

Year		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	N	<p>Asks questions – what/where/why Answers ‘why’ questions. Uses sentences with 4 -6 words “I want to play with cars”, including 4-6 word questions. Uses joined up words because/or/and when asking and answering a question. Cooperates with other children. Develop manipulation and control. Explore different materials and tools. Observe what they see and talk about it using newly learnt vocabulary Explore natural materials and their own environment. Listen to simple stories and understand what is happening. Begins to make sense of own life story.</p>					
	R	<p>Asks questions to find out more. Able to articulate ideas in well-formed sentences and to work out problems and organise thinking. Developing fine motor skills. Using small and large equipment with skill. Able to explore the natural world – use senses, songs, close observation and drawings. Able to make collections of natural objects they are interested in. Using new vocabulary, hold a back and forth conversation. Describes events in detail and uses connectives.</p>					
Links to future learning		Science teaching in EYFS focusses on allowing children to develop their vocabulary so that they can understand and explain the more challenging concepts that they will encounter in future years. Children will be experimenting, observing and measuring in a variety of contexts throughout the year.					
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I		<p>Seasonal Changes (revisited throughout the year) Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p> <p>Ask questions based on observations. Have their questions answered by people around them. When questioned/ prompted or with support, verbally make predictions based on observations. Observe changes over time. With support, use observations to answer questions. Record simple data to answer questions.</p>					
		<p>TAPS Assessment – Senses walk Can children use their senses to make observations in their local environment? Can children talk about their observations? With support, use observations to answer questions When questioned / prompted, or with support, make predictions based on observations Record simple data to answer questions</p> <p>Everyday 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, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>When questioned/ prompted or with support, verbally make predictions based on observations. Using equipment already provided, perform simple tests which have been planned as a whole class. Describe observations to identify, compare and group, using simple equipment. Record simple data to answer questions.</p> <p>Animals, Including Humans Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Talk about what they have found out and how they found it out. Begin to use scientific language when talking about their results. Check their results make sense using peer and self-assessment. Ask pupils the questions ‘Do you now know the answer to the question from the beginning of the test?’</p> <p>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.</p> <p>Ask questions based on observations. Have their questions answered by people around them. When questioned/ prompted or with support, verbally make predictions based on observations. Using equipment already provided, perform simple tests which have been planned as a whole class. Describe observations to identify, compare and group, using simple equipment. With support, use observations to answer questions.</p> <p>Living Things and Their Habitats (Extra topic) Identify things that are living, dead, and things that have never been alive. Name a variety of different habitats and match animals to their habitats. Identify where some animals obtain their food.</p> <p>Talk about what they have found out and how they found it out. Begin to use scientific language when talking about their results. Check their results make sense using peer and self-assessment. Ask pupils the questions ‘Do you now know the answer to the question from the beginning of the test?’</p> <p>TAPS Assessment – Woodlice tally Talk about what they have found out and how they found it out Begin to use scientific language when talking about their results Check their results make sense using peer and self-assessment Ask pupils the questions ‘Do you now know the answer to the question from the beginning of the test?’</p>					

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2	<p>Living Things and their Habitats <i>Explore and compare the differences between things that are living, dead, and things that have never been alive.</i> <i>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.</i> <i>Identify and name a variety of plants and animals in their habitats, including microhabitats.</i> <i>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.</i></p> <p>Ask simple questions and recognise that they can be answered in different ways. Use observations to identify, describe, compare, group and explain observations and reasoning for grouping. Use observations to answer questions. Present what they have learnt and how they found it out. With help, communicate this in a variety of ways, including orally or written and use scientific language when communicating their results.</p>		<p>Animals, Including Humans <i>Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</i> <i>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</i></p> <p>Ask simple questions and recognise that they can be answered in different ways. Observe and comment on patterns and relationships. Use observations to answer questions. With help, record data in different ways to answer questions. Present what they have learnt and how they found it out. With help, communicate this in a variety of ways, including orally or written and use scientific language when communicating their results.</p>	<p>Plants <i>Observe and describe how seeds and bulbs grow into mature plants.</i> <i>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</i></p> <p>When questioned, independently make a prediction based on observations. Using equipment already provided, perform simple tests which have been planned as a whole class but children may make changes of their own / thinking of their own ideas, whilst performing the test. Observe and comment on patterns and relationships. With help, record data in different ways to answer questions.</p>	<p>Uses of Everyday Materials <i>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</i></p> <p>Ask simple questions and recognise that they can be answered in different ways. Begin to use secondary sources to answer them. Using equipment already provided, perform simple tests which have been planned as a whole class but children may make changes of their own / thinking of their own ideas, whilst performing the test. Use observations to identify, describe, compare, group and explain observations and reasoning for grouping. Check their results make sense and their results answer the question they asked or were asked in the first instance. Ask pupils the questions 'Do you now know the answer to the question from the beginning of the test?' If pupils answer no, follow up with 'What other questions can we ask to find and answer?'</p>	<p>TAPS Assessment – Ice Escape Ask simple questions and recognise that they can be answered in different ways. Use observations to identify, describe, compare, group and explain observations and reasoning for grouping. Use observations to answer questions. Present what they have learnt and how they found it out. With help, communicate this in a variety of ways, including orally or written and use scientific language when communicating their results.</p>

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3	<p>Animals, Including Humans Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>With support, make decisions about how to record data. Record data using notes tables and diagrams. Use results to draw simple conclusions and report on these findings including oral conclusions and a simple written explanation.</p>	<p>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. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p> <p>Ask questions and use their observations to answer them. With support and with equipment provided, recognise what a fair test is and suggest how to set up a simple, fair test tests before carrying it out. Begin to use standard units of measurements when recording data. Help make decision about how to analyse the data. With support, improve what they have already done. Compare how things move on different surfaces.</p>	<p>Rocks 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.</p> <p>Use a variety of secondary sources to answer questions. Suggest what observations to make. Through observations, identify differences, similarities. After making careful observations using a range of equipment. Identify and classify differences, similarities and/or changes from observations. Pupils should begin to use relevant scientific language to discuss their ideas and communicate their findings.</p> <p>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.</p> <p>Introduction to classification keys. 2/3 lessons. Look at TAPS assessments for guidance</p>	<p>Hawthorn – Summer 1 Birch – Spring 2 Pine – Spring 2</p> <p>Materials / States of Matter (Extra topic) Identify materials and group them according to whether they are a solid, liquid or gas. Identify the properties of solids, liquids and gasses. Observe and identify the differences in solids, liquids and gasses. Name the main parts of the water cycle. Use a variety of secondary sources to answer questions With support and with equipment provided, recognise what a fair test is and suggest how to set up a simple, fair test tests before carrying it out Use results to draw simple conclusions and report on these findings including oral conclusions and a simple written explanation</p>	<p>Hawthorn – Spring 2 Birch – Summer 1 Pine – Summer 1</p> <p>Light Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.</p> <p>Ask questions and use their observations to answer them. Suggest what observations to make. Through observations, identify differences, similarities. With support, make decisions about how to record data. Record data using notes tables and diagrams. Begin to use standard units of measurements when recording data.</p>	<p>Plants Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>From observations, make predictions for the next set of results. After making careful observations using a range of equipment. Identify and classify differences, similarities and/or changes from observations. Pupils should begin to use relevant scientific language to discuss their ideas and communicate their findings.</p>

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	<p>Sound</p> <p>Maple Autumn 1 Beech Autumn 2 Ash Autumn 2</p> <p><i>Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it.</i></p> <p><i>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</i></p> <p><i>Recognise that sounds get fainter as the distance from the sound source increases</i></p> <p>Using results make predictions for the next set of results. Use scientific vocabulary from the experiment when doing so.</p> <p>Set up simple own practical enquiries, comparative (less control over variable) and fair tests.</p> <p>Make careful and systematic observations using a range of equipment.</p> <p>Use these observations to identify and differences, similarities or changes related to simple scientific ideas and processes, i.e naturally occurring patterns and relationships.</p> <p>Record using standard units of measurements.</p> <p>Pupils should use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences.</p>	<p>TAPS Assessment – Dunking Biscuits</p> <p>Beech Autumn 1 Ash Autumn 1 Maple Autumn 2</p> <p>Ask questions and use different types of scientific enquiries and evidence (secondary sources) to answer them and support their findings.</p> <p>Suggest what observations to make, how long to make them for and what equipment to use to make the observations.</p> <p>Make decisions about how to record data using notes, tables drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Use the results to draw simple conclusions report this in a variety of ways, using a detailed written or oral explanation.</p> <p>Set up simple own practical enquiries, comparative (less control over variable) and fair tests.</p>	<p>States of Matter</p> <p><i>Compare and group materials together, according to whether they are solids, liquids or gases.</i></p> <p><i>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).</i></p> <p><i>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</i></p> <p>Using data collected, suggest new questions to ask.</p> <p>Using results make predictions for the next set of results. Use scientific vocabulary from the experiment when doing so.</p> <p>Through observations, identify differences, similarities and changes.</p> <p>Make decisions about how to record data using notes, tables drawings, labelled diagrams, keys, bar charts, and tables.</p>	<p>Electricity</p> <p><i>Identify common appliances that run on electricity.</i></p> <p><i>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</i></p> <p><i>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.</i></p> <p><i>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</i></p> <p>Using data collected, suggest new questions to ask.</p> <p>Set up simple own practical enquiries, comparative (less control over variable) and fair tests.</p> <p>Through observations, identify differences, similarities and changes.</p> <p>Make decisions about how to record data using notes, tables drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Make decisions about how to analyse the data. Suggest improvements and raise further questions.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Animals, Including Humans</p> <p><i>Describe the simple functions of the basic parts of the digestive system in humans and how diet and exercise and can affect this.</i></p> <p><i>Identify the different types of teeth in humans and their simple functions.</i></p> <p><i>Construct and interpret a variety of food chains, identifying producers, predators and prey.</i></p> <p>Ask questions and use different types of scientific enquiries and evidence (secondary sources) to answer them and support their findings.</p> <p>Suggest what observations to make, how long to make them for and what equipment to use to make the observations.</p> <p>Use the results to draw simple conclusions report this in a variety of ways, using a detailed written or oral explanation.</p>	<p>Living Things and Their Habitats</p> <p><i>Identify and sort animals into: mammal, an amphibian, an insect and a bird.</i></p> <p><i>Use classification keys to sort the above. Be able to explain how animals adapt to suit their environment and habitat.</i></p> <p><i>Recognise that environments can change and that this can sometimes pose dangers to living things</i></p> <p>Ask questions and use different types of scientific enquiries and evidence (secondary sources) to answer them and support their findings.</p> <p>Suggest what observations to make, how long to make them for and what equipment to use to make the observations.</p> <p>Make decisions about how to record data using notes, tables drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Use the results to draw simple conclusions report this in a variety of ways, using a detailed written or oral explanation.</p>

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5	<p>Animals, Including Humans</p> <p><i>Describe the simple functions of the basic parts of the digestive system in other animals.</i></p> <p><i>Describe the changes as humans develop to old age.</i></p> <p><i>Describe the changes in a variety of animals as they develop to old age.</i></p> <p><i>Recognise the impact of diet and exercise on the way our bodies function.</i></p> <p>Plan different types of scientific enquiries to answer questions. Make own decisions about what observations to make, what measurements to take and what equipment to use to do this. Report and present findings from enquiries including conclusions, causal relationships (when one variable causes a change in another variable) in oral and written forms. Set up further comparative (when one variable causes a change in another variable) and fair tests based on previous test results.</p>	<p>Earth and Space</p> <p>Willow – Spring 1 Sycamore – Autumn 2 Olive – Autumn 2</p> <p><i>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</i></p> <p><i>Describe the movement of the Moon relative to the Earth.</i></p> <p><i>Describe the Sun, Earth and Moon as approximately spherical bodies.</i></p> <p><i>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</i></p> <p>Plan different types of scientific enquiries to answer questions. Use test results to make more accurate predictions. Explain predictions with reasoning. Be given familiar modelled options of how to record data of e.g. tables, charts diagrams, labels, classification keys. Report and present findings from enquiries including conclusions, causal relationships (when one variable causes a change in another variable) in oral and written forms.</p>	<p>Forces</p> <p><i>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</i></p> <p><i>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</i></p> <p><i>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</i></p> <p>Use test results to make more accurate predictions. Explain predictions with reasoning. Plan own and different types of scientific tests, sometimes deciding own equipment to use. Recognise variables and with support, decide how to control these variables. Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Set up further comparative (when one variable causes a change in another variable) and fair tests based on previous test results.</p>	<p>TAPS Assessment – Champion Tape</p> <p>Willow – Autumn 2 Sycamore – Spring 1 Olive – Spring 1</p> <p>Report and present findings from enquiries including conclusions, causal relationships (when one variable causes a change in another variable) in oral and written forms. Use test results to make more accurate predictions. Explain predictions with reasoning. Plan own and different types of scientific tests, sometimes deciding own equipment to use. Recognise variables and with support, decide how to control these variables. Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</p>	<p>Living Things and Their Habitats</p> <p><i>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</i></p> <p><i>Describe the life process of reproduction in some plants and animals.</i></p> <p>Plan own and different types of scientific tests, sometimes deciding own equipment to use. Be given familiar modelled options of how to record data of e.g. tables, charts diagrams, labels, classification keys. Report and present findings from enquiries including conclusions, causal relationships (when one variable causes a change in another variable) in oral and written forms.</p>	<p>Properties and Changes of Materials</p> <p><i>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.</i></p> <p><i>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</i></p> <p><i>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</i></p> <p><i>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</i></p> <p><i>Demonstrate that dissolving, mixing and changes of state are reversible changes.</i></p> <p><i>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.</i></p> <p>Recognise variables and with support, decide how to control these variables. Make own decisions about what observations to make, what measurements to take and what equipment to use to do this. Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Report and present findings from enquiries including conclusions, causal relationships (when one variable causes a change in another variable) in oral and written forms.</p>

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6	<p>Materials / States of Matter (Extra topic) Recognise which secondary sources will be most useful to research their ideas. Use test results to make more accurate predictions, explaining with reasoning. Use results to set up a more accurate follow up test to test predictions. Decide how to record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. They should use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p>	<p>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 microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Plan own and different types of scientific tests, deciding own equipment to use. Draw together other scientific enquiry skills to perform these tests, i.e the predictions they have made or previous observations they have made. They have decided to set up and perform this test for a reason. Decide how to record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p>	<p>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 light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables. Plan own and different types of scientific tests, deciding own equipment to use. Recognise variables and decide how to control these variables and why they need controlling. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Identify and use scientific evidence to support or refute ideas or arguments. Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.</p>	<p>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.</p> <p>Recognise which secondary sources will be most useful to research their ideas. Make own decisions about what observations to make, how long to make them, what measurements to take and whether to repeat them. Chose the most appropriate equipment and explain how to use it accurately. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results. Present this in a variety of ways. Identify and use scientific evidence to support or refute ideas or arguments. Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.</p>	<p>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. Describe the ways in which nutrients and water are transported within animals, including humans. Recognise variables and decide how to control these variables and why they need controlling. Draw together other scientific enquiry skills to perform these tests, i.e the predictions they have made or previous observations they have made. They have decided to set up and perform this test for a reason. Chose the most appropriate equipment and explain how to use it accurately.</p>	<p>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 when representing a simple circuit in a diagram.</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables. Use test results to make more accurate predictions, explaining with reasoning. Use results to set up a more accurate follow up test to test predictions. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Set up further comparative (when one variable causes a change in another variable) and fair tests based on previous test results.</p>