4 What do Animals Eat ?

The first animals evolved about 600 million years ago during the late Precambrian.

Kartik has a pet dog. He loves playing with it by tossing it a ball or biscuits or even sometimes some small leaves and twigs. He observes that the dog sniffs and catches the biscuit in mid air and eats it up very quickly, while it just holds the ball in its mouth and only sniffs the leaves. If the dog is given milk it first sniffs it and then licks it up quickly.

- Kartik often wonders what the dog is trying to find out by sniffing.
- Why do dogs first sniff food before they eat it?

In the previous chapter we talked about our own food and the different varieties eaten by us. There are a wide variety of animals in the living world and they too eat a wide variety of food items. Let's see how animals eat their food.

Activity-1: Taking in food

You can see many animals in your surroundings. Discuss about them with your friends. Make a list of what they usually eat and what they usually do to find their food. Do not be in a hurry to complete this table. Keep adding to this list as you observe animals around you everyday. But don't forget to observe animals wherever you go.

Fig. 1(a)

Fig. 1(b)

S. No.	Animal/Bird	What they eat/ drink	How they find food
1	Sparrow	Worms, grains....	Looking, seeing, ...
2	Dog	Bones, bread	Sniffing
3			
4			
5			
6			
7			
8			
9			
10			

- Which of the animals, listed by you, eat nearly the same type of food?
- What are the types of food that your pet animals eat?
- Write about any two animals in your list, describing the food types eaten by them and how they get their food?
- Compare the types of food habits of two animals selected by you.
- Regarding the types of food eaten by animals, what major groups can be made? Discuss with your friends and write. You could write like this :

1. Some animals depend only on plants for food.
2. .....
3. .....
4. .....

We have seen that all animals depend on different types of food. Now let us do the above exercise in a slightly different manner. Add your own examples in the last column of table 2.

Table 2

S.No.	Food group	Examples
1.	Only plants	Cow, ...
2.	Only animals	Fox, ...
3.	Both	Human beings ,

Look at table 2 and try to answer the following :

- Which group of members have an advantage in finding food? Why do you think so?
- Could the animals in food group 3 depend only on plants if animals were not available? Why?
- What will happen if all animals eat only plants?

Do you know?

Animals that depend only on plants for food are called **herbivores**. Animals that depend on other animals for food are called **carnivores**. Animals that take food from plants and animals are called **omnivores**.

- Suppose omnivorous animals start depending only on plants. Discuss and write how it could affect nature.

We know that animals have their own ways of gathering and taking in food. Let us see how they do this.

From finding food to eating it

Plants and animals are the main sources of food in our surroundings. Like us, animals also depend on these sources of food. Every animal has its own style of getting food. They track down, collect, grab or hunt and then use various tools to finally take food into the mouth.

Tracking down food

Most animals feed regularly but, first, they must locate food. To do this, they use a wide range of senses - smell, sight, hearing, taste and touch. Some animals rely more on one sense than the other and it can therefore be highly developed in them.

Let us consider some examples to understand this better.

- What do you think the dog does to find its food? Which sense of the dog, do you think, is more developed?
- What about the vultures that fly high above in the sky yet find their food on the ground? Which sense do they mainly use in finding their food?
- How do bats find their food at night?

Thus we have seen that animals use some senses more strongly than others to find their food. For example, dogs use the sense of smell while vultures use vision. Bats depend more on hearing while some reptiles, on taste.

If you ever go near a pond, observe the pond skaters there (Fig. 2). Observe how quickly they move from one side of the pond to another to catch an insect that falls in water.

Pond skaters (an insect which feeds on other insects) detect ripples produced in water by any other insect trapped on the water surface. They compare the ripples on the opposite side of the pond, caused by the legs of the insect struggling to move out, calculate the distance and set out to grab it!

Fig. 2

Collecting food

Finding food is one thing, but collecting or capturing it is quite another. Many animals

have specialized body parts such as mouthparts, hands or feet that help them collect their food most efficiently.

Fig. 3

Activity-2

In the list given in table 3, write the bodyparts of animals that are used to collect or capture food.

Table 3

S. No.	Animal	Bodypart used in taking in food
1.	Hen	Beak, ...
2.	Cow	
3.	Dog	
4.	Frog	
5.	Snake	
6.	Man	
7.	Lizard	
8.	Vulture	
9.	Lion	Legs, claws, mouth, ...
10.	Humming bird	

Look at table 3 and answer :

- Which animals use similar parts in taking in food?
- Compare the parts of dog to that of rat. Note down the similarities as well as differences observed by you.
- Compare the parts of hen and humming bird in taking in food. Note down the similarities as well as differences observed by you.
- What are the similarities between a dog and a lion in the parts involved in taking in food?
- What are the similarities and differences between a vulture and a lion in their mode of

taking in food?

• You may also add any other observations you may have made.

You will see that the same part may be used in different ways by different animals. For example, tongue may be used by dog in a different manner as compared to frog. The dog licks with it while frog captures and swallows food with it.

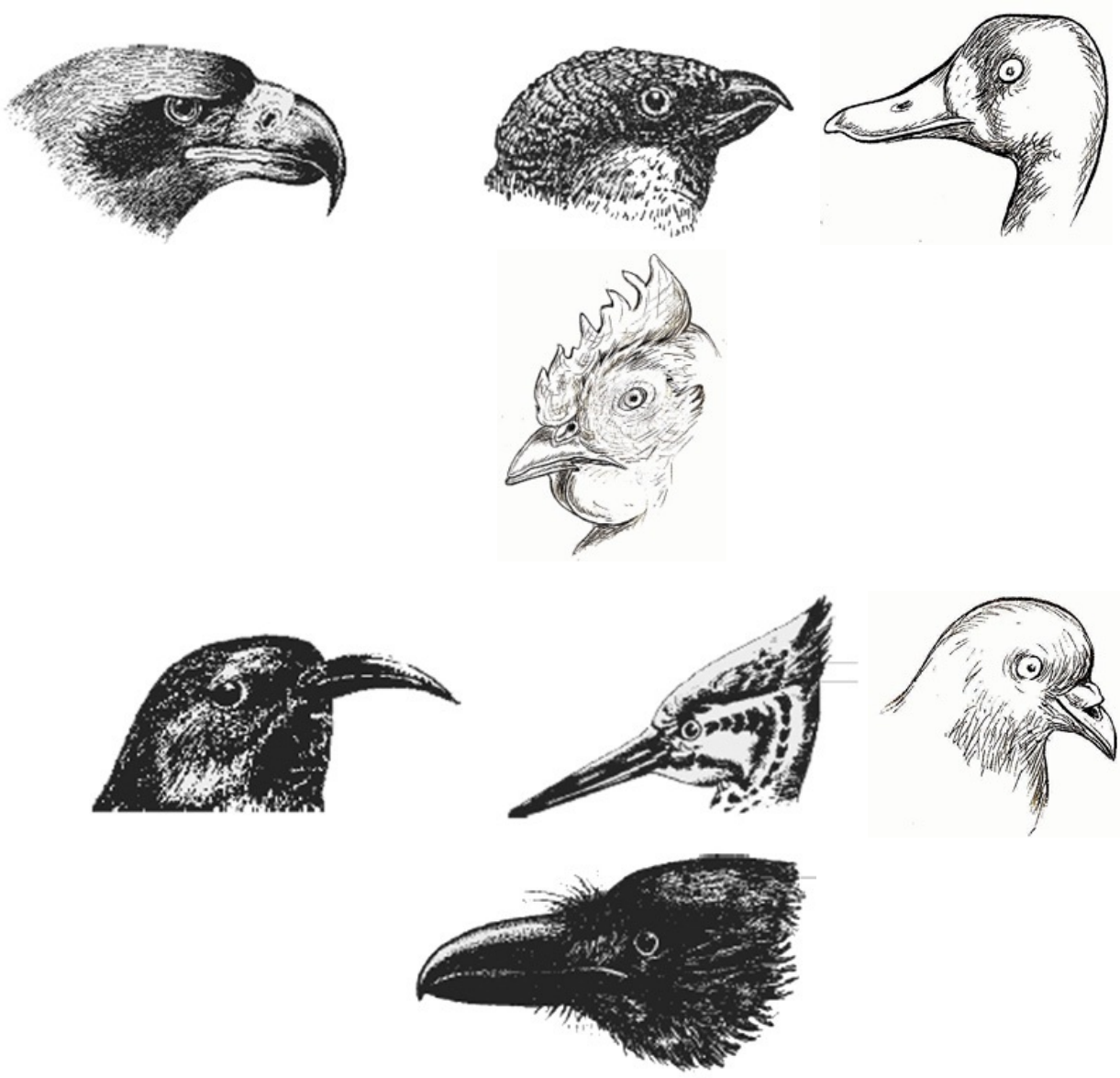
Also, different parts may be used to take in the same type of food, like, hens use their beaks to pick insects while frogs use their tongues for the same purpose.

The same part in a similar group of animals may be used in ways that can be largely different. For example, beaks of different birds are used to eat different types of food.

Let us take some specific examples to observe how animals eat their food. The type of food and the ways in which an animal collects it, form the food habit of the organism.

Let us study the food habits of birds in detail. How do birds eat their food?

Look at (Fig. 4) and choose the correct options from statements 1, 2 and 3 given below.



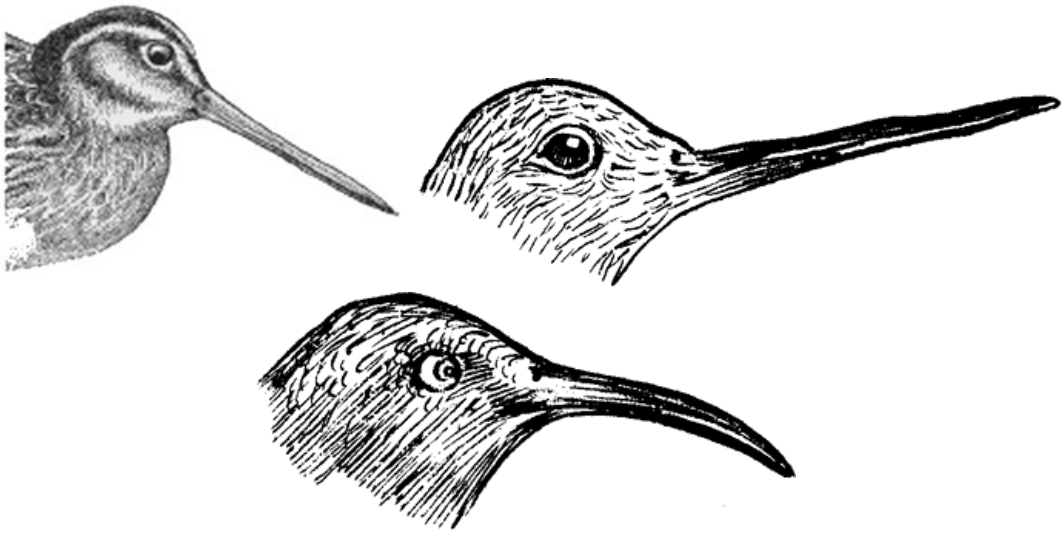


Fig. 4

1. The reason for the beaks of different birds being different is to make it easy to recognize them.
2. There is no reason for the difference, it just happens.
3. The beaks are different because the birds eat different kinds of food.

Again look at Fig. 4 and try to answer :

- Which two of the given birds (sparrow, duck, eagle, dove) would eat the same kind of food according to you?
- Why do you think they might eat the same kind of food?

Activity-3: Picking food with beaks

We see hens and crows in our surroundings searching for food.

Do you find any similarities, and dissimilarities in the way and type of food eaten by hen and crow? What are they? Write your observations in table 4.

Table 4

S.No.	Similarities	Dissimilarities
1.	use beak	*hens scratch the ground with feet and eat worms, crows don't*
2.		
3.		

Woodpeckers have a long and strong beak. By using this beak they remove layers of bark and eat ants and pests which lie under the bark. Crane has a long beak to catch fish in water. Have you ever seen vultures? They have strong hooked beaks to tear flesh off animals.

Parrot, which eats fruits and cracks nuts, has a hooked beak, while the crow doesn’t have it. Not only the beak, there are other parts as well that are different to suit the type of food eaten by a bird.

Vultures would need sharp claws along with strong hooked beaks to tear flesh, while the humming bird that sucks nectar would need a long thin beak and does not need sharp claws.

Activity-4: Picture Collection

Prepare a booklet on birds and their food habits. Collect pictures of different birds. Write the way in which each bird gets its food.

Do you know?

Crows that live in our surroundings usually eat waste and rotten food material, dead animals etc. They keep our surroundings clean in this manner. So they are called natural scavengers. Vultures are also called so due to the type of food they eat.

Activity-5: How does a frog get its food

It is very interesting to watch a frog get its food. A frog throws out its sticky tongue towards an insect. The insect gets stuck on the frog's tongue. Then the frog swallows it.

- Find out where a frog lives and how it feeds there.
- Observe how a lizard catches its food. Write down your observations.
- Find out the differences between a frog and a lizard's way of taking in food. How do these animals use their tongue?

Activity-6: How does a cow get its food

We know that many animals like the cow depend on plants for food. They are herbivores. Animals like cow, goat, buffalo, sheep, giraffe, camel, elephant, deer etc. eat different parts of plants like green/dry grass, leaves and branches.

Observe a cow or buffalo while it is eating its food. Write your observations in your note book.

- What does a cow do to find its food?

Note the parts of its body involved.

- How does the cow start eating?
- Which are the parts of the cows' mouth (jaws, teeth, tongue etc) involved in eating its food?
- Do cows have teeth? Do they have teeth on both jaws? (ask someone who tends a cow to find this).
- You may have observed cows and buffaloes sitting under the trees and moving their jaws. Do you know why they do that?

Do you know?

Animals like cow, buffalo, camel etc., chew food very quickly and swallow and store it in a part of their stomach. After sometime they take food material back from the stomach to the mouth and chew it again. This process is called **rumination**.

How much and how little!

Generally elephants eat leaves, branches of plants, fruits etc., which are available in the forest. Think how much of food an elephant needs to eat per day?

The larva of a crane fly eats a lot but after changing to adult, a crane fly doesn't need to eat at all !

Activity-7: How a dog gets its food

Observe a dog in your surroundings. How does it get its food? Write your observations in the space given below.

.....

.....

.....

- What does it do to find food?
- Which parts are involved in taking in food?
- How does a dog eat meat?
- How does a dog drink water?

Dogs eat food by using their sharp teeth and tongue. Wild animals like lion, fox, wolf, tiger and others also have sharp teeth. Can you say how they get their food?

Animals that hunt have strong legs to run, sharp claws to catch and sharp teeth to tear flesh.

Rabbits and squirrels also have teeth. They eat seeds, tubers, leaves etc. by using their teeth.

• Do you know how cats and dogs use their teeth?

We can see sharp teeth in a cat or dog's mouth. They tear flesh of animals by using these sharp teeth. Did you ever see how a cat hunts a rat? What do you feel about it's concentration and actions while hunting?

Activity-8: Using tongues

Compare how a frog, cow and dog use their tongues

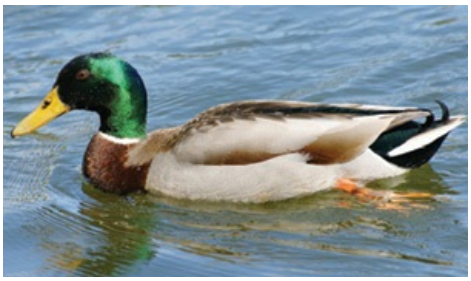
Animal Use of tongue

Frog .....
Cow .....
Dog .....

Getting food without hunting:-

Some animals get their food by hunting and some others do not hunt. Write about the way in which at least two animals that do not hunt, get their food.

It is very interesting to watch how a duck catches its food. Ducks also have teeth, but they are not like the teeth of a cow or lion. They are not useful in grinding food. They act as filters to get food from water.



Similarly, fish too have teeth which are used for the same purpose as that of ducks.

How leeches get their food

When we walk on the banks of ponds, canals etc. we can see different kinds of animals. We can see leeches, snails, earth worms etc.

People in rural areas are familiar with leeches. While rearing cattle near water they find leeches on the skin of animals. Leeches stick on the skin and suck the blood of cattle as well as humans. They have special structures called suckers in their mouth to do this.

Do snails and earthworms also suck something from the ground? Discuss this with your teacher and your friends.

Activity-9: Modes of getting food

Observe the following animals in your surroundings. Find out how they get their food. Observe them everyday for at least a week. Write whatever you observe in your notebook display and it on your wall magazine.

1. Lizard on the wall
2. Spider in a Web
3. Hen in the garden

4. Butterfly on a flower.

Do you know?

Some animals search for their food only at night. Cockroaches, desert lizards, rats, owls, bats, moths, crickets etc. get their food only at nights . During daytime they hide in dark places. These type of animals are called **nocturnals**.

Food Chain

There is a great balance in nature established among different plants and animals regarding their food habits. What will happen if all animals ate plants? To maintain a balance in nature animals follows their food habits. See Fig. 5. What do you find?

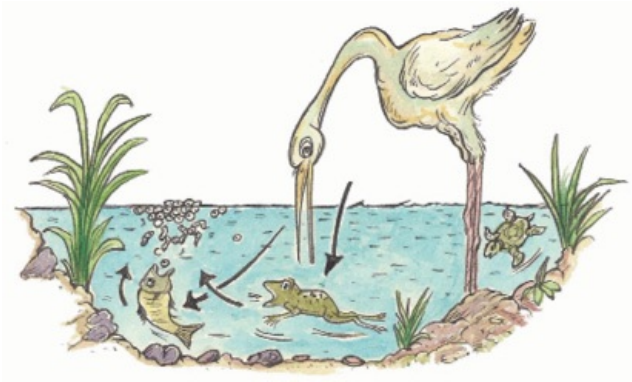


Fig. 5

In a pond, we can see that eggs and larvae are eaten by fish and frogs. Fish and frogs are food for a crane. Think, who can eat the crane?

Activity-10: Food Chains

Look at Fig. 5 and write your observations.

.....

.....

Now, try to draw a food chain that starts from grain and ends in a cat.

Food chains cannot always be represented by a straight line. They can be branched with several food chains connected to each other in the form of a web. Look at the following. Draw connections to show which animal is eaten by whom. It will surprise you!

Rat Cat Lion

Grass Deer Fox

Dog Tiger Hen

Wolf Man Worms

Food chains form a web where one animal depends upon more than one source and type of food. Think, in which category do you belong?

We use pesticides and insecticides to protect crops but every year a large number of frogs die by eating poisioned insects. What will happen to the food chain if all frogs die?

Animal colonies and food

There are many animals that live in colonies - from huge elephants to tiny ants.

The wonder world of ants : Ants do a lot of things. Their colony has large ant forces to do work. There are mainly workers, soldiers, female and male ants.

The workers collect and maintain food stock for others in the colony along with several other duties. Just as we keep cows for milk, ants keep a type of insect called aphids for honeydew.

Like us ants are good farmers as well they cut leaves into pieces and create a bed to grow a type of fungus which they eat!

Think! What can we learn from ants? Write your opinion in your notebook.

Keywords

Food habit, food chain, sucking, picking, chewing, habitat, carnivore herbivore, omnivore, nocturnal, rumination

What we have learnt

- Different types of animals that live in our surroundings have their own food habits (way of taking in food and type of food taken).
- Sucking, licking, picking, chewing, peeling, swallowing are all the ways by which animals take in their food .
- Beaks of birds differ from one another depending upon the type of food they eat.
- Most wild animals that eat other animals have sharp teeth.
- Animals are divided into three types on the basis of their food. They are carnivores, herbivores, omnivores.
- Food chain is the connection between animals on the basis of their food habits.
- Food chain explains the interdependence of diverse organisms in nature.

Improve your learning

1. Name some animals in your house which have the same kind of food habit.
2. Observe your surroundings or go to a nearby field and write about the following :

(a) How does the cow eat grass?

(b) What tools are used while doing so?

(c) In what way can you justify it is a herbivore?

3. Compare the legs and nails of a dog and hen and say why they are different.
4. Go to a nearby pond where cranes are usually seen. Observe how they catch fish. Write about the process of catching fish. (Take care of yourself when you are near water places.)
5. Name some animals which use tongue as a tool for taking in food.
6. The butterfly uses.....to suck honey from flowers.
7. Do the following and record your observations :

Collect one or two earthworms and put them in a bottle containing wet soil. Close it with a the lid which has holes. Observe how earthworms get their food.

8. Which animals in the forest depend on only plants or only animals for food?
9. Fill up the following table

Bodypart used to collect food	Examples
Beak	Hens, ...
Tongue	
Teeth	

Suck er

Strong legs with claws

10. Why do most carnivores live in forests? Give reasons.
11. Make your own food chain and display it in your class room.
12. Prepare a scrap book of animals and separate them into carnivores, omnivores and herbivores.
13. Identify which of the following statements are wrong and give reasons.

(a) That which lives in water cannot eat animals.

(b) Elephants and deer are herbivores living in the forest.

(c) Birds' beaks are designed to suit their food habits.

(d) Sharp claws are useful for hunting.

(e) Most of the food chains end with herbivores animals.

14. If you want to understand more about food chain what questions would you like to ask?
15. Write a play with dialogues between a parrot and a lion about their food habits and organs they use to get food. Act it with your friends. Send it to school / district childrens magzine.
16. Identify the given animal :

- What does it eat?
- Which part of the body helps it in eating?

Animals are divided into six basic groups which include invertebrates, fishes, amphibians, reptiles, birds and mammals.

There are approximately 5,400 species of mammals alive today.

Most animals are motile (capable of movement). One exception is the sponges, which are considered to be sedentary for most of their life cycle.

All animals are heterotrophs which means they cannot produce their own food.

The largest animal alive today is the blue whale.

Blue whale weighs in the range of 110 to 160 tonnes and grows to lengths of between 20 and 30 meters.

Birds evolved from reptiles during the Mesozoic Era about 150 million years ago.

Many desert animals are nocturnal. They burrow underground to escape the extremely high temperatures in the day and come out at night to feed.

The leopard (Panthera pardus) is a member of the cat family (Felidae The lifespan

of a leopard is between 12 and 17 years.

Birds are vertebrates (internal) animals. They all have a backbone.

Birds have wings and they can fly. They have hollow bones to save weight. Some of them can't fly like penguins, ostrich, emu and rhea.

A rat can last longer without water than a camel can.

Every creature is better alive than dead, men and mouse and mango tree, and he who understands it alright will rather preserve it's life then destroy it

..... Saleem Ali