

Autumn
Spring
Summer

Disciplinary Concept
PD Opportunity

Observe, Identify
Use, Explore
Compare, Predict
Investigate, Explore
Demonstrate
Explain, Recognise

Science Long Term Overview

KS3

Science Week-taking science outdoors

Safety Week

Evolution and Inheritance
Living things have changed over time. Fossils provide information about living things that inhabited Earth millions of years ago. Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Electricity
The brightness of a lamp or the volume of a buzzer is associated with the number and voltage of cells used in the circuit.
Switches can be used to turn components on and off in a circuit.
Circuit symbols are used when representing a simple circuit in a diagram.

Animals inc. Humans
The main parts of the human circulatory system include the heart, blood vessels, and blood.
Nutrients and water are transported within animals, including humans, in the blood.
Diet, exercise, drugs, and lifestyle can all affect the way our bodies function.

Living Things and their habitats
Living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants, and animals.

Crucial Crew

Light
Light travels in straight lines. Objects are seen because they give out or reflect light into the eye. We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. As light travels in straight lines shadows have the same shape as the objects that cast them.

Y6

Animals inc. Humans
Humans experience a number of changes as they develop to old age.

Living Things and their habitats
There are differences in the life cycles of mammals, amphibians, insects, and birds.
Plants and animals produce offspring by the life process of reproduction.

Y5

Earth and Space
Earth and other planets in the Solar System orbit around the Sun. The Moon orbits round Earth. The Sun, Earth, and the Moon are approximately spherical bodies. The rotation of Earth results in day and night, and the apparent movement of the Sun across the sky.

National Space Centre Trip

Forces
Unsupported objects fall towards Earth because of the force of gravity acting between Earth and the falling object. Air resistance, water resistance, and friction act between moving surfaces. Some mechanisms including levers, pulleys, and gears allow a smaller force to have a greater effect.

POPS irreversible /reversible changes workshop

Properties and Changes of materials
hardness, solubility, transparency, conductivity, magnetism
The particular uses of everyday materials, including metals, wood, and plastic depend on their properties. Dissolving filtering, sieving, and evaporating. Dissolving, mixing, and changes of state are reversible changes. Changes that result in the formation of new materials are not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Science Week-taking science outdoors

Sound
Sounds are made when something vibrates. Vibrations from sounds travel through a medium to the ear. The pitch of a sound is affected by how quickly an object vibrates. The volume of a sound is determined by the strength of the vibrations that produced it. Sounds get fainter as the distance from the sound source increase.

States of Matter
Materials can be grouped according to whether they are solids, liquids, or gases. Materials can change state when they are heated or cooled—this happens at different temperatures for different materials. Evaporation and condensation are key processes in the water cycle. Rate of evaporation is affected by temperature.

Living Things and their habitats
Living things can be grouped in a variety of ways.
Classification keys can be used to help group, identify and name living things.
Environments can change and this can sometimes pose dangers to living things.

Pond dipping

Science Week-taking science outdoors

Plants
Flowering plants have roots, a stem/trunk, leaves, and flowers. Plants require air, light, water, nutrients from the soil, and room to grow. Water is transported within plants in vessels. Flowers play an important role in the life cycle of flowering plants, including pollination, seed formation, and seed dispersal.

Forces
Objects experience different amounts of friction on different surfaces. Some forces need contact between two objects, but magnetic forces can act at a distance. Some materials are magnetic, meaning they are attracted to a magnet. Magnets have two poles. Magnets can attract or repel each other, depending on which poles are facing each other.

Y4

Animals inc. Humans
The human digestive system contains a number of organs including the mouth, stomach, oesophagus, and intestines.
The main types of human teeth are incisors, canines, molars, and premolars. Each type of tooth looks different and has a different function.

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