

In this unit: Pupils will revisit their learning on properties of rocks and rock formation from year 3. They will explore the different rocks that are found in the Grand Canyon and sort them based on their appearance and physical properties. Pupils will investigate fossil fuels from the Grand Canyon. They will then investigate how the USA is meeting energy demands for such a large population through greener methods.

Children should already know:

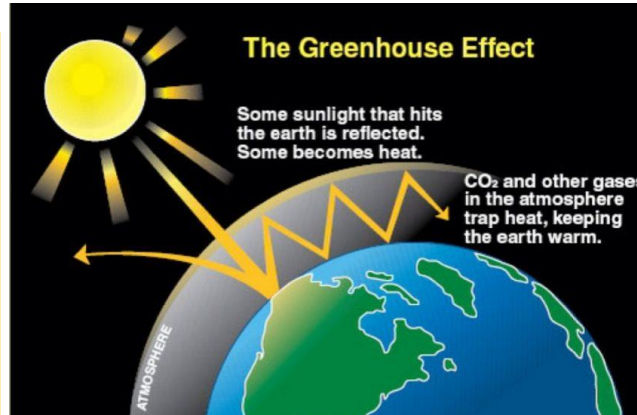
- that there are three different types of rocks that are formed naturally.
- that igneous rocks are formed when molten magma from a volcano cools and mixes with other minerals. Igneous rocks are strong, hard-wearing and non-porous.
- that sedimentary rocks are formed over millions of years when sediment collects and is compressed. Sedimentary rocks are porous and can be easily worn away.
- that metamorphic rocks are formed when some igneous or sedimentary rocks are heated and squeezed. Metamorphic rocks are strong.
- that fossils are the remains of prehistoric life.
- that fossils are formed when a living thing dies and is covered by sediment over tens of thousands of years.
- that fossils tell us about the Earth and about life from millions of years ago.
- that soils are made from pieces of rock, minerals and decaying plant and water.
- that there are layers to soil.

At the end of this unit, children will know:

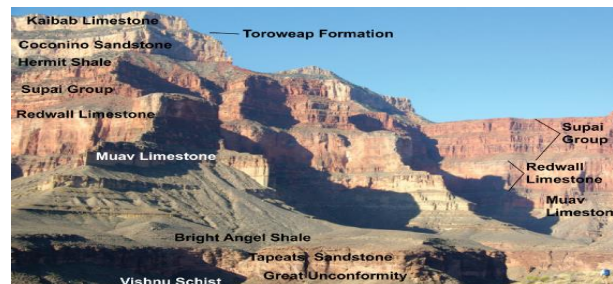
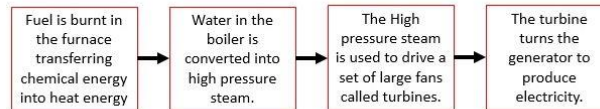
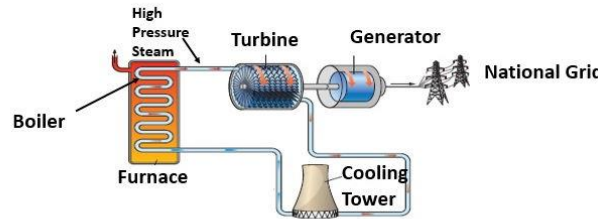
- the types of rocks that are found in the Grand Canyon.
- how fossil fuels were produced in the Grand Canyon.
- how greener energy sources are being used to provide energy to homes in the USA.

Pupils could investigate:

- how the energy from burning coal is used.
- how the USA provide green energy.
- why fossil fuels are seen as not being environmentally friendly.



Fossil Fuel Power Station



Key Vocabulary

crystals	a clear, transparent mineral found in some rocks
decaying	gradually rotting away and being destroyed by a natural process
energy	power created from a chemical reaction when coal is burned
environmentally friendly	not harmful to the environment
erosion	the process of being worn away by wind or water
fossils	the remains or imprint of a prehistoric plant or animal in a rock
fossil fuel	a natural material such as coal or gas formed in the geological past from the remains of living organisms
geologist	a person who is an expert in the physical structure of earth and rocks
grains	a tiny, hard piece of something such as sand or salt
igneous	rocks that are formed by molten magma from volcanoes
magma	molten rock that is formed inside the earth
metamorphic	rocks that are formed when their original structure is changed by heat and pressure
mineral	something that is formed naturally within rocks
molten	melted at a really high temperature
non-porous	doesn't have tiny holes to allow liquid or gas through
permeable	allows water and other liquid or gases to pass through
porous	has tiny holes that allow water and gas to pass through
preserve	to protect from decay
rocks	a solid mass made up of minerals
sediment	solid material that settles at the bottom of a liquid
sedimentary	rocks that are formed by sediment
volcano	a mountain from which molten magma escapes

Key Questions:

- what is a fossil fuel?
- how are they used to produce energy?
- what methods of renewable energy are used?
- is nuclear energy a safe form of energy production?
- why is the Grand Canyon so colourful?