

Science Progression Document

Nursery- Year 6

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| <p>Early Learning Goals</p> | <p>Understanding the World: The Natural World ELG -explore the natural world around them, making observations and drawing pictures of animals and plants. -know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. -understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> |
| <p>Key Stage 1</p> | <p>The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.</p> |
| <p>Lower Key Stage 2</p> | <p>The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.</p> |
| <p>Upper Key Stage 2</p> | <p>The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.</p> |

Biology - Animals including humans (including Y6 Evolution and Inheritance)

EYFS

- explore the natural world around them, making observations and drawing pictures of animals and plants.
- know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

KS1

Pupils should be taught:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- notice that animals, including humans, have offspring which grow into adults.
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

LKS2

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.
- describe the simple functions of the basic parts of the digestive system in humans.
- identify the different types of teeth in humans and their simple functions.
- construct and interpret a variety of food chains, identifying producers, predators and prey.

KS2

Pupils should be taught:

- describe the changes as humans develop to old age.
- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.
- describe the ways in which nutrients and water are transported within animals, including humans.
- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Science Progression Map

| Biology | | | |
|---|--|--|---|
| Animals including humans (including Y6 Evolution and Inheritance) | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can name and describe animals that live in different habitats.</p> <p>Can describe different habitats.</p> | <p>Can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (including pets). (Sum 1)</p> | | |
| | <p>Can identify and name a variety of common animals that are carnivores, herbivores and Omnivores. Spr 1</p> <p>Living things and their habitats: Can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food). Spr 1/2</p> | <p>Can construct and interpret a variety of food chains, identifying producers, predators and prey.</p> | |
| <p>Can learn about their senses.</p> <p>Can describe people who are familiar to them.</p> | <p>Can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). (Sum 1)</p> <p>Can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense (head, neck, arms, elbows, legs, face, ears, eyes, mouth and teeth) (aut 1 and 2).</p> | <p>Can identify that humans and some other animals have skeletons and muscles for support, protection and movement. (Introduced to the main body parts associated with the skeleton and muscles, finding out about how different parts of the body have special functions). (Autumn 2)</p> <p>Can describe the simple functions of the basic parts of the digestive system in humans. (mouth, tongue, teeth, oesophagus, stomach and small and large instestine). Summer2</p> <p>Can identify the different types of teeth in humans and their simple functions. Summer 2</p> <p>Can describe people who are familiar to them.</p> | <p>Can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood (Build on previous learning by exploring and answering questions that help them to understand how the circulatory system enables the body to function). Summer 1 (Cycle A)</p> <p>Can describe the ways in which nutrients and water are transported within animals, including humans. Summer 1 (Cycle A)</p> |

Science Progression Map

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| <p>Understand about the life cycles of humans.</p> <p>Understand about the life cycles of animals (Butterfly).</p> <p>Can compare adult animals to their babies.</p> <p>Can observe how baby animals change over time.</p> | <p>Know that animals, including humans, have offspring which grow into adults (Introduced to the process of reproduction and growth in animals. Focus on questions to help children recognise growth e.g lifecycles of a frog: spawn, tadpole, frog. Humans: baby, toddler, child, teenager, adult). (Life cycle of a butterfly) (Sum 1)</p> | | <p>Can describe the changes as humans develop to old age. (Time to indicate the growth and development of humans, including changes experienced in puberty). (Autumn 1)</p> <p>Y6 Evolution and Inheritance Can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. (Spring 2)</p> <p>Y5 Living things and their habitats Can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird). (Autumn 1)</p> |
| <p>Can learn about how to take care of themselves.</p> | <p>Can find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Sum 1)</p> <p>Know and describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Sum 1)</p> | <p>Can identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.</p> <p>Know the importance of a nutritious, balanced diet. (Autumn 2)</p> | <p>Can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Summer 1 (Cycle A)</p> <p>Can describe the ways in which nutrients and water are transported within animals, including humans. (Summer 1 Cycle A)</p> |
| | | <p>Y3 Rocks Can describe in simple terms how fossils are formed when things that have lived are trapped within rock). (Spring 1)</p> | <p>Y6 Evolution and Inheritance (Spring 2) Can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Y6 Evolution and Inheritance (Spring 2) Can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> |

**Biology
Plants**

EYFS

Understanding the World: The Natural World ELG

-explore the natural world around them, making observations and drawing pictures of animals and plants.

KS1

Pupils should be taught:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- identify and describe the basic structure of a variety of common flowering plants, including trees.
- observe and describe how seeds and bulbs grow into mature plants.
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

LKS2

Pupils should be taught:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.
- investigate the way in which water is transported within plants.
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Science Progression Map

| Biology | | | |
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| Plants | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can use all their senses in hands-on exploration of natural materials.</p> <p>Can explore collections of materials with similar and/or different properties.</p> | <p>Can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Spr 2</p> <p>Y2 Living things and their habitats Can identify and name a variety of plants and animals in their habitats, including microhabitats.</p> | | |
| | <p>Can identify and describe the basic structure of a variety of common flowering plants, including trees. <i>Focus on the parts of a plant: roots, stem, leaves and flower.</i> Spr 2</p> | <p>Can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Can investigate the way in which water is transported within plants.</p> | |
| <p>Can plant seeds and care for growing plants. <i>Grow broadbeans.</i></p> <p>Understand the key features of the life cycle of a plant and an animal.</p> | <p>Can observe and describe how seeds and bulbs grow into mature plants. Grow radishes the year. (spr 2)</p> <p>Grow sunflowers (Sum 1)</p> | <p>Can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. <i>Dissect lilies.</i></p> | <p>Y5 Living things and their habitats (Autumn 1)</p> <p>Know and describe the life process of reproduction in some plants and animals. <i>Recap on parts of a flower however focus on asexual reproduction.</i> (Autumn 1)</p> |
| <p>Begin to understand the need to respect and care for the natural environment and all living things.</p> | <p>Can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (spr 2) Sum 1</p> | <p>Can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> | |

Biology
Living things and their habitats

EYFS

Understanding the World: The Natural World ELG

- explore the natural world around them, making observations and drawing pictures of animals and plants.
- know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

KS1

Pupils should be taught:

- explore and compare the differences between things that are living, dead, and things that have never been alive.
- 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.
- identify and name a variety of plants and animals in their habitats, including microhabitats.
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

LKS2

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.
- recognise that living things can be grouped in a variety of ways.
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
- recognise that environments can change and that this can sometimes pose dangers to living things.
- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.
- give reasons for classifying plants and animals based on specific characteristics.

KS2

Pupils should be taught:

- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- describe the life process of reproduction in some plants and animals.

Science Progression Map

| Biology | | | |
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| Living things and their habitats | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can use all their senses in hands-on exploration of natural materials.</p> <p>Can begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Can explore the natural world around them.</p> <p>Can describe what they see, hear and feel whilst outside.</p> <p>Can recognise some environments that are different to the one in which they live.</p> | <p>Can 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.</p> <p>Can identify and name a variety of plants and animals in their habitats, including microhabitats.</p> <p>Can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> | <p>Can recognise that environments can change and that this can sometimes pose dangers to living things. (Summer 1)</p> <p>Y4: Animals including humans Can construct and interpret a variety of food chains, identifying producers, predators and prey. (Summer 1/2)</p> | |
| <p>Can explore collections of materials with similar and/or different properties.</p> <p>Can draw information from a simple map.</p> | | <p>Can recognise that living things can be grouped in a variety of ways. (Summer 1)</p> <p>Can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Summer 1)</p> | <p>Can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. (Spring 1)</p> <p>Can give reasons for classifying plants and animals based on specific characteristics. (Spring 1)</p> |
| | <p>Y2 – Animals including Humans Can notice that animals, including humans, have offspring which grow into adults. (Sum 1)</p> | <p>Y3 - Plants Can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> | <p>Can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Autumn 1)</p> <p>Can describe the life process of reproduction in some plants and animals. (Autumn 1)</p> <p>Y6 - Evolution and inheritance</p> |

Science Progression Map

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| | <p>Can explore and compare the differences between things that are living, dead, and things that have never been alive. (Spr 2)</p> | | <p>Can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. (Spring 2)</p> <p>Can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. (Spring 2)</p> |
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Chemistry- Materials (Including States of Matter and Rocks Y3)

EYFS

Understanding the World: The Natural World ELG

-explore the natural world around them, making observations and drawing pictures.

Expressive Arts and Design: Creating with Materials ELG

-safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

KS1

Pupils should be taught:

-distinguish between an object and the material from which it is made.

-identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.

-describe the simple physical properties of a variety of everyday materials.

-compare and group together a variety of everyday materials on the basis of their simple physical properties.

-identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

-find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

LKS2

Pupils should be taught to:

-compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

-describe in simple terms how fossils are formed when things that have lived are trapped within rock.

-recognise that soils are made from rocks and organic matter.

-compare and group materials together, according to whether they are solids, liquids or gases.

-observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).

-identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

KS2

Pupils should be taught:

-compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.

-know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.

-use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

-give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.

-demonstrate that dissolving, mixing and changes of state are reversible changes.

-explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

| Chemistry | | | |
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| Materials (Including States of Matter and Rocks Y3) | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can use all their senses in hands-on exploration of natural materials.</p> <p>Can explore collections of materials with similar and/or different properties.</p> <p>Can describe what they see, hear and feel whilst outside.</p> <p>Can explore the natural world around them.</p> | <p>Can distinguish between an object and the material from which it is made. (Aut 2)</p> <p>Can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Aut 2)</p> <p>Can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Aut 2)</p> | | <p>Can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Spring Term 1 (Cycle A)</p> |
| | <p>Can describe the simple physical properties of a variety of everyday materials. (Aut 2)</p> <p>Can compare and group together a variety of everyday materials on the basis of their simple physical properties. (Aut 2)</p> | <p>Year 3 Rocks</p> <p>Can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Year 4 States of matter</p> <p>Can compare and group materials together, according to whether they are solids, liquids or gases. Autumn 2</p> | <p>Can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Spring Term 1 (Cycle A)</p> |
| <p>Can talk about the differences between materials and changes they notice.</p> | | <p>Year 4 States of matter</p> <p>Can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Autumn</p> | |

Physics
Forces (including magnets)

LK2

- compare how things move on different surfaces.
- notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.
- observe how magnets attract or repel each other and attract some materials and not others.
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- describe magnets as having 2 poles.
- predict whether 2 magnets will attract or repel each other, depending on which poles are facing.

KS2

Pupils should be taught:

- explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- identify the effects of air resistance, water resistance and friction, that act between moving surfaces.
- recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.

Physics
Forces (including magnets)

| EYFS | KS1 | LKS2 | UKS2 |
|---|--|--|--|
| Can explore how things work. | Y2 - Uses of everyday materials | Can compare how things move on different surfaces. | Can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. (Aut 1/Cycle A) |
| Can explore and talk about different forces they can feel. | Can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Aut 2) | Can notice that some forces need contact between two objects, but magnetic forces can act at a distance. | Can identify the effects of air resistance, water resistance and friction, that act between moving surfaces. (Aut 1/Cycle A) |
| Can talk about the differences between materials and changes they notice. | | Can observe how magnets attract or repel each other and attract some materials and not others. | |
| Can explore the natural world around them. | | Can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. | |
| Can describe what they see, hear and feel whilst outside. | | Can describe magnets as having two poles. | |
| | | Can predict whether two magnets will attract or repel each other, depending on which poles are facing. | |

Physics
Sound

LKS2

- identify how sounds are made, associating some of them with something vibrating.
- recognise that vibrations from sounds travel through a medium to the ear.
- find patterns between the pitch of a sound and features of the object that produced it.
- find patterns between the volume of a sound and the strength of the vibrations that produced it.
- recognise that sounds get fainter as the distance from the sound source increases.

| Physics | | | |
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| Sound | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can explore how things work.</p> <p>Can describe what they see, hear and feel whilst outside.</p> | <p>Y1 - Animals, including humans</p> <p>Can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense (aut 1 and 2).</p> | <p>Can identify how sounds are made, associating some of them with something vibrating. (Spring 2)</p> <p>Can recognise that vibrations from sounds travel through a medium to the ear. (Spring 2)</p> <p>Can find patterns between the pitch of a sound and features of the object that produced it. (Spring 2)</p> <p>Can find patterns between the volume of a sound and the strength of the vibrations that produced it. (Spring 2)</p> <p>Can recognise that sounds get fainter as the distance from the sound source increases.</p> | |

**Physics
Electricity**

LKS2

Pupils should be taught:

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- recognise some common conductors and insulators, and associate metals with being good conductors.

KS2

Pupils should be taught:

- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
- compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
- use recognised symbols when representing a simple circuit in a diagram.

| Physics | | | |
|------------------------------|-----|--|--|
| Electricity | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| Can explore how things work. | | Can identify common appliances that run on electricity. (Spring 1) | |
| | | <p>Can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. <i>(Only draw what the children can see. No need to use electric symbols at this stage)</i> (Spring 1)</p> <p>Can identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. (Spring 1)</p> <p>Can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. (Spring 1)</p> <p>Can recognise some common conductors and insulators, and associate metals with being good conductors. (Spring 1)</p> | <p>Can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. (Autumn 2)</p> <p>Can compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. (Autumn 2)</p> <p>Can use recognised symbols when representing a simple circuit in a diagram. (Autumn 2)</p> |

Physics

Earth and Space(including seasonal changes)

EYFS

Understanding the World: The Natural World ELG

- know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

KS1

Pupils should be taught:

- observe changes across the 4 seasons.
- observe and describe weather associated with the seasons and how day length varies.

KS2

Pupils should be taught:

- describe the movement of the Earth and other planets relative to the sun in the solar system.
- describe the movement of the moon relative to the Earth.
- describe the sun, Earth and moon as approximately spherical bodies.
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Science Progression Map

| Physics | | | |
|--|---|------|---|
| Earth and Space (including seasonal changes) | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can explore the natural world around them.</p> <p>Can describe what they see, hear and feel whilst outside.</p> | <p>Y1 – Seasonal changes Can observe changes across the four seasons. (Aut 1 and 2).</p> <p>Can observe and describe weather associated with the seasons and how day length varies (aut 1 and 2).</p> | | <p>Can describe the movement of the Earth, and other planets, relative to the Sun in the solar system. (Autumn 2)</p> <p>Can describe the movement of the Moon relative to the Earth. (Autumn 2)</p> <p>Can describe the Sun, Earth and Moon as approximately spherical bodies. (Autumn 2)</p> <p>Can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. (Autumn 2)</p> |

Physics
Light

LKS2

Pupils should be taught:

- recognise that they need light in order to see things and that dark is the absence of light.
- notice that light is reflected from surfaces.
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes.
- recognise that shadows are formed when the light from a light source is blocked by an opaque object.
- find patterns in the way that the size of shadows change.

KS2

Pupils should be taught:

- recognise that light appears to travel in straight lines.
- use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.
- explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

| Physics | | | |
|--|--|--|---|
| Light | | | |
| EYFS | KS1 | LKS2 | UKS2 |
| <p>Can explore how things work.</p> <p>Can talk about the differences in materials and changes they notice.</p> <p>Can describe what they see, hear and feel whilst outside.</p> | <p>Y1 - Animals, including humans Can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Y1 - Materials Can describe the simple physical properties of a variety of everyday materials. (Aut 2)</p> | <p>Can recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Can notice that light is reflected from surfaces.</p> <p>Can recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Autumn 1)</p> | <p>Can recognise that light appears to travel in straight lines.</p> <p>Can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>Can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</p> |
| | | <p>Can recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Can find patterns in the way that the size of shadows change. (Autumn 1)</p> | <p>Can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> |