Autumn

Spring

Summer

Disciplinary Concept

PD Opportunity

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

Science
Long Term Overview

KS3

Y4

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.

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.

Science Week- taking science outdoors

Safety Week

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.

Y5

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.

Science Week- taking science outdoors

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

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.

Y6

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.

Crucial Crew

Animals inc. Humans

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

Science Week- taking science outdoors

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.

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.

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.

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.

Y3

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.

Science Week- taking science outdoors

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.

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.

Science
Long Term Overview

Y3

Animals inc. Humans

Animals, including humans, need the right types and amount of nutrition.
Animals cannot make their own food; they get nutrition from what they eat.
Humans and some other animals have skeletons and muscles for support, protection, and movement.

Rocks

Rocks can be grouped by their appearance and simple physical properties.
Fossils are formed when things that have lived are trapped within rock.
Soils are made from rocks and organic matter.

Meet Inspiring person Mary Anning

Magna Visit with a focus on Light.

Light

Light is needed to see things.
Darkness is the absence of light.
Light is reflected from surfaces.
Light from the sun can be dangerous, and eyes should be protected from sunlight.
Shadows are formed when the light from a light source is blocked by an opaque object.
There are patterns in the way that the size of shadows change.

KS2

Science Week- taking science outdoors

Plants and growth

Seeds and bulbs grow into mature plants.
Plants need water, light, and a suitable temperature to grow and stay healthy.

POP's outdoor adventure linked to plants and growing

Habitats (spring 2/summer 1)

Things can be living, dead, or never been alive.
Plants and animals live in a variety of habitats, including microhabitats.
Most living things live in habitats to which they are suited.
Habitats provide for the basic needs of different kinds of animals and plants.
The living things in a habitat depend on each other for survival.
Animals obtain their food from plants and other animals. This can be shown using a simple food chain

World Environment day 5th June

Uses of materials

Everyday materials include wood, metal, plastic, glass, brick, rock, paper, and cardboard.
The material chosen to make an object or device is based on the suitability of its properties.
The shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching

Protecting the environment

Humans and their activities pose dangers to wildlife, through housing, traffic, waste, and pollution.
Where possible materials should be recycled to reduce landfill and pollution.
To ensure a sustainable supply of water and energy, these resources must be used efficiently.
Trees are a source of food, fuel, oxygen, and timber.
Trees provide a habitat for many animals.

Outdoor science lessons regularly each half term

Outdoor science lessons regularly each half term

Yorkshire Wildlife Park visit

Y2

Animals incl. Humans

Animals can be grouped into fish, amphibians, reptiles, birds, and mammals by their structural features.
Animals can be grouped into carnivores, herbivores, and omnivores by the food they eat.
The human body is made of many different parts; each has its own function.
Humans have five senses: sight, hearing, touch, taste, and smell.
Each sense uses different body parts.

Eureka trip – focus on Humans and senses

Animals and survival

Animals, including humans, have offspring which grow into adults.
The basic needs of animals, including humans, for survival include water, food, and air.
To remain healthy, it is important for humans to exercise, eat the right amounts of different types of food, and have good hygiene.

Science Week- taking science outdoors

Plants

A plant is a living thing.

The main parts of a plant are the stem, leaves, and roots.

Plants can be grown by people or grow in the wild.

Comparing Seasons - covered throughout the year

Learning Labs

Summer 2

The natural world.
Sea, land and rockpools.
Pollution.
Season summer.

Wow it's Winter

Investigations
Awe and wonder
Different types of weather are associated with different seasons.
Day length varies in different seasons.

Awesome Autumn

Investigations
Awe and wonder
Different types of weather are associated with different seasons.
Day length varies in different seasons.

Everyday materials

Objects can be made from a variety of materials.

Everyday materials include wood, plastic, glass, metal, water, and rock.

Different materials have different physical properties.

Y1

Summer 1

The natural world
Farm animals
Where food comes from
Hygiene
Season spring/summer

FS2

Area of EYFS

Google Earth

Exploring local area

Autumn 1

The natural world
Skeleton and my body
How I've grown
Season Autumn

Investigation Ice

Autumn 2

The natural world
Harvest and where my food comes from.
Ice caps and animals
Season autumn/winter.

Gravity moon rock activity.

Google Earth exploring planet

Spring 1

The natural world
Google Earth exploring the planet.
Planets and stars
Gravity
Light and shadows
Season winter

Science covered in Forest School sessions

Spring 2

The natural world
Insects and spiders
Plants
Mothers and babies (animals)
Season spring

Caterpillars

Zoom farmer baby animals