



Key Knowledge

Need to know

- There are a range of different materials such as glass, plastic and wood. Materials can be described, grouped and compared based on their properties.
- Different materials are suitable for different objects and their purposes.
- Waterproof material was invented by the scientist Charles Mackintosh.
- Materials that keep their shape are rigid. They are unable to bend or be forced out of shape- not flexible.
- The difference between man-made and natural materials. **Natural materials** come directly from nature, such as wood, cotton, or iron, while **man-made materials** are created by humans through processes like chemical alteration or manufacturing.

Neat to know

- A coat can be made more waterproof by treating the fabric with a layer of liquid rubber between two layers of fabric.

Working Scientifically

- Observe closely the uses of different materials, and record your observations.
- Consider why some properties of materials make them suitable or unsuitable for different uses.
- Investigate if some items can be made by more than one material (e.g. cutlery) and explain why.
- Help Humpty Dumpty to not fall off the wall
Design a fair test

Text & Pioneer



Charles
Mackintosh

Vocabulary

transparent	It means the material is see-through, such as glass windows.	
opaque	An opaque object does not allow any light to pass through it.	
rigid	The material keeps its shape is not bendy, such as bricks.	
absorbent	The material is good at soaking up water, such as a sponge.	
metal	When heated, metals can be shaped into anything from a tiny paperclip to a huge aircraft.	
plastic	Plastics are made from natural materials such as wood, coal and oil.	
wood	Wood is a material that comes from trees and is used to make furniture, floors and many other things.	
waterproof	Water cannot pass through an object or material.	

Key Knowledge

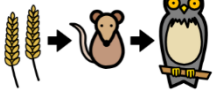
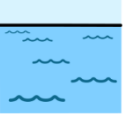
Need to know

- A habitat is a place that an animal lives. It provides the animal with food, water and shelter.
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- There are many different sorts of habitats around the world from forests to grasslands and from mountain slopes to deserts.
- Animals like cockroaches are important in a habitat - they eat the dead plants and recycle the nutrients back into the soil.
- People are causing harm to many habitats. Forests are being burnt down, lakes and rivers polluted and the polar ice caps are melting.
- Food chains describe the order in which organisms, or living things, depend on each other for food.
- Animals adapt to their habitats in order to survive.

Neat to know

- Climate change and pollution degrade habitats through rising temperatures, extreme weather events, and altered weather patterns, leading to habitat loss, species migration, and extinction.

Vocabulary

living	Living things are things that are alive. People, animals and plants are living things.	
dead	Something that is no longer alive.	
habitat	A habitat is a place that an animal lives. It provides the animal with food, water and shelter.	
food chain	The order in which living things (organisms) depend on each other for food.	
woodland	Woodland is a low-density forest with plenty of sunlight and limited shade.	
Sea	A sea is part of the ocean partially enclosed by land.	
rainforest	Tropical rainforests are forests with tall trees, warm climates and lots of rain.	
desert	A desert is any large region that gets very little rain each year. Very few plants or animals live in desert areas.	

Working Scientifically

- Ask relevant questions and use different types of scientific enquiries to answer them.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Gather, record, classify and presenting data in a variety of ways to help in answering questions.

Text





Key Knowledge

Need to know

- Some materials can change shape when you squash, bend, twist or stretch them. Materials that are soft, bendy or stretchy are often easier to change the shape of than materials that are hard, rigid or strong.
- The three different ways to change the shape of a material are squashing, bending and stretching. Other actions like twisting and pulling are also ways to change the shape, and some materials can be changed in multiple ways at once.
- Forces are responsible for changing the motion of objects.
- Some objects will change permanently- this is an irreversible change.

Neat to know

- Some materials don't return to their original shape because the force applied to them exceeds their elastic limit.

Working Scientifically

- Observe closely the uses of different materials, and record your observations.
- Investigate how some objects can be changed by squashing, bending, twisting and stretching.
- To fairly test different materials to find which stretch the most and record findings.
- Test materials for their rigidity.
- Design a fair test to investigate the bounciest ball.

Text & Pioneer



Gustave Eiffel (1832-1923)
Known as the 'magician of iron'. The French engineer is famous for the company that built the Eiffel Tower.

Vocabulary

materials	The matter from which a thing is or can be made.	
suitability	Something that is suitable for a particular purpose or occasion is right or acceptable for it.	
properties	The qualities or features that belong to something and make it recognisable.	
twist	Turn something to make a spiral shape.	
stretch	A force that is applied to lengthen or elongate. To improve its overall elasticity.	
squash	Pressed or crushed with such force that something loses its shape.	
natural	Things that exist in nature and are not made by people.	
Man-made	Things are created by people.	

Key Knowledge

Need to know

- Plants are living things. They move, take in and give out gases, are sensitive, grow, reproduce, get rid of waste and consume nutrients.
- There are some plants that we can eat. Fruits and vegetables grow as part of a plant. Herbs are a plant too.
- The four main parts of a plant are roots, stems, leaves and flowers, and they each have important functions. Roots anchor the plant and absorb water and nutrients from the soil. The stem supports the plant and transports water to leaves. Leaves use sunlight water, and air to make food for the plant. Flowers grow seeds which can be planted to grow new plants
- Germination occurs when a new plant grows out from a seed.
- Understand that plants need certain conditions to grow water, light, and a suitable temperature.

Neat to know

- The differences between seeds and bulbs are different to seeds. Bulbs are simply large seeds that contain a complete store of food to help each seed grow and develop into a seedling capable of making its own food from the sun.

Working Scientifically

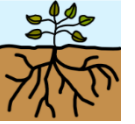
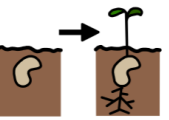
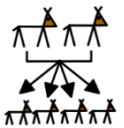
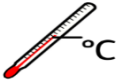


- Create a fair test.
- Investigate the best conditions to grow cress.

Texts



Vocabulary

roots	A root is a part of a plant that is underground. Roots anchor the plant in the soil.	
stem	The stem is the main part of the plant. It supports the weight of the leaves, as well as the flowers or fruit.	
flower	A flower is the part of a plant that blossoms. Flowers produce the seeds that can become new plants.	
germination	A seed grows into a new plant.	
bulb	Bulbs are underground masses of food storage from which plants grow.	
leaves	The green, thin part of the plant that uses the sun to make its own food.	
reproduction	The production of new offspring in plants.	
temperature	How hot or cold something is.	



Key Knowledge

Need to know

- That animals, including humans, have young animals that look like them. Some animals give birth to live young.
- Other animals lay eggs which the young hatch from.
- Some offspring look like their adult when they are born.
- Some offspring do not look like their adult when they are born.
- All young animals change as they go through the different stages of their life cycle and grow into adults.
- All animals have three basic needs for survival (air, water and food).
- It's important to eat a balanced diet to stay healthy and to stay hydrated.
- It's important to have good hygiene to keep germs from spreading.

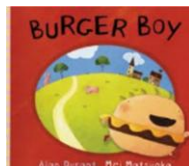
Neat to know

- Energy is the capacity for doing work and sustaining activity.
- Carbohydrates break down into sugars.

Working Scientifically

- Ask relevant questions and use different types of scientific enquiries to answer them.
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Vocabulary

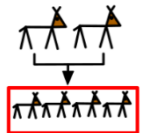
life cycle

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



offspring

You can refer to a person's children or an animal's young as their offspring.



exercise

Means to keep your body healthy by running, walking and playing.



diet

Eating a balanced diet means choosing foods in the right amounts from each of the food groups.



nutrition

Nutrition is the process by which the body nourishes itself.



hygiene

Taking care of our body by being clean and making sure we don't smell.



energy

The capacity for doing work and sustaining physical activity.

