

Topic: Rocks		Year: 3	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? What are the different types of rocks?   • There are three types of rocks that are formed naturally. • Igneous: • 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: • 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 builds up forming sedimentary rocks. • Examples include limestone and chalk. • Sedimentary rocks are porous and can easily be worn down . • Metamorphic: • When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks. • Examples include slate and marble. • Metamorphic rocks are strong Bricks and concrete are not rocks because they are man-made.																																																									
Vocabulary <table><tr><td>absorb</td><td>soak up or take in</td></tr><tr><td>bedrock</td><td>the solid rock in the ground which supports all the soil above it</td></tr><tr><td>decaying</td><td>gradually being destroyed by a natural process</td></tr><tr><td>grain</td><td>A grain of something such as sand or salt is a tiny hard piece of it</td></tr><tr><td>igneous</td><td>rocks that are formed by volcanic action or intense heat</td></tr><tr><td>imprint</td><td>a mark or outline made by the pressure of one object on another</td></tr><tr><td>leaf litter</td><td>decaying leaves</td></tr><tr><td>magma</td><td>molten rock that is formed in very hot conditions inside the earth</td></tr><tr><td>man-made</td><td>things are created by people</td></tr><tr><td>metamorphic</td><td>rocks that have had their original structure changed by pressure and heat</td></tr><tr><td>mineral</td><td>something that is formed naturally in rocks and in the earth.</td></tr><tr><td>molten</td><td>Molten rock, metal, or glass has been heated to a very high temperature and has become a hot, thick liquid</td></tr><tr><td>natural</td><td>things that exist in nature and are not made by people</td></tr><tr><td>nutrients</td><td>substances that help plants and animals to grow</td></tr><tr><td>palaeontology</td><td>the study of fossils as a guide to the history of life on Earth</td></tr><tr><td>permeable</td><td>if a substance is permeable, something such as water or gas can pass through it or soak into it.</td></tr><tr><td>porous</td><td>Something that is porous has many small holes in it, which water and air can pass through</td></tr><tr><td>prehistoric</td><td>the time in history before any information was written down</td></tr><tr><td>preserve</td><td>to protect from decay</td></tr><tr><td>pressure</td><td>force that you produce when you press hard on something</td></tr><tr><td>properties</td><td>the qualities or features that belong to something and make it recognisable</td></tr><tr><td>rock</td><td>a solid mass made up of minerals. Rock forms much of the earth's outer layer, including cliffs and mountains</td></tr><tr><td>sediment</td><td>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</td></tr><tr><td>soil</td><td>the substance on the surface of the earth in which plants grow</td></tr><tr><td>surface</td><td>the flat top part of something or the outside of it</td></tr><tr><td>surrounding</td><td>to be present all around</td></tr><tr><td>volcano</td><td>a mountain from which hot melted rock, gas, steam, and ash from inside the Earth sometimes burst.</td></tr><tr><td>weathered</td><td>affected by the weather</td></tr></table>		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 . 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Investigate! • 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 is soil?  • 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: • 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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Question 1: Match the rocks to how they are formed.	Start of unit:	End of unit:
igneous metamorphic sedimentary rocks that are changed through heat and pressure magma or lava cools weathered rocks settle at the bottom of the sea		

Question 2: Match the rocks to an example of them.	Start of unit:	End of unit:
igneous metamorphic sedimentary granite chalk marble		

Question 3: The word metamorphic means?	Start of unit:	End of unit:

Question 4: Which of these is not an example of a natural forming rock?	Start of unit:	End of unit:
igneous		
concrete		
sedimentary		
metamorphic		

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Question 6: Which of these words best describes a rock that absorbs water? (tick two)	Start of unit:	End of unit:
permeable		
impermeable		
porous		
waterproof		

Question 8: Place these in order in which they happen to form a fossil.	Start of unit:	End of unit:
hard parts are turned into fossils over tens of thousands of years		
an animal dies		
hard parts were buried by sediment		
the soft parts decayed		

Question 7: Fossils are usually formed in which rock?	Start of unit:	End of unit:
igneous		
concrete		
sedimentary		
metamorphic		

Question 9: Explain why bricks and concrete are not classed as natural forming rocks.	Start of unit:	End of unit:

Question 10: Describe what is happening in each layer of this soil and how soil is formed.	Start of unit:	End of unit:
		