Term: Autumn Y3 **Unit: Rocks** **Strand: Chemistry**

What should I already know?

- The role of Mary Anning in **palaeontology** and the discovery of **fossils**.
- **Soil** contains **nutrients** and these help plants to grow.
- The meaning of the word **absorb.**
- That **magma** is **molten** rock that is formed in very hot conditions inside the earth.
- Why some materials are used for certain purposes because of their **properties**

What will I know by the end of the unit?

- 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.




Assessment – What expected looks like

I have experienced a range of hands on exploration activities that have helped me to understand the characteristics of a range of different rocks, including those commonly found in local buildings. I can understand the different uses for different rocks and also how they change over time. I can consistently demonstrate my use of the key vocabulary and can talk about both observable and testable features of rocks. I can recognise the difference between soils and can sort them according to different observable characteristics. I can identify organic (plant and animal matter) and inorganic (rock) material within soils. I have a secure understanding of how fossils are formed, through model making activities and I am confident in retelling the whole sequence of events within the process.

Vocabulary

fossil	A fossil is the preserved remains or traces of a dead organism.
soil	Soil consists of a mix of organic material (decayed plants and animals) and broken bits of rocks and minerals.
crystals	Crystals are a special kind of solid material where the molecules fit together in a repeating pattern.
sedimentary	Sedimentary rocks are made when sand, mud and pebbles get laid down in layers. Over time, these layers are squashed under more and more layers.
metamorphic	When a rock experiences heat and pressure, it becomes a metamorphic rock. All metamorphic rocks start as another type of rock.
igneous	Igneous rock is formed when magma cools and solidifies. It may do this above or below the Earth's surface.
magnetic pole	Either of two areas on the earth's surface, one near the geographic north pole and one near the geographic south pole, where the Earth's magnetic fields are strongest.

Sticky Knowledge

- Rocks have been used by humans for millions of years, from early tools and weapons through to construction materials for modern buildings.
- Sediment deposited over time, often as layers at the bottom of lakes and oceans, forms sedimentary rocks.
- Extreme pressure and heat over time forms metamorphic rocks. Examples are marble and slate.
- When magma cools and solidifies it forms igneous rock. Examples are granite and pumice.
- The Earth is a very big magnet. Its North and South poles are highly magnetic.
- A magnet always has north and south poles. Cutting a magnet in half makes two magnets, each with two poles.
- Magnets only attract certain types of metals, other materials such as glass, plastic and wood aren't attracted.

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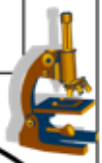
Rocks and soils

What do you know already?

Name some different types of rocks

What is a fossil?

How are they made?



How is soil made?

What can make rocks change their size and shape?

What is this called?

What does permeable mean?

What does impermeable mean?

What is soil made from?