

# Year 3 Chemistry: Rocks Knowledge Organiser

## Vocabulary



**rock** a solid mass made up of minerals.  
Rock forms much of the earth's outer layer, including cliffs and mountains



**fossil** the remains of prehistoric life

**palaeontology** the study of fossils

**bedrock** the solid rock in the ground which supports all the soil above it

**organic matter** is matter that has come from a recently living organism. It is capable of decaying.

**humus** organic matter in soil



**decaying** gradually being destroyed by a natural process



**weathered** affected by the weather



**porous** has many small holes in it, which water and air can pass through



**prehistoric** the time in history before any information was written down



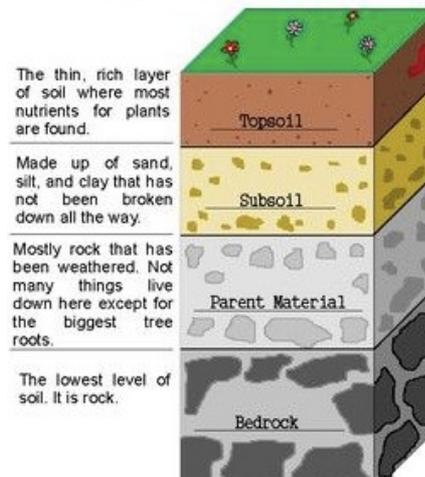
**texture** how something feels when it is touched

## Key Diagrams



fossil

Layers of soil



## Key Knowledge

1. There are 3 types of rocks that are formed naturally, igneous, sedimentary and metamorphic.

2. Fossils are usually formed when a living thing dies and the body is covered up or buried by sediment over tens of thousands of years.

3. Soil is made from pieces of rock, minerals, decaying plants and water.

4. When molten magma cools, igneous rocks are formed. Examples include granite and basalt.

5. Igneous rocks are strong, hardwearing and non-porous.

6. Over millions of year sediment builds up and form sedimentary rocks. Examples include limestone and chalk.

7. Sedimentary rocks are porous and can easily be worn down .

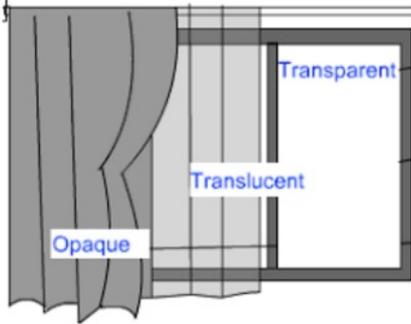
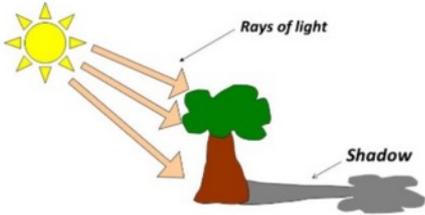
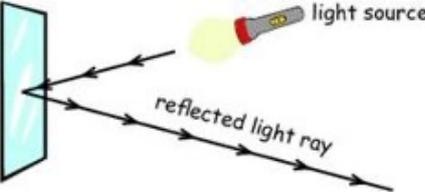
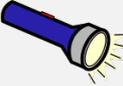
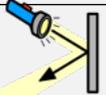
8. When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks. Examples include slate and marble.

10. Bricks and concrete are not rocks because they are man-made.

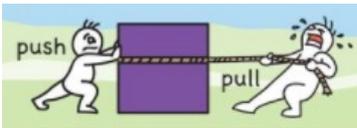
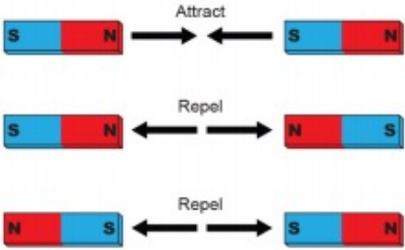
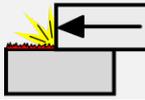
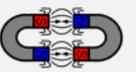
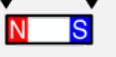
11. Fossils tell us about the Earth and about life that existed hundreds of thousands and millions of years ago.

12. As the soil becomes deeper, the rock grains become larger until bedrock is reached.

# Year 3 Physics: Light Knowledge Organiser

Vocabulary		Key Diagrams	Key Knowledge
	<b>light</b> a brightness that lets you see things.	  	<b>1. We need light so that we can see in the dark.</b>
	<b>light source</b> anything that produces light		<b>2. Light is reflected of surfaces.</b>
	<b>sun</b> the biggest light source available to humans		<b>3. Light from the sun can be dangerous to our eyes.</b>
	<b>torch</b> a small electric light which is powered by batteries and which you can carry		<b>4. Shadows are formed when light is blocked by an object.</b>
	<b>shadow</b> a dark shape on a surface that is made when something stands between a light and the surface		<b>5. The size of a shadow depends on the distance of the object from the light source.</b>
	<b>transparent</b> if an object or substance is transparent, you can see through it		<b>6. Different surfaces reflect different amounts of light. Shiny surfaces reflect more light than dull surfaces.</b>
	<b>translucent</b> if a material is translucent, some light can pass through it		<b>7. Reflective strips make it easier for people to be seen in the dark and torches or other light sources help us see when it is dark.</b>
	<b>opaque</b> if an object or substance is opaque, you cannot see through it		<b>8. If an object is transparent it doesn't block the light and no shadow is formed.</b>
	<b>reflect</b> sent back from the surface rather than pass through it		<b>9. Generally, the further the light source is from an object the bigger the shadow.</b>
	<b>emit</b> produce		<b>10. Some types of sunglasses protect your eyes from being damaged by the sun.</b>
	<b>dim</b> light that is not bright	<b>11. Translucent objects form lighter shadows as some of the light is blocked but some passes through the object.</b>	
	<b>dark</b> the absence of light	<b>12. The moon is not a source of light even though we can see it in the dark. Light from the sun reflects off the surface of the moon.</b>	

# Year 3 Physics: Forces and Magnets Knowledge Organiser

Vocabulary		Key Diagrams	Key Knowledge
	<b>force</b> the pulling or pushing effect that something has on something else	    	<p><b>1. Some forces need contact between two objects.</b></p>
	<b>contact force</b> a force that requires physical contact		<p><b>2. Magnetic force is a non-contact force so can act over a distance.</b></p>
	<b>friction</b> the resistance of motion when there is contact between two surfaces		<p><b>3. Magnets attract or repel each other.</b></p>
	<b>momentum</b> the strength of a moving object		<p><b>4. Some everyday materials are magnetic, so are attracted to magnets.</b></p>
	<b>surface</b> the flat part of something or the outside of it		<p><i>5. Forces act in opposite directions to each other. When an object moves across a surface, friction acts as an opposite force.</i></p>
	<b>pull</b> firmly move it towards you or away from its previous position		<p><b>6. Some surfaces create more friction than others which means that objects move across them slower.</b></p>
	<b>twist</b> turn something to make a spiral shape		<p><b>7. The ends of a magnet are called poles. One end is called the north pole and the other end is called the south pole.</b></p>
	<b>magnet</b> a piece of material which attracts materials towards it		<p><b>8. Opposite poles attract, similar poles repel.</b></p>
	<b>magnetic field</b> an area around a magnet, in which the magnet's power to attract things is felt		<p><i>9. If you place two magnets so the south pole of one faces the north pole of the other, the magnets will move towards each other.</i></p>
	<b>repel</b> when two objects push away from another, they are not magnetic		<p><b>10. Magnets produce an area of force around them called a magnetic field.</b></p>
	<b>attract</b> when two objects pull towards each other, they are magnetic		<p><b>11. When objects enter the magnetic field, they will be attracted to or repelled from the magnet if they are magnetic.</b></p>
	<b>opposite</b> things of the same kind which are completely different in a certain way		
	<b>pole</b> the ends of a magnet where the magnetic field is most intense		

## Vocabulary



**balanced diet** a variety of food that you regularly eat



**healthy** well and not suffering from any illness

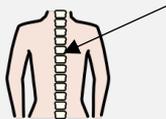
**energy** the ability and strength to do physical things



**nutrients** substances that help plants, humans and animals to grow



**skeleton** the framework of bones in your body



**spinal column** spinal column encloses the spinal cord and the fluid surrounding the spinal cord



**joints** the junction between two or more bones



**muscles** something inside your body which connects two bones and which you use when you make a movement

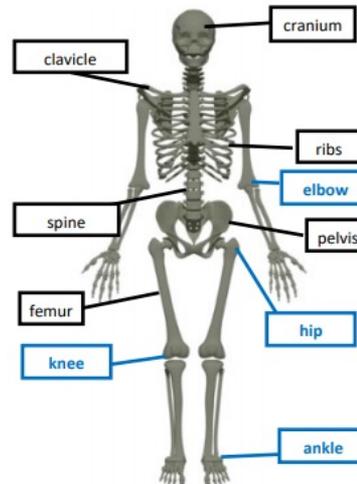
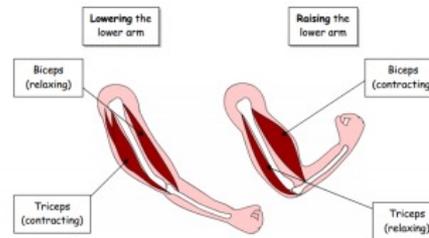
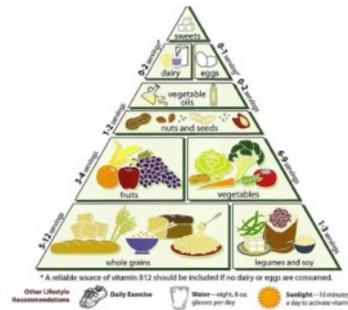


**organs** group of tissues that has a specific form and function



**bones** provide support for our bodies and help form our shape

## Key Diagrams



## Key Knowledge

1. Animals including humans need the correct amount of nutrition.

2. Unlike plants, animals including humans cannot make their own food. They must get their nutrition through the food they eat.

3. Humans and some other animals have skeletons for support and protection.

4. Muscles work with bones (and joints) so that animals and humans' bodies can move.

5. Humans and animals need air (oxygen), food, water and shelter to survive.

6. Vertebrates is the name used to group and classify all animal species that have a backbone or spinal cord. This includes mammals, birds, reptiles, amphibians and fish.

7. When a muscle contracts (bunches up), it gets shorter and so pulls on the bone it is attached to. When a muscle relaxes, it goes back to its normal size. Muscles can only pull and cannot push. Therefore, muscles have to work in pairs to move a joint.

8. The human body needs a balanced diet to work properly. Good health involves drinking enough water and eating the right amount of foods from the different food groups: carbohydrates, proteins, fats and fibre.

# Year 3 Biology: Plants Knowledge Organiser

## Vocabulary

**vegetation** plants, trees and flowers



**nutrients** substances that help plants and animals to grow



**absorb** soak up or take in



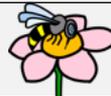
**transport** taking something from one place to another



**life cycle** the series of changes that an animal or plant passes through from the beginning of its life until its death



**seed** the small, hard part from which a new plant grows



**pollination** to fertilise it with pollen. this is often done by insects

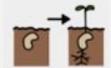


**pollen** a fine powder produced by flowers. It fertilises other flowers of the same species so that they produce seeds



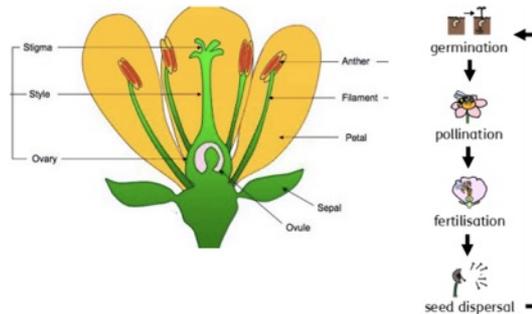
**fertilisation** in plants, where pollen meets the ovule to form a seed

**dispersed** scattered, separated, or spread through a large area

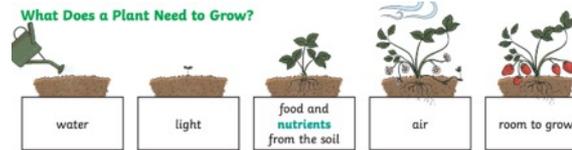


**germination** if a seed germinates or if it is germinated, it starts to grow

## Key Diagrams

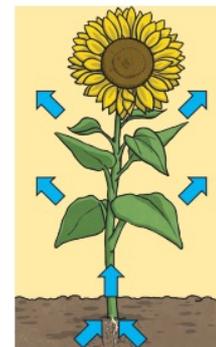


What Does a Plant Need to Grow?



How Water Moves through a Plant

1. The **roots** absorb water from the soil.
2. The **stem** transports water to the **leaves**.
3. Water **evaporates** from the **leaves**.
4. This **evaporation** causes more water to be sucked up the **stem**.



The water is sucked up the **stem** like water being sucked up through a straw.

## Key Knowledge

1. Flowering plants are made up of many different parts: roots, stem/trunk, leaves and flowers.

2. Roots anchor the plant and absorb water from the soil.

3. Stem/trunk transports the water to the leaves and helps the plant keep its shape.

4. Leaves absorb sunlight and create food for the plant.

5. Flowers are bright and colourful to attract bees to the plant for pollination.

6. Water is transported by veins in the leaves.

7. Photosynthesis is the process of the plant making its own food through sunlight, carbon dioxide and water.

8. During the pollination process, pollen is transferred from the stigma to the stamen in order to fertilise the plant and create a seed.