

Lesson 2: Animal habitats

Children will learn to: recognize that animals live in different habitats; identify and describe key features of animal habitats (deserts, rainforests, grasslands, the Arctic); understand ways in which animals are adapted to live in their habitat

Main outcome: Children create an animal adaptation quiz

Cognitive skills: predicting, matching, comparing, reasoning, deciding, justifying

Main language: *How is a/are ... adapted? Why do ...? To ... I think ... It's / They're ... / It's / They've got ... / are ... / ... live in ... / ... need ...*

Main vocabulary: *deserts, rainforests, grasslands, the Arctic, hot, cold, wet, water, rainy season, cool, temperature, ice, permafrost, dry, parts of the body, names of animals, fat, prey, predator, enemy, tunnel, energy, sand, storm, attack, hide, mud, nuts, seeds*

Materials: Large images of a desert, a rainforest, grasslands and the Arctic; Worksheet 1: Animals and their habitats (copy for each child); Worksheet 2: Animal adaptation quiz (copy for each child); photos of animals (optional)

Revision activity

- Ask *What are the two main groups of animals? / Which animal groups are vertebrates and which are invertebrates?* and listen to the children's response.
- Divide the class into pairs. Children play a game of 'word tennis'. One child mimes serving the ball and names an animal group, e.g. *Mammals*. Their partner mimes returning the ball and naming an animal in the group, e.g. *Lions*. After a 'rally' of 6-8 turns, children change roles and repeat.

Introduction and setting objectives

- Ask, for example, *Do all animals live in the same place? (No) Do polar bears live in rainforests? (No) Do parrots live in the Arctic? (No)*. Use this to establish that animals live in different habitats. Explain that *habitat* is the name we use for the place or environment where animals live. An animal's habitat provides it with food, water, shelter and space. Habitats vary in climate, soil, terrain (e.g. whether flat or mountainous) and the plants that grow there.
- Say *In this lesson we're going to learn to identify and describe key features of four animal habitats. We're also going to learn about ways in which animals are adapted to live in these habitats*. Elicit or explain that *adapted* means that animals have special features which help them to survive in their habitat. Give an example to illustrate this, e.g. *A polar bear has thick fur to survive the cold weather in the Arctic*. Say *We're also going to do a quiz on animal adaptation and prepare a quiz of our own for our e-zines (or magazines)*.

Suggested lesson procedure

Activity 1

- Show children large photos or computer images of a desert, a rainforest, grasslands and the Arctic. Elicit or name the habitats and ask questions about each one in turn, e.g. *What's the climate like? What plants grow there?* Use the children's answers to introduce any new vocabulary, e.g. *season, temperature, soil, fertile, extreme*.
- Give a copy of Worksheet 1 to each child.
- Ask children to read the description of each habitat in part 1 and write the names. Draw their attention to the example.
- Children work individually and read and identify the four habitats.
- Check the answers by asking questions about the different habitats, e.g. *Which habitat has a rainy season? (grasslands) Where is there permafrost? (the Arctic) Which habitat can be cold and hot? (deserts) Which habitat has millions of plants? (rainforests)*.

Activity 2

- Explain that different animals live in each habitat and are adapted to do so – in other words, they have special features which make it possible for them to live there. Refer back to the example of the polar bear's fur and elicit or give further examples, e.g. *A camel has thick lips (use gesture to show meaning) which means it can eat a plant like a cactus in the desert*. (Draw a cactus on the board and use gesture to show the prickles hurt).

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- Divide the class into pairs. Ask children to work together and match the animals in part 2 on the worksheet to the habitats. Ask them to think about and predict the ways in which the animals are adapted to each habitat as they do this.
- Children work with their partner and match the animals and habitats.
- Put the pairs into groups of four and ask the children to compare their answers.
- Check the answers with the whole class, e.g. *What's the habitat of giraffes? We think it's grasslands.* As children answer ask, for example, *How are giraffes adapted to live in grasslands?* and encourage children to suggest possible adaptations, e.g. *They've got long legs to run away from predators.* Listen to the children's ideas and be ready to help with vocabulary as necessary.

Key:

rainforest: parrot, monkey, crocodile; desert: camel, meerkat, scorpion; the Arctic: polar bear, snowy owl, Arctic hare; grasslands: giraffe, elephant, lion

Note: Be ready to explain that some of the animals, e.g. some species of crocodiles, monkeys and scorpions, may live in more than one habitat.

Activity 3

- Explain to the children that they are going to do a quiz on animal adaptation. Divide the class into two teams. Get the children to choose a name for their team related to the project theme, e.g. 'The predators' / 'The arachnids'.
 - Explain that you are going to ask questions in the quiz (from Worksheet 2) and give three options for each answer. Children in each team take turns to say which of the options they think are correct and explain that there may be more than one. If children identify all the correct options in answer to each question, they score two points for their team; if they identify at least one correct option, they score one point for their team. If you like, you can deduct points from the teams if children call out when it isn't their turn.
 - Demonstrate the quiz by asking one question as an example, e.g. *Why do camels have a hump? a. To carry people. b. To store water. c. To store fat.* Invite children from each team to say which answer(s) they think are correct (it's c. Camels store fat in their humps which they then use for energy.) and demonstrate, awarding points accordingly.
- Do the quiz. Read the questions and options on Worksheet 2 and children in each team take turns to identify the correct answers and score points for their team. As children answer, use the key and notes below to explain and clarify as necessary. Keep a score of the points on the board. At the end, the team with the most points wins.
 - Give a copy of Worksheet 2 to each child.
 - Children work individually, read the questions and tick the correct answers in the quiz.
 - Check the answers. At the end ask the children to tell you the adaptations they think are most interesting and/or surprising.

Key:

1. a, b, c; 2. a, c; 3. a; 4. b; 5. b; 6. a, c; 7. a, b; 8. a, c; 9. a; 10. b; 11. b, c; 12. a, b

Notes:

1. Big paws help the polar bear do all these things.
2. Fur on their feet does not help snowy owls fly faster.
3. Arctic hares hide from enemies rather than attack them, and they don't eat fish.
4. Camels don't use eyelashes to make friends (or find a mate) nor do they help them sleep at night.
5. Scorpions kill small prey such as insects with their pincers. They also use their pincers when they fight other scorpions.
6. The long necks of giraffes do not help them to run faster (although their long legs do).
7. Big ears help elephants to hear sounds over long distances. Elephants also flap their ears to keep cool. Elephants don't use their ears to protect their babies (they use their whole bodies).
8. Male lions have manes to look big and strong in order to scare other male lions away. Their manes also protect their throats in fights with lions or other animals, such as cheetahs. Lions live in grasslands, which are hot, so they don't need a mane to keep warm.
9. The curved beaks of parrots do not help them sing or fly faster.
10. Although monkeys do throw things and hug other monkeys with their long arms, these are not the reasons for this adaptation.
11. Crocodiles use their jaws and sharp teeth to kill their prey.

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12. Meerkats hide from their enemies rather than attack them.

Activity 4

- Ask the children if they can think of any other animal adaptations and listen to their ideas, e.g. *Elephants have trunks to eat, drink, cool their bodies with water and communicate with other elephants.*
- Divide the class into their project groups and, within their groups, into pairs. Explain that the children are going to prepare their own quiz on animal adaptations for their e-zine (or magazine). Ask the pairs to prepare 2-4 questions for their quiz. Suggest that they use the questions and options on Worksheet 2 as a model to help them do this.
- Give an example of a possible question for the quiz using one of the animal adaptations suggested by the children, e.g. *Why do elephants have trunks? a. To eat and drink. b. To communicate with other elephants. c. To cool their bodies with water.* In this case, all three answers are correct.
- *Either* get children to research the adaptations of the animals they choose online *or* be ready to help with some animal adaptation facts which children can use as the basis of their quiz questions, e.g. *elephants have tusks to attack and protect themselves from other elephants; polar bears have thick fur to keep warm; camels have nostrils which close to stop them getting sand in their nose; cheetahs are long and thin to run very fast and catch their prey, etc.*
- Children work with their partner and prepare their question(s) for the quiz.
- When they are ready, children take turns to ask and answer each other's questions in their project groups. Use this as an opportunity to get children to give feedback on each other's questions and suggest any changes or improvements before they prepare them to go into their e-zine (or magazine).
- *Either* give out A4 paper for children to write out the quiz questions *or* children work at their computers and prepare their animal adaptation quiz to go in their e-zines (or magazines). Children can also optionally illustrate their quizzes with pictures or photos. These can be completed either as homework or in a follow-up lesson as necessary.

Learning review

Briefly review learning by asking the children *What have we done today? What have you learnt? How did the quiz help you learn about ways animals are adapted to their habitats? What did you enjoy most / find most interesting / difficult?*

Optional extra

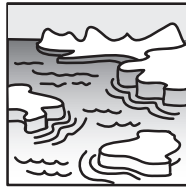
Stick the photos of the four habitats (rainforest, desert, grasslands, the Arctic) on different walls in the classroom. Either say sentences about the habitat, e.g. *It's very cold and windy.* (the Arctic) and/or name animals children know that live in each habitat, e.g. *Cheetah!* (grasslands), and children point to the pictures and name the habitats as fast as they can.

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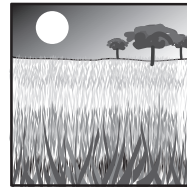
1. Read and write the name of the habitat.



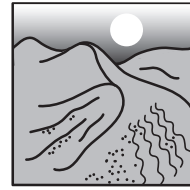
rainforest



the Arctic



grassland



~~**desert**~~

It has extreme temperatures and can be very hot or very cold. It is dry and there is very little rain. The soil is poor and there are only a few plants. desert

It has a hot season and a rainy season. It is an open, windy area with only a few trees and bushes. The soil is fertile and there is lots of tall grass. _____

The climate is warm and it rains a lot all the year round. There are many tall trees and millions of different plants. These are important for giving the Earth oxygen. _____

It is very cold and windy all the year round. There is permafrost which means the soil is permanently frozen. There are long periods of darkness in winter and light in summer. _____

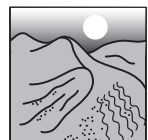
2. Match the animals to their habitat.

- a polar bear
- a parrot
- a camel
- a giraffe
- an Arctic hare
- a monkey
- an elephant
- a meerkat
- a snowy owl
- a lion
- a scorpion
- a crocodile

rainforest



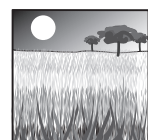
desert



the Arctic



grassland



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Read and tick (✓) the correct answers (there may be more than one).

1. Why do polar bears have big paws?
 - a. To swim faster.
 - b. To walk in the snow.
 - c. To catch fish and seals.
2. Why do snowy owls have fur on their feet?
 - a. To walk on slippery ice.
 - b. To fly faster.
 - c. To keep warm.
3. Why do Arctic hares have long, strong claws?
 - a. To dig tunnels in the snow.
 - b. To attack their enemies.
 - c. To catch fish in the sea.
4. Why do camels have long eyelashes?
 - a. To make friends with other camels.
 - b. To protect their eyes in sand storms.
 - c. To help them go to sleep at night.
5. Why do scorpions have a sting in their tail?
 - a. To kill small prey such as insects.
 - b. To kill big prey such as snakes.
 - c. To attack other scorpions.
6. Why do giraffes have long necks?
 - a. To eat leaves from tall trees.
 - b. To run faster.
 - c. To see enemies in the distance.
7. Why do elephants have big ears?
 - a. To hear better.
 - b. To keep their body temperature cool.
 - c. To protect their babies.
8. Why do male lions have a mane?
 - a. To look big and strong.
 - b. To keep warm.
 - c. To protect their throat in fights.
9. Why do parrots have a strong, curved beak?
 - a. To crack and eat nuts and seeds.
 - b. To make birdsong.
 - c. To fly faster.
10. Why do monkeys have long arms?
 - a. To throw things at other animals.
 - b. To climb trees and collect food.
 - c. To hug each other.
11. Why do crocodiles have webbed feet?
 - a. To kill their prey.
 - b. To walk on slippery mud.
 - c. To turn quickly in the water.
12. Why do meerkats have curved front claws?
 - a. To dig tunnels in the desert sand.
 - b. To dig for insects and other food.
 - c. To attack their enemies.