




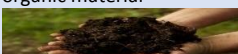
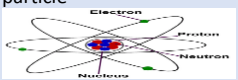





Rock Detectives



What are the key chemical facts that I need to know?

Scientific Fact 1	Scientific Fact 2	Scientific Fact 3	Scientific Fact 4	Scientific Fact 5	Scientific Fact 6
Chalk is mostly formed from the calcareous skeletons of countless tiny planktonic algae called coccoliths.	Rocks and stones are naturally occurring solids made up of minerals.	The Earth's crust is made up of rock. When magma cools and solidifies it forms igneous rock.	Humans have used rocks for millions of years, from early tools and weapons through to various construction materials.	Rocks and minerals are not the same. Minerals are a mix of chemicals. Rocks are small particles of one or more mineral. Minerals are the 'ingredients' of the rock.	The oldest rocks ever to be found were formed about 4 billion years ago – only two pieces of rock this old have ever been found.

Key Scientific Vocabulary - words that are related to the topic you are investigating and that must be used in your work	
Word	Definition
 ammonite	An extinct creature found as a fossil.
 chalk	A soft limestone made from the skeletal remains of sea creatures.
 fossil	The remains or traces of creatures that lived long ago.
 organic material	Matter that contains a large amount of carbon-based compounds.
 particle	Any of the smallest pieces of matter that make up atoms or the parts of atoms.
 peat	A dark brown substance like soil formed by plants dying and being buried.
 properties	A quality in a material, especially one that means that it can be used in a particular way.
 trilobite	A simple, flat sea creature that lived in the earliest period of life on earth, with a hard outer layer and a body in three parts.

Sticky Knowledge- what we want you to know at the end of the unit
To know that our senses helps us explore the world around us.

To know what the properties of rocks are

- describe three different properties of rocks
- explain why these properties are suitable to their uses

To know that soft rocks are different from hard rocks

- chalk is made from limestone
- hard rocks are igneous and metamorphic rocks

To know that all rocks have different hardness properties

- hard types of rocks are usually resistant to erosion
- some soft rocks hold a lot of water

To know that rocks change over time

- rocks are eroded over time – follow the rock cycle
- there are three main types of rocks:
 - igneous
 - metamorphic
 - sedimentary

To know how soil is formed

- soil is a mixture of tiny particles of rock, dead plants and animals, air and water

To know how fossils are formed

- a fossil is the preserved remains or traces of a dead organism
- after an animal dies, it decomposes and its skeleton is buried by small particles of rock - **sediment**
- more sediment builds up and the skeleton turns to rock to become a fossil

The scientific skills that you will be learning to use to answer the scientific questions

What is science?
Science is the exciting study of the nature and behaviour of natural things and the knowledge that we obtain about them. We ask questions that need answers. In order to answer these questions successfully, you will learn to use all these skills.

Grouping and classifying:
In this type of enquiry, you will observe and take measurements to find similarities and differences in the rocks that you will be studying.
Can you use the identification key to find out the name of each of the rocks in your collection?

Fair testing:
Fair tests involve you making systematic changes and analysing data to identify how one variable influences another.

Observing changes over time:
You will determine how fossils were formed over time.
How were the trilobite fossils formed?

Identifying similarities and differences:
You will learn to identify the features of the rocks that are the same and those that are different.
How does a rock change over time?

Making careful and systematic observations:
You will learn to make careful observations during the experiment. This year you will focus on ensuring that you make these observations in a logical manner.
How are fossils formed?
What forms first?