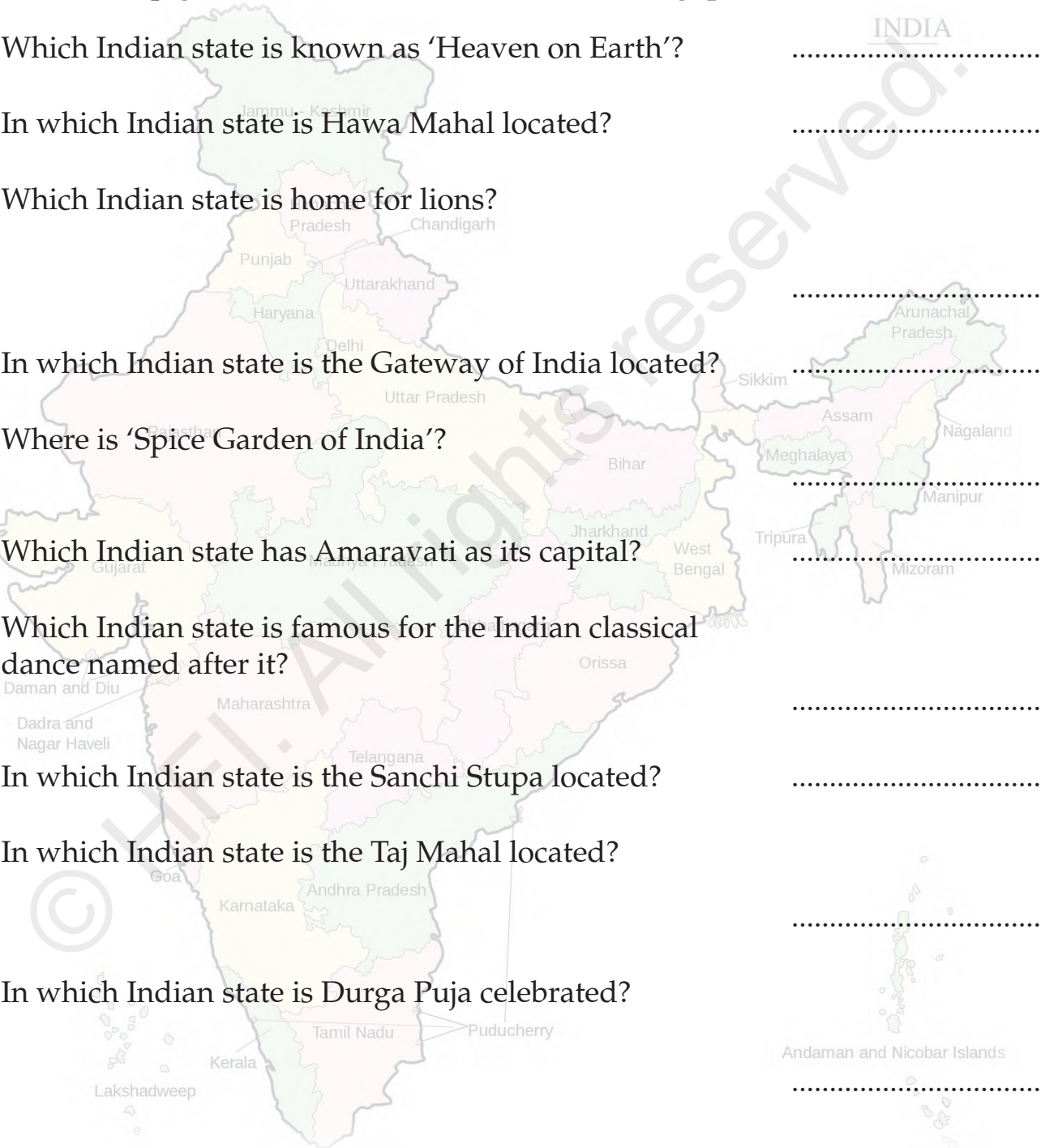8. In which Indian state is the Sanchi Stupa located? ....

9. In which Indian state is the Taj Mahal located?

   ....

10. In which Indian state is Durga Puja celebrated?

    ....

INDIA

Jammu Kashmir
Pradesh
Punjab
Chandigarh
Uttarakhand
Haryana
Delhi
Uttar Pradesh
Rajasthan
Bihar
Gujarat
Madhya Pradesh
Jharkhand
Sikkim
Arunachal Pradesh
Assam
Nagaland
Meghalaya
Manipur
Tripura
West Bengal
Mizoram
Orissa
Daman and Diu
Maharashtra
Dadra and Nagar Haveli
Telangana
Goa
Andhra Pradesh
Karnataka
Tamil Nadu
Puducherry
Kerala
Lakshadweep
Andaman and Nicobar Islands

Our Great Freedom Fighters

Identify the pictures of the great freedom fighters of India and write their names. Take help from the clues given in the box.

Dr. Rajendra Prasad	Shaheed Bhagat Singh	Bipin Chandra Pal
Lala Lajpat Rai	Chandra Shekhar Azad	Sarojini Naidu
Bhim Rao Ambedkar	Sardar Vallabhbhai Patel	Pt. Nehru
Bal Gangadhar Tilak	Mahatma Gandhi	Subhas Chandra Bose

1. The Father of the Nation

....

2. The first Prime Minister of India

....

3. Known as 'Lokmanya'

....

4. Nightingale of India

....

5. Known as Iron-man of India

....

6. Known as 'Netaji'

....

7. Known as 'Baba Saheb'

....

8. Popularly known as 'Punjab Kesari'

....
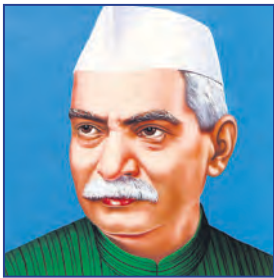
9. The first President of India

....

10. Known as 'Shaheed-e-Azam'

....

11. Known as 'Azad'

....

12. Known as 'Bengal Tiger'

....