ADVENT TERM 2
SCIENCE – Year 3 - Medium Term Planning – CHEMISTRY: ROCKS

LESSON 1	LESSON 2	LESSON 3
Observing and Measuring **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. **Disciplinary Knowledge:** • Identify changes that relate to simple scientific ideas, when prompted. **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.	**Observing and Measuring** **LEARNING INTENTION:** To know that igneous rocks are formed from cooled lava. **Disciplinary Knowledge:** • Identify changes that relate to simple scientific ideas, when prompted. **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.	**Observing and Measuring** **LEARNING INTENTION:** To know that metamorphic rocks were once igneous or sedimentary rocks. **Disciplinary Knowledge:** • Identify changes that relate to simple scientific ideas, when prompted. **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

ADVENT TERM 2
SCIENCE – Year 3 - Medium Term Planning – CHEMISTRY: ROCKS

LESSON 4	LESSON 5	LESSON 6
Communicating Results **LEARNING INTENTION:** To know that fossils are formed over millions of years. **Disciplinary Knowledge:** • Report on findings from enquiries, including oral and written explanations. **Aim:** Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.	**Setting up tests** **LEARNING INTENTION:** To know that soils are made from rocks and organic matter. **Disciplinary Knowledge:** • Set up simple practical enquiries, comparative and fair tests, with support. **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.	**Using Scientific Evidence** **LEARNING INTENTION:** To know that Mary Anning was a pioneering fossil collector. **Disciplinary Knowledge:** • Use scientific evidence to answer questions. **Aim:** Understanding of how Mary Anning's work made an impact.
Key Vocabulary: **fossil**, sedimentary, **preserved, organism**	**Key Vocabulary:** **soils**, clay, sand, silt, **organic matter**, air, **eroded**	**Key Vocabulary:** **paleontologist, fossilised, discovery, scientist,** challenge
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.