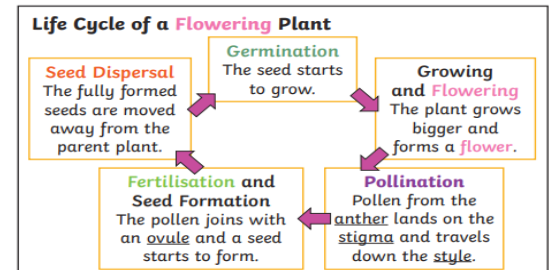
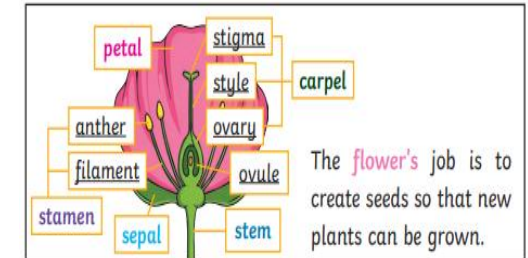


**Plants**

Knowledge	Skills
To know the functions of different parts of flowering plants.	<b>Identify and describe</b> the parts of a flowering plant. Use <b>labelled diagrams</b> to demonstrate.
Plants have requirements for life and growth and these vary from plant to plant.	To <b>ask relevant questions</b> and <b>perform a fair test</b> to compare the effect of different factors on plant growth in order to answer their questions. Make a <b>prediction</b> and <b>collect</b> (making systematic and careful observations and, where appropriate, taking accurate measurements using standard units), <b>record</b> (tables) and <b>interpret</b> results. <b>Use the data/evidence</b> they have collected to <b>conclude</b> the investigation and relate this back to answering the original question.
Water is transported in plants up the stem.	<b>Set up a practical demonstration</b> to show red ink travelling up the stem of celery. <b>Use scientific evidence and vocabulary</b> in their explanation of the role of the stem.
The role flowers play in the life cycle of flowering plants – pollination and seed formation.	Use of <b>scientific vocabulary</b> and role play to demonstrate the process.
Seeds are dispersed in different ways.	Use <b>straightforward scientific evidence and real-life samples</b> to <b>answer questions</b> about seed dispersal. Sorting seeds or pictures of seeds to describe how they spread using scientific vocabulary.
<i>Famous scientist</i>	<i>Agnes Arber</i>

**Key Words**

Plant	roots	stem	trunk
leaf/leaves	flower	petal	
stalk	veins	surface	edge
tip	food	root hair	
nutrients	anchor	support	
seed	germination	seedling	
growth	mature plant	flowering	
pollination	seed formation		
bud	petal	pollen	nectar
seed	fruit	evaporation	anther
filament	stamen	stigma	style
ovary	ovule	carpel	sepal

**Seed Dispersal**

Seeds can be dispersed by:



dropping



carrying



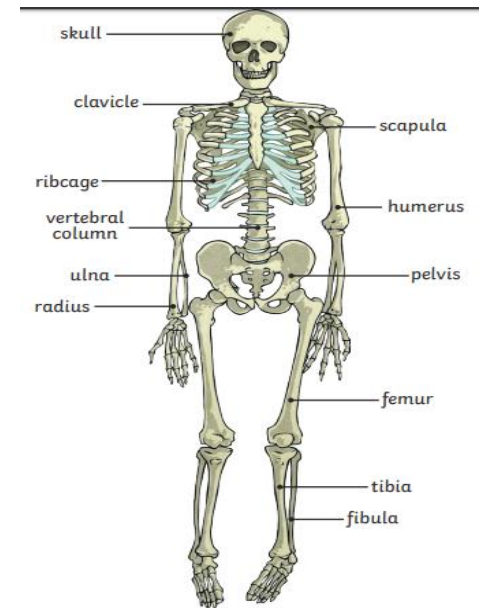
eating



bursting

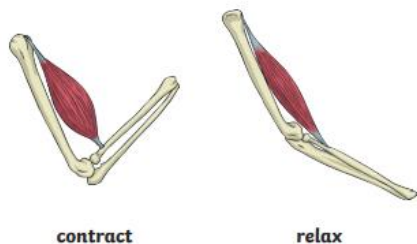
Animals, including humans

Knowledge	Skills
Animals including humans, need the right type and amount of nutrition.	Identifying the relative amounts of the different food groups we need to eat to stay healthy and plan a balanced meal. <b>Compare and contrast</b> the diets of different animals (including their pets) and decide ways of <b>grouping</b> them according to what they eat.
Humans and some other animals have skeletons and muscles for support, protection and movement.	<b>Identify</b> the parts of the skeleton and <b>research and describe</b> their function using <b>scientific vocabulary</b> .
Humans and some other animals have skeletons and muscles for support, protection and movement.	<b>Observing</b> how muscles can help us move. <b>Describe</b> how muscles can help us move orally using <b>scientific vocabulary</b> . <b>Draw labelled diagrams</b> to show/ <b>describe</b> how muscles in the arms work to help us move.
Animals can have the following types of skeleton: endoskeleton, exoskeleton, both or neither.	Using <b>their ideas</b> to <b>group and classify</b> different animals by their skeleton type and support these ideas using <b>scientific evidence (research)</b> and <b>observe and compare</b> their movement.
<i>Famous Scientist</i>	<i>James Lind</i>

**Key Words**

nutrition    diet    food  
 protein    carbohydrate  
 minerals    vitamins    fats  
 sugars    salts    balanced diet  
 skeleton    skull    spine  
 vertebrate    invertebrate  
 calcium    muscle    contract  
 relax    pairs    movement

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



**invertebrate**

exoskeleton                      hydrostatic skeleton



**vertebrate**

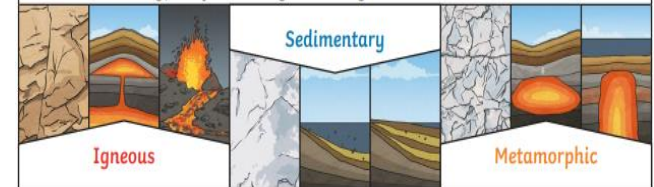
endoskeleton



**Rocks**

Knowledge	Skills
Properties of different rocks.	Observe rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time. Perform <b>simple practical enquiries</b> on different rock samples, investigate what happens when rocks are rubbed together or what changes occur when they are in water. Collect data in a table and compare and group them together.
To learn about and be able to describe the properties of different rocks.	Use a hand lens or microscope to <b>observe</b> rocks and help them to <b>identify and classify</b> them according to whether they have grains or crystals.
Fossils are formed when things that have lived are trapped in rock	<b>Raise and answer questions (research using specific websites and scientific evidence)</b> about how fossils are formed and observe real fossil samples. <b>Setting up practical enquiry</b> to show how fossils are formed (plasticine/plaster of Paris fossils)
Soils are made from rocks and organic matter and there are different types	<b>Raise and answer questions</b> about the way soils are formed to include a trip to the Eco-park. <b>To perform a fair test on soil samples:</b> make a <b>prediction</b> , <b>collect and tabulate results</b> . Use results to <b>conclude</b> investigation and relate this back to original question.
Famous scientist	Mary Anning

There are three types of naturally occurring rock.



Natural Rocks			Human-Made Rocks
Igneous	Sedimentary	Metamorphic	
Obsidian	Chalk	Marble	Brick
Granite	Sandstone	Quartzite	Concrete
Basalt	Limestone	Slate	Cobble Stone

**Key Words**

Waterproof    strong    hard  
 opaque    heavy    sedimentary  
 igneous    metamorphic  
 porous    fossil    layers  
 erosion    soil    inner core  
 outer core    mantle    crust  
 earthquake    volcano    pebble  
 boulder    crystal    weathering

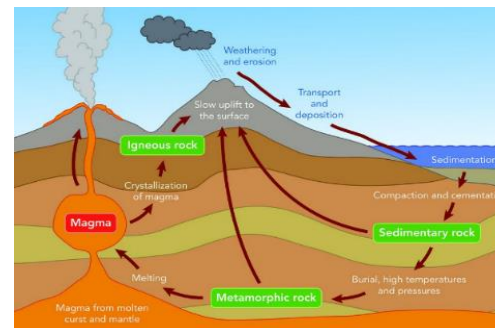
**Fossilisation**

An animal dies. It gets covered with **sediments**. Only hard parts of the creature remain, e.g. bones, shells and teeth.

More layers of rock cover it. Over thousands of years, **sediment** might enter the mould to make a **cast fossil**. Bones may change to mineral but will stay the same shape.

Changes in sea level take place over a long period.

As **erosion** and weathering take place, eventually the fossil becomes exposed.





Light

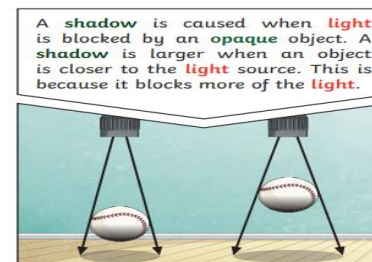
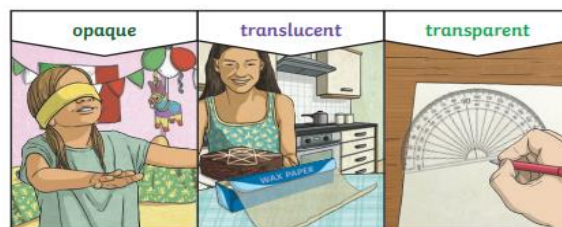
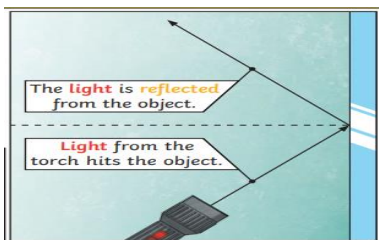
Knowledge	Skills
We need light to see and that light is the absence of dark.	<b>Observe</b> , describe <b>sort and classify</b> objects that are light sources and those that are not. <b>Observe</b> that light can be reflected from surfaces.
Light reflects from surfaces.	<b>Simple practical demonstration</b> to see which colours reflect the most in a darkened tent. <b>Predict, explore and create a table</b> for results.
Sunlight can be dangerous and we know ways to protect our eyes.	Use <b>secondary sources</b> to describe this fact and to use <b>labelled diagrams</b> to explain this including <b>scientific vocabulary</b> . Be able to explain how to keep our eyes safe in the sun.
Shadows are formed when a light source is blocked.	To <b>explore, observe and group</b> materials depending on the shadow they make when a light source is shone on them.
We can change the size of a shadow.	To <b>plan</b> and carry out a <b>fair test</b> to see how shadow size can be changed in a shadow-puppet theatre, making a <b>prediction</b> and collect <b>results</b> in a table. <b>Concluding</b> investigation and relating this back to original question. Being able to <b>report</b> how it works to a Year 2 child.
<i>Famous scientist</i>	<i>Thomas Edison</i>

We need **light** to be able to see things. **Light** travels in a straight line. When **light** hits an object, it is **reflected** (bounces off). If the **reflected light** hits our eyes, we can see the object. Some surfaces and materials **reflect light** well. Other materials do not **reflect light** well. **Reflective** surfaces and materials can be very useful...



## Key Words

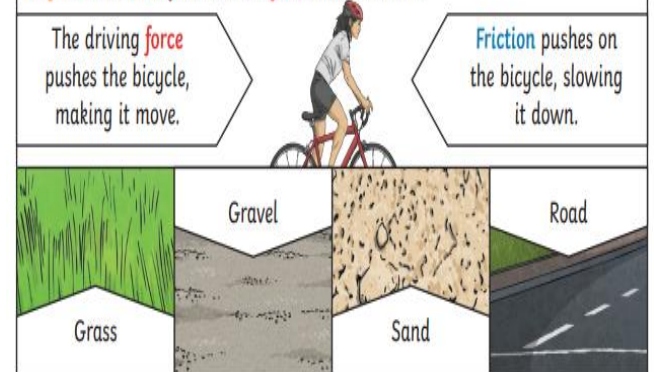
Light    dark    absence  
 reflection    surface    natural  
 man-made    light source  
 shadow    blocked    bright  
 dim    mirror    absorb  
 plane mirror    concave mirror  
 convex mirror    image



**Forces and magnets**

Knowledge	Skills
Objects move differently on different surfaces.	To perform a <b>fair test</b> to see which surface will allow a toy car to travel the furthest after being released down a slope. <b>Predicting, collecting</b> and comparing <b>results</b> . <b>Concluding</b> investigation and relating this back to original question. Writing a letter to Smyths to explain which is the best ramp and why, using <b>scientific vocabulary</b> .
Some forces need contact between two objects but magnetic forces can act at a distance.	<b>Observe</b> and <b>describe</b> (using <b>evidence</b> and <b>scientific vocabulary</b> ) the forces of push and pull then <b>compare</b> to magnetic forces.
Magnets can attract and repel each other and can attract some materials but not others.	<b>Observe</b> magnets attracting and repelling. <b>Comparing and grouping</b> materials after carrying out <b>simple practical enquiries</b> . <b>Explore</b> the strengths of different shaped and sized magnets and find a way to <b>compare</b> them. Use of <b>scientific vocabulary</b> to <b>report</b> their findings.
Magnets have two poles and they will either attract or repel depending on which poles are facing each other.	Through <b>observation</b> , look for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another. Use <b>scientific vocabulary</b> to record their findings.
<i>Famous scientist</i>	<i>William Gilbert</i>

Different **surfaces** create different amounts of **friction**. The amount of **friction** created by an object moving over a **surface** depends on the roughness of the **surface** and the object, and the **force** between them.

**Key Words**

Force surface magnet  
magnetic force attract  
repel magnetic material  
poles bar magnet horseshoe  
magnet materials contact  
non-contact north pole  
south pole magnetic field  
iron iron filings

