St James' Church of England Primary School
Science Overview Sheet

Year 3 – Rocks

Rationale: Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment.

Pre-unit task: Knowledge Organiser Quizzes

Working Scientifically:

- Observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time.
- Using a hand lens or microscope to help them identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them.
- Research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed
- Explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together [hardness test] or what changes occur when they are in water [permeability test].
- Raise and answer questions about the way soils are formed..

Statutory Requirements:

- Compare and group together different kinds of rocks on the basis of 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.
- Rocks and soils can feel and look different.
- Rocks and soils can be different in different places/environments.

[Please note – rocks and soils could be taught within an environment unit *or* a material properties unit. For convenience we have included it in the material properties unit and referenced it again in the environment unit for schools to make their own choice of when to teach it].

Overview:

Lesson 1: Types of rocks - I can compare different types of rocks.
Lesson 2:Grouping rocks - I can group rocks based on their properties.
Lesson 3: Fossils - I can explain how fossils are formed.
Lesson 4: Mary Anning - I can explain Mary Anning's contribution to palaeontology.
Lesson 5: Soil formation - I can explain how soil is formed.
Lesson 6: Soil Profiles- I can observe carefully and systematically. I can present my findings using scientific vocabulary.

Cross Curricular Links

Resources

• Samples of the different types of soil (pre-measured to ensure the children use the same amount of soil) • Beakers • Funnels • Coffee filter paper • Measuring cylinders • Water • Visualiser equipment or a webcam (if available) • A selection of igneous, sedimentary and metamorphic rocks • A selection of books on rocks • Computers/Laptops/Tablets • Sandpaper • Pipette • A large container or plastic box • A selection of igneous, sedimentary and metamorphic rocks • You may wish to source video clips to show the formation of igneous, sedimentary and metamorphic rocks.

Assessment

Most Children will: • Children will be able to name the three different types of rocks. • They will handle and examine rocks to identify their properties, with support. • They will be able to state the four different types of matter that soil is composed of. • Children will learn to make careful observations.

Less Able Children will: • Children will be able to give examples of natural and human-made rocks. • They will be able to group rocks by their properties and identify simple similarities and differences. • Children will be able to explain the difference between a bone and a fossil.

More Able Children will: • Children will make systematic observations. • They will be able to explain the main processes of fossilisation. • They will be able to identify the importance of Mary Anning's work to the field of palaeontology.