





Caroline Haslett Primary School - Science Topic: Rocks Year 3

What should I already know?	
<ul style="list-style-type: none"> 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 	

Vocabulary	
absorb	soak up or take in
bedrock	the solid rock in the ground which supports all the soil above it
decaying	gradually being destroyed by a natural process
grain	A grain of something such as sand or salt is a tiny hard piece of it
igneous	rocks that are formed by volcanic action or intense heat
imprint	a mark or outline made by the pressure of one object on another
leaf litter	decaying leaves
magma	molten rock that is formed in very hot conditions inside the earth
man-made	things are created by people
metamorphic	rocks that have had their original structure changed by pressure and heat
mineral	something that is formed naturally in rocks and in the earth.
molten	Molten rock, metal, or glass has been heated to a very high temperature and has become a hot, thick liquid
natural	things that exist in nature and are not made by people
nutrients	substances that help plants and animals to grow
palaeontology	the study of fossils as a guide to the history of life on Earth
permeable	if a substance is permeable, something such as water or gas can pass through it or soak into it.
porous	Something that is 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
preserve	to protect from decay
pressure	force that you produce when you press hard on something
properties	the qualities or features that belong to something and make it recognisable
rock	a solid mass made up of minerals . Rock forms much of the earth's outer layer, including cliffs and mountains
sediment	solid material that settles at the bottom of a liquid, especially earth and pieces of rock that have been carried along and then left somewhere by water, ice, or wind
soil	the substance on the surface of the earth in which plants grow
surface	the flat top part of something or the outside of it
surrounding	to be present all around
volcano	a mountain from which hot melted rock, gas , steam, and ash from inside the Earth sometimes burst.
weathered	affected by the weather

Investigate!	
<ul style="list-style-type: none"> Explore the types of rocks you can find in the local environment. Explain why rocks are used for different purposes based on their properties. Research the different living things whose fossils are found. Explore the different kinds of soils, including those you can find in the local environment. Compare different types of soils by saying what is similar and what is different using scientific vocabulary. Investigate what happens when rocks are rubbed together. Investigate what happens to rocks when they are in water. Sort different types of rocks based on how rough or smooth they are, whether they have grains or crystals, how permeable they are, how easily they can break down, how strong they are and what they look like. 	

What will I know by the end of the unit?	
<p>What are the different types of rocks?</p>  	<ul style="list-style-type: none"> There are three types of rocks that are formed naturally. Igneous: <ul style="list-style-type: none"> When molten magma cools, igneous rocks are formed. This either cools and forms rocks under the earth's surface, or flows out of erupting volcanoes as lava and may mix with other minerals. Examples include granite and basalt. This type of rock is strong, hard-wearing and non-porous. Sedimentary: <ul style="list-style-type: none"> Sometimes, little pieces of rocks that have been weathered can be found at the bottom of lakes, seas and rivers. This is called sediment. Over millions of years, layers of this sediment build up forming sedimentary rocks. Examples include limestone and chalk. Sedimentary rocks are porous and can easily be worn down. Metamorphic: <ul style="list-style-type: none"> When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks. Examples include slate and marble. Metamorphic rocks are strong <p>Bricks and concrete are not rocks because they are man-made.</p>
<p>What are fossils?</p> 	<ul style="list-style-type: none"> Fossils are the remains of prehistoric life. They are usually formed when a living thing (plant or animal) dies and the body is covered up or buried by sediment over tens of thousands of years. Some fossils are formed when the tough bones and teeth in animals, and the woody part of plants are preserved. Other fossils are made from imprints in surrounding sedimentary rock such as footprints or imprints from shells. Fossils tell us about the Earth and about life that existed hundreds of thousands and millions of years ago.

<p>What is soil?</p> 	<ul style="list-style-type: none"> Soil is made from pieces of rock, minerals, decaying plants and water. When rock is broken down into small grains, soil is formed. There are layers of soil: <ul style="list-style-type: none"> above the soil is leaf litter and recently decaying plants. as the soil becomes deeper, the rock grains become larger until bedrock is reached.
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Working Scientifically	<p>Ask questions about the world around them and explain that they can be answered in different ways.</p> <p>Set up and carry out some simple, comparative and fair tests, making predictions for what might happen. Tests can be set up and carried out by following or planning a set of instructions. A prediction is a best guess for what might happen in an investigation based on some prior knowledge.</p> <p>Take measurements in standard units, using a range of simple equipment eg. data loggers plus sensors, timers (seconds, minutes and hours), thermometers (°C) and metre sticks (millimetres, centimetres and metres). Make increasingly careful observations, identifying similarities, differences and changes, and make simple connections Taking repeat readings can increase the accuracy of the measurement.</p> <p>An observation involves looking closely at objects, materials and living things, which can be compared and grouped according to their features. Gather and record findings in a variety of ways (labelled diagrams, tables, charts and graphs) with increasing accuracy. Data can be used to provide evidence to answer questions.</p> <p>Data can be used to provide evidence to answer questions. Results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements.</p>
Rocks	<p>There are three different rock types: sedimentary, igneous and metamorphic. Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock eg. sandstone and limestone. Igneous rocks are made from cooled magma or lava. They usually contain visible crystals eg. pumice and granite. Metamorphic rocks are formed when existing rocks are heated by the magma under the Earth's crust or squashed by the movement of the Earth's tectonic plates. They are usually very hard eg. slate and marble. Compare and group rocks based on their appearance, properties or uses.</p> <p>Fossils form over millions of years and are the remains of a once-living organism, preserved as rock. Fossils form when a living thing dies in a watery environment. The body gets covered by mud and sand and the soft tissues rot away. Over time, the ground hardens to form sedimentary rock and the skeletal or shell remains turn to rock. Using words, pictures or a model, describe in simple terms how fossils are formed when things that have lived are trapped within rock. Scientists can use fossils to find out what life on Earth was like in prehistoric times.</p> <p>Soils are made from tiny pieces of eroded rock, air and organic matter. There are a variety of naturally occurring soils including clay, sand and silt. Different areas have different soil types. Investigate soils from the local environment, making comparisons and identifying features.</p>