

## Science Curriculum- knowledge progressions

### Plants

#### Reception

I can talk about observed changes in plants.

#### Year 1

I can name a variety of common wild and garden plants.

I can name the petals, stem, leaf and root of a plant.

I can name the roots, trunk, branches and leaves of a tree.

#### Year 2

I can describe how seeds and bulbs grow into plants.

I can describe what plants need in order to grow and stay healthy (water, light & suitable temperature).

#### Year 3

I can describe the function of different parts of flowering plants and trees.

I can explore and describe the needs of different plants for survival.

I can explore and describe how water is transported within plants.

I can describe the plant life cycle, especially the importance of flowers.

#### Year 4

#### Year 5

## Animals, including humans

### Reception

I can observe changes in animals and the differences between baby and adult animals.

I can observe changes in life cycles e.g. chicks.

### Year 1

I can name a variety of animals including fish, amphibians, reptiles' birds and mammals.

I can classify and name animals by what they eat (carnivore, herbivore and omnivore).

I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).

I can sort living and non-living things.

I can name the parts of the human body that I can see.

I can link the correct part of the human body to each sense.

### Year 2

I can explain the basic stages in a life cycle for animals, including humans.

I can describe what animals and humans need to survive.

I can describe why exercise; a balanced diet and good hygiene are important for humans.

### Year 3

I can explain the importance of a nutritious, balanced diet.

I can explain how nutrients, water and oxygen are transported within animals and humans.

I can describe and explain the skeletal system of a human.

I can describe and explain the muscular system of a human.

I can describe the purpose of the skeleton in humans and animals.

### Year 4

I can identify and name the parts of the human digestive system.

I can describe the functions of the organs in the human digestive system.

I can identify and describe the different types of teeth in humans.

I can describe the functions of different human teeth.

I can use food chains to identify producers, predators and prey.

I can construct food chains to identify producers, predators and prey.

### Year 5

I can create a timeline to indicate stages of growth in humans.

## All living things and their habitats

### Reception

I can observe living things and things that have never lived especially in the forest.

### Year 1

### Year 2

I can identify things that are living, dead and never lived.

I can describe how a specific habitat provides for the basic needs of things living there (plants and animals).

I can identify and name plants and animals in a range of habitats.

I can match living things to their habitat.

I can describe how animals find their food.

I can name some different sources of food for animals.

I can explain a simple food chain.

### Year 3

### Year 4

I can group living things in different ways.

I can use classification keys to group, identify and name living things.

I can create classification keys to group, identify and name living things (for others to use).

I can describe how changes to an environment could endanger living things.

### Year 5

I can describe the life cycle of different living things, e.g. mammal, amphibian, insect bird.

I can describe the differences between different life cycles.

I can describe the process of reproduction in plants.

I can describe the process of reproduction in animals.

## Everyday materials/ Uses of everyday materials/States of matter/Properties and changes of materials

### Reception

I can choose materials for different purposes e.g. shopping bags.

I can observe and discuss the changes in liquids and solids e.g. melting chocolate and cooking eggs.

### Year 1

I can distinguish between an object and the material it is made from.

I can explain the materials that an object is made from.

I can name wood, plastic, glass, metal, water and rock.

I can describe the properties of everyday materials.

I can group objects based on the materials they are made from.

### Year 2

I can identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.

I can suggest why a material might or might not be used for a specific job.

I can explore how shapes can be changed by squashing, bending, twisting and stretching.

### Year 3

#### Year 4

I can group materials based on their state of matter (solid, liquid, gas).

I can describe how some materials can change state.

I can explore how materials change state.

I can measure the temperature at which materials change state.

I can describe the water cycle.

I can explain the part played by evaporation and condensation in the water cycle.

#### Year 5

I can compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets).

I can describe how a material dissolves to form a solution; explaining the process of dissolving.

I can describe and show how to recover a substance from a solution.

I can describe how some materials can be separated.

I can demonstrate how materials can be separated (e.g. through filtering, sieving and evaporating).

I know and can demonstrate that some changes are reversible and some are not.

I can explain how some changes result in the formation of a new material and that this is usually irreversible.

I can discuss reversible and irreversible changes.

I can give evidenced reasons why materials should be used for specific purposes.

## Seasonal changes

<b>Reception</b> I can observe and comment on changes in the seasons. I can observe and comment on changes in the weather.
<b>Year 1</b> I can observe and comment on changes in the seasons. I can name the seasons and suggest the type of weather in each season.
<b>Year 2</b>
<b>Year 3</b>
<b>Year 4</b>
<b>Year 5</b>

## Rocks

<b>Year 1</b>
<b>Year 2</b>
<b>Year 3</b> I can compare and group rocks based on their appearance and physical properties, giving a reason. I can describe how fossils are formed. I can describe how soil is made. I can describe and explain the difference between sedimentary and igneous rock.
<b>Year 4</b>
<b>Year 5</b>

## Light

### Reception

I can investigate light using a light box.

I can investigate what objects you can see through and which you can't.

I can observe patterns and shapes using the light box.

### Year 1

### Year 2

### Year 3

I can describe what dark is (the absence of light).

I can explain that light is needed in order to see.

I can explain that light is reflected from a surface.

I can explain and demonstrate how a shadow is formed.

I can explore shadow size and explain.

I can explain the danger of direct sunlight and describe how to keep protected.

### Year 4

### Year 5

## Forces and magnets

### Reception

I can investigate how objects move on different surfaces e.g. using cars on ramps.

### Year 1

### Year 2

### Year 3

I can explore and describe how objects move on different surfaces.

I can explain how some forces require contact and some do not, giving examples.

I can explore and explain how objects attract and repel in relation to objects and other magnets.

I can predict whether objects will be magnetic and carry out an enquiry to test this out.

I can describe how magnets work.

I can predict whether magnets will attract or repel and give a reason.

### Year 4

### Year 5

I can identify and explain the effect of air resistance.

I can identify and explain the effect of water resistance.

I can identify and explain the effect of friction.

I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.

## Sound

<b>Year 1</b>
<b>Year 2</b>
<b>Year 3</b>
<b>Year 4</b> I can describe how sound is made. I can explain how sound travels from a source to our ears. I can explain the place of vibration in hearing. I can explore the correlation between pitch and the object producing a sound. I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it. I can describe what happens to a sound as it travels away from its source.
<b>Year 5</b>

## Electricity

<b>Year 1</b>
<b>Year 2</b>
<b>Year 3</b>
<b>Year 4</b> I can identify and name appliances that require electricity to function. I can construct a series circuit. I can identify and name the components in a series circuit I can draw a circuit diagram. I can predict and test whether a lamp will light within a circuit.
<b>Year 5</b>

## Earth and space

**Year 1**

**Year 2**

**Year 3**

**Year 4**

**Year 5**

I can describe and explain the movement of the Earth and other planets relative to the Sun.

I can describe and explain the movement of the Moon relative to the Earth.

I can explain and demonstrate how night and day are created.

I can describe the Sun, Earth and Moon (using the term spherical).

I can explain what gravity is and its impact on our lives.