Castlefield School - Science

Topic: Rocks and the Rock Cycle	Year: Three	Theme: Properties and Changes in Materials	Strand: Chemistry

Key Concepts

Are all rocks the same?

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 bas-alt.
- 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

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.

What can we learn from fossils?

- Fossils are the remains of prehistoric life.
- They are usually formed when a living thing (plant or animal) dies and the body is covered up or buried by sediment over tens of thousands of years.
- Fossils tell us about the Earth and about life that existed hundreds of thousands and millions of years ago.

Famous Scientists

Adriana Ocampo(1955 –) –Colombian planetary geologist and a Science Program Manager at NASA Headquarters.

Key Vocabulary

absorb	Soak up or take in
bedrock	The solid rock in the ground which supports all the soil above it.
igneous	Rocks that are formed by volcanic action or intense heat
magma	Molten rock that is formed in very hot conditions inside the Earth
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.
permeable	If a substance is permeable, 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
soil	The substance on the surface of the earth in which plants grow.
sediment	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.

Working Scientifically Skills

	Asking relevant questions.		Setting up enquiries and choosing equipment.
	Explaining results – drawing conclusions and using results.		Setting up fair tests (with help)
	Recognising when to use other sources of information to find answers.		Choosing how to record information – tables, tally charts, Venn and Carroll diagrams and bar charts.