

# Science

## Progression of Key Knowledge and Concepts

### Lower KS2

#### Cycle A

##### Animals including Humans & Human Body

-animals and nutrition; skeletons and muscles; function of digestive system; human teeth and functions

##### Light

-need light to see; light reflected from surfaces; dangerous to look at the sun; shadows

##### Plants

-functions of parts of flowering plants; varying requirements of plants for health and life; water transportation in plants; life-cycle of flowering plants

##### Sound

-sounds made by vibrations travelling to ear; pitch; volume

#### Cycle B

##### Forces and Magnets

-compare how things move on different surfaces; magnetism acts at a distance; attraction and repulsion, and poles; magnetic and non-magnetic materials

##### States of Matter

-solids, liquids and gases—identify and group; changing state when heated/cooled; water cycle condensation and evaporation

##### Rocks

-physical properties; fossils; soils

##### Living Things and Habitats

-living things can be grouped together; classification keys; dangers of environmental change

##### Animals including Humans

-construct and interpret food chains

### EYFS

Observations of plants, animals and living things

Understanding growth, decay and change over time

Why things happen and why things work

Similarity, difference, patterns and change

### Upper KS2

#### Cycle A

##### Living Things and Habitats

-classification and the reasons for it, life cycles

##### Evolution and Inheritance

-change over time and fossil evidence; offspring varying from parent; environmental adaptation and evolution

##### Forces

-gravity; air resistance, water resistance and friction; mechanisms can reduce force needed

##### Earth and Space

-movement of Earth and planets; movement of moon; spherical bodies; day and night through Earth's rotation

##### Electricity

-series circuits, designing and fixing; conductors and insulators; brightness/volume determined by voltage; circuit symbols

#### Cycle B

##### Animals including Humans

-circulatory system; impact of diet, exercise, drugs and alcohol; nutrition and water transportation around body; changes in developing to old age

##### Light

-travels in straight lines from light source to eye, reflecting off objects; shadows

##### Properties and Changes of Materials

-properties of everyday materials and their uses; dissolving; separating mixtures; reversible and irreversible changes

### KS1

#### Cycle A

##### Animals including Humans

-offspring that grow into adults; basic needs of animals; importance of exercise, nutrition and hygiene

##### Materials

-properties of everyday materials; compare and group

##### Seasonal Changes

Observe changes and weather and length of day

##### Electricity (from LKS2)

-identify common appliances

##### Animals including Humans

-fish, amphibians, reptiles, birds, mammals; carnivores, herbivores, omnivores; structures of animals

##### Living Things and their Habitats

-living, dead and never been alive; simple food chains

#### Cycle B

##### Materials

-distinguish between objects and materials; everyday materials; suitability of materials for uses; changing shapes of solid objects

##### Animals including Humans

-human body parts and senses

##### Plants

-common plants; structure of flowering plants; seeds and bulbs; what plants need.

##### Living Things and their Habitats

-habitats suitability; plants and animals in habitats, including micro-habitats