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| **ADVENT TERM 2****SCIENCE – Year 3 - Medium Term Planning – CHEMISTRY: ROCKS** |
| **LESSON  1**  | **LESSON  2**  | **LESSON  3**  |
| **LEARNING INTENTION:**To know that rocks can be grouped according to their appearance and physical properties.To know that sedimentary rocks are formed from pre-existing rocks or pieces of once-living organisms.  Skills: Name and describe the types, appearance and properties of rocks.Aim: Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. | **LEARNING INTENTION:**To know that igneous rocks are formed from cooled lava.Skills: Name and describe the types, appearance and properties of rocks.Aim: Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.  | **LEARNING INTENTION:**To know that metamorphic rocks were once igneous or sedimentary rocks.Skills: Name and describe the types, appearance and properties of rocks.Aim:  Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.  |
| **Key Vocabulary:** chalk, sandstone, permeable, erode, sedimentary, eroded, soft, particle | **Key Vocabulary:** Igneous, magma, lava, granite, pumice impermeable, cooled, permeable, eroded | **Key Vocabulary:** Metamorphic, heat, pressure. Impermeable, eroded |
| **Recall & retrieval:** | **Recall & retrieval:*** Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock.
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* Igneous rocks are made from cooled magma or lava.
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| **Key Knowledge:** **Child:*** The appearance and properties of rocks affect how they are used.
* Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock.
* Examples include sandstone and chalk.

**Teacher:*** There are three different rock types: sedimentary, igneous and metamorphic.
* Sedimentary rocks are formed from layers of sediment that has built up over many years.
* These rocks often start as sediments carried in rivers and deposited in lakes and oceans.
* When buried, the sediments lose water and become cemented to form rock.
 | **Key Knowledge:** **Child:** * Igneous rocks are made from cooled magma or lava.
* Examples include granite and pumice**.**

**Teacher:*** Igneous rocks are formed when hot, molten rock cools and crystallises
 | **Key Knowledge:** **Child:*** Metamorphic rocks are formed from extreme pressure and heat from within the Earth’s crust.
* They are usually very hard.
* Examples include slate and marble.

**Teacher:*** Metamorphic rocks are formed when existing rocks are heated by the magma under the Earth’s crust or squashed by the movement of the Earth’s tectonic plates.
* The parent rock can be either sedimentary, igneous, or even another metamorphic rock.
* The word "metamorphic" comes from Greek and means "To Change
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| **ADVENT TERM 2****SCIENCE – Year 3 - Medium Term Planning – CHEMISTRY: ROCKS** |
| **LESSON  4**  | **LESSON  5**  | **LESSON  6**  |
| **LEARNING INTENTION:** To know that fossils are formed over millions of years.Skills: Describe simply how fossils are formed, using words, pictures or a model.Aim: Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.  | **LEARNING INTENTION:** To know that soils are made from rocks and organic matter.Skills: Investigate soils from the local environment, making comparisons and identifying features.Aim:  Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. | **LEARNING INTENTION:** I know that Mary Anning was a pioneering fossil collector.Skills:Devise or respond to historically valid questions about a significant historical figure and suggest or plan ways to answer them. Aim: Understanding of how Mary Anning’s work made an impact. |
| **Key Vocabulary:** Fossil, sedimentary, preserved, organism | **Key Vocabulary:** Clay, sand, silt, organic matter, air, eroded | **Key Vocabulary:**  |
| **Recall & retrieval:*** Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock.
* Igneous rocks are made from cooled magma or lava.
* Metamorphic rocks are formed from extreme pressure and heat from within the Earth’s crust.
 | **Recall & retrieval:*** Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock.
* Igneous rocks are made from cooled magma or lava.
* Metamorphic rocks are formed from extreme pressure and heat from within the Earth’s crust.
* Fossils form over millions of years and are the remains of a once-living organism, preserved as rock.
 | **Recall & retrieval:*** Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock.
* Igneous rocks are made from cooled magma or lava.
* Metamorphic rocks are formed from extreme pressure and heat from within the Earth’s crust.
* Fossils form over millions of years and are the remains of a once-living organism, preserved as rock.
* Soils are made from tiny pieces of eroded rock, air and organic matter.
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| **Key Knowledge:** **Child:*** Fossils form over millions of years and are the remains of a once-living organism, preserved as rock.
* Scientists can use fossils to find out what life on Earth was like in prehistoric times.
* Fossils form when a living thing dies in a watery environment.
* The body gets covered by mud and sand and the soft tissues rot away.

**Teacher:*** Fossils are the preserved remains of plants and animals whose bodies were buried in sediments, such as sand and mud, under ancient seas, lakes and rivers.
* Fossils also include any preserved trace of life that is typically more than 10 000 years old.
* Over time, the ground hardens to form sedimentary rock and the skeletal or shell remains turn to rock
 | **Key Knowledge:** **Child:*** Soils are made from tiny pieces of eroded rock, air and organic matter.
* There are a variety of naturally occurring soils, including clay, sand and silt.
* Different areas have different soil types.

**Teacher:*** Soil has many important functions. It provides anchorage for plant and tree roots, holds water and nutrients and supports a wide range of food chains.
* Sandy soils have large particles, which allows water to flow through it quickly and easily. Sandy soils are low in nutrients and are easily washed away.
* Silty soils have medium-sized particles, which allows water to drain. Silty soils contain a good amount of nutrients.
* Clay soils have very small particles, which trap water making it sticky and heavy when wet. Clay soils are rich in nutrients.
 | **Key Knowledge:** **Child:*** Mary Anning was a palaeontologist (scientist who studies fossils).
* She discovered the first complete Ichthyosaur fossil.
* This was an important discovery because it challenged the way scientists had believed the natural world had developed.
* The scientific community were reluctant to recognise her work because she was uneducated, poor and a woman.

**Teacher:*** Although she was not trained as a scientist or geologist, her specimens changed scientific thinking. When Mary was a child, people were unaware of fossils and knew nothing about long-dead animals of the past.
* In 1811, Joseph Anning (brother) discovered a fossilised skull that he and Mary believed belonged to a crocodile.
* However, it belonged to a complete dinosaur fossil that is known today as Ichthyosaurus.
* Mary later uncovered the rest of the fossilised remains.
* Mary Anning made some of the most important geological discoveries in history.
* Mary was unable to join the important scientific organisations of the time.
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| **Assessment**  Cumulative quiz and retrieval practice. |