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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. | **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. |
| **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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| **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. |
| **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. |
| **Assessment**   Cumulative quiz and retrieval practice. | | |