

Newquay Primary Academy – Science Summer Term 2 Sequence



YEAR 3

Prior knowledge...

Rocks and soils

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

YEAR 4

Prior knowledge...

YEAR 5

Prior knowledge...

Materials (mixture and separation)

Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock and simply describe their physical properties.

YEAR 6

Prior knowledge...

Light and sight

Recognise that they need light in order to see things and that dark is the absence of light.

Notice that light is reflected from surfaces.

Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.

Recognise that shadows are formed when the light from a light source is blocked by a solid object.

Find patterns in the way that the sizes of shadows change.

INTENT

Rocks and soils

Pupils will be able to explain the different types of rock and, in a simple manner, how fossils are formed.

Materials (mixture and separation)

Pupils will be able to explain that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.

They will also be able to use their knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

Light and sight

Pupils will be able to explain that light travels in straight lines and will be able to use this knowledge to investigate how we see.

VOCABULARY / STICKY KNOWLEDGE

Rocks and soils – rocks, igneous, metamorphic, sedimentary, anthropic, permeable, impermeable, chemical fossil, body fossil, trace fossil, Mary Anning, cast fossil, mould fossil, replacement fossil, extinct, organic matter, top soil, sub soil, base rock.
There are different types of rock.
There are different types of soil.
Soils change over time.
Fossils tell us what has happened before.
Palaeontologists use Fossils to find out about the past.

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Light and seeing - Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent, reflect absorb emitted scattered refraction

Animals see light sources when light travels from the source into their eyes.

Animals see objects when light is reflected off that object and enters their eyes.

Light reflects off all objects (unless they are black).
Non-shiny surfaces scatter the light so we don't see the beam.

Light travels in straight lines.

SEQUENCE OF LESSONS

Rocks and soils
1. Compare and group together different kinds of rocks on the basis of appearance and simple physical properties.

2. Describe in simple terms how fossils are formed when things that have lived are trapped within rock.

Materials (Mixture and separation)
_Investigating using water and cornflour – changing a liquid into a solid when held.

1. To know that some materials will dissolve in a liquid to form a solution.

Light and sight
Which Is the odd one out?
Shine a light - Explorify

1. To explain how the eye works.

2. To recognise that light appears to travel in straight lines.

3. Recognise that soils are made from rocks and organic matter.

2. To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

3. To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.

3. To explain that some changes result in the formation of new materials, and these are not usually reversible.

4. To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then into our eyes.

5. To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

OUTCOME / COMPOSITE

Rocks and soils

Pupils will make their own fossils using chocolate/sweets and be able to explain how they have been formed.

Materials (Mixture and separation)

Pupils will create their own demonstrations to show the difference between irreversible and reversible changes. They will show these at an 'NJA Science fair'

Light and sight

Pupils will be able to explain how the eye works through working with a local optician to gain real world insight.