

Grouping Living Things

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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

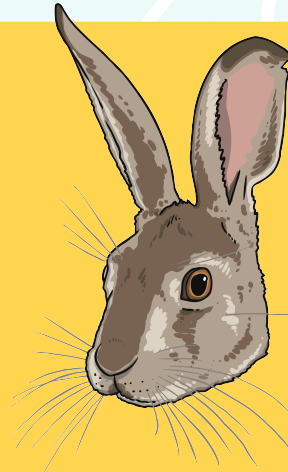
Movement

All living things move.

Animals
move around
to get from
place to
place.



Plants grow
and turn
towards the
light.



A hare runs to
escape from
danger.



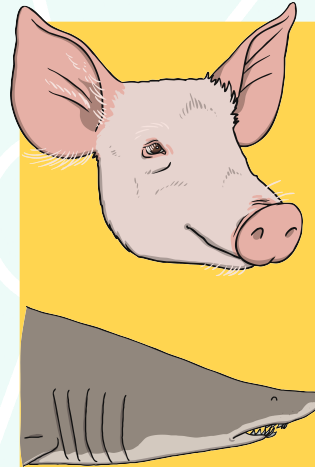
A sunflower
moves to turn
its face towards
the sun.

Life Processes

Respiration

All living things respire.

Plants and animals both use oxygen gas from the air to turn their food into energy. This is called **respiration**.



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.

Every living thing
can detect
changes in their
surroundings.



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

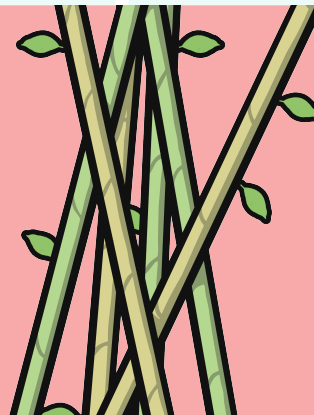
All living things grow.

Animals grow
from babies to
adults.

Seeds grow
into plants.



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 have young.



Plants produce seeds from which more plants grow.



Animals lay eggs or give birth to live young.



Most plants reproduce by forming seeds.

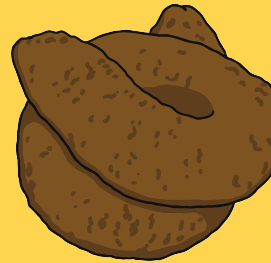
Life Processes

Excretion

All living things excrete.

Waste products
are removed
from the body.

Both plants
and animals
have to get rid
of excess gas
and water.



Animals excrete
waste through
urine and faeces.



Leftover gases
and water leave
plants from
their leaves.

Life Processes

Nutrition

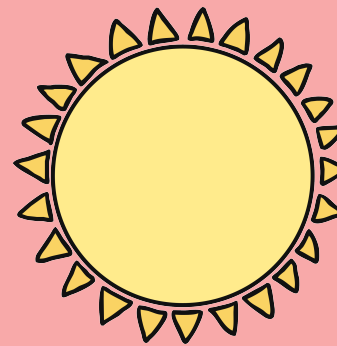
All living things need nutrition.

Food is eaten to provide energy to live.

Green plants make their own food using sunlight.



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.



Think!

Grouping Living Things

How can 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.

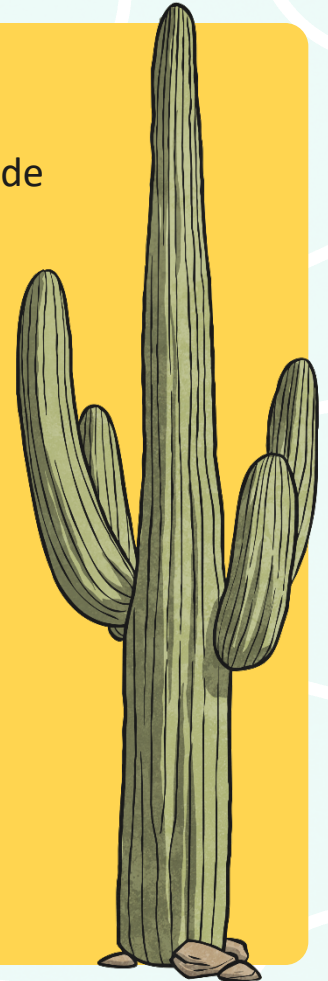
Has legs or does not have legs.

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



What
criteria did
you think
of?

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?

Lays eggs AND has two legs

Lays eggs AND can fly

Lays eggs

snake

penguin

dragonfly
butterfly

duck
parrot

kangaroo

human

bat

Has two legs

Can fly

Has two legs AND can fly

Sorting into Three Groups

Have a go at the sorting activity. You can print the sheets or draw it in your home learning books.

Look at the animal cards, write the names of the animals in the correct section of the Venn diagram.

Grouping Animals Extension

lays eggs

breathes air

lives in water

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whale Lives in water Gives birth Breathes air	salmon Lives in water Lays eggs Breathes through gills	brown crab Lives in water Lays eggs Breathes through gills
dolphin Lives in water Gives birth Breathes air	snake Lives on land Lays eggs Breathes air	crocodile Lives in water Lays eggs Breathes air
shark Lives in water Gives birth Breathes through gills	chameleon Lives on land Lays eggs Breathes air	giant tortoise Lives on land Lays eggs Breathes air
sea turtle Lives in water Lays eggs Breathes air	octopus Lives in water Lays eggs Breathes through gills	polar bear Lives on land Gives birth Breathes air

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Fancy a Challenge? Grouping Animals Quiz



If you fancy a challenge, have a go at the grouping animals quiz. Use the information slides to help you.

Grouping Animals Quiz

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

- Which animals lay eggs and breathe air?
- How many animals lay eggs, live in water and breathe air?
- Name the animals that live on land.
- How many animals live in water and breathe air?
- Name the animals that do not breathe air:
- Name three other animals that would go in the same group as the polar bear?

- What kind of animal are the organisms that breathe air, live in water and do not lay eggs?
Reptiles ☐ Fish ☐ Mammals ☐
- Bonus question: Give a reason why there is an empty group.

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