**Medium Term Planning 2021/22 Science**

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| Year | Nursery | | | Subject | | Science | | | Academic Year 2021/22 | |
| Prior Knowledge  Beginning to ask simple questions  Looks closely at small items and creatures, and can also see items at substantial distance, comfortably changing focus from one to the other  Explores objects by linking together different approaches: shaking, hitting, looking, feeling, tasting, mouthing, pulling, turning and poking  Notices and becomes interested in the transformative effect of their action on materials and resources | | | | End Point  Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties.  Talk about what they see, using a wide vocabulary.  Plant seeds and care for growing plants.  Understand the key features of the life cycle of a plant and an animal.  Begin to understand the need to respect and care for the natural environment and all living things.  Explore and talk about different forces they can feel.  Talk about the differences between materials and changes they notice. | | | | | Key Vocabulary  Head, eyes, nose, mouth, ears, hands, fingers, feet, toes, arm, leg, animal.  Tree, leaf, plant, flower, stem, seed soil.  Material, wood, glass, paper, hard, soft.  Day, night. | |
|  | | *I wonder what makes me so special?* | *I wonder why we celebrate?* | | *I wonder what changes in winter?* | | *I wonder how plants grow?* | *I wonder who lives there?* | | *I wonder why trees are green?* |
|  | | Sequence of Learning | Sequence of Learning | | Sequence of Learning | | Sequence of Learning | Sequence of Learning | | Sequence of Learning |
| 1 | | To identify and name different parts of our body | Looking at changes in the seasons – Autumn walk | | Winter walk – looking at the changes in our school environment | | Observational drawings of flowers – naming parts of a plant. | Finding out about animals – farm visit, minibeast hunt. | | Observing floating and sinking |
| 2 | | To develop an understanding of our senses and how we use them | Collect and look at Autumn leaves, conkers, pine cones. Children can make collages with the items. | | To explore ice and observe how it changes | | Spring time walk – look at changes in the environment - flowers/ trees/creatures. |  | | To make observations of the local environment |
| 3 | | To begin to talk about different stages of human life | Talk about nocturnal animals – why are they different. | | Looking at animals from cold climates and talk about why they can live there | | Plant seeds, care for them and watch their growth. |  | |  |
| General learning opportunities throughout the year  Daily observations of weather – talk about what they notice  Experience different types of weather – e.g. ice and snow, rain, sun – all children spend some time outside in all weathers.  Tubes, guttering and stands available for exploration of forces and movement.  Water – floating and sinking | | | | | | | | | | |

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| Year | Reception | | | Subject | | Science | | | Academic Year 2021/22 | |
| Prior Knowledge  Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties.  Talk about what they see, using a wide vocabulary.  Plant seeds and care for growing plants.  Understand the key features of the life cycle of a plant and an animal.  Begin to understand the need to respect and care for the natural environment and all living things.  Explore and talk about different forces they can feel.  Talk about the differences between materials and changes they notice. | | | | End Point  Children at the expected level of development will:  - 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. | | | | | Key Vocabulary  Human, animal, face, hair, back, shoulder, elbow, wrist, knee, ankle.  Trunk, branches, plant, leaves, bulb, seed, petals, roots, water, light, grow, growth.  Material, wood, glass, plastic, paper, metal, fabric, rock, soft, hard, shiny, smooth, rough.  Seasons, summer, autumn, winter, spring, changes, dark, light, day, night, sun, moon, star.  Loud, quiet, sound, volume.  Ice, water, freeze, melt. | |
|  | | *I wonder what makes me so special?* | *I wonder why we celebrate?* | | *I wonder what changes in winter?* | | *I wonder how plants grow?* | *I wonder who lives there?* | | *I wonder why trees are green?* |
|  | | Sequence of Learning | Sequence of Learning | | Sequence of Learning | | Sequence of Learning | Sequence of Learning | | Sequence of Learning |
| 1 | | To talk about the stages of growth of human life. | Looking at changes in the seasons – Autumn walk | | Winter walk – looking at the changes in our school environment | | Plant seeds and look at their growth under different conditions e.g. no water, no light | Observational drawings of mini-beasts. | | Predicting which items will float and sink |
| 2 | | To know that they were formed in their mothers’ womb. |  | | Look at animals from a cold climate. Learn some facts about a penguin and how they live in their cold climate, | | Make observational drawings of the stages of growth of a plant. | Building waterproof houses | | STEM activity – building a boat that floats |
| 3 | | To recognise similarities and differences between themselves and others. |  | |  | | Spring time walk – look at changes in the environment - flowers/ trees/creatures. | Animal life cycles | | Looking after our local environment |
| General learning opportunities throughout the year  Daily observations of weather – talk about what they notice  Experience different types of weather – e.g. ice and snow, rain, sun – all children spend some time outside in all weathers.  Tubes, guttering and stands available for exploration of forces and movement.  Water – floating and sinking | | | | | | | | | | |

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| Year | | Year 1 | | Subject | | Science | Academic Year 2021/22 | | |
| Prior Knowledge | | | | End Point | | | Key Vocabulary | | |
| Children at the expected level of development will:  - 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. | | | | **Plants**  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 (at least: flower, leaf, root, stem, trunk, seed, branch and petal).  **Animals - Humans**  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  **Animals - Other**  Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals.  Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat).  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets).  Find out and describe how animals look different to one another.  Group together animals according to their different features.  Recognise similarities between animals:  Structure: head, body, way of moving, senses, body covering, tail.  **Materials**  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, rock, brick, paper and cardboard.  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.  **Seasonal Changes**  Observe and describe changes across the four seasons.  Observeand describe weather associated with the seasons and how day length and temperature varies. | | | Fish, Reptiles, Mammals, Birds, Amphibians (+ examples of each) Herbivore, Omnivore, Carnivore, Leg, Arm, Elbow, Head, Ear, Nose, Back, Wings, Beak Deciduous, Evergreen trees, Leaves, Flowers (blossom), Petals, Fruit, Roots, Bulb, Seed, Trunk, Branches, Stem Wood, Plastic, Glass, Paper, Water, Metal, Rock, Hard, Soft, Bendy, Rough, Smooth Summer, Spring, Autumn, Winter, Sun, Day, Moon, Night, Light, Dark | | |
| Assessment Questions | | |
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|  | Sequence of Learning : Robots | | Sequence of Learning : Fire Fire | | Sequence of Learning: Growth and Green Fingers | | | Sequence of Learning : Family Album | Sequence of Learning : The Great Outdoors |
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| 1 | To be able to identify, draw, name and label parts of the human body. | | To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. | | To be able to name the different parts of a plant. | | | To understand the different foods which we eat. | To understand that there are different materials. |
| 2 | To be able to identify the senses and say which is linked with which one. | | To identify a variety of common animals that are carnivores, omnivores or herbivores. | | To explore and answer the question – is a tree a plant? | | | To know what a balanced diet consists of. | To understand the terms natural and manmade. |
| 3 | To recognise that humans are animals. | | To be able to describe and compare a variety of common animals. | | To be able to describe the similarities and differences of various leaves. | | | To understand how we keep ourselves healthy. | To be able to sort and group common materials according to properties and names. |
| 4 | To be able to compare and describe differences in their own features, eg [hair, eye, skin colour etc]. | | To be able to group together animals according to their different features. | | To be able to understand the differences between a Deciduous tree and an Evergreen tree. | | | To understand how are bodies are before and after exercise. | To understand the concept of a material being waterproof. |
| 5 | To be able to recognise that humans have many similarities. | | To know that animals use their senses to explore the world around them and to survive. | | To be able to understand how seeds germinate quickly and grow into interesting plants. | | | To understand that humans are animals. | To understand that different materials have different uses. |
| 6 | To be able to use their senses to compare and contrast different smells, textures and sounds. | | To recognise that animals need to be treated with care and sensitivity to keep them alive and healthy. | | To find out and describe how plants need water, light and a suitable temperature to be healthy and grow. | | | To understand the features of human beings. | To be able to carry out a fair test on different materials and their properties. |

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| Year | | Year 1 /2 | | Subject | | Science | Academic Year 2021/22 | | |
| Prior Knowledge | | | | End Point | | | Key Vocabulary | | |
| **Year 1**  Children at the expected level of development will:  - 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.  **Year 2**  **Plants**  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 (at least: flower, leaf, root, stem, trunk, seed, branch and petal).  **Animals - Humans**  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  **Animals - Other**  Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals.  Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat).  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets).  Find out and describe how animals look different to one another.  Group together animals according to their different features.  Recognise similarities between animals:  Structure: head, body, way of moving, senses, body covering, tail.  **Materials**  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, rock, brick, paper and cardboard.  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.  **Seasonal Changes**  Observe and describe changes across the four seasons.  Observeand describe weather associated with the seasons and how day length and temperature varies. | | | | **Year 1**  **Plants**  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 (at least: flower, leaf, root, stem, trunk, seed, branch and petal).  **Animals - Humans**  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  **Animals - Other**  Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals.  Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat).  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets).  Find out and describe how animals look different to one another.  Group together animals according to their different features.  Recognise similarities between animals:  Structure: head, body, way of moving, senses, body covering, tail.  **Materials**  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, rock, brick, paper and cardboard.  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.  **Seasonal Changes**  Observe and describe changes across the four seasons.  Observeand describe weather associated with the seasons and how day length and temperature varies.  **Year 2**  **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force). | | | **Year 1**  Fish, Reptiles, Mammals, Birds, Amphibians (+ examples of each) Herbivore, Omnivore, Carnivore, Leg, Arm, Elbow, Head, Ear, Nose, Back, Wings, Beak Deciduous, Evergreen trees, Leaves, Flowers (blossom), Petals, Fruit, Roots, Bulb, Seed, Trunk, Branches, Stem Wood, Plastic, Glass, Paper, Water, Metal, Rock, Hard, Soft, Bendy, Rough, Smooth Summer, Spring, Autumn, Winter, Sun, Day, Moon, Night, Light, Dark  **Year 2**  Survival, Water, Air, Food, Adult, Baby, Offspring, Kitten, Calf, Puppy, Exercise, Hygiene Seeds, Bulbs, Water, Light, Temperature, Growth Living, Dead, Habitat, Energy, Food chain, Predator, Prey, Woodland, Pond, Desert Hard, Soft, Stretchy, Stiff, Shiny, Dull, Rough, Smooth, Bendy, Waterproof, Absorbent, Opaque, Transparent Brick, Paper, Fabrics, Squashing, Bending, Twisting, Stretching Elastic, Foil | | |
| Assessment Questions | | |
|  | Sequence of Learning: The places where I live | | Sequence of Learning: Penguins, Pigs and Possums | | Sequence of Learning: Explorers | | | Sequence of Learning: Growth and Green Fingers | Sequence of Learning: Buckets and Spades |
| 1 | Years 1 and 2  To observe plants in the local environment. | | Year 1  To identify and name a variety of common animals including fish, mammals, reptiles, amphibians and birds.  Year 2  To explore and compare the differences between things that are living, dead, and things that have never been alive. | | Year 1  To identify and name basic parts of the human body.  Year 2  To describe the importance for humans of exercise. | | | Year 1  To identify and describe the basic structure of a variety of common flowering plants.  Year 2  To observe closely using simple equipment by recording observations of a variety of plants in the local environment. | Year 1  To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, rock, brick, paper and cardboard.  Year 2  To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. |
| 2 | Years 1 and 2  To observe closely using simple equipment.  To identify and label the parts of a leaf. | | Year 1  To identify and name a variety of common animals including fish, mammals, reptiles, amphibians and birds.  Year 2  To find out about and describe the basic needs of animals for survival. | | Year 1  To say which part of the body is associated with each sense. Activities for the sense of sight and hearing.  Year 2  To describe the importance for humans of hygiene. | | | Year 1  To observe closely. To observe changes across the four seasons. To observe and describe weather associated with the seasons and how day length varies.  To ask simple questions and recognise that they can be answered in different ways (plant seeds).  Year 2  To observe and describe how seeds and bulbs grow into mature plants (plant seeds). | Year 1  To distinguish between an object and the material from which it is made.  Year 2  To identify and classify the uses of everyday materials. |
| 3 | Years 1 and 2  To observe closely using simple equipment.  To use observations and ideas to suggest answers to questions.  Investigation: What’s in a bulb?  To identify and label the parts of a bulb. | | Year 1  To identify and name a variety of common animals including fish, mammals, reptiles, amphibians and birds.  Year 2  To 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. | | Year 1  To say which part of the body is associated with each sense. Activities for the sense of touch and smell.  Year 2  To describe the importance for humans of medicine and to know that medicine is good when used correctly but can be dangerous if not used correctly. | | | Year 1  To identify and name a variety of common wild plants.  Year 2  To observe and describe how seeds and bulbs grow into mature plants by understanding the life cycle of plants.  Years 1 and 2  To observe plants in the local environment and identify changes that have occurred. | Year 1  To describe the properties of a variety of everyday materials.  Year 2  To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching, by changing the shape of objects.  Years 1 and 2  To observe plants in the local environment and identify changes that have occurred. |
| 4 | Years 1 and 2  To know that seeds will grow into mature plants. Investigation – Can seeds grow anywhere?  To observe plants in the local environment and identify changes that have occurred. | | Year 1  To describe and compare the structure of a variety of common animals.  Year 2  To 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. | | Year 1  To say which part of the body is associated with each sense. Activities for the sense of taste.  Year 2  To describe the importance for humans of eating the right amounts of different types of food. | | | Year 1  To identify and name a variety of common garden plants.  Year 2  To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy by comparing the growth of seedlings under different conditions.  To gather and record data to help in answering questions by measuring the results of a comparative test. | Year 1  To observe closely. To observe changes across the four seasons. To observe and describe weather associated with the seasons and how day length varies.  Year 2  To know that some materials can be found naturally; others have to be made. |
| 5 | Years 1 and 2  To observe and record changes in seeds/plants.  To plant bulbs.  To observe changes across the four seasons. To observe and describe weather associated with the seasons and how day length varies. | | Year 1  To recognise similarities and differences between the physical features of animals.  Year 2  To identify and name a variety of plants and animals in their habitats, including micro-habitats. | | Year 1  To observe plants in the local environment and identify changes that have occurred.  Year 2  To observe plants in the local environment and identify changes that have occurred. | | | Year 1  To identify and name a variety of common wild and garden plants including deciduous and evergreen trees.  To observe closely using simple equipment (seeds planted).  Year 2  To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy by explaining what conditions plants need to grow well. | Year 1  To compare and group together a variety of everyday materials on the basis of their simple physical properties.  Year 2  To find out about people who have developed new materials, by learning about John McAdam |
| 6 | Years 1 and 2  To observe plants in the local environment and identify changes that have occurred.  To describe how bulbs grow into mature plants. To identify and name common garden plants and their basic structure. | | Year 1  To identify and name a variety of common animals that are carnivores, herbivores and omnivores.  Year 2  To 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. | | Year 1  To observe closely. To observe changes across the four seasons. To observe and describe weather associated with the seasons and how day length varies.  Year 2  To notice that animals have offspring which grow into adults. | | | Year 1  To identify and describe the basic structure of a variety of common flowering plants including trees.  To use observations and ideas to suggest answers to questions (seeds planted earlier in topic).  Year 2  To observe closely using simple equipment by measuring and recording the growth of seeds and bulbs (ongoing).  Years 1 and 2  To observe plants in the local environment and identify changes that have occurred. | Year 1  To perform simple tests. To observe closely. To use their observations and ideas to suggest answers to questions.  Years 1 and 2  To observe plants in the local environment and identify changes that have occurred. |

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| Year | | Year 2 | | Subject | | Science | Academic Year 2021/22 | | |
| Prior Knowledge | | | | End Point | | | Key Vocabulary | | |
| **Plants**  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 (at least: flower, leaf, root, stem, trunk, seed, branch and petal).  **Animals - Humans**  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  **Animals - Other**  Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals.  Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat).  Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets).  Find out and describe how animals look different to one another.  Group together animals according to their different features.  Recognise similarities between animals:  Structure: head, body, way of moving, senses, body covering, tail.  **Materials**  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, rock, brick, paper and cardboard.  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.  **Seasonal Changes**  Observe and describe changes across the four seasons.  Observeand describe weather associated with the seasons and how day length and temperature varies. | | | | **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force). | | | Survival, Water, Air, Food, Adult, Baby, Offspring, Kitten, Calf, Puppy, Exercise, Hygiene Seeds, Bulbs, Water, Light, Temperature, Growth Living, Dead, Habitat, Energy, Food chain, Predator, Prey, Woodland, Pond, Desert Hard, Soft, Stretchy, Stiff, Shiny, Dull, Rough, Smooth, Bendy, Waterproof, Absorbent, Opaque, Transparent Brick, Paper, Fabrics, Squashing, Bending, Twisting, Stretching Elastic, Foil | | |
| Assessment Questions | | |
|  | | |
|  | Sequence of Learning : The Place Where I Live | | Sequence of Learning : Fighting Fit | | Sequence of Learning: Explorers | | | Sequence of Learning: Farm Shop | Sequence of Learning: The Wind in the Willows |
| 1 | Nature and field journals - observations of plants and animals in their local environment throughout the year. | | To know that animals, including humans, have offspring that grow into adults. | | To know that Some materials can be found naturally; others have to be made. | | | To look closely at plants and trees and record what I see. | To explore and compare the differences between things that are living, dead, and things that have never been alive. |
| 2 | Nature and field journals - observations of plants and animals in their local environment throughout the year. | | To know that humans have offspring that grow into adults. | | To identify the uses of everyday materials. | | | To compare whether all seeds are the same | To 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. |
| 3 | Nature and field journals - observations of plants and animals in their local environment throughout the year. | | To compare the stages of the human life cycle. | | To group the uses of everyday materials and record observations. | | | To set up a test and make a prediction. | To identify and name a variety of plants and animals in their habitats, including micro-habitats. |
| 4 | Nature and field journals - observations of plants and animals in their local environment throughout the year. | | To find out about and describe the basic needs of humans, for survival (water, food and air). | | To compare the suitability of different everyday materials. | | | To explain that plants are living things. | To know that different kinds of plants and animals live in different kinds of places. |
| 5 | Nature and field journals - observations of plants and animals in their local environment throughout the year. | | To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. | | To explain how the shapes of objects made from some materials can be changed. | | | To use observations to explain what plants need. | To 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. |
| 6 | Nature and field journals - observations of plants and animals in their local environment throughout the year. | | To know that medicines can be useful when we are ill. | | To experiment how changing the property of materials to make them more useful for their purpose. | | | To describe how and what plants need to grow and stay healthy. | To know that habitats provide the preferred conditions for the animals/plants that live there. |
| 7 |  | | To know that medicines can be harmful if not used properly. | | To learn about the inventor John McAdam. | | | To describe the importance for humans of eating the right amounts of different types of food. | To observe living things in their habitats during different seasonal  changes. |
| 8 |  | | To know where different fruits and vegetables come from and how they are produced. | |  | | |  | To understand there are different kinds of habitat near school which need to be cared for. |
| 9 |  | | To discuss what is meant by a balanced meal and food types. | |  | | |  |  |

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| Year | | Year 3 | | Subject | Science | | Academic Year 2021/22 | | |
| Prior Knowledge | | | | End Point | | | Key Vocabulary | | |
| **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force). | | | | **Plants**  Identify, locate 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.  **Animals Including Humans**  An adequate and varied diet is beneficial to health (along with a good supply of air and clean water).  Regular and varied exercise *from a variety of different activities* is beneficial to health  Identify that humans and some other animals have skeletons and muscles for support, protection and movement.  Identify animals (vertebrates) which have a skeleton which supports their body, aids movement & protects vital organs (e.g. name and locate skull, backbone, ribs, bones for movement/limbs, pelvis and be able to name some of the vital organs protected).  **Rocks and Soils**  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  **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 a solid object.  Find patterns in the way that the size of shadows can change**.**  **Forces and Magnets**  Notice that some forces need contact between two 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 two poles (like and unlike poles).  Predict whether two magnets will attract or repel each other, dependingon which poles are facing. | | | Movement, Muscles, Bones, Skull, Nutrition, Skeletons Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent Light, Shadows, Mirror, Reflective, Dark, Reflection Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull | | |
| Assessment Questions | | |
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|  | Sequence of Learning : There’s No place Like Home  *Light and Shadows* | | Sequence of Learning : Healthy Humans  *Animals including Humans.* | | | Sequence of Learning: Rock and Roll  *Rocks* | | Sequence of Learning : The Iron Man  *Forces and Magnets* | Sequence of Learning : What the Romans did for Us *Plants* |
| 1 | LO: To recognise that we need light in order to see things and that dark is the absence of light. | | LO: To sort foods into food groups and find out about the nutrients that different foods provide. | | | LO: To compare different kinds of rocks based on their appearance | | LO: To identify the forces acting on objects. | LO: To name the different parts of flowering plants and explain their jobs. |
| 2 | LO: To notice that light is reflected from surfaces.  2 Sessions | | LO: To explore the nutritional values of different foods by gathering information from food labels. | | | LO: To make systematic and careful observations and group rocks based on their properties. | | LO: To investigate how a toy car moves over different surfaces. | LO: To set up an investigation to find out what plants need to grow well. |
| 3 | LO: To notice that light is reflected from surfaces.  2 Sessions | | LO: To sort animal skeletons into groups, discussing patterns and similarities and differences. | | | LO: To explain how fossils are formed. | | LO: To sort magnetic and non-magnetic materials. | LO: To record observations and present the results of an investigation using scientific language. |
| 4 | LO: To recognise that light from the sun can be dangerous and that there are ways to protect our eyes. | | LO: To investigate an idea about how the human skeleton supports movement. | | | LO: To explain Mary Anning’s contribution to palaeontology. | | LO: To investigate the strength of magnets. | LO: To investigate how water is transported in plants. |
| 5 | LO: To recognise that shadows are formed when the light from a light source is blocked by a solid object. | | LO: To explain how bones and muscles work together to create movement | | | LO: To explain how soil is formed | | LO: To explore magnetic poles. | LO: To name the different parts of a flower and explain their role in pollination and fertilisation. |
| 6 | LO: To find patterns in the way that the size of shadows change | | LO: To design and carry out my own investigation- Does the length of femur effect the distance someone can jump? | | | LO: T observe carefully and systematically and present findings using scientific vocabulary. | | LO: To observe how magnets attract some materials. | LO: To understand and order the stages of the life cycle of a flowering plant. |

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| Year | Year 3/4 | Subject | | Science | | Academic Year 2021/22 | | | | |
| Prior Knowledge | | End Point | | | | Vocabulary | | | | |
| **Year 4**  **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force).  **Year 3**  **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force). | | **Year 3**  **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force).  **Year 4**  **Living Things and their Habitats**  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.  **Animals Including Humans**  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.  Constructand interpret a variety of food chains, identifying producers, predators and prey  **States of 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.  **Sound**  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 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.  Find patterns between the pitch of a sound and features of the object that produced it.  Recognise that vibrations from sounds travel through a medium to the ear.  **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. | | | | **Year 3**  Movement, Muscles, Bones, Skull, Nutrition, Skeletons Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent Light, Shadows, Mirror, Reflective, Dark, Reflection Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull  **Year 4**  Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment, Habitats Solid, Liquid, Gas, Evaporation, Condensation, Particles, Temperature, Freezing, Heating Volume, Vibration, Wave, Pitch, Tone, Speaker Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators | | | | |
| Assessment Questions | | | | |
|  | Sequence of Learning: Sparks Might Fly | | Sequence of Learning: The Great Plague | | Sequence of Learning: Passport to Europe | | Sequence of Learning: Water, Water Everywhere | | Sequence of Learning: How does Your Garden Grow? | |
| Electricity | Light | Animals including Humans | | Forces and Magnets | Sound | Rocks | States of Matter | Plants | Living things and their Habitats |
| 1 | To know electricity can be dangerous and about conductors and insulators. | To recognise that we need light in order to see things and that dark is the absence of light. | To recognise and name the parts of the digestive system. | | To understand when there is a push or pull acting on an object. | To describe and explain sound sources. | To compare different types of rocks | To sort and describe materials – solid, liquid, gas | To name the different parts of flowering plants and explain their jobs. | To group living things |
| 2 | To identify common electrical appliances | To understand that light travels in straight lines | To describe the functions of the parts of the digestive system | | To investigate the effects of friction on different surfaces | To explain how sound travels. | To group rocks based on their properties | To investigate gasses and describe their properties | To understand what plants need to grow well | To classify vertebrates |
| 3 | To understand how batteries work in a circuit | To notice that light is reflected from surfaces. | To recognise the types and functions of teeth. | | To sort magnetic and non-magnetic materials | To explore ways to change the pitch of a sound. | To explain how fossils are formed | To investigate materials as they change state | To record my observations and present the results of my findings using scientific vocabulary | To use evidence to identify an invertebrate |
| 4 | To name the parts and construct a series circuit | To recognise that light from the sun can be dangerous and that there are ways to protect eyes. | To carry out an enquiry on ‘tooth decay’. Part 1. | | To investigate the strength of magnets | To identify how sound changes over distance. | To explain Mary Anning’s contribution to palaeontology | To explore how water changes state | To investigate how water is transported through plants | To create a classification key |
| 5 | To recognise that faults in circuits can be found by methodically testing connections. | To recognise that shadows are formed when the light from a light source is blocked by a solid object. | To carry out an enquiry on ‘tooth decay’. Part 2. | | To explore magnetic poles | To investigate ways to absorb sound | To explain how soil is formed | To investigate how water evaporates | To name the different parts of a flower and explain their role in pollination and fertilisation. | To complete a local habitat survey |
| 6 | To understand more about different sources of electricity | To find patterns in the way that the size of shadows can change. | To understand food chains. | | To explain that magnets attract some materials | To make a musical instrument to play different sounds. | To investigate soil permeability | To identify and describe the different stages in the water cycle. | To understand and order the stages of the life cycle of a flowering plant. | To describe environmental dangers to endangered species. |

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| Year | | Year 4/ 5 | Subject | | Science | | Academic Year 2021/22 | | |
| Prior Knowledge | | | End Point | | | | Key Vocabulary | | |
| **Year 4**  **Living things and their Habitat**  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 micro-habitats.  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.  **Animals**  Notice that animals have offspring which grow into adults.  Find out about and describe the basic needs of animals for survival.  **Animals Including Humans**  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  **Plants**  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 (and how changing these affects the plant).  **Materials**  Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force).  **Year 5**  **Living Things and their Habitats**  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.  **Animals Including Humans**  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.  Constructand interpret a variety of food chains, identifying producers, predators and prey  **States of 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.  **Sound**  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 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.  Find patterns between the pitch of a sound and features of the object that produced it.  Recognise that vibrations from sounds travel through a medium to the ear.  **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. | | | **Year 4**  **Living Things and their Habitats**  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.  **Animals Including Humans**  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.  Constructand interpret a variety of food chains, identifying producers, predators and prey  **States of 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.  **Sound**  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 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.  Find patterns between the pitch of a sound and features of the object that produced it.  Recognise that vibrations from sounds travel through a medium to the ear.  **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.  **Year 5**  **Living Things and their Habitats**  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.  Name, locate and describe the functions of the main parts of reproductive system of plants  **Material Properties**  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.  Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic (advantages and disadvantages).  **Animals Including Humans**  Describe the changes as humans develop to old age.  **Forces**  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 (causing things to slow down)  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects  Gravity can act without direct contact between the Earth and an object.  **Earth and Space**  Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system.  Describe the movement of the Moon relative to the Earth.  Describe Sun/Earth/Moon as approximately spherical bodies.  Use the idea of the Earth’s rotation to explain day and night.  Use the Earth’s movement in space to explain the apparent movement of the sun across the sky.  **Materials**  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.  Demonstrate that dissolving, mixing and changes of state are reversible changes  Recognise that dissolving is a reversible change and recognise everyday situations where dissolving occurs. | | | | **Year 4**  Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment, Habitats Solid, Liquid, Gas, Evaporation, Condensation, Particles, Temperature, Freezing, Heating Volume, Vibration, Wave, Pitch, Tone, Speaker Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators  **Year 5**  Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty Mammal, Reproduction, Insect, Amphibian, Bird, Offspring Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys | | |
|  | Sequence of Learning : Fitter, Higher, Stogner  Earth and Space  Forces and Falling Objects | | | Sequence of Learning : Hunted  Habitats and classifying plants and animals | | Sequence of Learning: Passport to Europe  Sound  Electricity | | Sequence of Learning : The Art of Food  Teeth and The Digestive System | Sequence of Learning : A Kingdom United  Materials: Reversible and Irreversible changes |
| 1 | Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. | | | (+) I can investigate and classify wildlife in our local area.    (+) I can investigate and classify wildlife in our local area. | | To identify how sounds are made  To recognise that sound travels through a medium to the ear | | To describe the simple functions of the basic parts of the digestive system in humans. | Compare and group materials together, according to whether they are solids, liquids or gases. |
| 2 | Describe the movement of the Moon relative to the Earth. | | | (+) I can recognise that living things are grouped in a variety of ways.    . | | To investigate how distance affects sound | | To identify the different types of teeth in humans and their simple functions.  . | 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). |
| 3 | Describe the Sun, Earth and Moon as approximately spherical bodies.  Use the idea of the Earth’s rotation to explain day and night. | | | (+) I can explore and use classification keys to group and identify living things.    (+) I can recognise that environments can change and that this can sometimes pose a danger to living things. | | To investigate and find patterns between pitch of the sound and features of the object that produced it | | To construct and interpret a variety of food chains, identifying producers, predators and prey. | Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. |
| 4 | 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.  Friction, air resistance and water resistance are forces which slow down moving objects. | | | (+) I can recognise that environments can change and that this can sometimes pose a danger to people. | | To identify common appliances  To construct simple series circuits and identify parts | | To describe how teeth and gums must be cared for in order to keep them healthy | Compare and group materials together, according to whether they are solids, liquids or gases. |
| 5 | Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity). | | | (+) To understand how living things have evolved and adapted to suit their environment over time. | | To recognise that a switch opens and closes a circuit | |  | 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). |
| 6 | To know that gravity can act without direct contact between the Earth and an object.  Friction, air resistance and water resistance can be useful or unwanted.  The effects of friction, air resistance and water resistance can be reduced or increased for a preferred effect.  More than one force can act on an object simultaneously (either reinforcing or opposing each other). | | | (+) To describe the life process of reproduction in some plants and animals | | To identify conductors and insulators. | |  | To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. |

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| Year | | Year 5/6 | Subject | | Science | | | Academic Year 2021/22 | |
| Prior Knowledge | | | End Point | | | Key Vocabulary | | | |
| **Year 5**  **Living Things and their Habitats**  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.  **Animals Including Humans**  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.  Constructand interpret a variety of food chains, identifying producers, predators and prey  **States of 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.  **Sound**  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 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.  Find patterns between the pitch of a sound and features of the object that produced it.  Recognise that vibrations from sounds travel through a medium to the ear.  **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.  **Year 6**  **Living Things and their Habitats**  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.  Name, locate and describe the functions of the main parts of reproductive system of plants  **Material Properties**  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.  Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic (advantages and disadvantages).  **Animals Including Humans**  Describe the changes as humans develop to old age.  **Forces**  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 (causing things to slow down)  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects  Gravity can act without direct contact between the Earth and an object.  **Earth and Space**  Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system.  Describe the movement of the Moon relative to the Earth.  Describe Sun/Earth/Moon as approximately spherical bodies.  Use the idea of the Earth’s rotation to explain day and night.  Use the Earth’s movement in space to explain the apparent movement of the sun across the sky.  **Materials**  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.  Demonstrate that dissolving, mixing and changes of state are reversible changes  Recognise that dissolving is a reversible change and recognise everyday situations where dissolving occurs. | | | **Year 5**  **Living Things and their Habitats**  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.  Name, locate and describe the functions of the main parts of reproductive system of plants  **Material Properties**  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.  Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic (advantages and disadvantages).  **Animals Including Humans**  Describe the changes as humans develop to old age.  **Forces**  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 (causing things to slow down)  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects  Gravity can act without direct contact between the Earth and an object.  **Earth and Space**  Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system.  Describe the movement of the Moon relative to the Earth.  Describe Sun/Earth/Moon as approximately spherical bodies.  Use the idea of the Earth’s rotation to explain day and night.  Use the Earth’s movement in space to explain the apparent movement of the sun across the sky.  **Materials**  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.  Demonstrate that dissolving, mixing and changes of state are reversible changes  Recognise that dissolving is a reversible change and recognise everyday situations where dissolving occurs.  **Year 6**  **Living Things and their Habitats**  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.  **Evolution and Inheritance**  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.  **Animals Including Humans**  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 (in the long term and short term).  Describe the ways in which nutrients and water are transported within animals, including humans.  **Light**  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 the light that travels from light sources to our eyes or from light sources to objects and then to our eyes (and represent this in simple diagrammatic form).  Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.  **Electricity**  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 (at least: cells, wires, switches, bulbs, buzzers and motors) when representing a simple circuit in a diagram. | | | **Year 5**  Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty Mammal, Reproduction, Insect, Amphibian, Bird, Offspring Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys  **Year 6**  Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration Classification, Vertebrates, Invertebrates, Micro-organisms, Amphibians, Reptiles, Mammals, Insects Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics Refraction, Reflection, Light, Spectrum, Rainbow, Colour, Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell | | | |
|  | Sequence of Learning: A kingdom United | | | Sequence of Learning: Food Glorious Food | | Sequence of Learning: Earthlings | Sequence of Learning: Inventors and Inventions | | Sequence of Learning: Amazon Adventure |
| 1 | LO: To understand how living things can be grouped into micro-organisms, plants and animals. | | | LO: To compare and group materials according to whether they are solid, liquid or gases. | | LO: To describe the movement of the earth, and other planets, relative to the sun in our solar system. | LO: To explain that unsupported objects fall towards the earth because of the force of gravity. | | LO: To describe the differences in life cycles of a mammal, an amphibian, an insect and a bird. |
| 2 | LO: To give reasons for classifying plants and animals based on specific characteristics. | | | LO: To investigate which materials dissolve. | | LO: To describe the movement of the moon relative to the earth. | LO: To identify the effects of air resistance, water resistance and friction, that act on moving surfaces. | | LO: To describe the life processes of reproduction in some plants and animals. |
| 3 | LO: To describe how living things are classified into broad groups according to their similarities and differences. | | | LO: To use different processes to separate mixtures of materials - 2 sessions | | LO: To know that the earth rotates which results in day and night. | LO: To recognise that some levers, pulleys and gears, allow a smaller force to have a greater effect. | | LO: To describe the changes as humans develop to old age. |
| 4 | LO: To identify how animals and plants are adapted to suit their environment and that adaption may lead to evolution. | | | LO: To use different processes to separate mixtures of materials – 2 sessions | | LO: To recognise that light travels in straight line and know that objects can be seen because they give out or reflect light into the eye. | LO: To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of the cells used in the circuit. | | LO: To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. |
| 5 | LO: To recognise that living things may produce offspring of the same kind, but normally offspring vary and are not identical to their parents. | | | LO: To identify and explain reversible changes. | | LO: To explain that we see things because the light travels from light sources to our eyes. | LO: To 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. | | LO: To describe the ways in which nutrients and water are transported within animals, including humans. |
| 6 | LO: To recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago. | | | LO: To identify and explain irreversible changes. | | LO: To explain why shadows have the same shape as the objects that cast them. | LO: To use recognised symbols when representing a simple circuit in a diagram. | | LO: To identify and name the main parts of the circulatory system, and describe the functions of the heart, blood and blood vessels. |

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| Year | | Year 6 | Subject | Science | | Academic Year 2021/22 | | |
| Prior Knowledge | | | End Point | | | Key Vocabulary | | |
| **Living Things and their Habitats**  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.  Name, locate and describe the functions of the main parts of reproductive system of plants  **Material Properties**  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.  Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic (advantages and disadvantages).  **Animals Including Humans**  Describe the changes as humans develop to old age.  **Forces**  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 (causing things to slow down)  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects  Gravity can act without direct contact between the Earth and an object.  **Earth and Space**  Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system.  Describe the movement of the Moon relative to the Earth.  Describe Sun/Earth/Moon as approximately spherical bodies.  Use the idea of the Earth’s rotation to explain day and night.  Use the Earth’s movement in space to explain the apparent movement of the sun across the sky.  **Materials**  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.  Demonstrate that dissolving, mixing and changes of state are reversible changes  Recognise that dissolving is a reversible change and recognise everyday situations where dissolving occurs. | | | **Year 6**  **Living Things and their Habitats**  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.  **Evolution and Inheritance**  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.  **Animals Including Humans**  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 (in the long term and short term).  Describe the ways in which nutrients and water are transported within animals, including humans.  **Light**  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 the light that travels from light sources to our eyes or from light sources to objects and then to our eyes (and represent this in simple diagrammatic form).  Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.  **Electricity**  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 (at least: cells, wires, switches, bulbs, buzzers and motors) when representing a simple circuit in a diagram. | | | Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration Classification, Vertebrates, Invertebrates, Micro-organisms, Amphibians, Reptiles, Mammals, Insects Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics Refraction, Reflection, Light, Spectrum, Rainbow, Colour, Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell | | |
| Assessment Questions | | |
|  | Sequence of Learning : Survival | | Sequence of Learning : Britten’s got talent | | Sequence of Learning: Heroes and Villains | | Sequence of Learning : Super Sleuth | Sequence of Learning : Oh I do like to be beside the seaside |
| 1 | To understand how animals have adapted to suit their environment. | | To show how light travels in straight lines. | | To Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. | | To give reasons for classifying animals and plants based on specific characteristics. | To use and recognised symbols when representing a simple circuit in a diagram. |
| 2 | To identify how animals and plants have adapted to suit their environments. | | To demonstrate how light enables us to see objects. | | Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function. | | To describe how plants, animals and micro-organisms are classified into board groups according to common observable characteristics and based on similarities and differences. | To investigate the effects of differing voltages in a circuit. |
| 3 |  | | To demonstrate and explain how light is reflected from surfaces. | | Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function. | | To describe how plants, animals and micro-organisms are classified into board groups according to common observable characteristics and based on similarities and differences. | To investigate the effects of differing voltages in a circuit. |
| 4 | To identify inherited characteristics and how they are passed from parents to offspring. | | To use mirrors to reflect light to enable us to see objects. | | Describe the ways in which nutrients and water are transported within animals, including humans. | | To use primary and secondary sources to conduct research. | To compare and give reasons for variations in how components function in a circuit. |
| 5 | To identify inherited characteristics and how they are passed from parents to offspring. | | To demonstrate that light travels in straight lines to show why shadows have the same shape as the object that casts them. | | Describe the ways in which nutrients and water are transported within animals, including humans. | | To conduct research and plan a presentation of my findings. | To use equipment and make systematic observations. |
| 6 | To recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth. | | To explain refraction. | | To use secondary sources to research a ‘Health Hero’ | | To report and present findings from research. | To design a functional product using an electrical circuit. |