

Newquay Primary Academy –Science Spring Term 2 Sequence



YEAR 3

Prior knowledge...

Forces

May have an awareness of how to make things stop and start, using simple pushes and pulls. They may know about floating and sinking.

YEAR 4

Prior knowledge...

Sound

May have some understanding that objects make different sounds. Some understanding that they use their ears to hear sounds. Know about their different senses.

YEAR 5

Prior knowledge...

Animals including humans (life cycles)

Construct and interpret a variety of food chains, identifying producers, predators and prey. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

YEAR 6

Prior knowledge...

Electricity

Pupils will have an understanding of a simple circuit and how it works.

INTENT

Forces (magnetism)

Pupils will be able to group everyday materials based on whether they are magnetic or not.

Pupils will be able to explain that magnets attract some materials and repel others.

Sound

Pupils will be able to explain what happens when a sound leaves a source and how it travels to our ear.

Pupils will be able to explain the correlation between pitch and the object producing the sound.

Animals including humans (life cycles)

Pupils will know what a life cycle is. They will be able to compare the stages in the life cycle of a mammal and amphibian. Pupils will be able to explain the life cycle of a plant.

Electricity

Pupils will be able to use circuit boards confidently. They will be able to use their knowledge of electrical circuits to design and make a lighthouse.

VOCABULARY / STICKY KNOWLEDGE

Forces (magnetism) - force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass

Sound - amplitude, volume, quiet, loud, ear, pitch, high, low, particles, instruments, wave.

Sound is produced when an object vibrates. Sound moves through all materials by making them

Animals including humans (life cycles) - Reproduction, Sexual, Pollination, Dispersal, reproduction, cell, fertilisation, pollination, male, female, pregnancy, young, mammal, metamorphosis, amphibian, insect, egg,

Electricity – Buzzer, cell, circuit, conductor, insulator, current, motor, switch, voltage
A circuit needs a power source and needs to be

Magnets exert attractive forces on some materials. Magnets exert attractive and repulsive forces on each other.

vibrate. Sound travels from its source in all directions and we hear it when it travels to our ears.

embryo, bird, plant
Different animals mature at different rates and live to different ages. Some organisms reproduce sexually where offspring inherit information from both parents. Environmental change can affect how well an organism is suited to its environment. Different types of organisms have different lifecycles.

complete in order to successfully work. The flow of electricity around a circuit can be controlled by a switch. Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

SEQUENCE OF LESSONS

Forces (magnetism)

1. Compare how things move on different surfaces.
2. To notice that some forces need contact between two objects but magnetic forces can act at a distance.
3. Compare and group together everyday materials on the basis of whether they are attracted to a magnet or not.
4. To observe how magnets attract or repel each other and attract some materials and not others.
5. To predict whether two magnets will attract or repel each other depending on which poles are facing.

Sound

- Hidden depths zoom in/out -
Hidden depths - Explorify
1. To explain that sounds are made when an object vibrates and to begin to understand that we hear sounds when the vibrations travel from a source through a medium to our ears.
 2. To notice patterns between the pitch and volume of a sound and the features of the object that produced it.
 3. To investigate what factors affect the pitch and the volume of sound.
 4. To explain how we hear sounds.

Animals including humans (life cycles)

- Wildlife in the pond -
Explore
1. To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
 2. To describe the life process of sexual reproduction in plants.

Electricity

1. To recognise and draw circuit symbols.
2. To know the difference between a series and a parallel circuit.
3. To design a circuit using recognised symbols.
4. To use knowledge of electrical circuits to design and make a lighthouse.

OUTCOME / COMPOSITE

Forces (magnetism)

Pupils will practically investigate magnets. By the end of the topic, children

Sound

Pupils will make a musical instrument which changes pitch.

Animals including humans (life cycles)

Electricity

Pupils will design and make their own working lighthouse (links top DT)

will make a magnetic game,
with instructions, to share
with children from Newquay
Primary Academy.

Pupils will have observed
the complete life cycle of a
butterfly.