

Year 3 Rocks- Autumn 1 Term Knowledge Organiser

What should I already know?

Materials can be grouped and compared based on their properties.

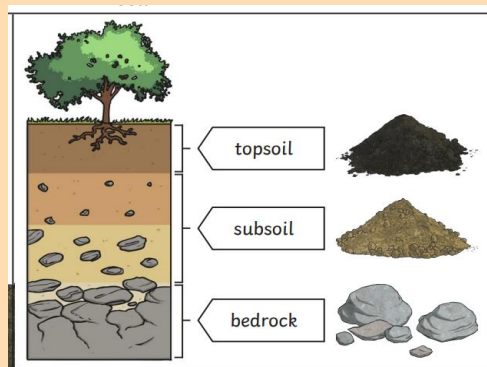
National Curriculum objectives:

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock.
- Recognise that soils are made from rocks and organic matter.



Early Civilisation- How did they influence our lives today?

Soils



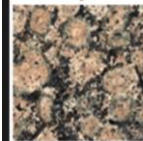
Key vocabulary

Names of rocks
Group
Classifying
Fossils
Soil
Decay

Observing



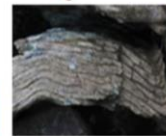
Rock Types



Igneous



Sedimentary



Metamorphic

Classification

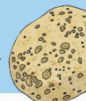
Hard or Soft

Some rocks, like granite, are incredibly hard and can only be cut or split with specialist tools. On the other hand, clay is soft and can be easily moulded.



Permeable or Impermeable

If a rock is permeable, for example pumice, this means it allows water to pass through it. Rocks that are impermeable do not allow water to pass through.



Durable

Rocks that are durable are more resistant to weathering (being eroded – that is broken down – by rain and wind). More durable rocks, such as marble, have been chosen to create buildings and for outside use for this reason.



Density

Density measures how 'bulky' the rock is (how tightly packed the molecules are), not how heavy. Density can be checked by testing the buoyancy (whether they float in water) of rocks. High density rocks sink whereas low density rocks float.



Fossils



Year 3 Light- Autumn 2 Term Knowledge Organiser

What should I already know?

Pupils should be aware of ways to protect and look after our bodies and have skills from Year 2 of finding links and patterns.

National Curriculum objectives:

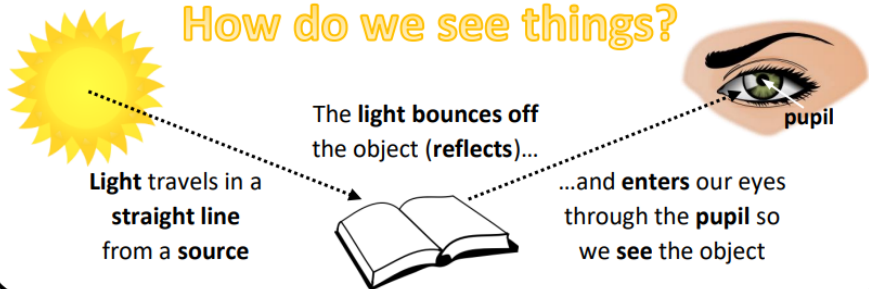
- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- recognise that shadows are formed when the light from a light source is blocked by a solid object
- find patterns in the way that the size of shadows change.



How does Great Britain fit in Europe?

We need **light** so that we can **see things** around us in the world

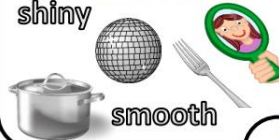
How do we see things?



Sunlight can damage your eyes. Protect them by wearing **sunglasses** or a **hat**. **NEVER** look directly at the sun

Our **pupils** change size to either let in **more light** (if it is **dark**) or **less light** (if it is **bright**)

Reflective
shiny

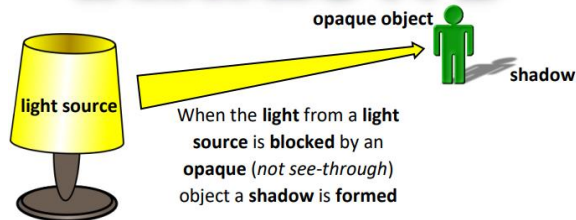


smooth

Non-reflective



Shadows



Sources



of Light

You can **change the shape** of a **shadow** by **moving the light source**



or the **object further away from, or closer to, each other**

Key vocabulary

Light
Light source
Reflection
Reflective
Pupil
Shadow
Opaque
Tralucent
Transparent

Year 3 Animals including humans- Spring Term Knowledge Organiser

What should I already know?

Animals can be split into different groups, all animals have basic needs that have to be met in order for them to survive. Humans and other animals need to stay healthy, by exercising, eating a balanced diet and being hygienic

National Curriculum objectives:

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.



What did the Romans ever do for us?

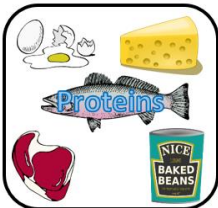
Animals, including humans, need to **eat** to get all the **energy** and **nutrients** they need



(these are the main source of **energy** for our bodies)



(are **stored** by the **body** for **energy** and provide a layer of fat for **warmth**)



(**build** and **repair** body tissue – **muscles**, **organs** and **immune system**)



(keep our bodies **working** and **growing** properly and help to **fight off** infections)

Balanced Diet

You should try to eat a **varied diet** that includes **all the food groups**.

Avoid eating too much **fatty** or **sugary** food

Key vocabulary

Nutrition

Herbivores

Muscle

Carnivores

Omnivores

Bone

SKELETON

All **mammals** (including humans), **birds**, **fish**, **reptiles** and **amphibians** have a **skeleton** inside their bodies (**vertebrates**)



Animals that **do not** have a **skeleton** on the **inside** are called **invertebrates**. Some have a **skeleton** on the **outside** (**exoskeleton**), whilst some have **no skeleton** whatsoever!



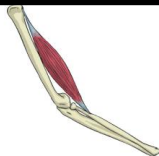
Joints

The skeleton bends at **joints** such as the **shoulder**, **elbow**, **knee** and **ankle** where two or more bones **join** together



Muscles

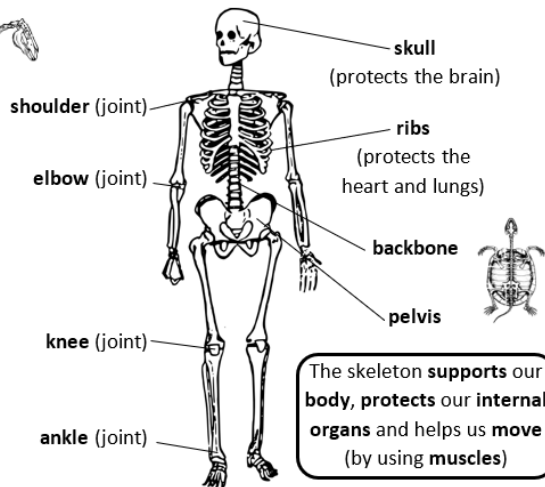
Muscles are attached to the skeleton to help us **move**. They either **contract** (bunch up) or **relax** (go back to normal) to **move** the bones



contract

relax

Skeletal **muscles** work in pairs to move the bones they are attached to by taking turns to **contract** (get shorter) and **relax** (get longer).



The skeleton **supports** our **body**, **protects** our **internal organs** and helps us **move** (by using **muscles**)

Year 3 Plants- Summer 1 Knowledge Organiser

What should I already know?

In Year 2, children learnt about what plants require to live and grow.

National Curriculum objectives:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.



Why Africa is a continent and what is significant about its history?



Plant Reproduction

All living things need to **reproduce** (create young) for the species to survive



POLLINATION

Pollen is blown by the wind or carried by an insect from one flower to another



FERTILISATION

The pollen travels to the ovary of the other flower and a fruit begins to grow



SEED DISPERSAL

Seeds are dispersed (spread out) by either the wind or by animals

For a plant to be healthy and to grow it needs the correct amount of...



light



water



warmth



air



nutrients and space



(too much or too little of these things could damage or even kill the plant)

flowers

Responsible for reproduction. The colour and aroma (smell) attract insects to the plant so that pollination can take place

leaves

The leaves use light from the sun and carbon dioxide to make food for the plant. A process called photosynthesis

stem (or trunk)

The stem is responsible for the transportation of water and nutrients to the different parts. It also holds the plant upright

roots

The roots take in water and nutrients from the soil. They also anchor the plant and help it stay upright

Seed Dispersal

Seeds can be dispersed by:



water



shaking



dropping



carrying



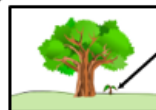
eating



bursting

Key vocabulary

Root	Stem	Leaves	Petal	
Fertilisation	Stamen	Ovule	Pistil	Nutrient
Pollination	Seed dispersal		Photosynthesis	
Respiration	Reproduction		Sensitivity	Excretion
Growth	Seed		Pollen	



This young tree will struggle to survive. The large tree is taking most of the water/nutrients from the soil and blocking out the light

stem

The stem transports the water and nutrients to the different parts

Water and nutrients are taken in by the roots

Year 3 Forces and magnets-Summer 2 Term Knowledge Organiser

What should I already know?

Children learn in Year 2 learn how to group and compare materials based on their properties.

National Curriculum objectives:

- > compare how things move on different surfaces
- > notice that some forces need contact between two objects, but magnetic forces can act at a distance
- > observe how magnets attract or repel each other and attract some materials and not others
- > compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- > describe magnets as having two poles
- > predict whether two magnets will attract or repel each other, depending on which poles are facing.



What were the greatest inventions and achievements of Ancient Egyptians?

Key vocabulary

Forces- a push or a pull

Friction- a force that acts between two surfaces or objects that are moving or trying to move across each other

Magnet- an object which produces a magnetic force that pulls certain objects towards it
Magnetic field-Objects which are attracted to a magnet are magnetic. Objects containing iron, nickel or cobalt metals are magnetic

Poles- north and south poles are found at different ends of a magnet

Repel-repulsion is a force that pushes objects away

Attract- attraction is a force that pulls objects together

Forces

Forces are **pushes** and **pulls**.
No object will **move** unless a **force** acts upon it



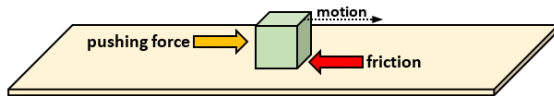
Friction also produces heat.
You can feel this if you rub your hands together



Friction is a useful force. The friction between our shoes and the floor stop us from slipping

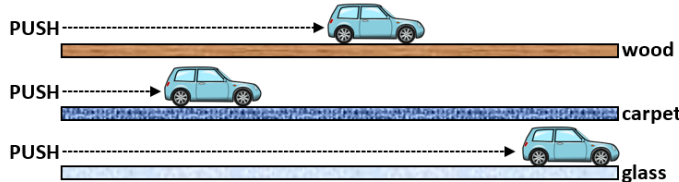
Friction

Friction is a force between two surfaces when they slide across each other



Friction works in the **opposite direction** and slows the object down

Different **surfaces** produce different levels of friction



This toy car has been pushed with the **same amount of force**.

Smoother surfaces produce less friction

Magnets

Magnetism is an **invisible force**. A magnet can either **attract** or **repel** other magnets

Opposite poles of a magnet will **attract** each other (**pull together**)



Similar poles of a magnet will **repel** each other (**push away**)



Objects can be **sorted** by whether they are **attracted** to a magnet or **not**



(only metals that contain iron are **attracted** to a magnet)

North Pole



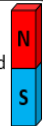
South Pole

The **Earth** is like a giant **magnet** with a magnetic **north** and **south pole**.

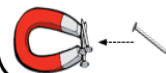
A **compass points** towards the **north pole** because of the Earth's **magnetic field**



Magnets have a **north pole (N)** and a **south pole (S)**



Magnetism, like **gravity**, is **different** to most **forces** because it **does not need contact** with an object to make it move



Magnets come in lots of different **shapes** and **sizes**. Some magnets will be **stronger** than others and create **bigger pushing or pulling forces**

