



Year 3 - Spring 1 - Science Knowledge Organiser

What I already know...

How to identify everyday materials including rocks.
How to compare everyday materials including rocks.

Key Vocabulary

mineral	A natural substance that makes up rock.
rock	Natural substance, made up of one or more minerals.
fossil	Trace or remains of an ancient living thing.
Igneous rock	Formed by the cooling and solidifying of molten materials.
Metamorphic rock	Rock that was once one form of rock but has changed to another under the influence of heat and pressure.
Sedimentary rock	Formed through the depositing and solidifying of sediment.
soil	Substance on the surface of the Earth in which plants grow, made up of pieces of rock and humus.

What I will learn...

- To know the 3 types of rock: igneous, sedimentary & metamorphic and their properties.
- To know how different rocks are formed.
- To know how fossils are made.
- To know the stages of the rock cycle.
- To know what soil is made up of.
- To know the different types of soils and how they affect what grows.

How to be a Scientist

Disciplinary Knowledge: skills I will learn...

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.



Making a difference at The Merton and beyond

Rocks

Children will learn about the different kinds of rocks and the rock cycle. They will make close and careful observations of a range of rocks and will work collaboratively to investigate the different properties of these rocks. They will also learn about fossils and how they are formed. They will learn about soil and will investigate permeability with a range of soil types. They will understand the importance of fertile soil for plants and growth making links with our History and Geography topic 'Egypt' and the River Nile.

Children will have opportunities to get out into our school environment and look at the local soil types and how this impacts the things that grow locally. They will develop their understanding of farming and where food comes from with a focus on how the food that they eat is produced. This precedes the plants unit of work next half term where the children will be able to grow and nurture their own plants.



Year 3 - Spring 2 - Science Knowledge Organiser

What I already know...

Identify plants and describe their basic structure.
How do healthy plants grow from seeds and bulbs?

What I will learn...

- To know plants have roots, stem/trunk, leaves and flowers.
- To know the special job each part of a plant does.
- To know plants need water, light, air and an appropriate temperature to grow healthily.
- To know water is transported up the stem through tubes called xylem and then distributed to other parts of the plant that need it.
- To know flowering plants reproduce and the ways that they may be pollinated.
- To know seeds need warmth and water to germinate.
- To know plants provide us with food and medicines.
- To know plants create oxygen through photosynthesis.

Key Vocabulary

root	Helps anchor the plant into the soil. Takes up water and nutrients.
stem	Holds the plant upright and supports the leaves. Contains tubes that allow water to travel from the roots to the
flower	The part of the plant where seeds are
leaves	They catch sunlight and use this to make food.
air	An invisible gas, made up of mainly oxygen and nitrogen.
nutrients	Parts of foods that a living thing uses to survive and grow.
fertiliser	A substance that is added to soil to help the growth of plants.
pollination	When pollen is moved from plant to plant to produce more plants.
seed	When seeds are carried away from the parent plant.
dispersal	
germinate	When a seed starts to grow and produces a root and shoot.



Making a difference at The Merton and beyond

Plants

Children will recap and build on prior knowledge from KS1 about what plants need to survive, the parts of plants and their roles. They will learn about the importance of plants to humans e.g. food, oxygen and medicine.

Children will plan and set up seed trays in class thinking about ideal growing conditions and appropriate soil (drawing on their knowledge from the previous topic 'soil'). This will then be scaled up to the school allotment area where they will plant, nurture and harvest simple food crops which will then be used to create simple dishes in school during our DT work (Summer term).

How to be a Scientist

Disciplinary Knowledge: skills I will learn...

- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- using straightforward scientific evidence to answer questions or to support their findings.