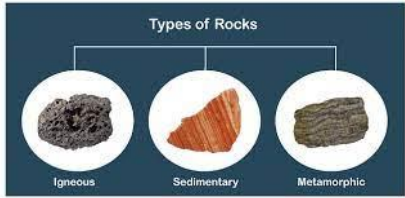

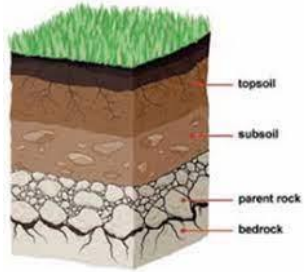




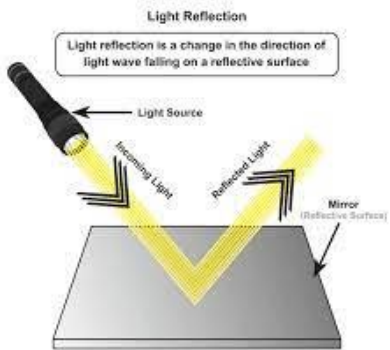
# Year 3 Autumn 1: Science Knowledge Mat

## Rocks, soils and fossils

Key Vocabulary		Images/ diagrams	Core Knowledge
<b>Rocks</b>	A rock is a natural object made from of different minerals that have been fused together into a solid lump. They are often found in the ground.		<ul style="list-style-type: none"> <li>➤ I know how to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</li> <li>➤ I know how to describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> <li>➤ I know how to recognise that soils are made from rocks and organic matter.</li> </ul> <p><u>Working Scientifically</u></p> <ul style="list-style-type: none"> <li>➤ I know how to plan a fair test and explain why it is fair.</li> <li>➤ I know how to explain why I need to collect information to answer a question.</li> <li>➤ I know how to record my observations in different ways, for example, labelled diagrams, charts etc.</li> </ul>
<b>Soil</b>	Soil is a mixture of minerals and organic material that covers much of Earth's surface.		
<b>Fossils</b>	Fossils are the remains or traces of plants and animals that lived long ago.		
<b>Sedimentary</b>	A type of rock made when sand, mud and pebbles get laid down in layers. Over time, these layers are squashed under more and more layers and a rock is formed.		
<b>Metamorphic</b>	A type of rock that is put under heat and pressure inside Earth's crust. This can shape old rock into metamorphic rock.		
<b>Igneous</b>	A type of rock formed when lava or magma cools quickly and turns solid.		
<b>Natural</b>	Rocks that form on their own without any human help.		
<b>Man-made</b>	Types of solid materials often mistaken for rock. These are made by humans e.g. concrete.		
<b>Mary Anning</b>	Mary Anning was a famous fossil hunter and collector. She found the first complete fossil.		

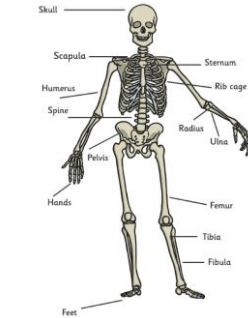

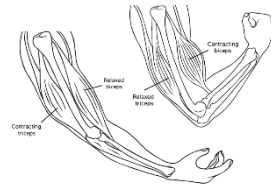
# Year 3 Autumn 2: Science Knowledge Mat

## Light

Key Vocabulary		Images/ diagrams	Core Knowledge
Light	We can see because of light. Most light comes from the sun, light bulbs, and lasers. Light is a form of energy that moves in straight lines.		<ul style="list-style-type: none"> <li>➤ I know that we need light in order to see things</li> <li>I know that dark is the absence of light</li> <li>➤ I know that light is reflected from surfaces</li> <li>➤ I know that light from the sun can be dangerous and that there are ways to protect my eyes</li> <li>➤ I know that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>➤ I know how to find patterns in the way that the size of shadows change</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>➤ I know how to ask relevant questions and use different scientific enquires to answer them.</li> <li>➤ I know how to record my observations in different ways, for example, labelled diagrams, charts etc.</li> </ul>
Shadow	A shadow is the dark shape made when something blocks light.		
Light Source	A source of light makes light. The Sun and other stars, fires, torches and lamps all make their own light and so are examples of sources of light.		
Reflect	To bend or throw back waves of light. For example: a polished surface reflects light.		
Opaque	Something that is opaque cannot be seen through and does not allow light to pass through it.	<p><b>Light Reflection</b></p> <p>Light reflection is a change in the direction of light wave falling on a reflective surface</p>  <p><small>* The reflective surface is smooth and shiny such as glass and mirror.</small></p>	
Transparent	If an object or material is transparent, it means light completely passes through it, and you can see clearly through it.		
Translucent	If an object is translucent, it means that some light passes through it, but the light is scattered, so you can't see clearly through it.		
Bright	shining or glowing with light		
Protect	Bright sunlight can damage your eyes. When you look up at the sun, your eyes naturally squint to protect them. Sunglasses with UV protection can help and don't look directly at the sun!		

# Year 3 Spring: Science Knowledge Mat

## Animals including Humans

Key Vocabulary		Images/ diagrams	Core Knowledge
<b>Animals</b>	Animals are living things. Like plants, animals need food and water to live. Animals feed themselves by eating plants or other animals. Animals can be carnivore, herbivore or omnivores. Animals can be vertebrates or invertebrates.	  	<ul style="list-style-type: none"> <li>➤ To know about the importance of nutritious, balanced diet</li> <li>➤ To know how nutrients, water and oxygen are transported within animals and humans</li> <li>➤ To know about skeletal and muscular system of a human</li> <li>➤ To know how to identify that animals, including humans, need the right types and amount of nutrition</li> <li>➤ To know how to understand that they cannot make their own food; they get nutrition from what they eat</li> <li>➤ To know how to identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul>
<b>Humans</b>	A living person that is also a mammal. Humans are unique in that we have evolved into walking upright, which other mammals do not do.		
<b>Skeleton</b>	The bones of the body form a framework called the skeleton. This framework supports and protects the softer tissues.		
<b>Nutrition</b>	Nutrition includes all the stuff that's in your food, such as vitamins, protein, fat, and more.		
<b>Muscles</b>	Skeletal muscle controls movement, posture (position of the body), and balance. Muscles can move voluntary or involuntary. Some muscles contract and relax when they move.		
<b>Joints</b>	Joints are the places in your body where bones meet. There are different types of joints call hinge joint, ball and socket and gliding joint.		
<b>Organs</b>	Organs are vital parts of your body that all do important jobs. These are your brain, heart, lungs, stomach and more.		
<b>Balanced Diet</b>	healthy, balanced diet includes foods from all 5 food groups: fruit, vegetables, grains, proteins and dairy.		
<b>Exercise</b>	Being physically active helps your body to stay healthy. This could be walking, running, playing, or doing P.E.		

# Year 3 Summer 1: Science Knowledge Mat

## Plants and Living Things

Key Vocabulary		Images/ diagrams	Core Knowledge
Plant	Plants are living things that grow from the soil and turn light from the sun into food. The plants can be big giant trees or small, tiny patches of moss.		<ul style="list-style-type: none"> <li>➤ To know the requirements of plants for life and growth (air, light, water, nutrients from the soil and room to grow).</li> <li>➤ Know the function of different parts of flowering plants and trees</li> <li>➤ Know how water is transported within plants</li> <li>➤ Know the plant life cycle, especially the importance of flowers</li> </ul>
Seed	Seeds are the small parts produced by plants from which new plants grow.		
Bulb	A bulb is the part of some plants, mostly under the dirt, that stores food while the plant is resting from growing (a storage organ).		
Roots	A root is a part of a plant that is usually hidden underground. Roots act like an anchor and keep the plant upright but also get water and nutrients from the soil to feed the plant.		
Petal	A petal is a part of a flower. Most flowers have a ring of brightly coloured petals surrounding the centre part of the blossom. The petals attract pollinators.		
Pollen	Pollen is a fine powder produced by certain plants. During the spring, summer, and fall seasons, it is released into the air and picked up by the wind. The wind carries it to other plants so they can make seeds.		
Dispersal	Seed dispersion is the way seeds are carried or spread to other places by wind, water, humans or animals.		
Water transportation	Roots absorb water from the soil where the plant is planted. Then, the water travels through the plant to the stem. Water is sucked up through the stem and then the stem passes water on to the leaves.		
Anther	The part of the stamen of a flower that produces and contains pollen.		