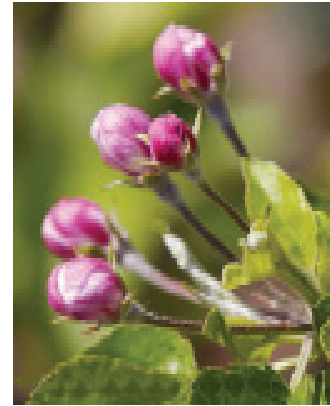


3

FLOWERS AND FRUITS

Flower is a colourful and beautiful part of a plant. It generally has a pleasant fragrance. Most flowers have attractive colours. Some flowers do not have attractive colours but have very pleasant fragrance. For example, *champa*, *motia* and *chameli* are some of such fragrant flowers.

A flower develops from a bud. The buds of different flowers vary in their size and shape. The bud of a plant is generally covered with green leaves. These leaves protect the bud and help it to bloom into a flower.



Buds of different flowers

Flowers have different shapes and sizes. Some flowers are like a bell, some are like a plate or a bowl and some are like a brush. Some flowers bloom singly whereas others bloom in bunches.

Flowers make fruits. Most of the fruits bear seeds. These seeds, in turn, can grow into more plants.

Activity:

Observe any bud. Find, and write, two differences between a bud and a flower.

1. _____

2. _____

SEASONAL FLOWERS

We see different flowers in different seasons. In summer, you must have seen *chameli*, *motia*, *sada-bahar*, china rose and lily flowers blooming in gardens. In winter, dahlia, rose and chrysanthmum are some of the commonly seen flowers.



Chameli



China rose

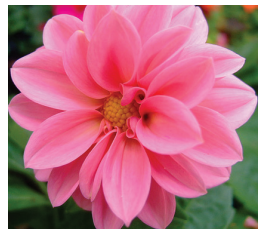


Lily



Sada-bahar

Summer flowers



Dahlia



Rose

Winter flowers

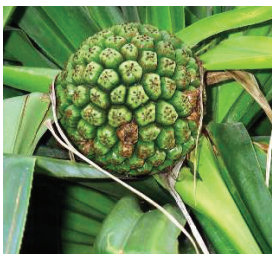
Do You Know?

Watermeal, or Wolffia Globosa, is the smallest flower and Rafflesia Arnoldi is the largest flower in the world.

USES OF FLOWERS

In our day-to-day life, we use flowers in different ways:

- ◆ Some flowers have a very pleasant fragrance. These are used for making perfumes. Rose, jasmine, *keora* and lavender are some of such flowers.
- ◆ Some flowers can be cooked and eaten like a vegetable. *Kachnar*, banana and *sahjan* flowers are eaten as vegetables in many parts of India.



Keora



Lavender



Banana

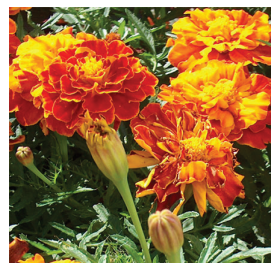


Kachnar

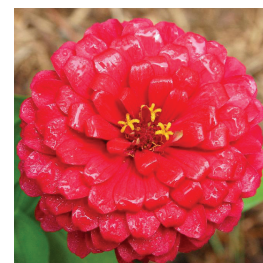


Sahjan

- ◆ Some flowers are used as medicines. Cloves are the dried flower buds from the clove plants. The oil, extracted from cloves, is used as a medicine. Similarly, lotion made from arnica flower, is used to cure wounds and injuries. Rose water is used as a medicine and also for adding flavour to sweets and drinks.
- ◆ Flowers, are also used in preparing cosmetics.
- ◆ Flowers, like marigold and zenia are used for making colours. These colours are then used to dye clothes.
- ◆ Flowers are often used for decoration purposes.



Marigold



Zenia

Activity:

- (a) Ask your mother whether she uses flowers as vegetables. If yes, note down the names of such flowers.
 1. _____ 2. _____ 3. _____ 4. _____
- (b) Write down a few places where you have seen flowers used as a decorative material.
 1. _____ 2. _____ 3. _____ 4. _____

Activity:

Have you ever visited a florist? There, one can see many types of flower arrangements in bouquets. Visit a florist and gather the necessary information to do the following task.

- (a) Write the names of any two flowers available with the florist.
 1. _____ 2. _____
- (b) Name any two types of flowers which remain in great demand throughout the year.
 1. _____ 2. _____
- (c) Where does the florist bring these flowers from?

- (d) List down the different types of materials used by the florist for making bouquets.

- (e) Why do people buy bouquets?

We have now learnt that flowers are used to prepare medicines, perfumes and scents. These can also be used as decorative material. It is important, therefore, to protect flowers from being plucked unnecessarily.

FRUITS

We have already read that flowers make fruits. Fruits usually store seeds and food in them. We eat fruits because they give nutrition to our body. Fruits generally have good taste and flavour.

Fruits generally have seeds which produce new plants. Some fruits, like mango, peach, plum have only one seed. Some other fruits, like lemon, papaya, orange and watermelon, have very many seeds. Some varieties of bananas, grapes and papayas do not have any seeds in their fruits.

Do You Know?

Banana has no seeds. It reproduces through its stem.



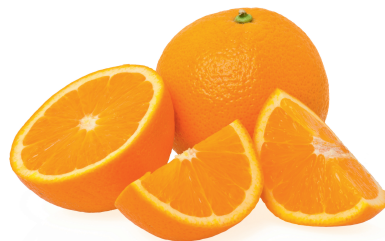
Mango



Peach



Plum



Orange



Watermelon

We get different types of fruits in different seasons. In summers we get fruits like muskmelon, watermelon, mango, *litchi*, *jamun* and *falsa*. In winters, we get grapes, apples, oranges and Indian gooseberry (*amla*). Such fruits are called **seasonal fruits**.



Summer fruits



Winter fruits

There are some fruits, like cashewnuts, almonds and walnuts, which are first dried and then used. These dry fruits are often eaten as such. They are also used in preparing various dishes that are generally eaten during the winter season.



Dry fruits

Bitter gourd (*karela*), gourd, jack fruit (*katha*), brinjal, okra (*bhindi*) and tomato are some fruits which are commonly used as vegetables.



Brinjal



Okra



Tomato

Some fruits, like mango, lemon and strawberries, are also used for preparing pickles, chutneys and marmalades.

Do You Know?

Jack fruit is the largest fruit in the world.



Fruit jam



Fruit chutney

Thus, fruits are very useful for all of us.

Keywords

- ❖ **extract** to take out.
- ❖ **fragrance** sweet smell.
- ❖ **generally** usually.
- ❖ **prepare** to make.
- ❖ **variety** different types.
- ❖ **wound** when some part of the body gets hurt.

Something to Know

A. Fill in the blanks.

1. Flower is the colourful part of a _____ .
2. A flower develops from a _____ .
3. Oil, extracted from cloves, is used as a _____ .
4. We must protect flowers from being _____ unnecessarily.
5. Dry fruits are generally eaten in _____ season.

B. Write True or False for the following statements.

1. A bud is covered with green leaves. _____
2. All flowers look alike. _____
3. Lavender is cooked and eaten as a vegetable. _____
4. Fruits make flowers. _____
5. Jackfruit and tomato are fruits that are often used as vegetables. _____

C. Tick (✓) the correct option.

1. It blooms in summer—
 (a) *motia* (b) dahlia (d) chrysanthmum (c) rose
2. It is useful for curing wounds and injuries—
 (a) zenia (b) marigold (c) arnica (d) banana
3. It has many seeds—
 (a) mango (b) peach (c) plum (d) watermelon
4. It is generally not used for preparing jams—
 (a) apple (b) bitter gourd (c) strawberry (d) orange

D. Answer the following questions in brief.

1. State any two uses of flowers.
2. How do green leaves help a bud?

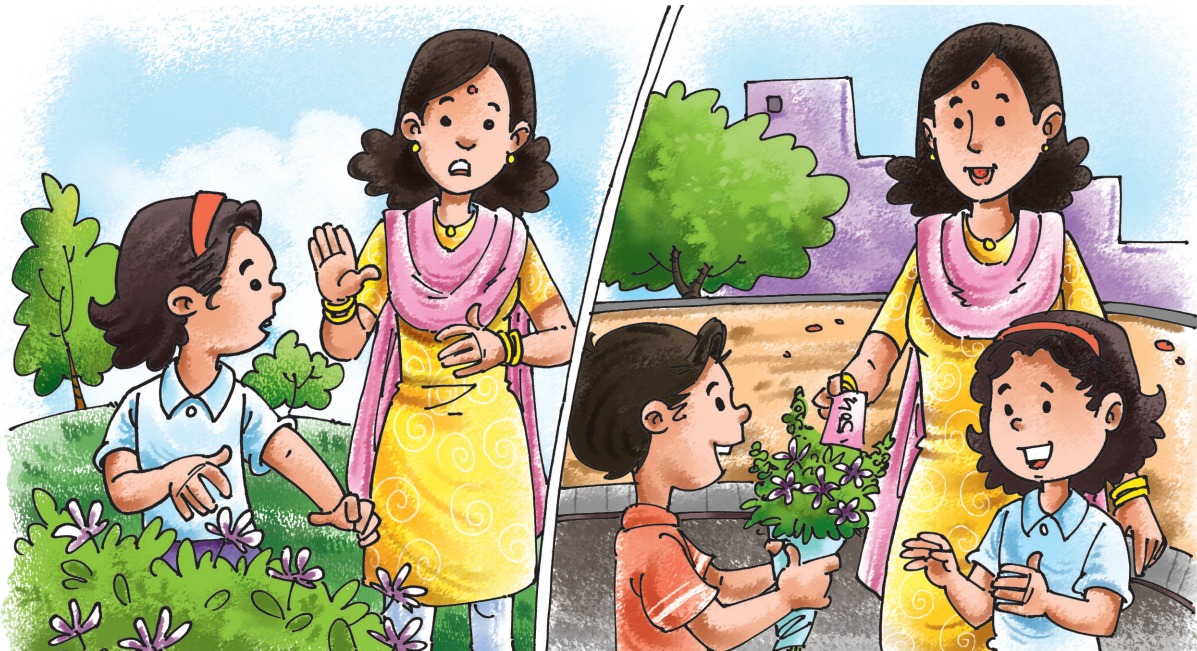
3. Name two flowers which are eaten as vegetables.
4. Name any three dry fruits. Write two ways in which they are used in our daily life.

E. Answer the following questions.

1. Write five lines about flowers.
2. What do you understand by 'seasonal flowers'? Give two examples of seasonal flowers.
3. Write any two uses of fruits.
4. List the food preparations that can be made by using mango fruit.

VALUE Based Question

Rita wanted to pluck flowers from the nearby garden. Her mother objected to it and said that we should take care of flowers and not pluck them. While going home, Rita's mother bought a bouquet from a young boy who was selling flowers. She told Rita that the flowers, the boy was selling, were cultivated for selling purpose only and the money which he will get, will help him to feed his family.



1. Why did Rita's mother object to the plucking of flowers?

2. What does the above situation tell us about Rita's mother?
3. Suggest some ways to help the needy.

Something to Do

1. Collect the flowers that have fallen down from plants and bring them to your class. Observe their structure.
2. Use dried flowers and leaves to make greeting cards.
3. Discuss, in class, why we should not pluck flowers just for fun.

4

PLANTS AROUND US

We see plants growing at different places, such as plains, deserts, hills and even in water.

Use the Help Box to complete where the following plants/trees grow.



Help Box

hills, plains, water, desert

- (a) Pine trees are found on _____
- (b) Cactus is found in _____
- (c) *Neem* and banyan trees are found in _____
- (d) Lotus and water lily are found in _____

Plants, growing at different places, are different in appearance and structure. Let us find out how plants, found at different places, differ from one another.

A. TERRESTRIAL PLANTS—PLANTS GROWING ON LAND

Plants which grow on land, are called **terrestrial plants**. There are many different types of 'terrestrial plants'.

Do You Know?

The place, where a living thing lives most comfortably, is called its **habitat**. The habitat is thus, the natural home of a living thing.

1. Plants of Hills

Pine, deodar, cedar, spruce and fir are some of the plants which grow on the hills. These plants are tall and straight, and generally have a conical shape. These tall, straight and green conical trees make hills appear green and beautiful.

Their leaves are narrow and needle-shaped. The conical shape of these trees does not allow snow to get deposited on them.



Pine tree



Deodar tree



Spruce tree

2. Plants of Plains

Peepal, banyan, mango, sal, *sheesham* are some of the plants found in plains. They grow into trees having many branches.



Peepal tree



Banyan tree



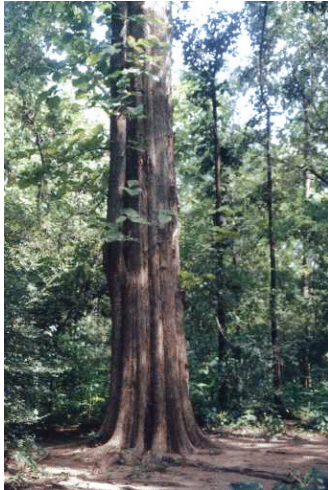
Mango tree



Sheesham tree

3. Plants of Hot and Wet Regions

Trees, like teak, rubber and coconut, are found in hot and wet regions. These generally have a large number of leaves. They shed their leaves gradually. Hence, they are called **evergreen trees**. Plants, like pepper, cotton, rice and banana, also grow in hot and wet regions.



Teak tree



Rubber tree



Coconut tree

4. Plants of Marshy Areas

Mangroves grow in marshy soil. These plants develop special roots for breathing as their main underground roots do not get sufficient oxygen from the soil. Portions of their roots come out of the soil, above the water level, and take oxygen from air. These roots are called **breathing roots**. They are also called **aerial roots**.



Mangrove

Do You Know?

A **marsh** is a very wet, muddy area on land.

5. Plants of Desert Areas

Cactus grows in a desert. It can survive in soil that has very little water. It has a green stem and well developed roots. The stem stores water. Therefore, it is soft and fleshy. Cactus plant has spines instead of leaves.



Cactus

B. AQUATIC PLANTS—PLANTS GROWING IN WATER

Many plants grow in ponds, lakes and other water bodies. Such plants, found in water, are called **aquatic plants**. Aquatic plants are of two main types. Some of such plants float on water while others live under water.

1. Floating Aquatic Plants

These are again of two types:

a. Free Floating Plants:

Water lettuce, water hyacinth and duckweed are found floating freely on water. They are not attached to any surface. They have air filled cavities in their leaves and stems. These cavities make them light and help them to easily float on water.



Water lettuce



Water hyacinth



Lotus



Water lily

b. Fixed Aquatic Plants:

Lotus and water lily are examples of fixed aquatic plants. Such plants are attached to the pond bed. They have stems with holes and their leaves are broad. The stem of lotus, commonly known as '*kamal kakri*', is eaten as a vegetable.

2. Underwater Plants

Hydrilla is an example of a plant that grows underwater. It has pointed and strap-like leaves.

Do You Know?

Aqua means 'water' and aquatic means 'existing or happening in water'.

Do You Know?

Aquatic plants like *Hydrilla* increase the oxygen content of water and remove carbon dioxide from it. This helps in making water suitable for fish and other aquatic animals and helps them to get enough oxygen.

CULTIVATION OF PLANTS

One day Mona visited a village. She saw some farmers uprooting small plants from their fields. She asked her father why were they doing so? Her father told her that plants, like sugarcane, maize, wheat and rice, are grown in this way by the farmers. Such plants are called **cultivated plants**. Sometimes a few undesirable plants also grow along with the cultivated plants. These undesirable plants, called **weeds**, can harm the growth of cultivated plants. Hence, they are removed from the soil.



Weeds

Now, let us learn how farmers grow plants for cultivation. They first prepare their fields to sow the seeds. For this, they first dig the soil, loosen it and make it soft. This is called **ploughing**. Ploughing is done by using the plough which is an iron structure. These days ploughing is done with the help of tractors. Ploughing is followed by sprinkling of seeds. It is necessary to drop the right amount of seeds at regular distances. The field is then watered. After a few days, small plants start sprouting. Along with these sprouts, weeds may also appear in the fields. The seeds of weeds are brought to the fields by birds and other animals. Weeds are removed so that they do not consume water and fertilisers meant for the main crop. The cultivated plants grow and give us the desired products.



Ploughing of fields

Keywords

- ❖ **aerial** growing in the air.
- ❖ **cavities** hollow spaces.
- ❖ **conical** resembling a cone.
- ❖ **uproot** to pull by the roots.

Something to Know

A. Fill in the blanks.

1. Plants, growing on hills, are tall, straight and have a _____ shape.
2. _____ and _____ are two of the trees that grow on plains.
3. Breathing roots are also called _____ roots.
4. _____ is an underwater plant.
5. Lotus stem is eaten as a _____ .

B. Match the following:

- | | |
|------------------------|---------------------|
| 1. evergreen trees | (a) rice |
| 2. needle-like leaves | (b) cactus |
| 3. no leaves | (c) mangrove |
| 4. breathing roots | (d) aquatic plant |
| 5. air filled cavities | (e) rubber and teak |
| 6. a cultivated crop | (f) pine and cedar |

C. Tick (✓) the correct option.

1. It is a free floating plant—

(a) water hyacinth	(b) hydrilla	(c) coconut	(d) lotus
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2. These are unwanted plants—

(a) cactus	(b) grass	(c) mangroves	(d) weeds
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3. It can survive in soil with very little water—

(a) banyan	(b) teak	(c) rubber	(d) cactus
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D. Answer the following questions in brief.

1. What are terrestrial plants?

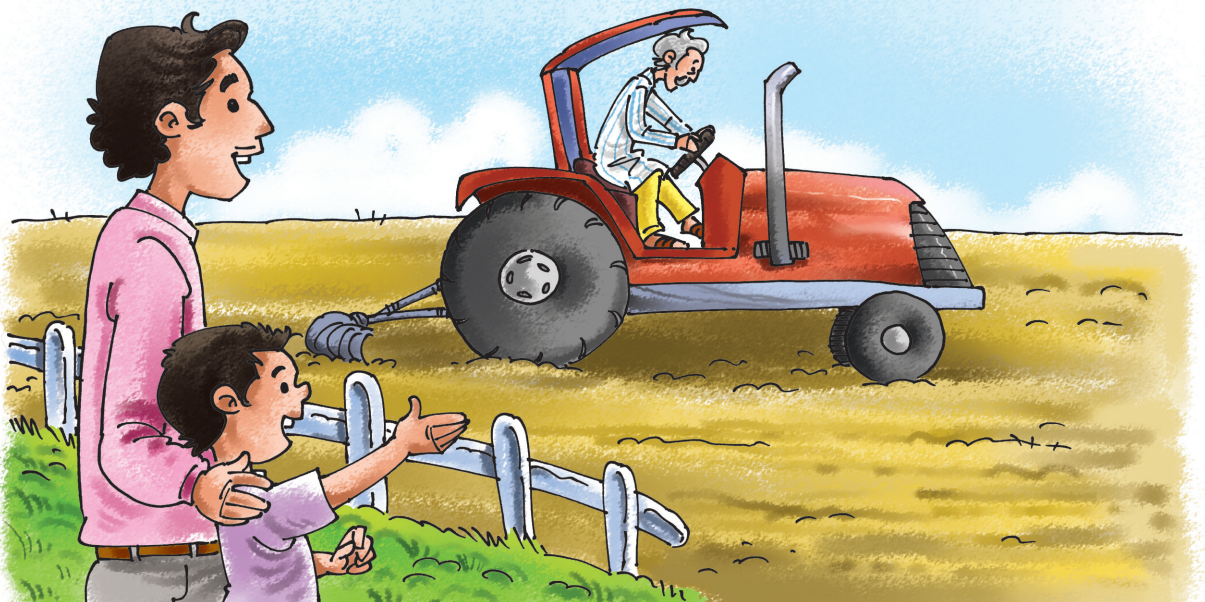
2. How does the conical shape help the plants of hills?
3. Name two trees growing in hot and wet regions.
4. Name an underwater plant. What kind of leaves does it have?
5. What is ploughing?

E. Answer the following questions.

1. List the different habitats of terrestrial plants.
2. How is cactus plant able to grow in desert conditions?
3. What are aquatic plants? State their types and give two examples of each type.
4. What are cultivated plants?
5. Why should weeds be removed from the fields?

VALUE Based Question

During his vacation, Ramesh went to his grandparents' village. He saw his old and weak grandfather ploughing the fields with the help of bullocks. Ramesh felt very sad. In the evening he rang up his father and told him about it. After



a few days, his father came to the village with a person from the bank. The bank offered easy loans to farmers to buy tractors. After a month, Ramesh's grandfather bought a new tractor. He was very happy.

1. How do we know that Ramesh is a very caring boy?
2. What kind of man is Ramesh's father?
3. How can you help your grandparents?

Something to Do

1. Make a list of trees growing in and around your school.

Trees in my School	Trees around my School

2. Prepare charts of:
 - (i) terrestrial plants, and
 - (ii) aquatic plants.

5

BIRDS—BEAKS AND CLAWS

In Class-III, we have already learnt about birds, their special features and nesting habits. In this Class, we will learn about their feeding habits.

Birds, like other living beings, need food but they do not have teeth to eat their food. They use their beaks and claws to catch and eat food. They also use them to protect themselves from their enemies.



Activity:

Visit your neighbourhood areas and observe different birds on trees, in water, on the ground and in the bushes. Now identify some common birds and observe the kind of food they eat. On the basis of your observations, complete the given table.

Name of the bird	Place where you saw it	Food it ate

Like other animals, some birds eat flesh, some eat seeds and, some eat fruits, *roti*, etc. The type of a bird's beak, and claws, is related to the type of food it eats. **Let us learn more about beaks and claws.**

BEAKS

Birds do not have teeth. They use their beaks to tear, bite, chisel or crush the food. The shape of the beak is according to the food habit of the bird.

Some birds use their beaks to fight the enemy or catch the prey. They also use it for preening their feathers.

Do You Know?

Preening means to clean the feathers and set them right. The birds spread the wax, secreted at the base of the feathers, during this process.

Types of Beaks

Crushing Beak

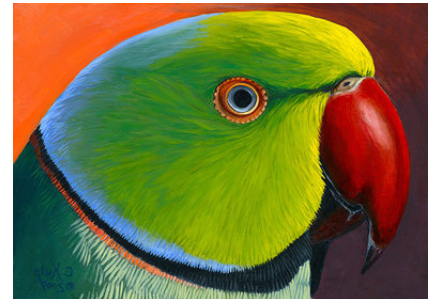
Birds, like sparrow and pigeon, have a short and hard beak. They use it for crushing seeds and grains and, thereby, make them soft before eating.



Sparrow



Pigeon



Parrot

Curved Beak

Birds, like parrot, have a curved beak. This helps them in cracking nuts and fruits.

Piercing and Tearing Beak

Some birds, like eagle and vulture, eat flesh. Such birds have a strong, hard and curved beak that helps them to tear the flesh.



Eagle



Vulture

Do You Know?

- ◆ There are some birds which can imitate our voice. Parrot is one of them.
- ◆ Crows and hens have beaks that help them to eat a variety of foods like meat, fruits, grains and insects.

Chiselling Beak

Birds, like the woodpecker, have a strong, long and straight beak. This helps them to peck at the wood and eat insects present in the wood.

Do You Know?

While pecking at something, a bird moves its beak forward quickly and bites at it.



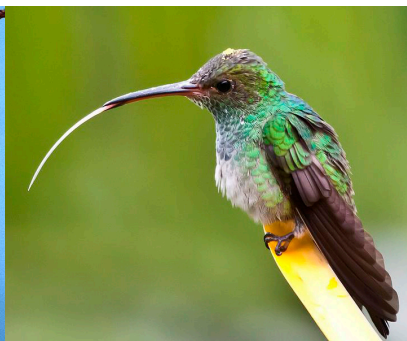
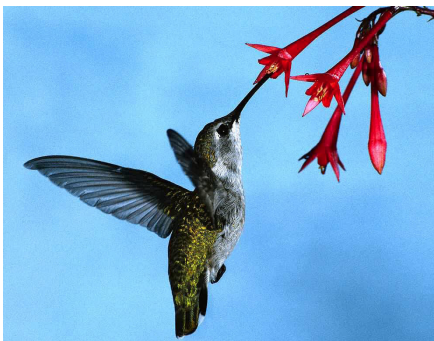
Woodpecker

Probing Beak

Some birds, like the humming bird, the sunbird and the hoopoe, have a long and slender beak. Sunbird sucks nectar from flowers while hoopoe takes out insects and worms from the holes in the ground.

Do You Know?

A humming bird can flap its wings 90 times in just one second.



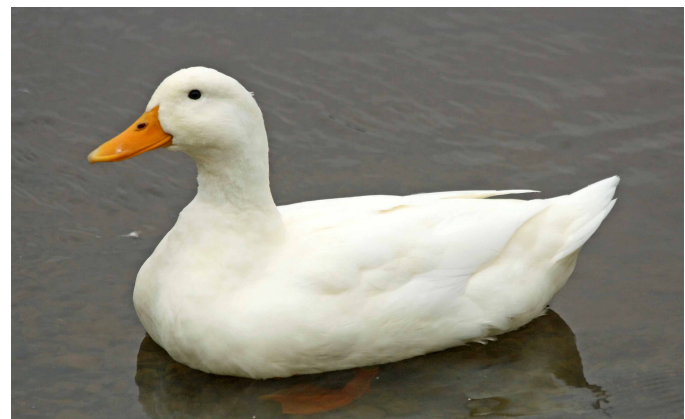
Humming birds



Hoopoe

Sifting Beak

The duck has a flat and broad beak which has small holes on both sides. It digs up the food, along with mud, from the base of the pond or lake. Its beak pushes out the mud and water from the holes leaving the food behind. Its beak thus, helps it to sift food from mud and water.



Duck

Sticky Beak

A swallow has a small, broad and sticky beak. The beak is sticky from inside. This helps the swallow to catch flies while flying.

Do You Know?

The arrival of flocks of swallows is a sure sign that summer is on its way.



Swallow

FEET AND CLAWS

The feet and claws of birds are shaped to suit their perching and food habits. **Claws** are the long curved nails present on the feet. Claws can be used for climbing, protecting, holding food, swimming and perching.

Let us know more about them.

Birds of Prey

Eagle, vulture and hawk have strong and sharp claws. These help them to firmly hold the prey while flying.

Do You Know?

Birds, which kill other smaller animals and eat them as food, are called **birds of prey**.



Eagle



Claws of eagle

Perching Birds

Sparrows, pigeons and crows have long and slender claws with three toes in front and one at the back. Their toes curl around the branch or a wire and hold it firmly.



Sparrows

Do You Know?

Sparrow, and other perching birds, can even sleep while perching on wires or branches of trees.

Swimming Birds

Ducks and penguins have webbed feet that help them to swim. The front toes of these birds are joined by skin giving them a flat appearance. They use their feet to paddle and push the water while swimming.



Duck



Penguin



Webbed foot

Wading Birds

Crane and jacana have long legs and wide spreading toes. These help them to walk in shallow water or mud. The widely spread out toes prevent their body from sinking in water.



Crane



Claws of crane

Do You Know?

Cranes and jacana can walk in the mud without getting their body wet. This is called **wading**.

Scratching Birds

Some birds, like hen, have strong feet with three toes in front and one at the back. Each toe has a sharp claw to scratch the ground in search of seeds and insects present in the soil.



Hen



Claws of hen

Climbing Birds

Birds, like the woodpecker and the parrot, have two toes pointing upwards and two downwards. These birds can cling to trees to catch insects and to hold the fruits.



Woodpecker

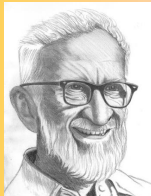


Claws of woodpecker

We thus find that nature has provided birds with different types of beaks, feet and claws. These are as per the needs and habits of different birds.



Do You Know?



Dr Salim Ali (1896–1987)

A person who studies birds is called an **ornithologist**. Dr Salim Ali was a very famous Indian ornithologist. He has done a lot for saving the wildlife. He has written many books on birds. Dr Ali has been awarded the 'Padma Vibhushan'.

Keywords

- ❖ **chisel** a flat blade with a cutting edge.
- ❖ **feather** light horny waterproof structure on the body of birds.
- ❖ **hollow** vacant space in something.
- ❖ **pierce** to cut through.
- ❖ **probe** to find out.
- ❖ **sift** to separate out things using a sieve.

Something to Know

A. Fill in the blanks.

1. Birds do not have _____ to eat food.
2. Sunbird _____ nectar from flowers.
3. A duck has a _____ and broad beak.
4. A penguin uses its webbed feet to _____.
5. _____ and jacana are wading birds.

B. Match the following:

- | | |
|---------------|----------------------------------|
| 1. sunbird | (a) sifting beak |
| 2. eagle | (b) sticky beak |
| 3. parrot | (c) chiseling beak |
| 4. duck | (d) probing beak |
| 5. swallow | (e) curved beak |
| 6. woodpecker | (f) crushing beak |
| 7. pigeon | (g) piercing and
tearing beak |

C. Tick (✓) the correct option.

1. A sparrow uses its short and hard beak for—
 - (a) sucking nectar from flowers
 - (b) sifting food from mud
 - (c) catching flies while flying
 - (d) crushing of grains

2. A hoopoe takes out insects and worms from the holes in the ground with the help of its—
 - (a) strong, short and straight beak
 - (b) long and slender beak
 - (c) broad beak that has holes on the sides
 - (d) curved and hard beak
3. A bird, that does not have strong and sharp claws, is the—
 - (a) eagle
 - (b) duck
 - (c) vulture
 - (d) hawk
4. Birds, that have two toes pointing upwards and two downwards, are known as—
 - (a) scratching birds
 - (b) wading birds
 - (c) climbing birds
 - (d) perching birds
5. It is a perching bird.
 - (a) sparrow
 - (b) jacana
 - (c) hen
 - (d) duck

D. Answer the following questions in brief.

1. What do birds use for preening their feathers?
2. How is a crushing beak helpful to a pigeon?
3. What are claws?
4. Name three birds of prey.
5. What prevents the body of crane and jacana from sinking in water?

E. Answer the following questions.

1. Write two main uses of a beak of a bird.
2. How are claws helpful to a bird?
3. How does a swallow catch its food?
4. How do webbed feet help a duck to swim?
5. What type of feet do the scratching birds have?

VALUE Based Question

Neha was travelling with her family in a car. On the way, she noticed that some children, going in another car, were throwing out banana and orange peels out of the car window. She did not like this at all.

When they all stopped at a restaurant on the way, Neha went to those children and told them that they should not behave in a way that makes the environment dirty. She told them that in nature also, birds, like vultures, eat away dead animals to keep the environment clean. The children realised their mistake.



1. What kind of good habits does Neha have?
2. Why is it important for all of us to keep our environment clean?
3. How do vultures help in cleaning the environment? What kind of beaks do these birds have?

Something to Do

1. Cut the pictures of different birds and paste them in your scrapbook. Find out about the type of beaks and claws they have and the reason for the same.

2. Go for a morning walk and try to listen to the sounds made by different birds.
3. Keep different food stuffs, such as grains, fruits, leftover bread, in an open place. Try to observe the beaks and claws of birds eating these food items.
4. Observe the claws/feet carefully and name the birds. Also mention the use of the claws/feet for each bird.

Claws/Feet	Name of the bird	Use of the claw/feet
