

# Rocks and Soils

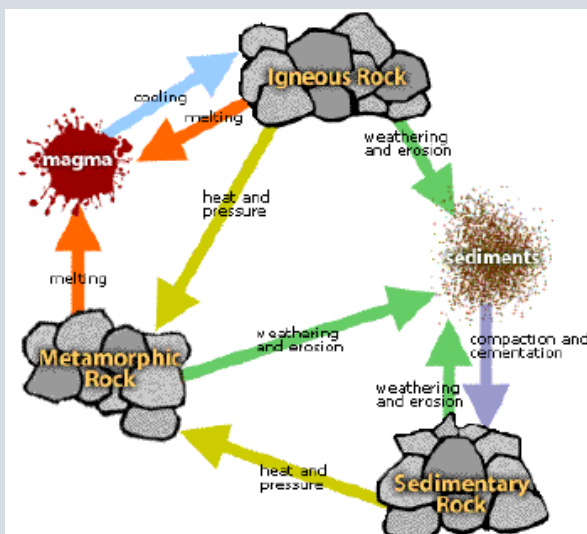
## What do you know about rocks and soils?

### Oak Class Knowledge Organiser Autumn 2019

#### Key Vocabulary

Rocks	rocks are made up of grains that are packed together
Minerals	Minerals are solid chemical substances that occur naturally – examples include diamond, quartz, gypsum. Each grain that makes up the rock is made from a mineral.
Permeable	Allowing water to pass through it
Fossils	The remains or impressions of a prehistoric plant or animal embedded in rock
Soil	The top layer of the ground, in which plants grow; dirt.
Rock cycle	The series of changes that rock undergoes over time as it shifts between different types.
Weathering	The process of wearing away or otherwise changing Earth's surface, caused by natural forces.
Erosion	The process of transporting and wearing away rocks or soil as loose articles that are moved by water, wind, ice or gravity.
Bedrock	The solid rock underneath soil or loose rocks; the lowest of three main layers of soil.
Subsoil	The middle layer of soil, which contains more rocks than topsoil.
Topsoil	The top layer of soil, in which most plants have their roots.
Organic	Having to do with or coming from living organisms.
Refine	To remove unwanted materials from a substance.

## How rocks are formed



#### Curriculum Objectives (What the children will learn):

- 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.

**METAMORPHIC**

When sedimentary or igneous rock is near magma, it heats up and chemicals change in the rock. However, it does not heat up enough to melt it. As it cools it becomes metamorphic rock.



marble  
quartzite  
slate

**SEDIMENTARY**

These rocks form under the sea. Rocks are broken into small pieces by wind/water (erosion). They settle as mud, sand, minerals and even remains of living things. Over time, layers pile up and the pressure turns this sediment into rock.



limestone  
chalk  
sandstone

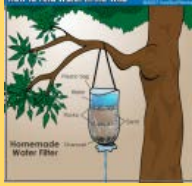
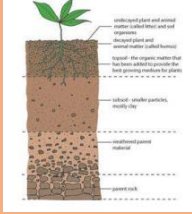

**IGNEOUS**

Far underground, the temperature is so hot, rock melts into a liquid (molten rock). When the liquid is underground it is called 'magma' and it can cool to form igneous rock. When it spills out (volcano), the liquid is called 'lava'.



obsidian  
granite  
basalt

**Homework Grid**

<p><b>Art</b></p> <p>Find a rock and paint it to turn it into a piece of art.</p>	<p><b>English/History</b></p> <p>Find out more about the life and work of Mary Anning. Think about how you can present this.</p>	<p><b>English</b></p> <p>Write an acrostic poem about Fossils: F O S S Etc.</p>	<p><b>English/History</b></p> <p>Make a time line to show the dates different dinosaur fossils were found.</p>
<p><b>Art</b></p> <p>Make a collage out of rocks. You could arrange the rocks on the ground to make a picture and photograph to bring into school. If you are feeling adventurous you could glue different rocks to a piece of wood to make a rock collage.</p>	<p><b>Science</b></p> <p>Use rocks to make a water filter. In a funnel put some charcoal, clean sand on top and rocks on top of that. Then put some water through and see how it comes out.</p> 	<p><b>Science</b></p> <p>Look at the soil in your garden. Draw a soil cocktail to show what you have found.</p> 	<p><b>Science/Maths</b></p> <p>Create a survey to find out... How many different types of rock you can find in your local area? You could record your results in a tally chart and display in a graph</p>
<p><b>Science</b></p> <p>Find 5 things in the home that are made from rock.</p>	<p><b>English</b></p> <p>Write a diary entry about going on a journey and discovering a fossil.</p>	<p><b>Science</b></p> <p>Do we always need soil to grow things? Conduct an experiment and write /draw your findings.</p>	<p><b>Art</b></p> <p>Can you find a fossil? Draw and label it.</p> 

Homework is an important part of your child's learning - please do feel free to help (join in) with activities above. Homework completed should be brought in on Friday and will be shared with the class during the afternoon.

