Science

Living Things and Their Habitats

Grouping Living Things

Aim

- I can group living things in a range of ways.
- I can use a range of methods to sort living things.

Success Criteria

- I can sort living things into groups.
- I can generate criteria to sort living things.
- I can sort living things into a Venn diagram.
- I can sort living things into a Carroll diagram.

Life Processes

What do all these things have in common?

Life Processes

All of these images are of living things. Sometimes we call them **'organisms'.**

Even though they might be very different from each other, all of these organisms share certain characteristics. All living things do certain things to stay alive. These are called life processes.

All animals, including humans, do these things. Plants do too, although they do them in different ways.

We can remember life processes by thinking about Mrs Gren.

Life Processes

Movement
Respiration
Sensitivity

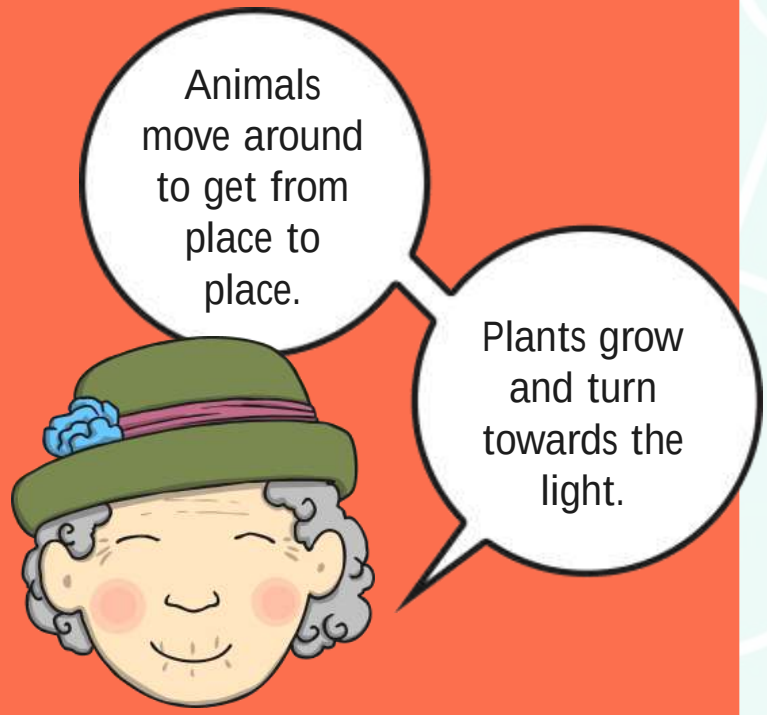
Growth
Reproduction
Excretion
Nutrition

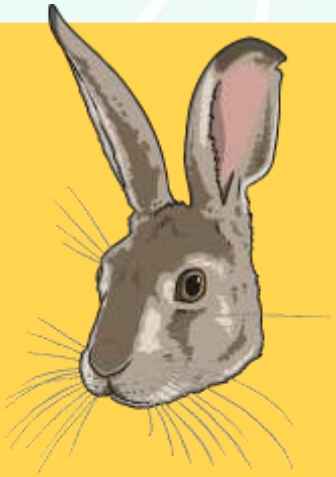
MRS GREN

Life Processes

Movement

All living things move.





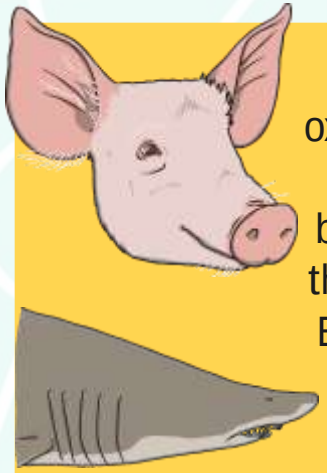
A hare runs to escape from danger.

A sunflower moves to turn its face towards the sun.

Life Processes

Respiration

All living things respire.



Land animals breathe oxygen through their mouths or noses. Sea creatures breathe oxygen dissolved in the water through their gills. Both types of creature then use this oxygen in their body for respiration.

Plants both respire and photosynthesise. While photosynthesis happens when the plant is in light, plants respire by taking in oxygen and giving out carbon dioxide during darkness.

Life Processes

Sensitivity

All living things are sensitive.

Animals use their senses to see, hear, taste, touch and smell the world around them.

Plants can also detect changes in the environment. This mimosa plant curls up when you touch it!

Life Processes

Growth

All living things grow.

This ocean mola started life as an egg not much bigger than a full stop. It will grow to weigh about 1000 kg - this is the same size as a large bull!

Bamboo can grow up to 3cm every hour.

Life Processes

Reproduction

All living things reproduce.

Animals lay eggs or give birth to live young.

Most plants reproduce by forming seeds.

Life Processes

Excretion

All living things excrete.

Animals excrete waste through urine and faeces.

Leftover gases and water leave plants from their leaves.

Life Processes

Nutrition

All living things need nutrition.

Animals may be carnivores, herbivores or omnivores.

Green plants make their own food using the energy from the sun.

Life Processes

All living organisms share these characteristics. This is how we know they are alive!

Living things have lots of other similarities, and many differences too. We can use these similarities and differences to sort the living things into groups.

Grouping Living Things

With a partner, think of a way we could sort these organisms into two groups.

Grouping Living Things

Here the organisms have been sorted into two groups. We have used a diagram to represent these groups.

Can an organism be in both groups at the same time?

plants

animals

Grouping Living Things

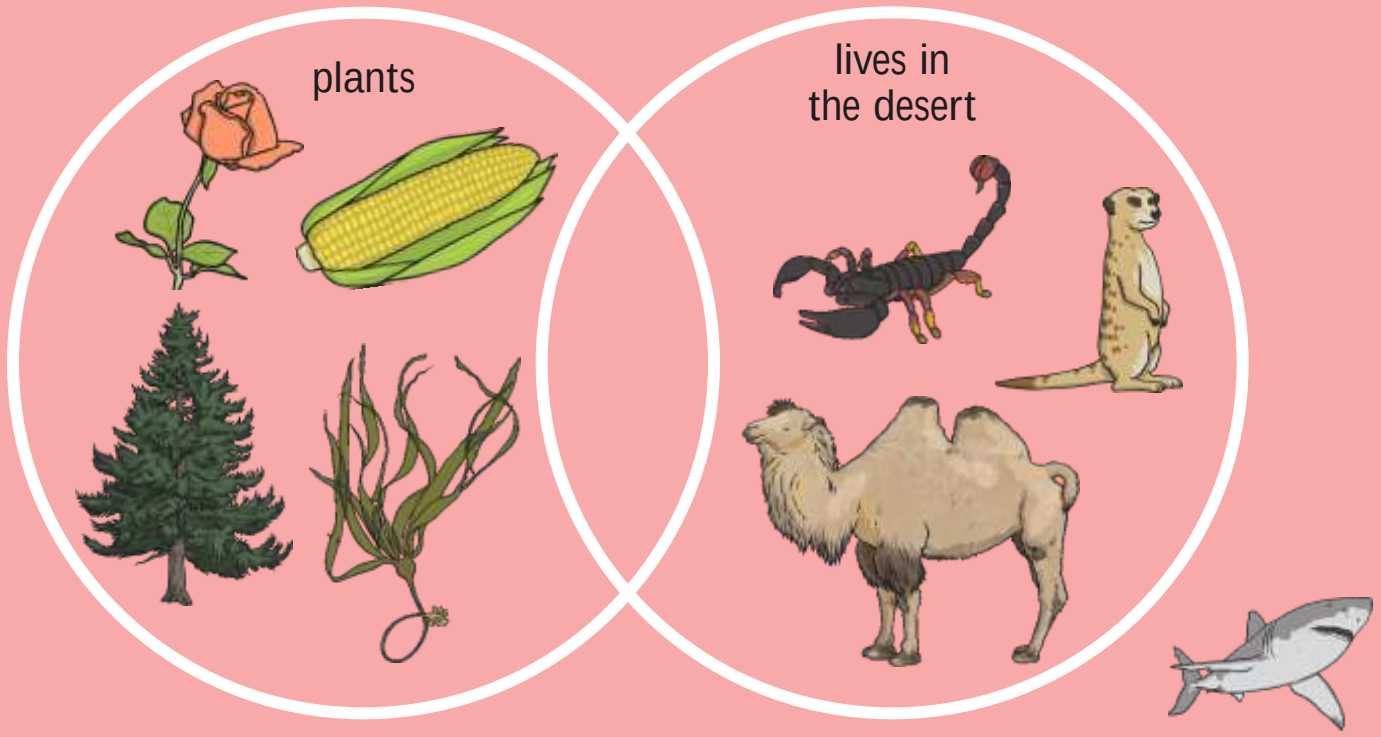
Here, an organism cannot be both an animal and a plant, so it can not be in both groups at the same time.

plants

animals

Grouping Living Things

This is called a Venn Diagram. Where does a cactus go in this diagram? How about a polar bear?



How is this diagram different to the previous diagram?

Grouping Living Things

This is a Carroll Diagram. Can you name an animal to go in each section of this diagram?

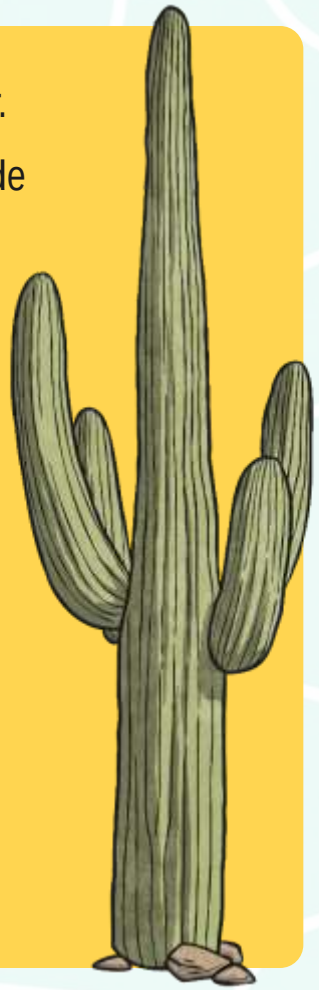
	Lives in water	Lives on land
Has legs	Crab Sea otter	Horse Spider
Does not have legs	Whale Fish	Snake Worm

Could you put a plant in this diagram? What about a dandelion? Or seaweed?

Criteria

We have asked some questions to sort our living things into groups so far.

We sometimes call these criteria, which means a rule that we use to decide something.



Plant or animal.

Lives in the desert or does not live in the desert.

Has legs or does not have legs.

Lives on the land or lives in the water.

Today, you are going to be sorting animals.

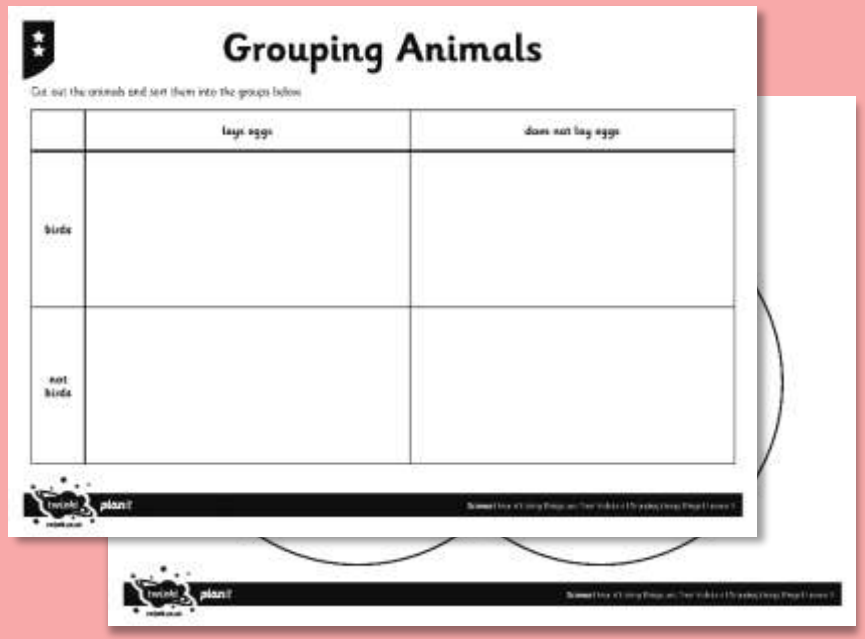
With a partner, think of different groups that you could sort animals into.

Think of as many different groups as you can.

Criteria

Grouping Animals

You are going to group animals in a variety of ways, using some criteria that have been chosen for you, and some that you choose yourself.



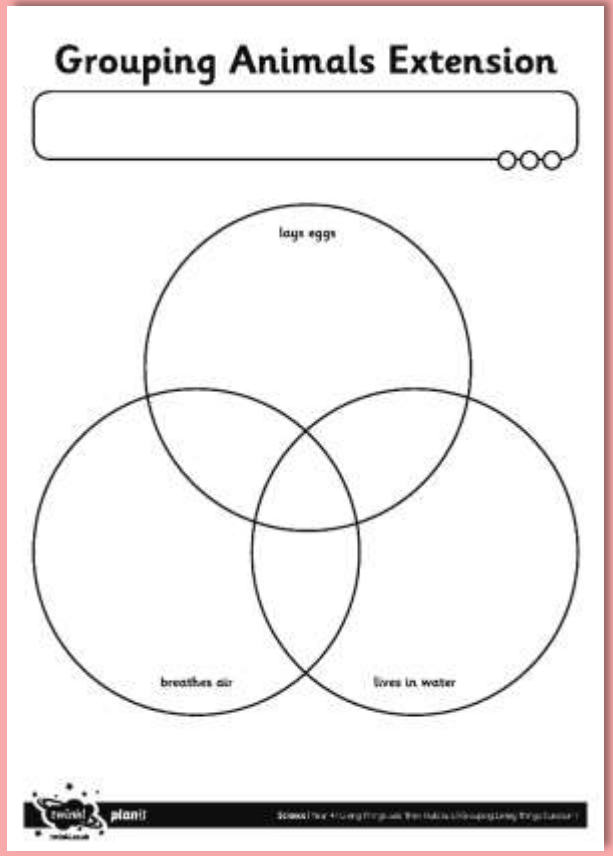
Sorting into Three Groups

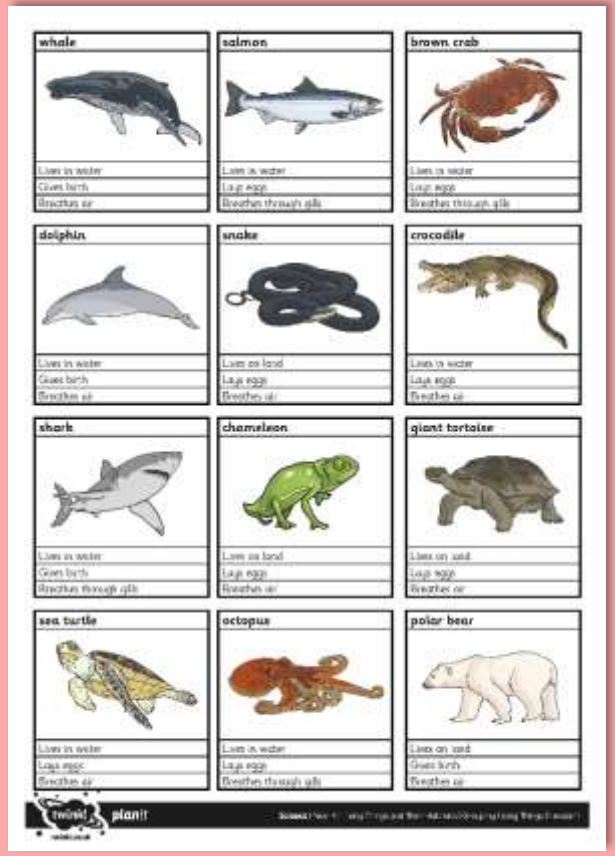
Venn diagrams can be used to sort lots of groups of animals.

Where would a turtle go on this diagram?

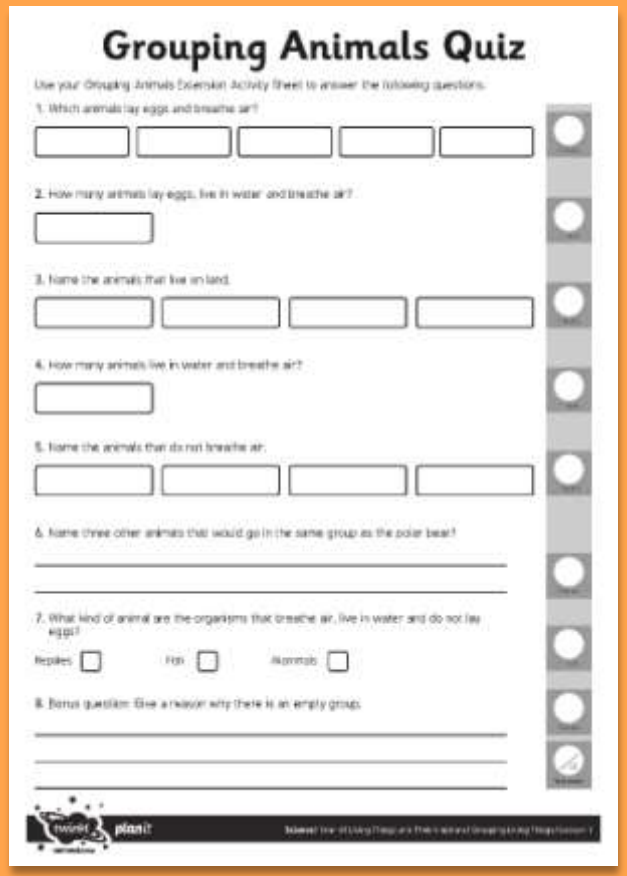
Where would a cat go?

Sorting into Three Groups





Grouping Animals Quiz



Grouping Animals Quiz

Use your Grouping Animals Extension Activity Sheet to answer the following questions.

1. Which animals lay eggs and breathe air?

2. How many animals lay eggs, live in water and breathe air?

3. Name the animals that live on land.

4. How many animals live in water and breathe air?

5. Name the animals that do not breathe air.

6. Name three other animals that would go in the same group as the polar bear?

7. What kind of animal are the organisms that breathe air, live in water and do not lay eggs?

Reptiles ☐ Fish ☐ Mammals ☐

8. Bonus question: Give a reason why there is an empty group.

Grouping Animals Quiz

1. Which animals lay eggs and breathe air?

snake	giant tortoise	chameleon	crocodile	sea turtle

Grouping Animals Quiz

5. Name the animals that do not breathe air.

brown crab	**salmon**	**octopus**	**shark**

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