

Term: Autumn 2

Year: 2

Biology: Plants

BIG QUESTION: HOW CAN LIVING THINGS STAY HEALTHY?

What do plants need to grow?

Water

If a plant is not watered, its stem will be fragile and it will have dry leaves. It will eventually die.



Light

If a plant does not have enough light, it will grow to be tall and flimsy as it searches for light.



Nutrients

The roots take up water and nutrients from the soil.



Key Knowledge & Vocabulary

Seed

A seed is the part of a seed plant which can grow into a new plant.

Bulb

A bulb is the underground bud or stem of a seed plant at resting stage.

Water

A transparent liquid that covers almost 75 percent of Earth's surface in the form of oceans, rivers, and lakes.

Light

Light is a form of energy. Light energy from the sun helps plants to grow. Any light will help plants grow, including artificial light sources.

Nutrients

The minerals that plants need to help them grow. Plants get nutrients from the soil and make their own food in their leaves.

Air

A mix of many gases, mainly oxygen and nitrogen.

Roots

Anchor the plant in the soil and absorb water.

Stem

Supports the plant and carries nutrients to the leaves.

Leaves

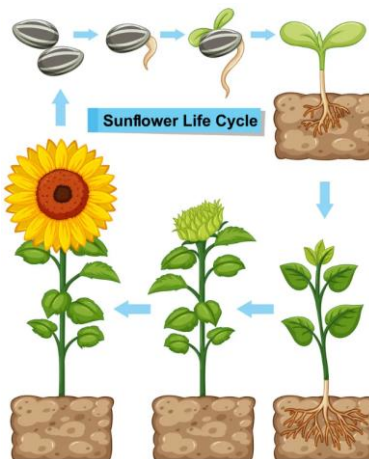
Make food for the plant using sunlight and carbon dioxide.

Flower

Make seeds to grow into new plants.

Life cycle

The series of stages a living thing goes through during its life.



What do plants need to grow?

Air

Plants take in carbon dioxide (CO₂) from the air and convert it into glucose (a type of sugar) to make their own type of food.



Space

If the plant or seed does not have enough space, it will not grow.



Time

Plants need time to grow and develop.



Seeds, Bulbs and Scientists

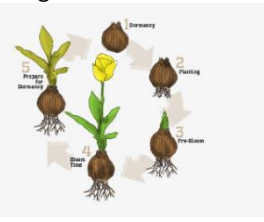
Plants can grow from **seeds**.



Marie Clark Taylor investigated how plants get information about light from their environment.



Plants can grow from **bulbs**.



Learning Links

Builds on:

Y1: Biology, Plants

What I am learning now:

Y2: Biology, Plants

Leads to:

Y3: Biology, Plants



Science Knowledge Organiser



Term: Spring 1

Year: 2

Chemistry: Materials

BIG QUESTION: HOW DO WE CHOOSE MATERIALS?

Natural

Wood

Hard, stiff, strong, opaque, can be carved into any shape.



Rock

Hard, rigid, strong, opaque.



Wool

Soft, flexible, hard-wearing, stretchy, warm, absorbent.



Key Knowledge & Vocabulary

Material

A substance that objects are made from

Properties

The qualities or characteristics of an object or material

Suitability

Whether the material is fit or right for the object's purpose

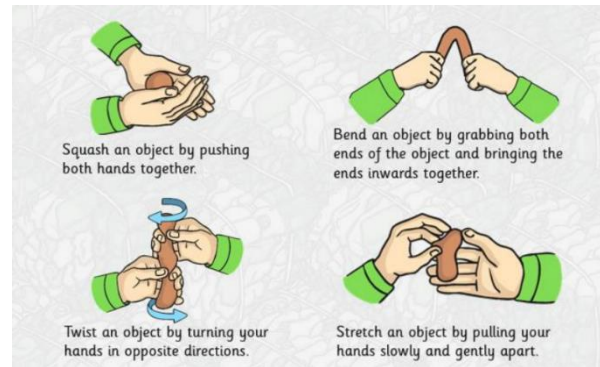
Man-made

A material or object that was invented or made by humans, like paper, plastic and glass.

Natural

A material that is found in nature, like plants, rocks and water.

Squashing, bending, twisting & stretching



Man-Made

Cardboard

Light, strong, stiff.



Glass

Waterproof, transparent, hard, smooth.



Plastic

Waterproof, strong, can be made to be flexible or stiff, smooth or rough.



How do we change materials?

You can bend a metal wire into lots of useful shapes.

You can squash a ball or a sponge to change its shape.

A sponge is soft. What would happen if you tried to squash a hard material?

Lots of threads are twisted together to make a rope.

Why do you think the threads are twisted together?

Blowing up a balloon stretches it into a different shape!

Do you think the balloon will keep stretching forever? Why?

What property makes a material easy to bend?

Learning Links

Builds on:
Y1 Everyday Materials

What I am learning now:
Y2: Everyday Materials

Leads to:
Y3: Rocks, Soils and Fossils

Term: Spring 2

Year: 2

Biology: Animals including Humans

BIG QUESTION: WHAT DO LIVING THINGS NEED TO SURVIVE?

What do animals need to survive?

Key Knowledge & Vocabulary

What do humans need to be healthy?

Air



Water



Food



Adult

A fully grown animal or plant.

Develop

To grow bigger and become stronger.

Diet

The food and water that an animal eats and drinks.

Exercise

A physical activity to keep your body fit.

Germs

Tiny living things that can cause disease.

Hygiene

Keeping clean so we can stay healthy and stop germs spreading.

Life cycle

The changes living things go through to become an adult.

Live young

Offspring that has not hatched from an egg.

Nutrition

Food needed to live.

Offspring

A human's child or an animal's young.

Pulse

The beating of the heart that can be felt in your neck and your wrist.

Young

Offspring that has not reached adulthood.

Balanced diet

It is important to eat the right types of food in the right amount to help us stay strong and healthy.



Exercise

Exercising keeps our bodies and minds healthy. It builds muscles and helps to pump blood around our body.

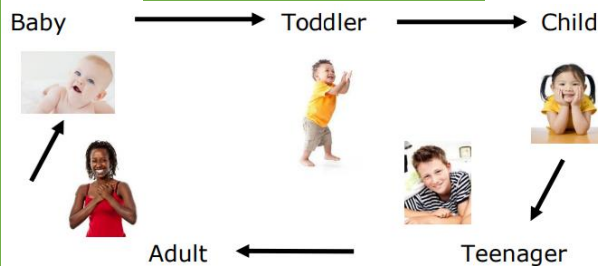


Hygiene

Being hygienic and keeping ourselves clean stops the spread of germs, which can cause disease.



Life Cycle of a Human



Animals, including humans, have offspring

Some offspring look like their adult when they are born.

Puppy



Dog



Animals **reproduce**. This means they have **offspring** and new animals, including humans, are made.

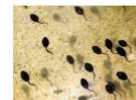
Some animals give birth to **live young**. Some animals lay eggs which the **young** hatch from.

Some offspring do not look like their adult when they are born.

Tadpoles



Frog



Learning Links

Builds on:

Y1: Animals including Humans

What I am learning now:

Y2: Animals including Humans

Leads to:

Y3: Animals including Humans

Term: Summer 1

Year: 2

Biology: Living Things and their Habitats

BIG QUESTION: WHAT DO LIVING THINGS NEED IN THEIR HABITAT?

British Habitats	Key Knowledge & Vocabulary	Global Habitats
<p>Coastal</p> 	<p>Alive or Living A living thing is alive and exhibits all of the life processes (Mrs Gren).</p> <p>Dead A plant or animal that used to be alive but no longer exhibits life processes.</p> <p>Depend Needing something in order to survive.</p> <p>Environment The area in which something exists or lives.</p> <p>Habitat A natural environment where an animal or plant lives, that provides the animal or plant with the basic things they need to survive.</p> <p>Life processes The things that all living things do: Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition.</p> <p>Micro-habitat Smaller habitats within a larger one e.g. under a stone, a fallen log, a rock pool.</p>  <p>Never alive or non-living Things made out of materials such as metal, plastic, glass or rock that were never living.</p> <p>Survive To stay alive and not die.</p> <p>Food Chains A food chain shows how each animal gets its food. Food chains are one of the ways living things depend on each other to survive.</p> 	<p>Desert</p> 
<p>Urban</p> 		<p>Ocean</p> 
<p>Woodland</p> 		<p>Arctic</p> 
<p>Pond</p> 		<p>Tropical Rainforest</p> 

Alive, Dead or Never Alive?

Living plants and animals exhibit the seven life processes.



- M**ovement
- R**espiration
- S**ensitivity
- G**rowth
- R**eproduction
- E**xcretion
- N**utrition

Dead things were once alive. They include dead animals, plants and parts of animals and plants that are no longer attached.



A **non-living** thing has never been alive. They include metal, plastic, rock, water, sand and glass.



Learning Links

Builds on:
Y1 Biology, Plants;
Animals including Humans

What I am learning now:
Y2 Biology, Living Things
and their Habitats

Leads to:
Y4 Biology, Living Things
and their Habitats