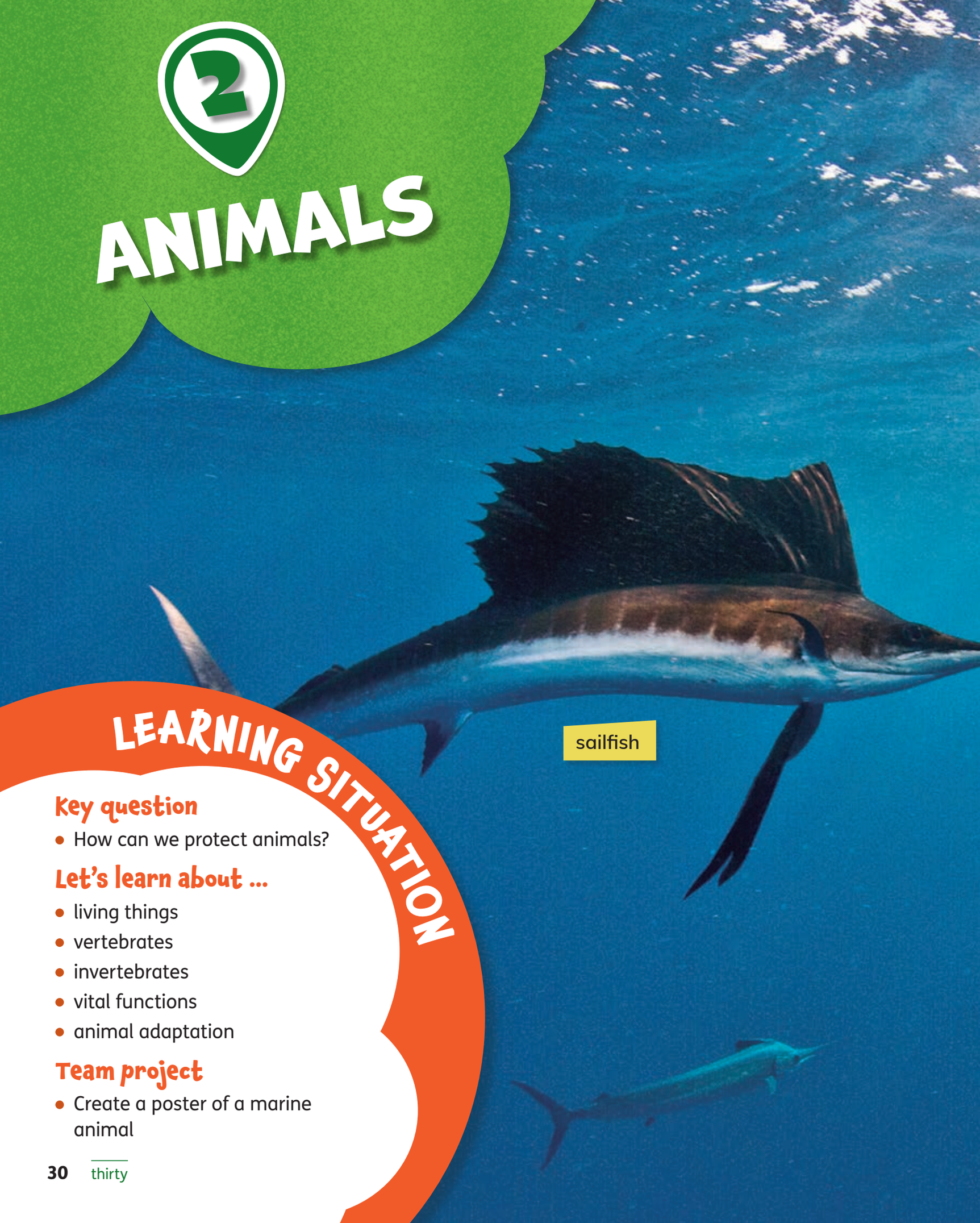
2 ANIMALS



LEARNING SITUATION

Key question

- How can we protect animals?

Let's learn about ...

- living things
- vertebrates
- invertebrates
- vital functions
- animal adaptation

Team project

- Create a poster of a marine animal

LET'S START!

WATCH. What is your favourite animal?

THINK BACK. Where can animals live?

LOOK. What can you see in the photo?

I see ...

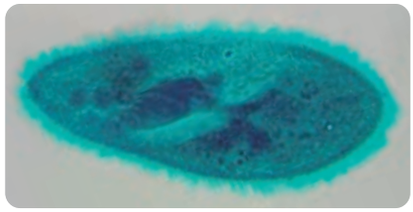
There are ...

school of fish

HOW CAN WE CLASSIFY LIVING THINGS?

Living things eat, **reproduce** and **interact** with their environment to survive.

All living things are made of **cells**. Cells are very small building blocks. They are the smallest parts of a living thing. We need a microscope to see them.



Some living things have got only one cell. They are **unicellular**.

Some living things have got many cells. They are **multicellular**.

microscope

Think

Have humans got one cell or many cells?

THE FIVE KINGDOMS

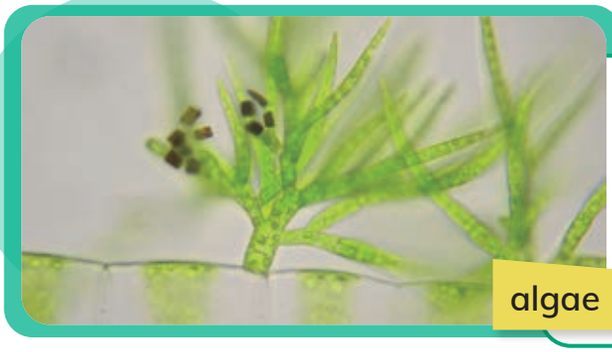
Scientists classify all living things into **five kingdoms**.

Monerans

Monerans are very small and simple living things. They are unicellular. We need a microscope to see them. Bacteria are a type of monera.

Monerans live in water, soil and in your body. Some monerans make their own food. They make copies of themselves to reproduce.

bacteria



algae

Protists

Protists are very small. Most of them are unicellular.

Most protists live in water, for example algae. Some of them make their own food. They make copies of themselves or join together to reproduce.

Fungi

Fungi can be unicellular or multicellular. Yeast and mushrooms are two types of fungi. Yeast has got only one cell. Mushrooms have got many cells.

Fungi grow in dark, damp places. They don't make their own food. Fungi release cells to reproduce. These cells are called **spores.**

mushrooms

Plants

mint

Plants are multicellular living things.

They can live on land and in water. They get energy from the Sun to make their own food. They release seeds or spores to reproduce.

Animals

Animals are multicellular living things.

Animals live in many different environments. They need food, water and oxygen to live. Some animals lay eggs to reproduce and others give birth to live babies.

zebras

Activities

1 **In your notebook, WRITE the difference between unicellular and multicellular living things.**
Unicellular living things are ... Multicellular living things ...

2 **CLASSIFY the five kingdoms into unicellular, multicellular or both.**

3 **COPY and COMPLETE the sentences.**

reproduce spores monera plants water

a. Bacteria belong to the ... kingdom.
b. Most protists live in ... .
c. Fungi release ... to reproduce.
d. ... get energy from the Sun to make their own food.
e. Some animals lay eggs to ... .

Key words

animal
cell
fungi
monera
plant
protist

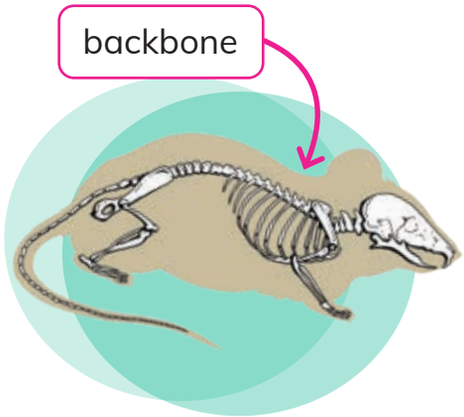
WHAT ARE VERTEBRATES?

There are two different groups in the animal kingdom: **vertebrates** and **invertebrates**.

Vertebrates have got a **backbone**.

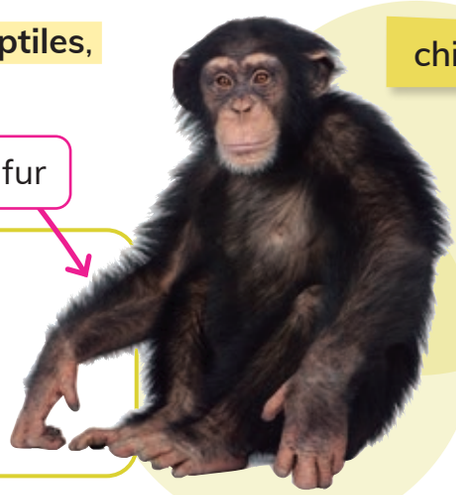
Watch
How can we identify vertebrates?

mouse



TYPES OF VERTEBRATES

There are five groups of vertebrates: **mammals**, **birds**, **reptiles**, **amphibians** and **fish**.



Mammals

Mammals have got hair or fur. They use their lungs to breathe. They have live babies. Most mammals live on land. Other mammals live in the sea but they come to the surface to breathe, for example dolphins.

Birds

Birds have got two wings, two legs, feathers and a beak. They use their lungs to breathe. Birds lay eggs. Most birds can fly. Other birds can swim but they can't fly, for example penguins.

Reptiles

Reptiles have got scales. They use their lungs to breathe. Some reptiles live on land and others live in water. Most reptiles lay eggs. Some reptiles have got shells, for example turtles.


turtle

Amphibians

Amphibians haven't got fur or scales. They breathe with their lungs and with their skin. Amphibians lay eggs. Their skin needs to be wet so they live in places with water.


frog

Fish

Fish live in water. Most fish have got scales. They use fins to swim. They breathe underwater with gills. Fish lay eggs.


fish

Activities

1 **In your notebook, WRITE a definition for these concepts.**

vertebrate animals | invertebrate animals

2 **COPY and COMPLETE the table.**

Type	How they breathe	How they have babies	Where they live	Example
mammals	with lungs	...	...	...

3 **DESCRIBE a vertebrate to a partner. Take turns to GUESS.**

It has got *fur / feathers / scales ...*

It lives ...

Explore

Do the Class Webquest.

Listen

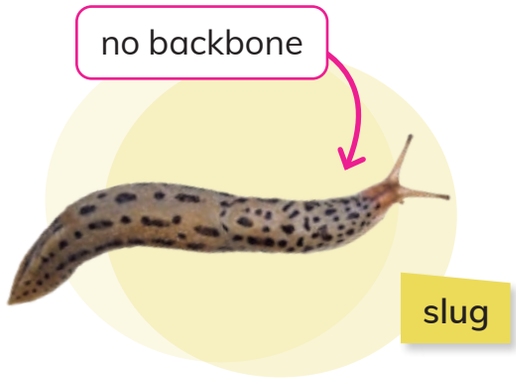
Listen and say the vertebrate chant.

Key words

amphibian
bird
fish
mammal
reptile
vertebrate

WHAT ARE INVERTEBRATES?

Invertebrates haven't got a **backbone**. They are the biggest group of animals.



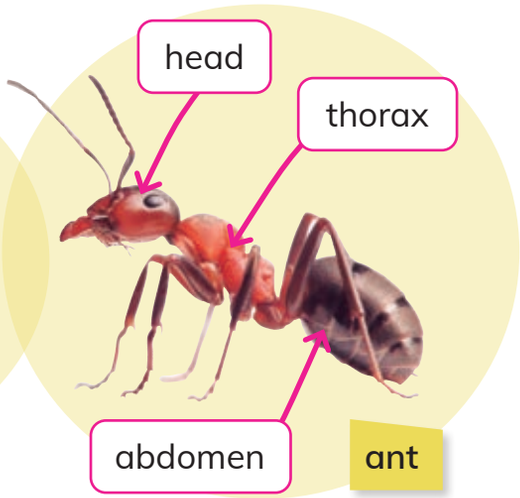
TYPES OF INVERTEBRATES

There are different types of invertebrates.

Arthropods

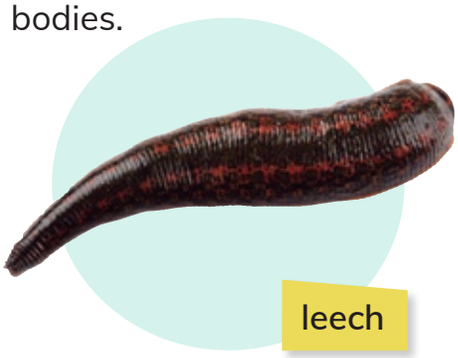
Arthropods are the biggest group of invertebrates. They live on land and in water. They have got an **exoskeleton**. This is a skeleton that is outside their body to protect them.

Insects are a type of arthropod. They have got three main body parts: **head**, **thorax** and **abdomen**.



Worms

Worms have got long, soft bodies. They haven't got legs. They live on land and in water. Some worms have got flat bodies.



Explore

Can you find any invertebrates around your school?

What type are they?

Echinoderms

Echinoderms live in the ocean. They've got spines.
Some echinoderms have got small feet to move on the ocean floor.


sea urchin


sea cucumber


starfish

Molluscs

Molluscs have got soft bodies. Many have got a shell to protect their bodies. Many molluscs live in the ocean, for example mussels. Others live on land, for example snails.


mussel


snail


octopus

Activities

1 **What type of invertebrate is it? READ and WRITE in your notebook.**

a. They've got an exoskeleton. Insects are one type.
b. They've got soft bodies and, sometimes, a shell to protect them.
c. They live in the ocean. They've got spines.
d. They've got long, soft bodies. They haven't got legs.

2 **What type of invertebrate are they? LOOK and ANSWER.**

a


b


3 **AT HOME. FIND an invertebrate in your neighbourhood.**

Listen

Stand up when you hear a vertebrate. Sit down when you hear an invertebrate.

Key words

arthropod
echinoderm
invertebrate
mollusc
worm

WHAT DO ANIMALS DO?

All animals **eat**, **reproduce** and **interact** with their environment. These are **vital functions**. They do this in different ways.

Watch

How do animals eat, reproduce and interact?

NUTRITION

Animals get nutrients from food. They eat many different types of foods.

Carnivores

lion

Carnivores eat other animals. They have got sharp teeth.

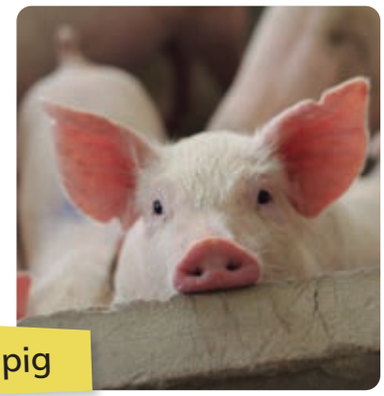
Herbivores

panda bear

Herbivores eat plants. They have got flat teeth.

Omnivores

Omnivores eat plants and animals. They have got both sharp teeth and flat teeth.



pig

Activities

1 **In your notebook, MATCH the words to make sentences.**

a. Carnivores eat ...	1. plants.
b. Herbivores eat ...	2. plants and animals.
c. Omnivores eat ...	3. animals.

REPRODUCTION

Animals **reproduce** to have babies. There are different types of reproduction.

Viviparous

Viviparous animals **give birth** to live babies. Most mammals are viviparous. Baby mammals drink milk from their mothers.

elephants

Oviparous

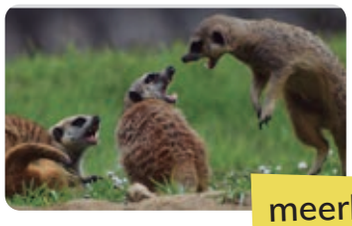
Oviparous animals **lay eggs**. All invertebrates are oviparous. Birds, amphibians, reptiles and most fish are oviparous.

chicken

INTERACTION

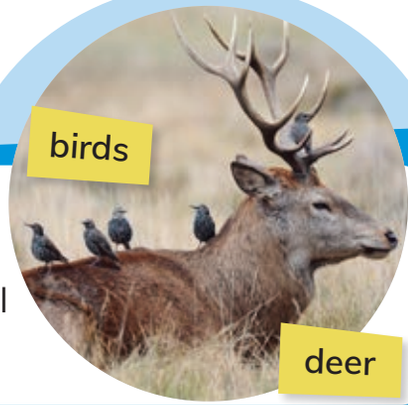
All animals **interact** with their environment. Eating, building homes and living in groups are all examples of interaction.

Some animals **fight** with other animals. We call this **antagonism**.



meerkat

Some animals **help** other animals. We call this **symbiosis**.



birds

deer

Activities

2 **How do these animals reproduce? COPY the table and CLASSIFY.**

chicken frog elephant ant mouse

Viviparous	Oviparous
...	...

3 **READ and COMPLETE these sentences about interaction.**

a. All animals ... with their environment.

b. Animals help each other. That is ... .

c. Animals fight with other animals. That is ... .

Think

Are humans oviparous animals or viviparous animals?

Key words

interaction
nutrition
reproduction

HOW DO ANIMALS ADAPT?

Animals adapt to their **environment** to survive.
There are different types of **adaptation**: adaptations to climate, to find food and to hide.

ADAPTATIONS TO CLIMATE

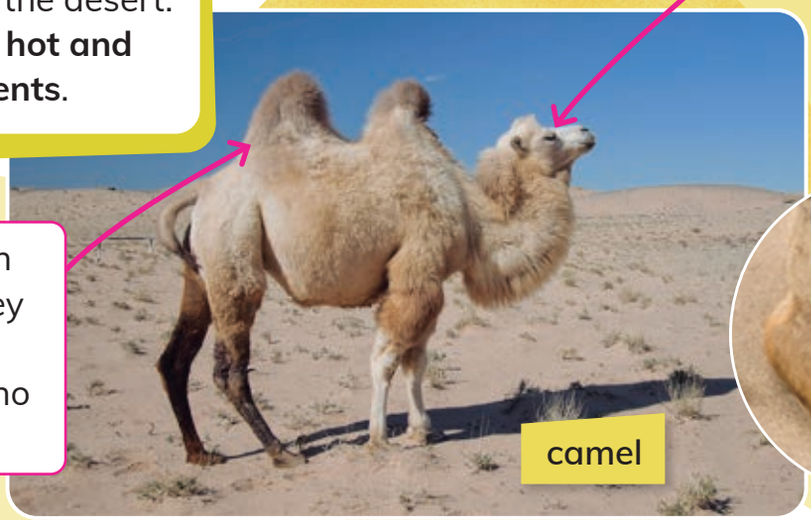
Animals live all over the world. They can adapt to different climates to live in hot, cold, dry and wet environments.

Camels live in the desert. They adapt to **hot and dry environments**.

They've got double eyelashes to protect their eyes from sand.

They've got wide feet for walking on sand.

They store fat in their **hump**. They can survive a long time with no food or water.

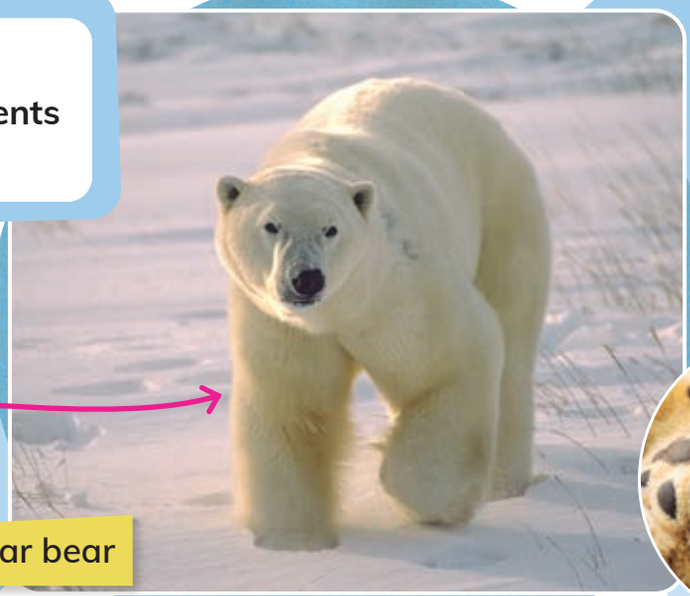


camel

Polar bears live in the Arctic. They adapt to **cold environments** with ice and snow.

They've got long claws for walking on ice.

They've got thick fur and a lot of fat. This keeps them warm.



polar bear

ADAPTATIONS TO FIND FOOD

Some animals have got **body parts** that help them to find food.

Giraffes have got long necks to eat from trees.

giraffe

Bats have got big ears to find insects in the dark.

bat

ADAPTATIONS TO HIDE

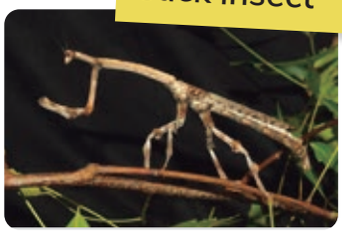
Some animals use **camouflage** for protection. They change their colour or shape to hide.

Arctic foxes change their colour in winter. They are white, like snow.

Arctic fox

stick insect

Stick insects look like wooden sticks. They hide and live on trees.



Activities

1 **Why do animals adapt? EXPLAIN in your notebook.**

2 **What type of adaptation is it? READ and COMPLETE.**

hide find food climate

a. A bat's big ears: adaptation to ...

b. A camel's hump: adaptation to ...

c. An Arctic fox's white fur: adaptation to ...

3 **MATCH the animals to the ways they adapt.**

a. Stick insects ...	1. have got wide feet to walk on sand.
b. Giraffes ...	2. look like sticks to live in trees.
c. Polar bears ...	3. have got long necks to eat from trees.
d. Camels ...	4. have got a lot of fat to stay warm.

Listen

Where do these animals live?

Key words

adaptation
environment
camouflage

LANGUAGE LAB

DESCRIBE AN ANIMAL

herbivore
vertebrate
viviparous
carnivore
invertebrate
oviparous

KEY WORDS

1 **In your notebook, MATCH the definitions to the words.**

a. They've got a backbone.
b. They give birth to live babies.
c. They haven't got a backbone.
d. These animals eat other animals.
e. They lay eggs to reproduce.
f. These animals eat plants.

LET'S WRITE!

2 **LOOK at the questions and answers. COMPLETE with the correct question word.**

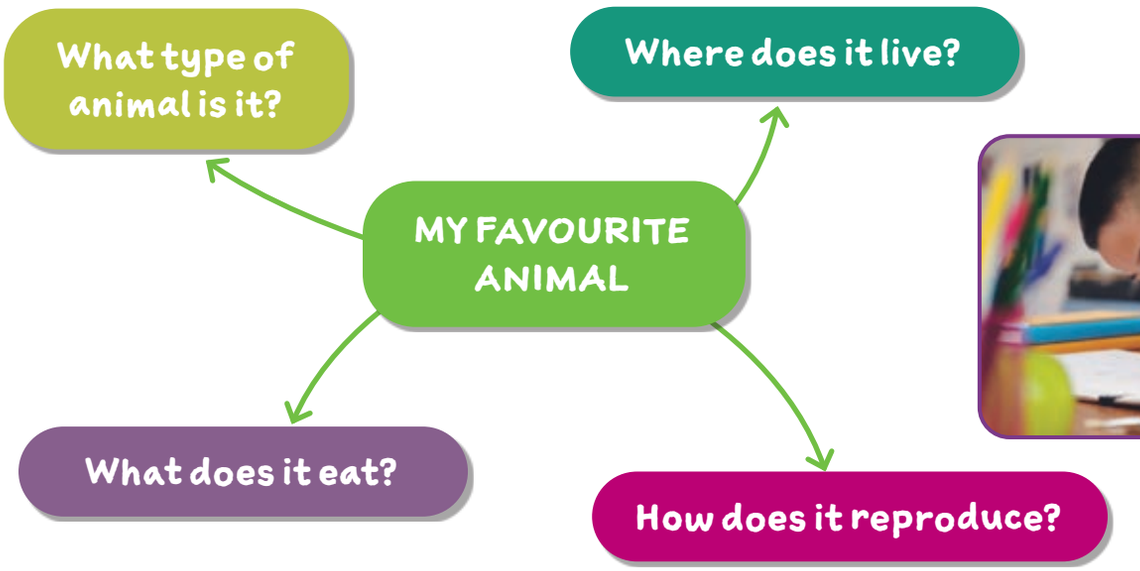
a. ... are fungi? They are one of the five kingdoms.
b. ... do camels live? They live in the desert.
c. ... do animals breathe? They breathe with their lungs.
d. ... do worms live? They live on land and in water.
e. ... do omnivores eat? They eat animals and plants.
f. ... do mammals reproduce? They give birth to live babies.

Language tip

We can use **question words** to ask for different things:

- **Where**?
- **What**?
- **How**?

3 **DESCRIBE your favourite animal. ANSWER the questions to help you.**



SCIENCE LAB

2

HOW DO POLAR BEARS STAY WARM?

Polar bears live on the ice. They have got thick fur and a lot of fat for insulation. Can insulation help you stay warm?

HYPOTHESIS

I think insulation **can** / **can't** *help my hand stay warm longer.*

MATERIALS

- large bowl of water and ice
- insulation (like cotton wool or butter)
- timer
- two freezer bags

Watch

STEP 1

Turn one bag inside out.

Put it inside the other bag.

STEP 2

Put insulation between the two bags.

Seal the bags together.

STEP 3

Put your right hand inside the bags.

Set the timer.

STEP 4

Put both of your hands into the bowl of ice water.

Stop the timer. Which hand feels colder?

RESULTS

Compare your results with a partner.

TEAM PROJECT

14 LIFE BELOW WATER

CREATE A POSTER OF A MARINE ANIMAL

It's Protect animals' day at school. Your class wants to talk about marine animals in danger and how to protect them.

DISCUSS

1 **Discuss with your classmates:**

a. What animals live in the ocean?

b. Why are marine animals important?

RESEARCH

2 **LOOK at these marine animals.**

a. Do you know the names of these animals?

b. Do you know any more marine animals?

COLLABORATE

3 **In groups, CHOOSE a marine animal in danger. BRAINSTORM what you know about it.**

TAKE ACTION

4 **FIND information and CREATE a fact file about your animal. Include:**

a. Name of the animal
b. Type of animal
c. Nutrition
d. Reproduction
e. Why it is in danger

WHALE

Type of animal: mammal
Nutrition: carnivore
Reproduction: viviparous
In danger because: ships pollute the seas where whales live.

SHARK

Type of animal: fish
Nutrition: carnivore
Reproduction: oviparous
In danger because: people fish too many sharks to get their fins.

5 **DRAW a picture of your animal.**

6 **PREPARE a poster. Include the information from the fact file and your drawing.**

SHARE

7 **SHOW your poster to your class. TALK about your marine animal.**

TEAM ASSESSMENT

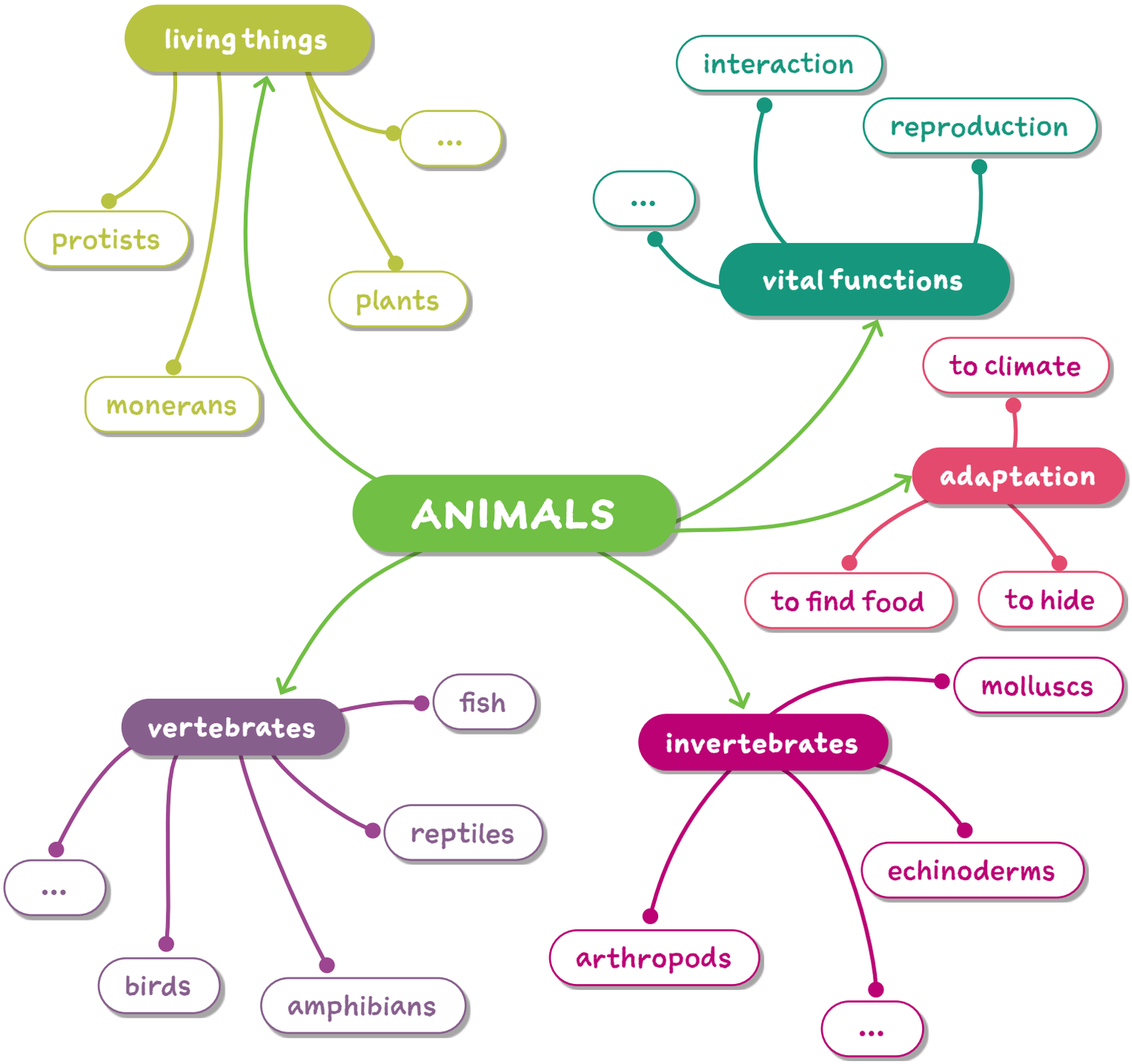
★ **Give your classmates constructive feedback.**

a. What do you like about their poster?
b. Do all classmates speak in their presentation?
c. Is the information clear?

MIND MAP

1 In your notebook, **COPY** and **COMPLETE** the mind map.

mammals | fungi | nutrition | worms



PICTURE DICTIONARY

2

amphibian

bird

camouflage

carnivore

fish

herbivore

insect

invertebrate

mammal

omnivore

reptile

vertebrate

Review

1 **In your notebook, MATCH the five kingdoms to their characteristics.**

a. Monerans	**1.** They use energy from the Sun to make their own food.
b. Protists	**2.** They reproduce in different ways. Some lay eggs and others give birth to live babies.
c. Fungi	**3.** They live in water, soil and your body. You need a microscope to see them.
d. Plants	**4.** Most of them live in water. They can move around.
e. Animals	**5.** They grow in dark, damp places.

2 **COPY and COMPLETE the sentences.**

a. All animals eat, reproduce and ... with their environment.

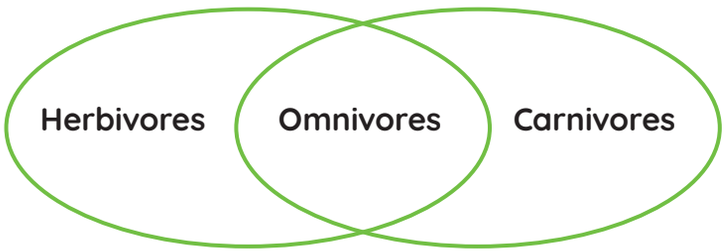
b. Animals have got different ... depending on what they eat.

c. Birds, amphibians, reptiles and most fish are ... . They lay eggs to reproduce.

d. In symbiosis, animals ... each other.

3 **What do animals eat? COPY and COMPLETE the Venn diagram.**

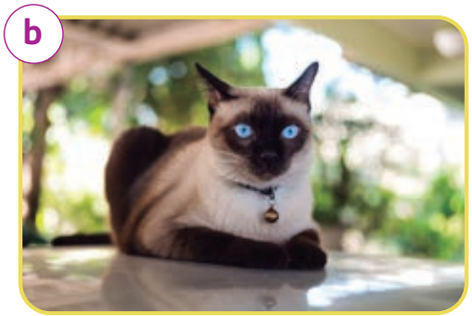
eat meat | flat teeth | eat plants | sharp teeth



4 **What type of vertebrate is it? MATCH and WRITE the names in your notebook.**

a

b



c

1. They have got hair or fur. They use their lungs to breathe.
2. Their skin needs to be wet so they live in places with water. They breathe with their lungs and their skin.
3. They live in water. They use their fins to swim.

5 **FIND which invertebrate does not belong.**

a. Ant / snail / beetle
b. Worm / leech / starfish
c. Starfish / sea urchin / spider
d. Butterfly / octopus / mussel

6 **Are these sentences true or false? CORRECT the false ones.**

a. Fat helps polar bears stay cold.
b. Giraffes have got long necks to reach for food in trees.
c. Stick insects change colours to camouflage.

APPLY

7 **READ the ad and ANSWER the questions.**

Welcome to Green waters park!

- It's a hot and wet place.
- There are lots of trees and plants.
- There are ponds.
- There are lots of insects.

a. Which animal can live in the nature park? Explain why.

polar bear | frog | whale | camel

b. Write a fact file about this animal.

- Is it a vertebrate or an invertebrate animal?
- Is it a carnivore, a herbivore or an omnivore?
- Where does it live?
- Is it oviparous or viviparous?

Class Quiz
Do the Class Quiz.

SELF-ASSESSMENT

★ **Reflect on your learning and complete in your notebook.**

a. Now I know that ...
b. I want to learn more about ...
c. I need to get better at ...