

## Year 3 – Rocks – Rock Detectives

### What it looked like last year as part of Everyday Materials

- Identify and compare the suitability of a variety of everyday materials – inc rocks.

### What it looks like next year (Year 6 – Evolution and Inheritance)

- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

### Vocabulary (definitions)

**absorption** – how water is fed through the roots of a plant.

**permeable** – allows liquid or gases to pass through.

**non-permeable** – does not allow liquid to pass through.

**sediment** - any particulate matter that can be transported by fluid flow.

**sedimentary** - rocks are made when sand, mud and pebbles get laid down in layers.

**erosion** - a process where natural forces like water, wind, ice, and gravity transport rocks and soil.

rock	fossil	stone	marble	
pebble	chalk	boulder	granite	
grain	sandstone	drainage	crystals	slate
layers	soil	hard	peat	brick
soft	texture	sandy/chalk/clay soil		limestone
concrete				

### Sequence of Learning

- Identify and sort a variety of rocks based on their properties.
- How rocks used in the local environment?
- Test the hardness of a variety of rocks and compare them.
- Test whether a variety of rocks absorb water or not.
- Observe how rocks have changed over time.
- Explore a variety of soils.
- Test soils to discover whether they let water through.
- Explore fossils – where they can be found and how they are formed

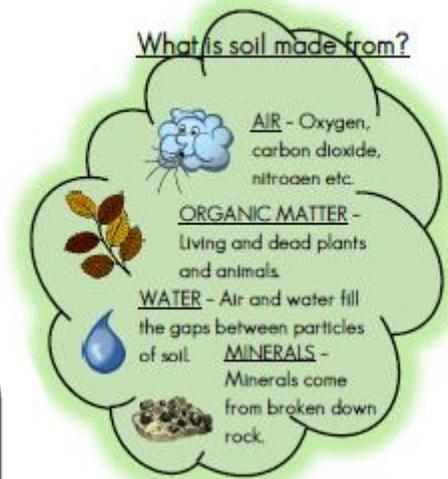
### Cultural Capital

- To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- To be able to describe in simple terms, how fossils are formed when things that have lived are trapped within rock.
- To be able to recognise that soils are made from rocks and organic matter.
- The real life knowledge that links is: grouping and classifying, observing change over time and carrying out comparative and fair tests.
- The jobs it can be used in are: Geologist, Archaeologist, Earth Scientist, Historian, Builder, Palaeontologist.

## Year 3 – Rocks – Rock Detectives

### Principles of Teaching Science.

- Exploring* – when we look at how things work in the world
- Questioning* – when we question what will happen
- Understanding* – when we use scientific language to explain
- Investigating* – when we can explore and are hands on
- Predicting* – when we use our previous knowledge to say what we think will happen.



Natural Rocks			Human-Made Rocks
Igneous	Sedimentary	Metamorphic	
Obsidian	Chalk	Marble	Brick
			
Granite	Sandstone	Quartzite	Concrete
			
Basalt	Limestone	Slate	Coade Stone
			

#### PROPERTIES OF ROCKS

- 1.) HARD / SOFT** – Some rocks need to be cut or split with tools because they are so hard (e.g. granite) but others are soft and can be moulded (e.g. clay).
- 2.) PERMEABLE / IMPERMEABLE** – Permeable rocks allow water to pass through (e.g. pumice) but impermeable rocks do not let water pass through (e.g. marble)
- 3.) DURABLE** – Rocks which are resistant to erosion last longer and are more durable. Buildings are often made with these (e.g. limestone)
- 4.) DENSITY** – If the particles in the rock are tightly packed then it has a high density. These rocks would sink in water (e.g. basalt).



### FOSSILS

<b>Fossilisation</b>				
An animal dies. It gets covered with <b>sediments</b> which eventually become rock.	More layers of rock cover it. Only hard parts of the creature remain, e.g. bones, shells and teeth.	Over thousands of years, <b>sediment</b> might enter the mould to make a <b>cast fossil</b> . Bones may change to mineral but will stay the same shape.	Changes in sea level take place over a long period.	As <b>erosion</b> and weathering take place, eventually the fossil becomes exposed.
				