

Animal Adaptations

Let's Begin

Fill in the blanks with the names of appropriate animals.

1. as cunning as a ... 2. as busy as a ... 3. as slippery as an ...

Answers: 1. fox; 2. bee; 3. eel

Living things change or **adapt** to suit their surroundings. But these changes happen very slowly, over many thousands of years. Millions of years ago, dinosaurs lived on Earth. But these huge animals died out. Scientists believe that dinosaurs could not adapt to the changing climate. Living things that adapt to their surroundings survive. The others, like the dinosaurs, die out.

Animals adapt with regard to where they live (their **habitat**). They also have special features depending on what they eat and how they protect themselves.

ADAPTING TO THEIR HABITAT

Terrestrial Animals

Animals that live on land are called **terrestrial animals**. Many of them have legs to walk with and lungs to breathe in air. Horses, cows, lions, zebras, deer, bears, yaks, polar bears, camels, snakes and lizards are terrestrial animals. Zebras and deer have strong legs and hoofs to walk long distances. Some of them, like snakes, do not have legs. Snakes use the scales on their bodies to crawl on land. Animals living in extremely cold regions, like polar bears and yaks, have thick and long fur. Seals and walruses have a thick layer of fat under their skin. This keeps them warm in extreme cold. Some animals like bears living in very cold places **hibernate** or sleep through the winter.



In summer, when it is very hot, some animals go into a deep sleep or *aestivate*. When ponds dry up, lungfish dig into the mud and live there. Snails go into a deep sleep during summer.

Camels are adapted to living in the desert. They store food in the form of fat in their humps. They can live without food and water for long periods.



Aquatic Animals

Animals that live in water are called **aquatic animals**. Fish, sharks and turtles are aquatic animals. They have fins or flippers to swim in water. Fish breathe through their gills.



Amphibians

Amphibians can live both in water and on land. Frogs, toads and salamanders are amphibians. They have webbed feet which help them swim in water. They have lungs to

breathe with when they move on land. They breathe through moist skin when in water.

Aerial Animals

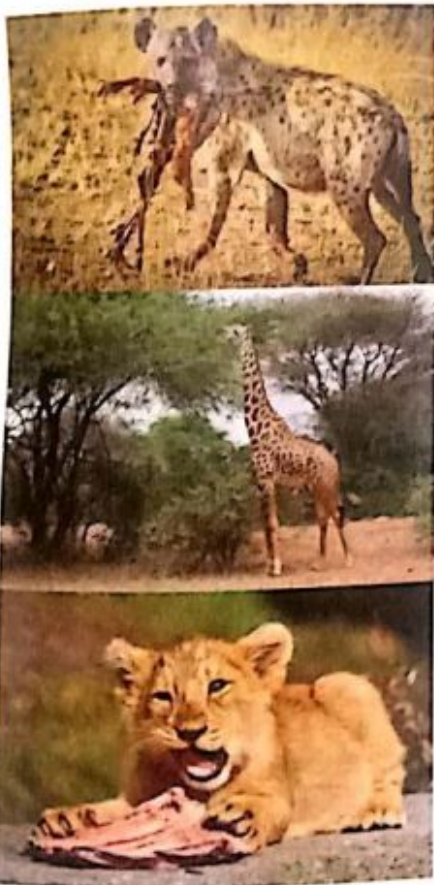
Animals that can fly in the air are called **aerial animals**. Birds and bats are aerial animals. They fly in the air with the help of wings.



Their bodies are boat-shaped and their bones are light. Many insects can fly too.

Arboreal Animals

Animals that spend most of their time on trees are called **arboreal animals** (*arbor* is Latin for tree). Monkeys, squirrels, chameleons and garden lizards are arboreal animals. They have strong limbs to help them climb on trees and hold on to branches. They have claws in their legs to move easily on trees. Some monkeys can use their strong tails to swing from branch to branch.



ADAPTATIONS FOR FOOD

Animals eat varied types of food. All grass-eating animals do not eat the same type of grass. Each kind of animal feeds on different parts of a plant or tree. Flesh-eating animals eat different parts of the hunted prey. Hyenas eat the food left by lions and other hunters.

Herbivores

Animals that eat plants are called **herbivores**. Their teeth are shaped to cut and chew leaves and grass. They have strong, sturdy hoofs to walk long distances on grassy land.

Giraffes have long necks and elephants have long trunks which help them reach leaves found high up on trees. Birds that eat nuts and seeds have short and hard beaks.

Carnivores

Animals that eat other animals are called **carnivores**. They have sharp pointed teeth to tear into flesh. Birds that eat flesh have strong pointed beaks and sharp claws to tear flesh.

Omnivores

Animals that eat both plants and animals are called **omnivores**. Crows, bears and human beings are omnivores.

Parasites

Animals that feed on other living plants or animals are called **parasites**. Mosquitoes, lice, fleas, leeches and bed bugs are parasites. Some live in the body of other animals or **hosts** and suck their blood. Tapeworms, roundworms and threadworms live inside the body of other animals. They eat the digested food of the host animals.



ADAPTATION FOR PROTECTION

Animals need to protect themselves so they can live and reproduce.

Some animals have legs and hoofs that are designed to help them run swiftly. Deer and antelopes run away to safety when they are hunted. Birds, houseflies and butterflies fly away to escape from their enemies.



Some animals are covered with stripes or spots to prevent them from being seen easily. This helps them blend with their surroundings. This is called **camouflage**. Zebras and deer are examples of such animals. Tigers and leopards use camouflage to hunt their prey.



Some animals are so big they cannot be eaten by other animals. They include whales, elephants and rhinoceroses.

Some animals change the colour of their coat to protect themselves. The arctic fox sheds its brown coat and grows a white one in winter. The chameleon changes its skin colour depending on where it is. Some insects like the stick insect escape by imitating twigs.

Lets Remember



ADAPTATION	adjusting to one's surroundings
HABITAT	natural living place of a plant or animal
TERRESTRIAL	living on land
AQUATIC	living in water
AMPHIBIANS	animals adapted to living both on land and in water
AERIAL	capable of flying
ARBOREAL	living mostly on trees
HIBERNATION	long winter sleep
AESTIVATION	remaining inactive in summer
CAMOUFLAGE	blending with the natural surroundings

Let's Sum Up



- ❖ Living things adapt to their surroundings in order to survive.
- ❖ Adaptation happens over thousands of years.
- ❖ Living things like the dinosaurs that do not adapt die out.
- ❖ Animals adapt to their surroundings or habitat. So we have terrestrial, aquatic, arboreal, amphibian and aerial animals.
- ❖ Animals can be grouped depending on what they eat, into herbivores, carnivores, omnivores and parasites.
- ❖ Large size, the ability to move fast, the ability to blend with their surroundings are some ways different animals protect themselves.

Let's Understand



A. Choose the correct answer.

1. The occurrence of changes to suit one's surroundings is called _____ .
a. adoption b. adaptation c. aestivation
2. Animals in very cold regions keep warm with the help of _____ .
a. thick long fur b. a layer of fat under the skin
c. both of these

3. Amphibians are animals that live _____ .
 a. on land b. in water c. on land as well as in water
4. Animals that fly are called _____ animals.
 a. aerial b. arboreal c. terrestrial
5. The characteristic of merging with one's surroundings is called _____.
 a. migration b. camouflage c. hibernation

B. Say if the sentences are true or false.

1. Adaptation to a particular environment helps an animal to survive in those conditions.
2. Adaptations take place very quickly.
3. Animals that can live on land and in water are called arboreal animals.
4. Carnivores have sharp pointed teeth to tear flesh.
5. Stripes and spots help animals stand out when hunting.

C. Match the words in the two columns.

Column A	Column B
1. Salamander	a. Aestivation
2. Zebra	b. Aerial
3. Lung fish	c. Amphibian
4. Bears	d. Camouflage
5. Eagle	e. Hibernation

D. Answer the questions.

1. Define the terms: i. adaptation ii. habitat iii. hibernation
 iv. aestivation
2. What adaptations are seen in a polar bear which helps it survive the extreme cold of the Arctic region?
3. How is a monkey adapted to a life on trees?
4. How are herbivores like giraffe and elephants suited to living in grasslands and forests?

5. What are parasites? Name two parasites you will find in human beings. How are they harmful to us?
6. Explain the term camouflage. Give two examples of animals that camouflage and write how they do so.
7. What features help the following animals live in their surroundings?
a. deer b. sea horse c. snake d. camel e. butterfly

Let's Think

You are all familiar with grasshoppers. What features help them to live in their environment undetected?

Let's Learn

Project presentation

Get into groups. Your teacher will give each group the name of an animal. Find out about its habitat, feeding habits and adaptations. Make a group presentation on your animal.

Let's Have Fun

Bingo

- ❖ Draw a bingo sheet with 16 large squares in four rows and four columns.
- ❖ Your teacher will call out 16 words. Write them at the top of the squares in any order.
- ❖ Your teacher will now call out definitions. Write them under the correct words.

The winner is the first person to complete one row.

Know Your Values

Many of us like to go to a circus to see animals perform their different acts. Is it kind to force animals to do tricks? Do you know if they are looked after properly? How can you help these animals?