CHAPTER

3 The World of Animals

We Already Know

- Plants and animals are living things
- Birds, fish and insects are also animals
- Animals can go from one place to another

We Will Learn About

- Animals without backbones
- Fish, amphibians, reptiles, birds and mamm
- How these animals move, eat, breathe, reproduce and sense things around them

There are a very large number of types of animals in this world. Some animals ha a backbone, while others do not.

Activity 1

Aim: To feel the backbone.

Procedure: Place your fingers in the centre of the back of a friend, just below the neck. Press lightly and move your fingers down the back.

Observation: Can you feel a long bone starting below the neck and going down?

This is your friend's **backbone**. It is also known as a **spinal cord**. It supports the body.

Think

Do you think an earthworm has a backbone?

(Critical Thinking)

Based on whether they have a backbone or not, animals can be divided into two large groups.

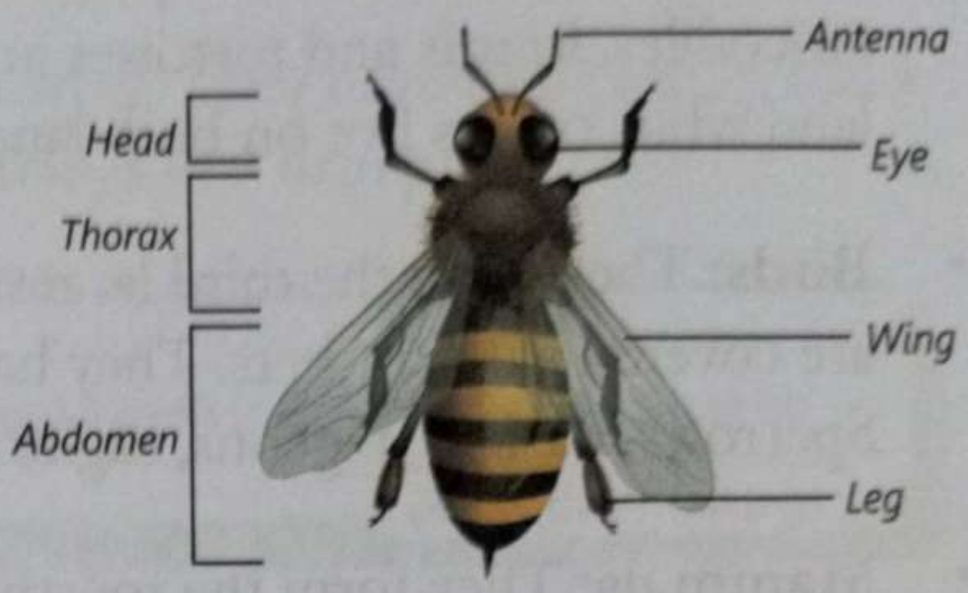
- **Animals without backbone:** Some animals like jellyfish, earthworms, roundworms, snails and insects do not have backbones. Most animals on earth do not possess a backbone.

Scanned with OKEN Scanner

- **Animals with backbone:** Some animals such as fish, frogs, snakes, birds and humans have a backbone.

ANIMALS WITHOUT BACKBONE — INSECTS

Insects are the largest group of animals. The body of an insect is made up of three parts. The front part is called the **head**. The middle part is called the **thorax**. The end part is called the **abdomen**.



Insects have two **antennae** which help them to sense things around them. They have six legs. Some insects have wings.

Ants and cockroaches crawl with the help of their legs. Butterflies and mosquitoes have wings and can fly. Grasshoppers use their hindlimbs to hop and wings to fly.

Insects such as butterflies have a long hollow tube in their mouth. They use it to suck the nectar of flowers, in the same way as you use a straw for drinking cold drinks.


Mosquito


Grasshopper

Insects have holes in their bodies called **spiracles** which help them to breathe. Air enters through the spiracles and passes into the body through small tubes.

All insects lay eggs from which young ones hatch.

Spiracles of a cockroach

Activity 2

EL

Aim: To observe the body parts of an insect.

Materials required: Magnifying glass, tweezers, insect

Procedure: Using tweezers, carefully place a dead mosquito, housefly or ant on a piece of white paper. Use a magnifying glass to observe its body parts.

Observation: You will be able to see the head, thorax, abdomen and six legs. In some insects you may see a pair of wings, feelers and a tube attached to the mouth for sucking nectar.

ANIMALS WITH BACKBONE

Animals with backbone are further divided into the following groups:

- **Fish:** This is the second largest group of animals. They live in fresh water and seawater. Their body is covered with **scales** that protect them.


Fish

Scanned with OKEN Scanner

- **Amphibians:** These are animals that live on both land and water. Frogs, toads and salamanders are amphibians. They have moist skin.

Amphibian – fr

- **Reptiles:** The bodies of reptiles are covered with scales. Snakes, crocodiles, lizards and tortoises are reptiles. Some reptiles live on land while others live on both land and water.

Reptile - snake

- **Birds:** They form the third largest group of animals. Their bodies are covered with feathers. They have two wings that help them to fly. Sparrows, parrots, pigeons, eagles and owls are birds.

Bird

- **Mammals:** They form the fourth largest group of animals. Cows, tigers, lions, elephants and humans are mammals. The bodies of mammals are covered with hair or fur.

Mammal - fox

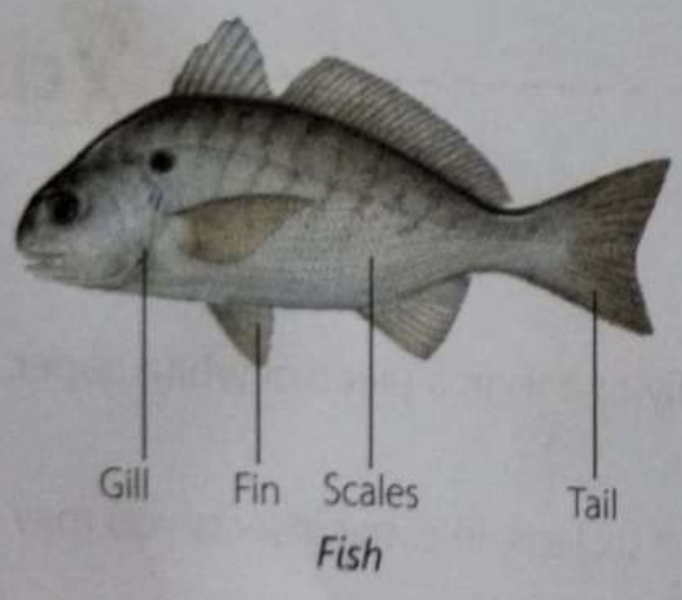
How Animals Move

Fish: Fish swim in water with the help of their **fins** and **tail**.

Amphibians: Frogs have **webbed feet** that help them to swim. Their hindlimbs help them to jump on land.

Webbed feet: Piece of skin between the toe

Reptiles: Reptiles such as lizards and crocodiles have limbs to move. Snakes do not have limbs. They have strong **muscles** that help them to move by sliding from side to side along the ground. This kind of movement is known as slithering.



Fish

Webbed feet of frog

Movement in snake

Birds: Birds have wings instead of arms, which help them to fly. Their bodies are covered with feathers. Birds have thin and hollow bones which make their bodies light. Their bodies are **shaped like aeroplanes**. This helps them fly easily through air.

Birds use their feet to hop and move. Ducks have **webbed feet** that help them to swim. Penguin, kiwi and ostrich are birds that cannot fly. They use their feet to walk and run.

Scanned with OKEN Scanner

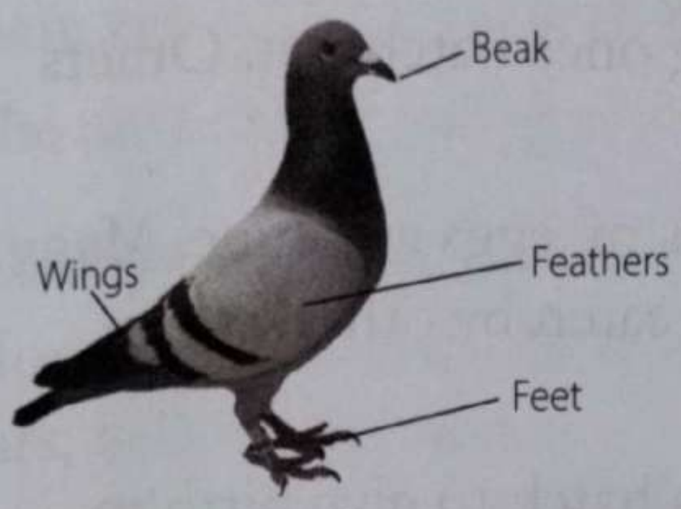
Mammals: Most mammals have four limbs. The two front limbs are called **forelimbs** and the two back limbs are called **hindlimbs**. Mammals can walk, run or hop. Some mammals can swim using their limbs. Some mammals such as whales and dolphins live in water.

Humans can use their feet to balance and stand erect. They have four fingers and a thumb in their hands. This helps them to hold things in a firm grip.

Think

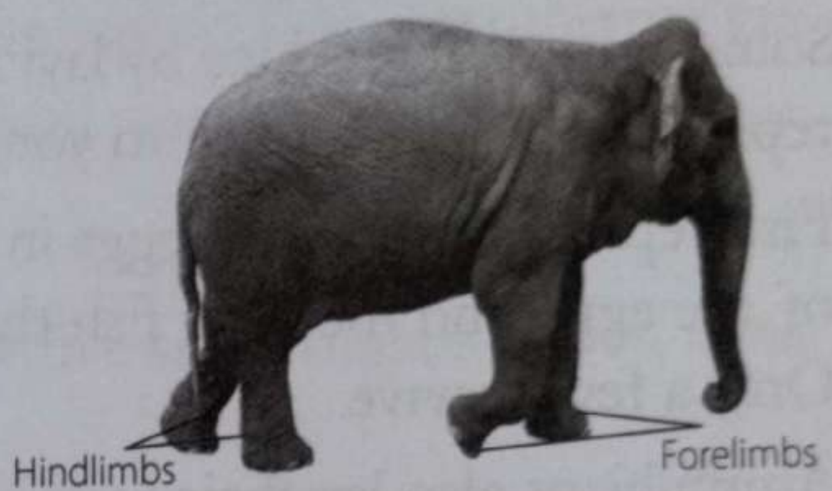
You can hold a glass of water in your hand and take it to your mouth to drink. Can a dog or cat do the same?

(Reflective Thinking)



Body parts of a pigeon

Penguins cannot fly



Mammals have four limbs

What Animals Eat

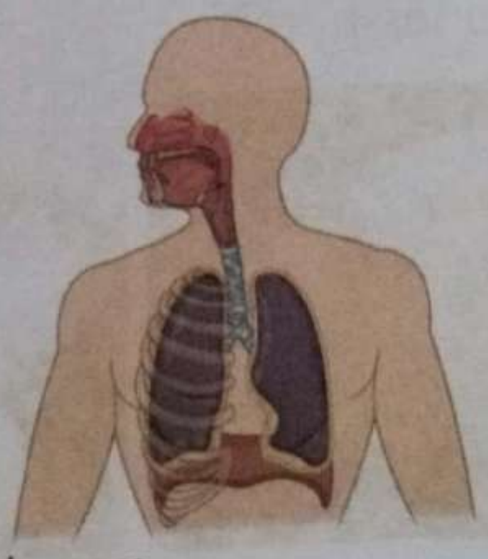
You will learn about the feeding habits of animals in Chapters 5 and 6.

How Animals Breathe

Mammals breathe with the help of their **lungs**. They have two lungs, which are connected by a breathing tube to the **nostrils** (breathing holes in the nose). Air is breathed in through the nostrils and fills the lungs. Mammals such as whales and dolphins, which live in water, also have lungs. They come to the surface of water to breathe in air through nostrils called **blowholes**.

Reptiles and birds also breathe with the help of their **lungs**.

Lungs: Sac like elastic organs for breathing
Blowhole: An opening in the top of the head of a whale



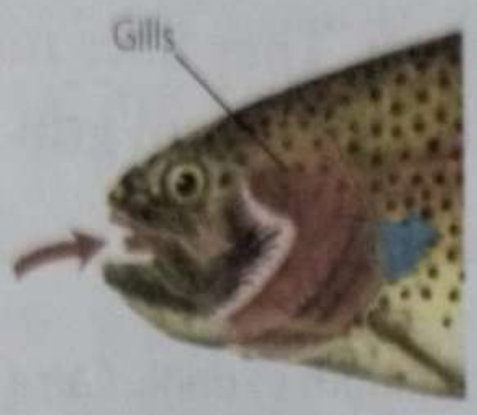
Lungs in birds and humans

Blowhole of dolphin

Scanned with OKEN Scanner

Amphibians breathe on land with the help of their **lungs**. In water they breathe through their **skin**.

Fish have special organs called **gills** which help them to breathe under water.



Fish breathes through gills

Frog breathes with lungs and skin

How Animals Reproduce (Give Birth to Young Ones)

Some animals reproduce by laying eggs from which young ones hatch out. Othe reproduce by giving birth to young ones.

Fish reproduce by laying eggs in water. They lay thousands of eggs at a time. Ma of the eggs, and the baby fish that hatch out of them, are eaten by other fishes. Only a few survive.

Amphibians also lay their eggs in water. The eggs of frogs hatch to give birth to baby frogs called **tadpoles**. They live in water till they grow into frogs. Tadpoles have gills which help them breathe in water.

Frog eggs

Tadpole

Adult frog

Reptiles lay eggs on land. When the eggs of a crocodile hatch, the mother picks the babies in her mouth and carries them to the water.

Birds produce young ones by laying eggs in their nest. The mother bird lays eggs and keeps them warm until the young ones hatch.

Reptiles and birds hatch from eggs

Scanned with OKEN Scanner

Mammals do not lay eggs. They give birth to their young ones.

Mammals give birth to young ones and look after them

The mother produces milk to feed her babies. They guard their babies and keep them clean. They look after them until they are old enough to look after themselves.

The duck-billed platypus and spiny anteater are the only two mammals that lay eggs.

Animals Have Sense Organs

Most animals sense the world around them with their five sense organs—eyes, nose, ears, tongue and skin.

Most fish have good eyesight and a sense of taste. They can feel **vibrations** in the water. This helps them to find food and sense danger.

Frogs have large eyes through which they can see to the sides and behind without moving. They can also feel vibrations through water.

Duck-billed platypus

Frogs have large eyes

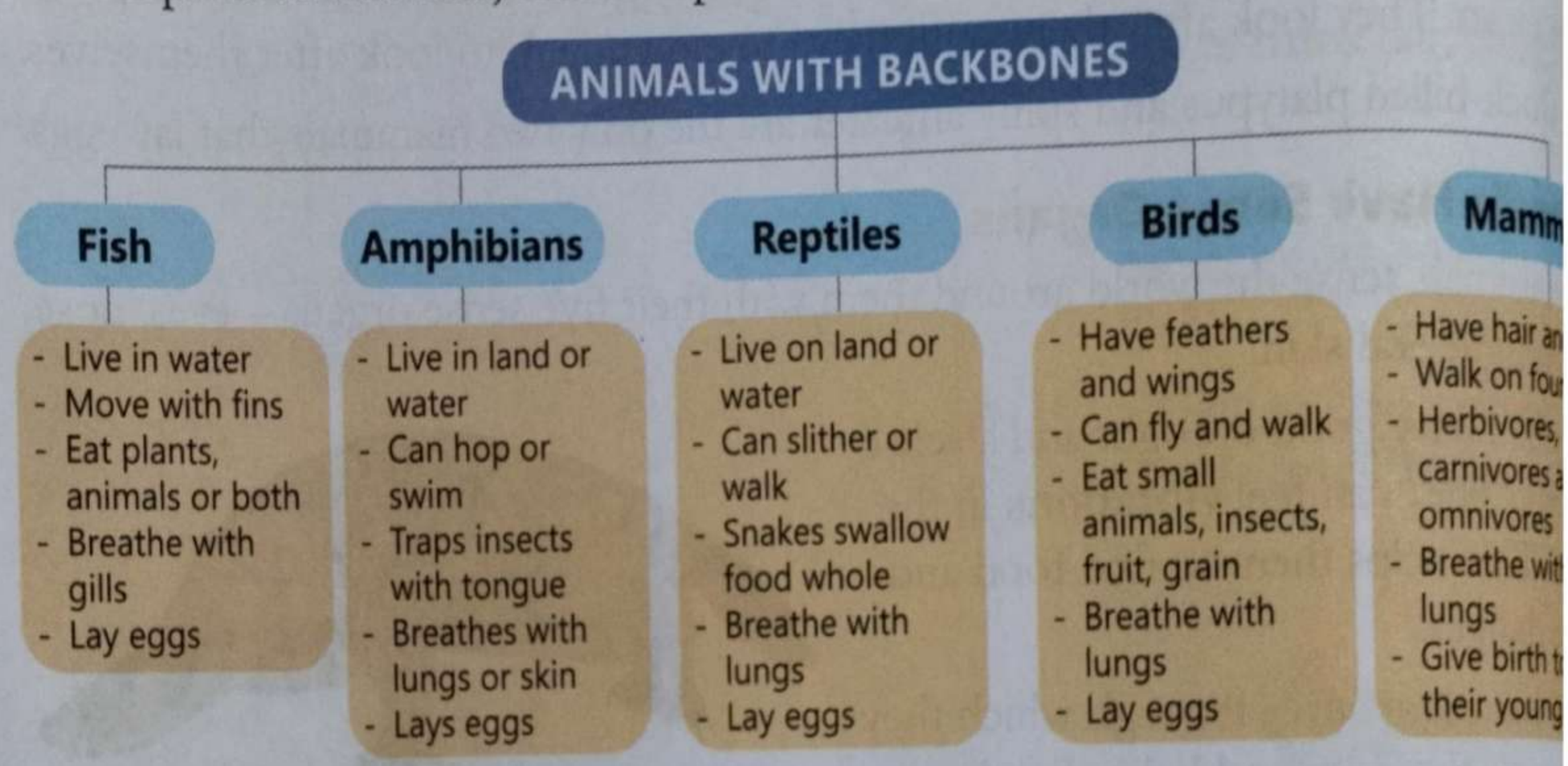
Hawks have a very sharp vision

Snakes have poor eyesight. They use their tongue to smell their surroundings. Birds can see much better than humans. This helps them find food easily and know about approaching danger.

Scanned with OKEN Scanner

Our sense organs

Humans also have five sense organs. Our eyes help us to see. Our ears help us to hear and also maintain our balance. We breathe and smell through our nose. Our tongue allows us to taste food and also helps us to speak. The tiny **taste buds** on our tongue help us to distinguish different tastes – sweet, sour, salty and bitter. Our skin helps us to feel heat, cold and pain.



IN BRIEF

1. Animals are divided into two main groups—those with backbone and those without backbon
2. Insects are the largest group of animals. They have no backbone. They fly, hop or crawl, bre through spiracles and lay eggs to reproduce.
3. Animals with backbone are divided into five groups - fish, amphibians, reptiles, birds and mamm
4. Animals move differently---fish swim, frogs swim and hop, snakes slither, birds fly and mammals on four legs.
5. Fish breathe through gills; amphibians breathe through lungs and skin; reptiles, birds and mam breathe through lungs.
6. Animals reproduce by laying eggs or giving birth to young ones.
7. Most animals sense the world around them with their five sense organs—eyes, nose, ears, to and skin.

Scanned with OKEN Scanner

Exercises

Objective Type Questions

A. Multiple choice questions.

1. Which of these does not have a backbone?

   a. Toad
   b. Goldfish
   c. Earthworm
   d. Parrot

2. What are webbed feet used for?

   a. For catching small animals
   b. For perching on branches
   c. Swimming
   d. For scratching the soil to look for insects

3. Which of these can breathe through both lungs and skin?

   a. Humans
   b. Snakes
   c. Fish
   d. Frog

4. Which of these is not a sense organ?

   a. Hands
   b. Eyes
   c. Nose
   d. Skin

5. Which of these defines a mammal?

   a. Gives birth to babies and feeds them with its own milk
   b. Gives birth to babies and brings food to feed them
   c. Lays eggs and looks after them and the babies after they hatch
   d. Lays eggs but does not look after them or the babies after they hatch

6. Which of these does not give birth to babies?

   a. Humans
   b. Cows
   c. Dogs
   d. Frogs

B. Give two examples of the following.

1. Animals whose bodies are covered with scales — fish, crocodile
2. Amphibians — frog, salamander
3. Animals which do not have a backbone — earthworm, jellyfish

Scanned with OKEN Scanner

4. Animals which can feel vibrations in water fish, frog
5. Mammals which lay eggs duck billed platypus, spiny anteat

C. Write T for True statements or F for False statements.

1. Worms do not have a backbone. T
2. Bones of birds are light and hollow. T
3. All animals feed their babies with their own milk. F
4. A cockroach breathes through spiracles. T
5. When the eggs of frogs hatch, baby frogs come out. T
6. All animals lay 2 or 3 eggs only at a time. F

D. Fill in the blanks.

1. Animals with backbones are divided into five groups. These are fish, birds, mammals, reptiles and amphibians
2. Insects have antennae which help them to sense things around them.
3. Fish swim with the help of fins and tails.
4. Spiracles are tiny holes in the body of an insect through which it takes in air.
5. Duck billed platypus is a mammal that lays eggs.

Theoretical Questions

Answer the following questions in brief.

1. How is air taken to all parts of the body of an insect?
2. How is a bird's body suitable for flying?
3. How do whales and dolphins breathe?
4. Why do fish lay thousands of eggs at a time?
5. How do mammals look after their young ones?

Thinking Skills

1. Fish can breathe under water but we cannot. Why? Fish have gills
2. What do you think will happen if we did not have sense organs?
we won't be able to feel things around us.

Scanned with OKEN Scanner