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| <p><u>EYFS</u></p> | <p><u>Nursery</u></p> <ul style="list-style-type: none"> ⇒ 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. ⇒ Begin to make sense of their own life-story and family's history. ⇒ Explore how things work. ⇒ 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. <p><u>Reception</u></p> <ul style="list-style-type: none"> ⇒ Explore the natural world around them. ⇒ Describe what they see, hear and feel while they are outside. ⇒ Recognise some environments that are different to the one in which they live. ⇒ Understand the effect of changing seasons on the natural world around them. <p><u>ELG</u></p> <ul style="list-style-type: none"> ⇒ Explore the natural world around them, making observations and drawing pictures of animals and plants. ⇒ Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. ⇒ Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. |
| <p><u>As a scientist, I will explore the key concepts of...</u></p> | <p>INVESTIGATION - I am a scientist because I ask questions about the world around me and investigate my ideas to help increase my knowledge and understanding</p> <p>OBSERVATION—I am a scientist because I observe changes in the world around me carefully.</p> <p>EXPLANATION - I am a scientist because I try to explain why things happen and how I would do things differently next time.</p> |

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| <p><u>National Curriculum</u></p> | <p><u>Key Stage 1—Working Scientifically</u> During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ⇒ asking simple questions and recognising that they can be answered in different ways ⇒ observing closely, using simple equipment ⇒ performing simple tests ⇒ identifying and classifying ⇒ using their observations and ideas to suggest answers to questions ⇒ gathering and recording data to help in answering questions <p><u>Lower Key Stage 2 - Working Scientifically</u> During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ⇒ asking relevant questions and using different types of scientific enquiries to answer them ⇒ setting up simple practical enquiries, comparative and fair tests ⇒ making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers ⇒ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions ⇒ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ⇒ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions ⇒ using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions ⇒ using straightforward scientific evidence to answer questions or to support their findings <p><u>Upper Key Stage 2—Working Scientifically</u> During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ⇒ planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ⇒ taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate ⇒ recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ⇒ using test results to make predictions to set up further comparative and fair tests ⇒ reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations ⇒ identifying scientific evidence that has been used to support or refute ideas or arguments |
| <p><u>As a scientist, I will explore the key concepts of...</u></p> | <p>INVESTIGATION - As a scientist, ask questions about the world around me and investigate my ideas to help increase my knowledge and understanding OBSERVATION—As a scientist, I observe changes in the world around me carefully. EXPLANATION - As a scientist, I try to explain why things happen and how I would do things differently next time.</p> |

Airedale Infant and Junior School
Threshold Concepts Attainment Map in Science
Working Scientifically

| | <u>Nursery</u> | <u>Reception</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> | <u>Year 6</u> |
|--|------------------------------------|---|--|---|---|---|--|--|
| <u>Planning</u> | I can ask questions. | I can ask and answer questions . | Ask simple questions. Offer possible answers. Ask simple questions. | Recognise questions can be answered in different ways. Carry out simple research with support. | Ask relevant questions when prompted Understand there are different types of scientific enquiry that can be used to answer questions. Set up simple practical enquiries. Set up comparative and fair tests with support. | Ask relevant questions. Make independent decisions, using information and previous knowledge. Use different types of scientific enquiries to answer their questions. Set up simple and practical enquiries. Begin to choose what observations to make and how long for. Begin to choose what simple equipment to use. Begin to use comparative and fair tests. Recognise when a simple fair test is necessary. | Plan different types of scientific enquiries to answer questions. With prompting, recognise and control variables where necessary. With prompting, select appropriate equipment to take readings. When planning, begin to consider the need for repeat readings. Explore and talk about own ideas, using these to raise questions about scientific phenomena. With support, recognise that scientific ideas change and develop over time. | Independently plan different types of scientific enquiries to answer questions. Decide if repeat readings are necessary for their enquiry and why. Select appropriate equipment to take readings. Recognise and control variables where necessary. Explore and talk about own ideas, using these to raise questions about scientific phenomena. Recognise that scientific ideas change and develop over time. |
| <u>Threshold Concept (End of Key Stage)</u> | <u>I can ask questions.</u> | <u>I can ask and answer questions.</u> | <u>Asking simple questions and recognising that they can be answered in different ways.</u> | | <u>Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests</u> | | <u>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</u> | |

| | Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|--|---|--|---|--|--|
| Observing and Recording | I can talk about what I can see. | I can talk about what I can see. I can make predictions. I draw pictures of what I can see. | Observe closely. Begin to describe observations with support. Use simple equipment. Carry out simple tests with support. Classify with support. Identify with support. Use simple scientific vocabulary. Draw simple pictures of what they observe. Begin to label pictures with support | Record findings in a range of ways. Gather and record data. Communicate findings using simple scientific language Observe closely, using simple equipment independently. Perform simple tests. Identify with less support. Classify with less support. | With modelling and guidance, gather, record, classify and present data in a variety of ways. With support, use various ways of recording, grouping and displaying evidence and suggest how findings may be tabulated. Use simple scientific language when recording Make systematic and careful observations. Use simple Equipment. Use standard units when taking measurements and begin to understand the need for accuracy. Begin to use notes and tables when recording data. Discuss criteria for grouping, sorting and classifying. | Gather and record data in a variety of ways. Use simple scientific vocabulary when recording and presenting findings. Record data using drawings, labelled diagrams, keys, tables and charts Use bar charts to present findings, when appropriate. Make systematic and careful Observations. Use a range of equipment, including thermometers and data loggers. Take accurate measurements using standard units, where appropriate. Use notes and tables when recording data. Explain criteria for grouping, sorting and classifying. | Record data and results of increasing complexity. Record data using labelled diagrams, keys, tables and charts. Use bar and line graphs to record data. Use appropriate equipment to take accurate readings. Take precise measurements using standard units. With support, take repeat readings if appropriate. | Record data and results of increasing complexity. Record data using scientific diagrams and labels, classification keys, tables and charts. Use bar charts, line graphs and scatter graphs to record data. Independently, use a range of scientific equipment to take measurements. Independently, take measurements with increasing accuracy and precision. Take repeat readings when appropriate. |
| Threshold Concept (End of Key Stage) | <u>I can talk about what I can see.</u> | <u>I can talk about what I can see.</u> <u>I draw pictures of what I can see.</u> | <u>Gathering and recording data to help in answering questions.</u> <u>Observing closely, using simple equipment.</u> <u>Performing simple tests.</u> <u>Identifying and classifying.</u> | <u>*Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</u> <u>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</u> <u>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</u> | <u>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graph</u> <u>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</u> | | | |

| | <u>Nursery</u> | <u>Reception</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> | <u>Year 6</u> |
|---|--|--|---|---|--|--|--|---|
| Reviewing | I can talk about what I know. | I can ask and answer questions . I can talk about what I can see. | With support, use observations to suggest answers to simple questions. Recognise and talk about their findings. With support, begin to compare and group. | Use their observations and ideas to suggest answers to simple questions. Use their observations and ideas to suggest next questions. Consider the importance of their findings. Make simple comparisons. Use findings to support grouping | With support, use data and observations from enquiries to answer questions. Suggest conclusions from their enquiries. With support, suggest how findings could be reported. Suggest possible improvements to their approach. Suggest further questions to investigate. With support, begin to spot patterns and identify differences, similarities or changes related to simple scientific ideas and processes. With support, begin to use secondary sources to help answer questions that cannot be practically investigated. | Use data and observations from enquiries to answer questions. Using results, draw simple conclusions. With support, use results to predict further values within or beyond data collected. Using results, make predictions for further investigations. Use oral and written explanations of findings. Create displays and/or presentations of results and conclusions. Suggest possible improvements to their approach. Begin to look for naturally occurring patterns and relationships and identify differences, similarities or changes related to simple scientific ideas and processes. Recognise and use secondary sources to help answer questions that cannot be practically investigated. | With support, report and present findings from enquiries orally and in writing. Using their data, suggest further comparative or fair tests. Begin to explore causal relationships. With support, consider the degree of trust in their results. With support, identify scientific evidence that either supports or refutes their ideas. With support, draw conclusions based on their data and observations and use evidence to justify these ideas. Begin to use their scientific knowledge and understanding to explain findings. | Report and present findings from their enquiries, including conclusions and causal relationships. Report and present findings from their enquiries in oral and written forms such as displays and other presentations. When reporting findings from enquiries, include explanations of and degree of trust in results. Identify scientific evidence that has been used to support or refute their ideas or arguments. Use test results to make predictions to set up further comparative and fair tests. Use their scientific knowledge and understanding to explain findings. |
| Threshold Concept (End of Key Stage) | <u>I can talk about what I know.</u> <u>I can ask and answer questions.</u> | | <u>Using their observations and ideas to suggest answers to questions.</u> | | <u>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</u> <u>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes.</u> <u>Using straightforward scientific evidence to answer questions or to support their findings</u> | | <u>Using test results to make predictions to set up further comparative and fair tests.</u> <u>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.</u> <u>identifying scientific evidence that has been used to support or refute ideas or arguments</u> | |

| | <u>Nursery</u> | <u>Reception</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> | <u>Year 6</u> |
|---|---|---|--|---|--|---|---|---|
| Animals including Humans and Evolution | <p>I can explain how I have changed over time</p> <p>I can name some parts of a life cycle (plant and animal)</p> <p>I can explain how some plants and animals change</p> | <p>I can talk about the differences between animals such as how they look and how they move.</p> <p>I can talk about what plants need so that they will grow.</p> | <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> | <p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for their basic needs</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> | <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement. .</p> <p>I can describe the changes that take place as animals grow.</p> <p>I can explain how animals and humans need food to give them the right amount of nutrition.</p> | <p>I can talk about how animals grow & reproduce (breed with other animals)</p> <p>I can describe the functions of the human digestive system</p> <p>I can identify the different types of teeth in humans and their functions.</p> <p>I can identify and discuss what can cause illness or decay.</p> <p>I can construct food chains identifying producers, predators and prey</p> | <p>I can describe the changes that take place as humans develop from birth to old age.</p> <p>I can learn about the changes that take place during puberty.</p> <p>I can draw a timeline to indicate stages in the growth and development of humans.</p> | <p>I can identify and name the main parts of the human circulatory system, explaining the functions of the heart, blood vessels and blood.</p> <p>I can identify the impact of diet, exercise and drugs on the functions of the body</p> <p>I can describe the ways in which nutrients and water are transported in humans.</p> <p>I can explain how living things produce offspring, but that they are not always identical to their parents.</p> <p>I can identify how living things have changed over time and that fossils give us clues.</p> |
| Earth and Space | <p>I can talk about what I can see.</p> | <p>I can talk about the natural world around me</p> <p>I can talk about the seasonal changes I can see in the environment</p> | <p>Name the four seasons and describe the changes that take place.</p> <p>Observe and describe the weather associated with the seasons</p> | | | | <p>I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>I can describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> | |

Threshold Concepts Attainment Map in Science

| | Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|--|--|---|---|---|
| All living things - animals and plants | <p>I can explain how I have changed over time</p> <p>I can name some parts of a life cycle (plant and animal)</p> <p>I can explain how some plants and animals change</p> | <p>I can talk about the differences between animals such as how they look and how they move.</p> <p>I can talk about what plants need so that they will grow.</p> | <p>Use senses to explore and talk about plants.</p> <p>Describe what a plant looks like.</p> <p>Identify and the basic structure of common plants, including garden plants and trees, both deciduous and evergreen.</p> | <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Identify and describe the basic structure and function of a flowering plant including roots, stem/ trunk, leaves and flowers.</p> <p>Find out about and describe what plants need to grow and stay healthy, including, water, light and temperature.</p> | <p>I can describe differences and similarities between a range of living and non-living things</p> <p>I can identify and describe the jobs of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Explore the requirements of plants for life and growth and how these vary from plant to plant</p> <p>I can investigate the way water is transported within plants</p> <p>I can explore that part that flowers play in the life cycle of flowering plants - pollination, seed formation and seed dispersal</p> | <p>I can describe features of plants and animals and understand that these can be grouped in different ways</p> <p>I can explore and use classification keys to help to group, identify and name a variety of living things</p> <p>I can use a simple key to represent and identify animals and plants in local habitats.</p> <p>I can make and understand a variety of food chains, identifying producers, predators and prey.</p> <p>I can explain how environments can change and that this can pose dangers to living things.</p> | <p>I can describe and explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>I can use scientific vocabulary to describe life processes, e.g. pollination in flowering plants</p> <p>I can describe the key functions of a plant using scientific terms including reproduction.</p> <p>I can describe the features and functions of the stigma, root and leaf.</p> <p>I can describe the life process of reproduction in some plants and animals.</p> <p>I can use keys to help</p> | <p>I can describe how living things are classified into broad groups according to common characteristics and based on similarities and differences</p> <p>I can give reasons for classification of plants and animals based on specific characteristics.</p> <p>I can describe the feeding relationships between plants and animals in a range of habitats.</p> |
| Forces and Magnets | <p>I can talk about the different forces I can feel (push and pull)</p> | <p>I can talk about the natural world around me.</p> | | | <p>I can compare how objects move on different surfaces.</p> <p>I can observe how magnets attract or repel each other</p> <p>I can explain how magnets have two poles.</p> <p>I can observe how some forces behave in different ways e.g magnets and friction</p> <p>I can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet</p> <p>I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p> | | <p>I can identify the effects of air resistance, water resistance and friction that act between moving surfaces.</p> <p>I can explain how some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p> <p>I can recognise that weight is a force and is measured in Newton's.</p> <p>I can use a Force meter accurately.</p> <p>I can understand that when an object is at rest the forces are balanced.</p> <p>I understand that unsupported objects fall to Earth because of the force of gravity acting between the Earth and the falling object.</p> | |

| | <u>Nursery</u> | <u>Reception</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> | <u>Year 6</u> |
|---------------------------|--|--|---|--|--|---|--|---------------|
| Range of Materials | I can use my senses to explore different materials | I can use my senses to explore the natural world. I can talk about changes of state in everyday life. | Distinguish between an object and the material from which it is made. Identify and name some everyday materials. Use senses to explore a wide range of materials. | Identify and name a variety of everyday materials, including wood, plastics, glass, metal, water and rock. Describe the physical properties of a range of everyday materials. Identify and compare the suitability of a range of everyday materials based on simple physical properties, e.g. smooth, soft, hard Talk about what common materials are used for, e.g. glass for windows. | I can compare and group different kinds of rocks based on appearance and simple physical properties. I can describe how fossils are formed when things that have lived are trapped within a rock. I can explain that soils are made from rocks and organic matter. | I can use my knowledge and understanding of materials to sort and group them I can compare and group materials together deciding whether they are solids, liquids or gases. I can describe the difference between solids and liquids I can explain that some materials change state when heated or cooled and that some can be reversed (changed back) and some are irreversible (cannot change) I can measure the temperature at which materials change state when heated or cooled. I can explain how some things dissolve I can describe evaporation and condensation in the water cycle | I can compare and group everyday materials based on evidence from comparative and fair tests. I can show that dissolving, mixing and changes of state are reversible changes using practical materials I can give reasons why materials are used for a specific task or purpose. I can explain how some materials will dissolve in liquid to form a solution, and how to recover a substance from a solution. I can use my knowledge of solids, liquids and gases to decide how mixtures might be separated through filtering, sieving and evaporating. I can demonstrate and explain how dissolving, mixing and changes of state are reversible changes. I can explain that some reversible changes result in the formation of new materials. | |

| | <u>Nursery</u> | <u>Reception</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> | <u>Year 6</u> |
|--------------------|----------------|------------------|---------------|---------------|---------------|--|---------------|---|
| <u>Electricity</u> | | | | | | <p>I can describe why a bulb won't light and identify the problem within the circuit.</p> <p>I can construct and record a simple series circuit, and name its basic parts.</p> <p>I can explain that a bulb only lights up when there is an effective conducting material in the circuit and it is part of a complete circuit.</p> <p>I can describe what happens when making and breaking a circuit, recognising the function of a switch.</p> <p>I can identify common appliances that run on electricity.</p> <p>I can recognise common conductors and insulators and associate metals with being good conductors</p> | | <p>I can record and construct a series electrical circuit, identifying and naming its parts.</p> <p>I can explain the link between the brightness of a bulb or volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>I can compare and give reasons for variations in how components function (brightness of bulbs, the loudness of buzzers and the on/off position of switches).</p> <p>I can use recognised symbols when representing a simple circuit diagram.</p> <p>I can identify whether or not a bulb will light in a circuit based on whether or not the bulb is part of a complete loop with a battery.</p> <p>I can identify that a switch opens and closes a circuit and the impact on a bulb within a series circuit.</p> <p>I can use my knowledge of conductors & insulators to construct wires.</p> |

Threshold Concepts Attainment Map in Science

| | <u>Nursery</u> | <u>Reception</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> | <u>Year 6</u> |
|--------------|----------------|------------------|---------------|---------------|--|--|---------------|--|
| Light | | | | | <p>I can explain that light is needed to see things and that dark is the absence of light.</p> <p>I can show and explain that shadows are formed when light from a light source is blocked by a solid object.</p> <p>I can see that light is reflected from surfaces.</p> <p>I can explain how light from the sun is dangerous and that there are ways to protect the eyes.</p> <p>I can find patterns that control the size of shadows.</p> | | | <p>I can recognise and explain how light appears to travel in straight lines.</p> <p>I can use the idea that light travels in straight lines to explain why shadows have the same shape as the object that casts them.</p> <p>I can use my knowledge of how light travels to explain the formation of shadows.</p> <p>I can use the idea that light travels in straight lines to explain that objects can be seen because they give out or reflect light into the eye.</p> <p>I can explain that things are seen because light travels from light sources to the eye or from light sources to objects and then to the eye.</p> |
| Sound | | | | | | <p>I can describe how sound travels and how it can be changed.</p> <p>I can find patterns between the pitch of a sound and the object that produced it.</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produce it.</p> | | |

Science KS1 Vocabulary

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| Working Scientifically | <p><u>Year 1</u> question, answer, observe, observing, equipment, identify, sort, group, compare, differences, similarities, describe, measurements: length, height, mass, time, test, results, record – diagram, chart, pictogram, block graph, table, classify, contrast, describe</p> | <p><u>Year 2</u> question, answer, observe, observing, equipment, identify, sort, group, compare, differences, similarities, describe, measurements, test, results, record – diagram, chart, classify, data</p> |
| Animals including humans | <p><u>Year 1</u> amphibians, fish, reptiles, mammals, birds (+ 1 example of each) herbivore, omnivore, carnivore, bones, skeleton, muscles, head, nose, ear, neck, shoulder, arm, elbow, wrist, hand, back, chest, hip, leg, knee, ankle, foot wing, beak, tail, fin sight, smell, touch, taste, hearing, habitat, living, non-living</p> | <p><u>Year 2</u> survival, water, air, food reproduce, adult, baby, offspring, kitten, calf, puppy food chain, prey, predator, camouflage, protection exercise, hygiene, balanced diet, backbone, off spring, life cycle, medicine, disease, change, adults, water, food, air survival, food types (fruit and veg, bread, rice, pasta, milk, dairy, foods high in fat and sugar, meat, fish, eggs, beans)</p> |
| Plants | <p><u>Year 1</u> deciduous, evergreen, tree, leaf, flower (blossom), petals, fruit, bulb, seed, roots, stem, trunk, branches, plant, vegetable, garden, herb, weed, grow, warmth, light, crops, harvest, transport, shoot</p> | <p><u>Year 2</u> growth, germinate, sunlight, temperature, heat, reproduce, lifecycle, bud, blossom, water, nutrients, anchor, soil, germination, light, healthy, shoot, seedling, seedlings</p> |
| Everyday materials and their uses | <p><u>Year 1</u> Materials, objects, wood, plastic, glass, paper, metal, rock, properties, hard, soft, rough, smooth, shiny, dull, bendy, stiff, opaque, transparent, can, recycling, magnets, magnetic, non-magnetic</p> | <p><u>Year 2</u> materials, use, brick, fabric, elastic, foil. property, solid, waterproof, absorbent, squash, bend, flexible, twist, stretch, push, pull, roll, slide, bounce, man-made, natural</p> |
| Seasonal change | <p><u>Year 1</u> season, spring, summer, autumn, winter, month, year, day, night, sun, moon, light, dark, weather, hot, warm, cool, cold, sunny, cloudy, windy, rainy, snowing, hailing, sleet, frost, fog, mist, icy, rainbow, thunder, lightning, storm, thermometer, rain gauge, wind vane, cirrus, cumulus, stratus, forecast, meteorologist</p> | <p><u>Year 2</u></p> |
| Living things & their habitats | <p><u>Year 1</u></p> | <p><u>Year 2</u> living, dead, habitat, microhabitat, woodland, meadow, hedgerow, pond, mini beast, food chain, under logs, stony path, under bushes, suited, basic needs, depend, food, shelter, survive, life processes, predator, prey, desert, environment, Polar region</p> |

| Science LKS2 Vocabulary | | |
|-------------------------|--|--|
| Working Scientifically | <p><u>Year 3</u></p> <p>Experiment, fair test, variables, prediction, observation, accuracy, results, diagram, conclusion, oral and written explanations, conclusion, predictions, criteria, classify, changes, data, contrast, evidence, improve, keys, construct, interpret research – relevant question equipment – thermometer, data – gather, standard units, record, classify, present record – drawings, labelled diagrams, keys, bar charts, tables</p> | <p><u>Year 4</u></p> <p>Experiment, fair test, variables, prediction, observation, accuracy, results, diagram, conclusion, oral and written explanations, conclusion, predictions, criteria, classify, changes, data, contrast, evidence, improve, keys, construct, interpret research – relevant question equipment – thermometer, data – gather, standard units, record, classify, present record – drawings, labelled diagrams, keys, bar charts, tables</p> |
| Plants | <p><u>Year 3</u></p> <p>Plants, light, warmth, water, leaves, roots, leaf, flower, blossom, petal, fruit, stem, grow, growth, height, petals, flower, fruit, seeds, bulb, seed trunk, branch, light, air, nutrients, soil, fertiliser, grow, healthy, transported, life cycle, transportation, nutrients, soil, reproduction, function, dispersal, pollination, life cycle, seed formation, oxygen, carbon dioxide, photosynthesis, chlorophyll</p> | <p><u>Year 4</u></p> |
| Animals inc Humans | <p><u>Year 3</u></p> <p>feed growth, activity, food groups, root, decay, food, balanced diet, cereals, fish, meat, vegetables, sugars, fats, fruits, starches, diet, healthy, unhealthy, nutrition, energy, fibre, minerals, vitamins, hydration, water, saturated fats, carbohydrates, protein, stomach, small intestine, large intestine, nutrients, absorb, calcium</p> | <p><u>Year 4</u></p> <p>Skeleton, bone, ribs, spine, skull, vertebrate, contract, relax, joint, move, movement, muscle, support, protection, tendons tooth, teeth, incisor, molar, canine, enamel, chew, cut, mouth, tongue</p> <p>oesophagus, digestive system, enzymes, saliva</p> |
| Rocks & Soils | <p><u>Year 3</u></p> <p>Rock, slate, granite, sandstone, chalk, soil, clay, sand, limestone, quartz, marble, stone, pebble, texture, absorbent, characteristics, surface, igneous rock, sedimentary rock, erosion, fossilisation, permeable, impermeable, metamorphic rock, magma, lava, sediment, fossil, pumice, crystals, pressure</p> | <p><u>Year 4</u></p> |
| Light | <p><u>Year 3</u></p> <p>Light, dark, shadow, transparent, opaque, direction, light travels, translucent, shortest, longest, highest, object, material, light source, sun, night, day, reflection, reflective, ray, light beam, pupil, retina, natural, man-made, artificial, mirror</p> | <p><u>Year 4</u></p> |
| Magnets and Springs | <p><u>Year 3</u></p> <p>Magnet, spring, metal, iron, copper, aluminum, steel, brass, attract, repel, magnetic, non-magnetic, force, friction, air resistance, water resistance, force meter, newtons, surface, resists, surface, poles, compass, push, pull, repulsion, bar magnet, horse shoe magnet, contact,</p> | |

Science LKS2 Vocabulary

| | | | |
|---|----------------------|--|---|
| <p>Living things & their habitats</p> | <p><u>Year 3</u></p> | <p><u>Year 4</u></p> <p>Habitat, nutrition, environment, keys, condition, consumer, producer, organism, predator, prey, food chain, amphibian, biomes, bird, carnivore, classification key, criteria, environment, excretion, fish, herbivore, invertebrate, life processes, mammal, microhabitat, nutrition, omnivore, organism, reproduction, reptile,</p> <table border="1" data-bbox="1355 598 2110 662"> <tr> <td>respiration, sensitivity, vegetation, vertebrate, features.</td> </tr> </table> | respiration, sensitivity, vegetation, vertebrate, features. |
| respiration, sensitivity, vegetation, vertebrate, features. | | | |
| <p>States of Matter</p> | <p><u>Year 3</u></p> | <p><u>Year 4</u></p> <p>Liquid, melt, freeze, solidify, dissolve, solution, filter, separate, sieve, mix, evaporation, condensation, degrees, Celsius, state, solid, liquid, gas, state of matter, water vapour, temperature, precipitation, heat, cold, thermometer, particles, transpiration, freezing</p> | |
| <p>Sound</p> | <p><u>Year 3</u></p> | <p><u>Year 4</u></p> <p>Sound, vibration, sound travels, ears, pitch, volume, patterns, sound source, distance, sound proof. absorb sound, ear drum: stirrup, anvil, hammer, cochlea, sound wave, tone, insulation, frequency, hertz, decibels, echo, tension, amplify, energy</p> | |
| <p>Electricity</p> | <p><u>Year 3</u></p> | <p><u>Year 4</u></p> <p>Electricity, electrical, circuit, battery, cell, bulb, crocodile clip, buzzer, motor, conduct, conductor, insulate, switch, power, bright, dim, batteries, component, current, connected, break, flow, generate, renewable, appliances, wires, device, energy, mains. Series, appliances, mains, parallel</p> | |

| Science UKS2 Vocabulary | | |
|--|---|---|
| Working Scientifically | <p><u>Year 5</u> Experiment, fair test/control variables, variables, prediction, observation, accuracy, results, diagram, conclusion, variables, controlled, variables, precision, evidence, present, plan, measurements, accuracy, repeat readings, further comparative and fair test, identify, classify and describe, patterns, systematic, quantitative measurements report data – scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs report and present – conclusions, explanations, degree of trust, oral and written display and presentation evidence – support, refute, ideas or arguments</p> | <p><u>Year 6</u> Experiment, fair test/control variables, variables, prediction, observation, accuracy, results, diagram, conclusion, variables, controlled, variables, precision, evidence, present, plan, measurements, accuracy, repeat readings, further comparative and fair test, identify, classify and describe, patterns, systematic, quantitative measurements report data – scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs report and present – conclusions, explanations, degree of trust, oral and written display and presentation evidence – support, refute, ideas or arguments</p> |
| Living things and their habitats | <p><u>Year 5</u> reproduce, reproduction, stamen, stigma, sepal, petal, ovary, pollen, style, germination, fertilisation, pollination, dispersal, lifecycle, childhood, adolescence, adulthood, asexual reproduction, gestation, metamorphosis, cell, offspring,</p> | <p><u>Year 6</u> Micro-organisms, microbe, germ, virus, reproduce, bacteria, classifying, classification, characteristics, microscope, fungi, species, domain, taxonomist, key, kingdom, family, order, dichotomous, chloroplast</p> |
| Animals inc Humans | <p><u>Year 5</u> Growth, development, height, puberty, pubic hair, breasts, testicles, scrotum, vagina, vulva, ovaries, ovulation, womb, cervix, uterus, sperm, penis, larynx, menstruation, egg, fallopian tubes, baby, toddler, adolescent, reproduce, hormones, gestation, inherit, genes, embryo, foetus</p> | <p><u>Year 6</u> balanced, side effects, fats, sugars, starches, food types, heart, circulation, heartbeat, pulse, pulse rate, muscle, blood, blood vessel, breathe, growth, activity, function, circulatory system, heart, valve, blood vessel, vein, artery transport, oxygenated, deoxygenated lifestyle, drug, respiration, atrium, organ, nutrients, lungs, carbon dioxide, ventricle, oxygen, capillaries, red blood cells, white blood cells, gaseous exchange, stethoscope</p> |
| Properties & changes of materials | <p><u>Year 5</u> Flexible, waterproof, absorbent, shiny, dull, rigid, opaque, compare, transparent, translucent, properties, characteristic, soluble, conductivity, dissolve, electrical conductor, evaporation, filtration, filtering, sieving, magnetism, reversible, irreversible, saturate, rusting, reaction, residue, thermal conductivity,</p> | |

| Science UKS2 Vocabulary | | |
|-------------------------|--|---|
| Earth & Space | <p><u>Year 5</u></p> <p>Earth, sun, moon, sphere, revolve, orbit, spin, rotate, axis, sunrise, sunset, north, galaxy, gravity, leap year, planet, universe, celestial body, star, sphere, phases of the moon, constellation, Solar System, geocentric model, heliocentric model, Sundial, astronomy, Aurora Borealis, Black hole, Lunar, NASA, hemisphere, Satellite</p> | <p><u>Year 6</u></p> |
| Forces | <p><u>Year 5</u></p> <p>Gravity, earth, air resistance, water resistance, friction, surfaces: smooth, rough, carpet, ice, water, mechanism, levers, pulleys, gears, force, transfer, low friction, high friction, equilibrium, mass, fall, weight, up thrust, buoyancy, Newton's, Newton metre, accelerate, fulcrum, balanced, momentum, velocity, kilojoules</p> | <p><u>Year 6</u></p> |
| Evolution & Inheritance | <p><u>Year 5</u></p> | <p><u>Year 6</u></p> <p>Plant growth, nutrients, fossils, earth, offspring, variation, adapt, evolution, inheritance, extreme conditions, survive, paleontologists, mutation, extinct, species, adaption, characteristics, natural selection, genes, genetics, breed, cross breed, variants, ancestor, generation</p> |
| Light | <p><u>Year 5</u></p> | <p><u>Year 6</u></p> <p>Light, beam, reflect, reflection, opaque, mirror, source, travel, block, surface, eye, shadows, refraction, angle, dark, torch, translucent, transparent, optic nerve, sensory receptors, cornea, retina, iris, pupil, lens, image, signal, rectify, filter, spectrum, rainbow, periscope, prism, convex, concave, kaleidoscope, angle of incidence, angle of reflection, rainbow</p> |