

| Key Vocabulary | | | |
|----------------|--|-----------|--|
| 5 a day | eat 5 or more portions of fruit or vegetables a day. | diet | the food and water that an animal needs. |
| nutrients | provides the substances that people need in order to be healthy. | disease | illness or sickness. |
| obesity | the medical condition for being seriously overweight. | exercise | a physical activity to keep your body fit. |
| snack | small amount of food between meals. | germs | tiny living things that can cause disease. |
| balanced diet | eating the right food your body needs. | hygiene | how we keep ourselves and the world around us clean so we can stay healthy and stop germs spreading. |
| serving | a portion of food. | nutrition | food needed to live. |
| variety | a lot of different things. | pulse | the beating of the heart that can be felt in your neck and wrist. |

Fruit and vegetables are a source of vitamins and minerals, which are important for many functions in the body. We are advised to have **five portions** of a variety of fruit and vegetables each day.

Carbohydrates (potatoes, rice, pasta, bread) make up around a third of everything we eat. They are important for providing us with energy and fibre.

Protein (meat, fish, eggs, beans, nuts) is essential for growth and repair in the body. They also provide vitamins and minerals. Dairy products are also good sources of protein and they provide calcium, which is important for healthy bones. Sweets and oils (fats and sugars) also provide energy but most people have too much of these which is unhealthy.

Eating more sugar than we should can be dangerous for our bodies. In simple terms, it may rot our teeth and it may make us ill later on.



Elsie Widdowson was a British dietitian and nutritionist. She and Dr Robert McCance, a pediatrician, physiologist, biochemist, and nutritionist, were responsible for overseeing the government-order of the addition of vitamins to food and wartime rationing in Britain during World War II

What is the importance of exercise?

Exercise is an important part of staying healthy both physically and mentally.

As well as being lots of fun, exercise is really important for your body and has a positive effect on your heart, lungs, bones and muscles.

You'll also find that you will be more focused if you take part in regular exercise and you may have improved concentration skills.

Help your body to be healthy

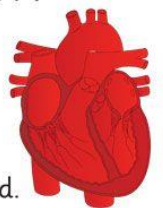
LUNGS AND HEART

Exercise makes your **lungs** and **heart** stronger for increased **energy** and **endurance**.

That means you can play, walk or jog for longer without feeling tired.



So how's about walking the dog? Or jogging around your local park?



How exercise benefits your whole body.

Having good hygiene is not just for when you are ill. There are several things that should be part of our routine to help us keep clean, healthy and remove any germs. Some things we can do are: having a bath or a shower, brushing our teeth, regularly washing our hands, washing our face, wearing clean clothes.

THRESHOLD CONCEPT: INVESTIGATE MATERIALS

| Key Vocabulary | | | |
|----------------|--|----------|--|
| Material | a thing that something else is made out of. | elastic | a rubber material that stretches when you pull it and returns to its original size and shape when you let it go. |
| Properties | the qualities or features that belong to something and make it recognizable. | Twist | turn something to make a spiral shape |
| absorbent | material that soaks up liquid easily. | stretchy | slightly elastic. |
| opaque | if an object or substance is opaque, you cannot see through it. | shiny | things are bright and reflect light. |
| transparent | If an object is transparent, you can see through it. | Rough | uneven and not smooth. |
| flexible | an object can bend and return to its original shape. | Foil | sheets of metal as thin as paper. |
| waterproof | does not let water pass through it. | soft | not rough or hard. |

The suitability and uses of everyday **materials**.

We use different **materials** for different objects depending on their purpose.

What are materials used for?

Materials are used for more than one thing (e.g. **metal** can be used for coins, cans, cars and table legs. For example, wood is used to make furniture and floors. • Metal can be used to make coins, cans, cars and cutlery. • Glass can be used to make windows.

What properties of materials make them suitable for a particular use?

Glass can be used to make windows because it is transparent. • Rulers can be made from wood, plastic or rubber because these materials are smooth and can be cut straight. • Spoons are made from metal, because it is waterproof and can be cleaned easily. • They can also be made from plastic for children because plastic is light and it cannot hurt children's growing teeth.

How the **shape** of **solid materials** can be **changed**.

Changing the shape of a **material** can be done by: **Squashing** is to crush something so that it becomes flat, **soft**, or out of shape.

Bending is to change a straight object so that it is curved.

Twisting is to change the shape of an object by turning it.

Stretching is to make an object longer or wider without tearing or breaking.

Properties of Materials



Super Scientist

John Dunlop

Born in 1840

An expert in **rubber**
Invented the first inflatable tyre.

Charles Macintosh

Born in 1766, he

Invented the first

waterproof fabric

The 'mac' raincoat is

named after him



| Properties of different materials | |
|-----------------------------------|---------------------------------------|
| Wood | strong, opaque, stiff, hard |
| Plastic | bendy, smooth, translucent, stretchy |
| Glass | transparent, hard, smooth, waterproof |
| Brick | rough, strong, opaque, dull |
| Paper | translucent, flexible, not waterproof |
| Cardboard | rough, dull, opaque, not waterproof |
| Metal | Shiny, strong, opaque, hard |
| Rock | Rough, strong, opaque, hard |

Squashing, Bending, Twisting and Stretching



Y2 SCIENCE KNOWLEDGE - ORGANISER SPRING 1: HOW DO LIVING THINGS SURVIVE?

THRESHOLD CONCEPT: BIOLOGY – UNDERSTAND ANIMALS AND HUMANS

Key Vocabulary

| | | | |
|-----------------|--|------------|---|
| magnifying lens | is a special piece of glass that makes things look bigger when you look through it. | organism | a living thing. |
| microscope | a piece of equipment to look at things that are too small for our eyes to see. | producer | an organism that makes its own food, such as a plant. |
| consumer | a consumer eats producers or other consumers in a food chain. | living | a living thing is alive. It is called an organism. |
| environment | the area in which something exists or lives. | dead | a dead thing has once been alive. |
| habitat | a place that an animal or plant lives. It provides the animal or plant with food, water and shelter. | non-living | a non-living thing has never been alive. |
| inhabitant | a person or animal that lives in a place. | observe | to look at something. |
| microhabitat | a very small, specific habitat for animals and plants. | shelter | a place giving temporary protection from bad weather or danger. |

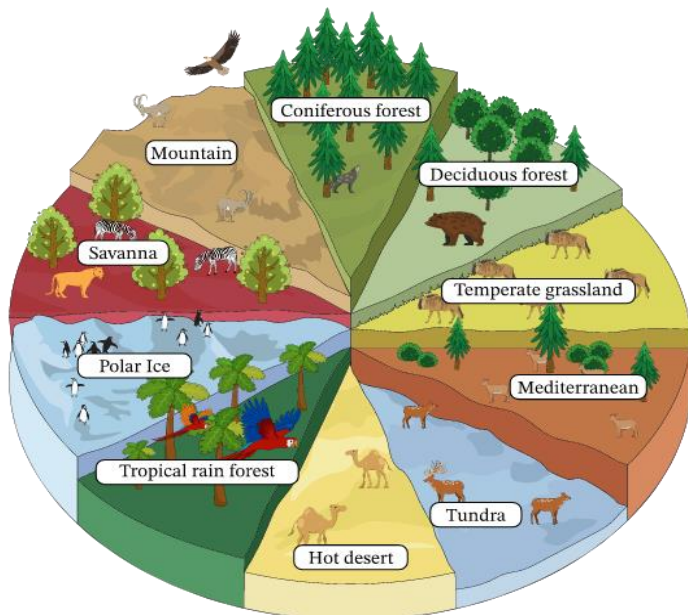
What is a habitat?

A habitat is a place where living things, such as animals and plants, can find all of the things they need to survive. This includes food, water, air, space to move and grow and some shelter.

- Some habitats are large, like the ocean, and some are very small, such as under a log.
- Some habitats in our local area include the river and woodlands. Other habitats include the coast and the forest.

What is a microhabitat?

- Microhabitats are very small habitats where minibeasts may live.
- Examples of microhabitats include under stones, in grass, under fallen leaves and in the soil.
- Minibeasts that can be found there include worms, snails, ants, centipedes, millipedes, and butterflies and they help to keep the microhabitat healthy.
- Minibeasts are able to survive in their habitats because they can find the things they need to survive there, such as food and water. For example, caterpillars can survive on leaves as they give them food.



Dr. Archie Fairly Carr was a famous zoologist who was best known for his study of sea turtles.

He was one of the co-founders of the Caribbean Conservation Corporation, which strives to save and monitor sea turtles in Costa Rica.

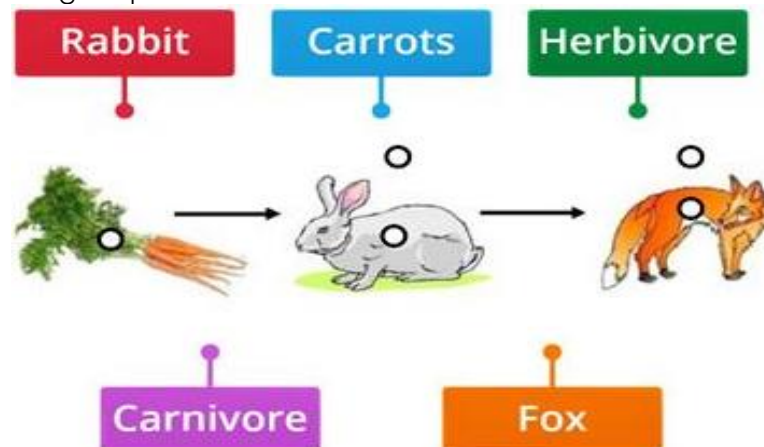


How do animals and plants depend on each other?

Animals and plants depend on each other to survive - worms depend on plants because they feed on dead leaves, but plants depend on worms who make the soil healthy by digging holes and allowing air in.

- Birds also need worms because they eat them. Worms are a source of food for birds.
- This called a **food chain**.
- If there were no worms, there would be less birds as there would be more competition for food. The soil would not be as healthy without worms.
- All living things (or things that were once living) have a part to play in food chains. Without them, other animals and plants may not be able to survive.

A **food chain** is a sequence describing how different animals eat each other, showing the order in which living things depend on each other for food.



Y2 SCIENCE KNOWLEDGE - ORGANISER SPRING 2: WHERE DOES OUR FOOD COME FROM?

THRESHOLD CONCEPT: BIOLOGY – TO UNDERSTAND PLANTS

Key Vocabulary

| | | | |
|-----------|---|------------|---|
| Continent | a continent is a very large area of land, such as Africa or Asia, that consists of several countries. | processed | food can be treated or prepared by a special method. |
| reared | if you rear a young animal, you keep and look after it until it is old enough to be used for food. | preserve | food can be treated, in order to prevent it from decaying, so that you can store it for a long time. |
| imported | goods or products brought in from another country in order to be sold. | food miles | a unit used to measure the distance that food travels- from where it is produced, to where it is eaten. |
| exported | to sell products to another country. | farms | an area of land used for growing crops and rearing animals. |
| harvest | the gathering of a crop. | market | a place where fruit and vegetables are sold. |
| bakery | a shop where you can buy bread. | butcher | a shop where you can buy meat. |

A farm is a place where plants are grown for food and animals kept for food and other things such as wool from a sheep. Some farms only grow plants and some farms only keep animals and some do both.

Animals - Chickens, sheep, cows, and pigs are all animals that are kept on farms. We get eggs from chickens, wool from sheep, milk from cows and meat from sheep, cows and chickens.

Crops are plants such as wheat or potatoes that are planted by the farmer in fields to make food to sell. Wheat has seeds and the seeds are ground up to make flour that can be used to make bread.

Food is grown or raised on farms. We eat food that is grown in different parts of the world. No crops can be grown in Antarctica because it is too cold.

Harvest is the gathering of many crops once they have ripened and summer has ended.



Super Scientist W.K. Kellogg

Kellogg was an industrialist in food manufacturing. He founded the Kellogg company with his brother in 1906, and focused on producing and endorsing corn flakes as a wholesome breakfast. Kellogg's was one of the first food companies to put a nutrition label on their packages.



There are plenty of plants that form part of many everyday diets across the world, like rice, potatoes, corn and wheat. You can ask children what their favourite fruit flavour is, as often they enjoy the natural sweetness.

The Story of Milk

Milk is taken from female cows on farms, and heated to get rid of any bacteria - this is pasteurisation. Milk has to be kept chilled so it stays fresh in transit.

What Do Different Animals Give Us?



Y2 SCIENCE KNOWLEDGE - ORGANISER SUMMER 1: WHAT DO PLANTS NEED TO GROW WELL?

THRESHOLD CONCEPT: BIOLOGY – INVESTIGATE LIVING THINGS

| Key Vocabulary | | | |
|----------------|--|-------------|--|
| germination | when the conditions are right, the seed soaks up water and swells, and the tiny new plant bursts out of its shell. This is called germination. | sunlight | all plants need light from the sun to grow well. Some plants need lots of sunlight. Some plants only need a little sunlight. |
| shoot | a shoot grows upwards from the seed or plant to find sunlight. | water | all plants need water to grow. Without water, seeds and bulbs will not germinate. |
| seed dispersal | seed dispersal is when the seeds move away from the parent plant. They can drop to the ground in the plant's fruit or be moved by the wind or animals. | temperature | temperature is how warm or cold something or somewhere is. Some plants like cooler temperatures and some like warmer temperatures. |
| Sprout: | when a plant spouts, it shows new shoots. | nutrition | food or nourishment. Plants make their own food in their leaves using sunlight. |
| Flower: | the flower attracts insects to help them reproduce (make more plants). | Leaves: | the leaves make food for the plant using sunlight. |
| Stem | the stem transports water around the plant | Roots: | roots absorb water and keep the plant anchored to the ground (keeps it safe in the soil). |

Plants are living things that grow on land or in water. From snowy mountain slopes to dry, hot deserts, plants can survive almost anywhere on Earth.

What do plants need to grow well? **Sunlight** - all plants need light from the sun to grow well. **Water** - all plants need water to grow. Without water, seeds and bulbs will not germinate. **Temperature** is how warm or cold something or somewhere is. Some plants like cooler temperatures and some like warmer temperatures. **Nutrition** - food or nourishment. Plants make their own food in their leaves using sunlight.

Parts of a Plant



Here's a few common trees that you can probably find in green spaces where you live:

Beech. You can spot a beech tree from its leaves, which have hairy edges, and its four-lobed seed cases that fall to the forest floor.

English Oak. You can identify an oak tree from its distinctive leaves, which have rounded lobes and short leaf stalks.

Hawthorn. You can spot a hawthorn tree by its clustered white flowers with five petals and spiny twigs.

Hazel. You can spot a hazel tree by its soft hairy leaves.

Holly. You can spot a holly tree by its distinctive glossy, spiked leaves and bright red berries.

Rowan. You can spot a rowan tree by its distinctive serrated leaflets that are found in 5-8 pairs, giving the leaves a feather-like appearance.

Super Scientist George Washington Carver

Carver was born enslaved, in Missouri in the 1860s. Soon after the abolishment of slavery, he pursued an education and he developed various methods of crop rotation, which boost soil fertility and increase both production and sustainability of farms.



dahlia



tulips



daffodils



daisies



sunflowers



summer flowers

Many plants grow out of seeds and bulbs. Seeds grow roots and shoots. Roots and shoots then grow leaves above ground. Many plants make flowers, which turn into fruits. Flowers and fruits make their own seeds. We call this a **life cycle**.