

Theme Map - Long Term Plan 1 yearly cycle Science

| Term | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
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| Autumn 1 | <p>A. asking simple questions and recognising that they can be answered in different ways</p> <p>B. observing closely, using simple equipment</p> <p>C. performing simple tests</p> <p>D. identifying and classifying</p> <p>E. using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions</p> <p>F. gathering and recording data to help in answering questions</p> <p>H. 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>K. identify, name, draw and label the basic parts of the body and say which part of the body is associated with each sense</p> <p>T. Notice that animals, including humans, have offspring which grow into adults.</p> <p>U. 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.</p> | <p>(Exploring 2 different habitats: polar, Desert or grasslands, penguin and polar bear, Meer Kat/savannah animals)</p> <ul style="list-style-type: none"> ◆ Z. 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 ◆ Z2 identify and name a variety of plants and animals in their habitats, including micro-habitats ◆ Z3. 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. ◆ U. find out about and describe the basic needs of animals, , for survival (water, food and air ◆ A. asking simple questions and recognising that they can be answered in different ways ◆ D. identifying and classifying ◆ E. using their observations and ideas to suggest answers to questions <p>F. gathering and recording data to help in answering questions</p> | <p>Rocks - features of fossils and rocks</p> <ul style="list-style-type: none"> • " A. asking relevant questions and using different types of scientific enquiries to answer them • " D. gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • " E. recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ◆ 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 <p>recognise that soils are made from rocks and organic matter.</p> | <ul style="list-style-type: none"> ◆ States of matter/Changing states: solid, liquid, gas ◆ Y3. compare and group materials together, according to whether they are solids, liquids or gases ◆ Y4. 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) | <p>Earth, Sun and Moon- visit to Eden Camp</p> <p>Earth and Space</p> <p>P. describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>Q. describe the movement of the Moon relative to the Earth</p> <p>R. describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>S. use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>Science Workshop 1 week linked to skills: Science week - mini-workshop sessions</p> <ul style="list-style-type: none"> • B. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. | <p>Science week - light/shadow, the eye</p> <p>Science week - mini-workshop sessions</p> <ul style="list-style-type: none"> ◆ B. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate <p>Light Y6</p> <ul style="list-style-type: none"> ◆ Z6. recognise that light appears to travel in straight lines ◆ Z7. 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 ◆ Z8. 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 ◆ Z9. use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. |

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| <p>Autumn 2</p> | <p>Sorting and classifying materials used in toys, bring a toy to school day and related surveys.</p> <p>D. identifying and classifying</p> <p>E. using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions</p> <p>L. distinguish between an object and the material from which it is made</p> <p>M. identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> | | <p>Rocks from y3 – different kinds of rocks</p> <ul style="list-style-type: none"> ◆ 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. Rocks, volcanoes and diamonds | <p>States of matter/Changing states: solid, liquid, gas</p> <ul style="list-style-type: none"> ◆ Y3. compare and group materials together, according to whether they are solids, liquids or gases <p>Y4. 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)</p> | <p>Mixtures and Solutions – textures of materials linked to beaches/sand etc. Sea water/salt, the water cycle. Properties and changes of materials Y5</p> <ul style="list-style-type: none"> ◆ J. 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 ◆ K. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ◆ L. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ◆ m. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic ◆ n. demonstrate that dissolving, mixing and changes of state are reversible changes ◆ O. 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. | <p>Micro-organisms, keeping clean, healthy living - linked to diseases which still exist in 3rd world countries.</p> <ul style="list-style-type: none"> ◆ A. Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ◆ E. reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>Animals including humans Y6</p> <ul style="list-style-type: none"> ◆ Y. identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood ◆ Z.1 recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function ◆ Z2. describe the ways in which nutrients and water are transported within animals, including humans. <p>Science week - mini-workshop sessions</p> <ul style="list-style-type: none"> ◆ B. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate |
| <p>Spring 1</p> | <p>Continue with humans from AT 1 link to dinner ladies and play leaders, healthy eating and exercise</p> <p>G. asking simple questions and recognising that they</p> | <ul style="list-style-type: none"> ◆ A. asking simple questions and recognising that they can be answered in different ways ◆ B. observing closely, using simple equipment ◆ C. performing simple | <p>Animals including humans Y4</p> <ul style="list-style-type: none"> ◆ Z8. describe the simple functions of the basic parts of the digestive system in humans ◆ Z9. identify the different types of teeth in humans and their | <p>Food Chains Living things and their habitats Y4</p> <ul style="list-style-type: none"> ◆ Z4. recognise that living things can be grouped in a variety of ways ◆ Z5. explore and use classification keys to | <p>Changes and forces and gravity week Properties and changes of materials Y5</p> <ul style="list-style-type: none"> ◆ J. compare and group together everyday materials on the basis of their properties, including their hardness, | <p>Animal/plant adaptations (living things and their habitats)</p> <ul style="list-style-type: none"> ◆ E. reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and |

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| | <p>can be answered in different ways identifying and classifying</p> <p>E. using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions .</p> <p>U. 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.</p> | <p>tests</p> <ul style="list-style-type: none"> ◆ D. identifying and classifying ◆ W. identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (looking at fire fighter clothing waterproofing) | <ul style="list-style-type: none"> ◆ simple functions Y1. construct and interpret a variety of food chains, identifying producers, predators and prey | <p>help group, identify and name a variety of living things in their local and wider environment</p> <p>Z6. recognise that environments can change and that this can sometimes pose dangers to living things.</p> | <p>solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <ul style="list-style-type: none"> ◆ K. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ◆ L. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ◆ m. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic ◆ n. demonstrate that dissolving, mixing and changes of state are reversible changes ◆ O. 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. <p>Forces Y5</p> <ul style="list-style-type: none"> ◆ t. explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object ◆ U. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces ◆ V. recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect | <p>written forms such as displays and other presentations</p> <ul style="list-style-type: none"> ◆ A. Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary <p>Living things and their habitats Y6</p> <ul style="list-style-type: none"> ◆ W. 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 ◆ X. give reasons for classifying plants and animals based on specific characteristics. <p>Animals including humans Y6</p> <ul style="list-style-type: none"> ◆ Y. identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood ◆ Z.1 recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function |
| Spring 2 | <p>Materials - clothes</p> <p>A. asking simple questions and recognising that they can be answered in different ways</p> | <p><i>Link to material aspect of DT - building trains how the materials are shaped and forged to make a train</i></p> <ul style="list-style-type: none"> ◆ A. asking simple questions | <p>Light</p> <ul style="list-style-type: none"> ◆ A. asking relevant questions and using different types of scientific enquiries to answer | <p>Food Chains</p> <p>Living things and their habitats Y4</p> <ul style="list-style-type: none"> ◆ Z4. recognise that living things can be | <p>Human body - circulation, heart (removal of heart etc.)</p> <p>Animals including humans Y6</p> <ul style="list-style-type: none"> ◆ Y. identify and name the main parts of the human circulatory | <p>Life cycles of plants Linked to African plants and animals and adaptations.</p> <p>Living things and their habitats</p> |

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| | <p>B. observing closely, using simple equipment</p> <p>C. performing simple tests</p> <p>D. identifying and classifying</p> <p>E. using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions</p> <p>L. distinguish between an object and the material from which it is made</p> <p>M. identify and name a variety of everyday materials, including fabrics - wool, leather, cotton, lycra etc</p> <p>N. describe the simple physical properties of a variety of everyday materials</p> <p>O. compare and group together a variety of everyday materials on the basis of their simple physical properties</p> | <p>and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ◆ B. observing closely, using simple equipment ◆ C. performing simple tests ◆ D. identifying and classifying • E. using their observations and ideas to suggest answers to questions • f. gathering and recording data to help in answering questions x. find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | <p>them</p> <ul style="list-style-type: none"> ◆ B. setting up simple practical enquiries, comparative and fair tests ◆ C. making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers ◆ E. recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ◆ g. using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions ◆ R. recognise that they need light in order to see things and that dark is the absence of light ◆ S. notice that light is reflected from surfaces ◆ t. recognise that light from the sun can be dangerous and that there are ways to protect their eyes ◆ U. recognise that shadows are formed when the light from a light source is blocked by a solid object ◆ V. find patterns in the way that the size of shadows change. | <p>grouped in a variety of ways</p> <ul style="list-style-type: none"> • Z5. explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Z6. recognise that environments can change and that this can sometimes pose dangers to living things. | <p>system, and describe the functions of the heart, blood vessels and blood</p> <ul style="list-style-type: none"> ◆ Z1 recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function ◆ Z2. describe the ways in which nutrients and water are transported within animals, including humans. | <p>Y6</p> <ul style="list-style-type: none"> ◆ W. 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 ◆ X. give reasons for classifying plants and animals based on specific characteristics. <p>Science week - mini-workshop sessions</p> <ul style="list-style-type: none"> ◆ B. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate |
| <p>Summer 1</p> | <p>Seaside creatures and under the sea. See literacy links/writing pathways</p> <p>H. asking simple questions and recognising that they</p> | <p>Balanced diet and Eat well plate</p> <ul style="list-style-type: none"> ◆ A. asking simple questions and recognising that they can be answered in different ways | <p>Forces and magnets Y3</p> <ul style="list-style-type: none"> ◆ A. asking relevant questions and using different types of scientific enquiries to answer them | <p>Electricity Y4</p> <ul style="list-style-type: none"> ◆ X1. identify common appliances that run on electricity ◆ X2. construct a simple series electrical circuit, | <p>Mechanical forces linked to Victorian industry</p> <p>Forces Y5</p> <ul style="list-style-type: none"> ◆ t. explain that unsupported objects fall towards the Earth because of the force of | <p>Electricity, Evolution - origin of the species.</p> <p>Electricity</p> <ul style="list-style-type: none"> □ Z10. associate the brightness of a lamp or the volume of a buzzer with the number and |

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| | <p>can be answered in different ways</p> <p>I. observing closely, using simple equipment</p> <p>J. performing simple tests</p> <p>K. identifying and classifying</p> <p>L. using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions</p> <p>H. Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>I. identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>j. describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> | <ul style="list-style-type: none"> ◆ D. identifying and classifying ◆ U. find out the basic needs of animals including humans for survival including water food air. V. describe the importance for humans exercise, (link to P.E) eating the right sort and amounts of food and hygiene | <ul style="list-style-type: none"> ◆ B. setting up simple practical enquiries, comparative and fair tests ◆ C. making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers ◆ D. gathering, recording, classifying and presenting data in a variety of ways to help in answering questions ◆ E. recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ◆ f. reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions ◆ W. compare how things move on different surfaces ◆ X. notice that some forces need contact between two objects, but magnetic forces can act at a distance ◆ Y. observe how magnets attract or repel each other and attract some materials and not others ◆ Z1. 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 ◆ Z2. describe magnets as having two poles | <p>identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <ul style="list-style-type: none"> ◆ X3. 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 ◆ X4. recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit ◆ X.5 recognise some common conductors and insulators, and associate metals with being good conductors | <p>gravity acting between the Earth and the falling object</p> <ul style="list-style-type: none"> ◆ U. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces ◆ V. recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect | <p>voltage of cells used in the circuit</p> <p>□ Z11. 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</p> <p>□ Z12. use recognised symbols when representing a simple circuit in a diagram</p> <p>Evolution and inheritance Y6</p> <p>□ Z3. 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>□ Z4. recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>□ Z5. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution (look at the species Darwin discovered and how they were suited to each particular environment)</p> <p>Science week - mini-workshop sessions</p> <ul style="list-style-type: none"> ◆ B. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate |
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| | | | <ul style="list-style-type: none"> ◆ Z3. predict whether two magnets will attract or repel each other, depending on which poles are facing | | | |
| <p>Summer 2</p> | <p>Minibeasts – animals</p> <ul style="list-style-type: none"> ◆ A. asking simple questions and recognising that they can be answered in different ways ◆ B. observing closely, using simple equipment ◆ C. performing simple tests ◆ D. identifying and classifying E. using their observations and ideas to suggest answers to questions <p>Animals including humans (Y1)</p> <ul style="list-style-type: none"> ◆ h. Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals ◆ i. identify and name a variety of common animals that are carnivores, herbivores and omnivores ◆ J. describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) ◆ Z. 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>Explore plants in the local environment as nature detectives discovering types of plants that grow including field work (Darwin project)</p> <ul style="list-style-type: none"> • A. asking simple questions and recognising that they can be answered in different ways • B. observing closely, using simple equipment • C. performing simple tests • D. identifying and classifying • R. observe and describe how seeds and bulbs grow into mature plants • S. find out and describe how plants need water, light and a suitable temperature to grow and stay • Z. 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 plants, and how they depend on each other • Z2 identify and name a variety of plants in their habitats, including micro-habitats | <p>Plants Y3</p> <ul style="list-style-type: none"> ◆ A. asking relevant questions and using different types of scientific enquiries to answer them ◆ D. gathering, recording, classifying and presenting data in a variety of ways to help in answering questions ◆ E. recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ◆ h. identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers ◆ i. 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 ◆ J. investigate the way in which water is transported within plants ◆ K. explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. | <p>Sound</p> <ul style="list-style-type: none"> • Y5. identify how sounds are made, associating some of them with something vibrating • Y6. recognise that vibrations from sounds travel through a medium to the ear • Y7. find patterns between the pitch of a sound and features of the object that produced it • Y8. find patterns between the volume of a sound and the strength of the vibrations that produced it • Y9. recognise that sounds get fainter as the distance from the sound source increases. | <p>Science week – forces and gravity, body changes SRE</p> <p>Forces Y5</p> <ul style="list-style-type: none"> ◆ t. explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object ◆ U. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces ◆ V. recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect <p>Animals including humans Y5</p> <ul style="list-style-type: none"> ◆ i. describe the changes as humans develop to old age ◆ K. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ◆ L. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ◆ n. demonstrate that dissolving, mixing and changes of state are reversible changes | <p>Science week – forces/gravity, body changes</p> <p>Forces Y5</p> <ul style="list-style-type: none"> ◆ t. explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object ◆ U. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces ◆ V. recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect <p>Animals including humans Y5</p> <ul style="list-style-type: none"> ◆ i. describe the changes as humans develop to old age ◆ K. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ◆ L. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ◆ n. demonstrate that dissolving, mixing and changes of state are reversible changes <p>mini-workshop sessions</p> <ul style="list-style-type: none"> ◆ B. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate |