



## Lowerhouse Junior School Science Overview Sheet



### Year 3 – Rocks and Soils



**Rationale:** Teaching rocks and soils in Year 3 science is important as it helps students understand Earth's materials and their properties. It fosters curiosity about natural processes, such as erosion and formation. This knowledge supports environmental awareness and lays the groundwork for future studies in geology, geography, and environmental science.

#### Substantive Knowledge:

- Compare and group together different kinds of rocks based on their appearance and simple physical properties
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock
- Recognise that soils are made from rocks and organic matter

#### Disciplinary Knowledge:

- Classifying
- Observing over time
- Comparative/Fair testing

#### Overview:

**Lesson 1:** What different types of rock are there?

**Lesson 2:** How can we compare and group rocks?

**Lesson 3:** How is rock affected by weathering and erosion?

**Lesson 4:** How are fossils formed?

**Lesson 5:** How are soils formed?

**Lesson 6:** What have we learned about Soils and Rocks?

#### Key Vocabulary:

**Soil:** The top layer of the Earth's surface, composed of organic matter, minerals, gases, liquids, and organisms, that supports plant life.

**Fossil:** The preserved remains or traces of ancient organisms, typically found in sedimentary rock.

**Bone:** The hard, dense connective tissue forming the skeleton of vertebrates.

**Flesh:** The soft tissue of the body, primarily composed of muscle and fat.

**Minerals:** Naturally occurring inorganic substances with a definite chemical composition and crystalline structure.

**Rock:** A naturally occurring solid aggregate of one or more minerals or mineraloids.

**Stone:** A small piece of rock, often used in construction or as a tool.

**Pebble:** A small, smooth, rounded rock, typically less than 64 mm in diameter.

**Boulder:** A large rock, typically greater than 256 mm in diameter.

**Grain:** A small, hard particle or crystal, often referring to the individual particles in rocks or sand.

**Crystals:** Solid materials whose atoms are arranged in a highly ordered, repeating pattern extending in all three spatial dimensions.

**Layer:** A distinct, typically horizontal, stratum or level of material, such as soil or rock.

#### Impact/Assessment

**Most Children will be able to:** • name some types of rock and give physical features of each • explain how a fossil is formed • explain that soils are made from rocks and also contain living/dead matter • classify rocks in a range of different ways, using appropriate vocabulary • devise tests to explore the properties of rocks and use data to rank the rocks • link rocks changing over time with their properties e.g. soft rocks get worn away more easily • present in different ways their understanding of how fossils are formed e.g. in role play, comic strip, chronological report, stop-go animation etc. • identify plant/animal matter and rocks in samples of soil • devise a test to explore the water retention of soils