

## Science within EYFS



- Show curiosity about objects, events and people Playing and exploring
- engage in open-ended activity Playing and Exploring
- Take a risk, engage in new experiences and learn by trial and error Playing and Exploring
- Find ways to solve problems/ find new ways to do things/ test their ideas Creating Thinking Critically
- Develop ideas of grouping, sequences, cause and effect Creating & Thinking Critically thinking know about similarities and differences in relation to places, objects, materials and living things ELG; The World
- Comments and ask questions about aspects of their familiar World such as the place where they live or the natural world The World; 30-50 months
- Closely observes what animals, people and vehicles do The World 8-20 months
- Use senses to explore the world around them Playing and Exploring
- Make links and notice patterns in their experience Creating & Thinking Critically
- Choose the resources they need for their chosen activities ELG: Self-confidence and Self Awareness
- Handle equipment and tools effectively ELG: Moving and Handling
- Create simple representation of events, people and objects Being imaginative 40-60 + months
- Answer how and why questions about their experiences ELG: Understanding make observations of animals and plants and explain why some things occur, and talk about changes ELG: The World
- Develop their narratives and explanations by connecting ideas or events ELG: Speaking Builds up Vocabulary that reflects the breadth of their experience Understanding 30-50 months

# National Curriculum-Progression in Science

## Science Progression of skills Year 1



	Working Scientifically <b>(Statutory in BOLD)</b>	KS1
National Curriculum Programme of Study	<p><b>asking simple questions and recognising that they can be answered in different ways</b></p> <p><b>observing closely, using simple equipment and measurement</b></p> <p><b>performing simple tests</b></p> <p><b>identifying and classifying</b></p> <p><b>using their observations and ideas to suggest answers to questions</b></p> <p><b>gathering, recording and communicating data and findings to help in answering questions.</b></p> <p>use scientific language and read and spell age-appropriate scientific vocabulary</p> <p>begin to notice patterns and relationships.</p>	<p><u>Plants</u></p> <p>P1 identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>P2 identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p><u>Animals, including Humans</u></p> <p>AH1 identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>AH2 identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>AH3 describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>AH4 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><u>Everyday Materials</u></p> <p>EM1 distinguish between an object and the material from which it is made</p> <p>EM2 identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>EM3 describe the simple physical properties of a variety of everyday materials</p> <p>EM4 compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p><u>Seasonal Changes</u></p> <p>SC1 observe changes across the four seasons</p> <p>SC2 observe and describe weather associated with the seasons and how day length varies.</p>

# National Curriculum-Progression in Science

## Science Progression of skills Year 2



	Working Scientifically <b>(Statutory in BOLD)</b>	KS1
National Curriculum Programme of Study	<p><b>asking simple questions and recognising that they can be answered in different ways</b></p> <p><b>observing closely, using simple equipment and measurement</b></p> <p><b>performing simple tests</b></p> <p><b>identifying and classifying</b></p> <p><b>using their observations and ideas to suggest answers to questions</b></p> <p><b>gathering, recording and communicating data and findings to help in answering questions.</b></p> <p>use scientific language and read and spell age-appropriate scientific vocabulary</p> <p>begin to notice patterns and relationships.</p>	<p><u>Living Things and their Habitats</u></p> <p>LH1 explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>LH2 identify that most living things live in habitats to which they are suited</p> <p>LH3 describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p>LH4 identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>LH5 describe how animals obtain their food from plants and other animals</p> <p>LH6 understand a simple food chain, and identify and name different sources of food.</p> <p><u>Plants</u></p> <p>P1 observe and describe how seeds and bulbs grow into mature plants</p> <p>P2 find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p><u>Animals including Humans</u></p> <p>AH1 notice that animals, including humans, have offspring which grow into adults</p> <p>AH2 find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>AH3 describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p><u>Uses of Everyday Materials</u></p> <p>EM1 identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>EM2 find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>

# National Curriculum-Progression in Science

## Science Progression of skills Year 3



	<b>Working Scientifically (Statutory in BOLD)</b>	KS2
<p>National Curriculum Programme of Study</p>	<p>asking relevant questions and using different types of scientific enquiries to answer them</p> <p>setting up simple practical enquiries, comparative and fair tests</p> <p>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings</p>	<p><u>Plants</u></p> <p>P1 identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>P2 explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>P3 investigate the way in which water is transported within plants</p> <p>P4 explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>P5 know that plants make their own food</p> <p><u>Animals including Humans</u></p> <p>AH1 identify that animals, including humans, need the right types and amount of nutrition, and that they</p> <p>AH2 cannot make their own food; they get nutrition from what they eat</p> <p>AH3 identify that humans and some animals have skeletons and muscles for support, protection and movement.</p> <p><u>Rocks</u></p> <p>R1 compare and group together different kinds of rocks (including those in the locality) on the basis of appearance and simple physical properties</p> <p>R2 describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>R3 recognise that soils are made from rocks and organic matter.</p> <p><u>Light</u></p> <p>L1 recognise that they need light in order to see things and that dark is the absence of light</p> <p>L2 notice that light is reflected from surfaces</p> <p>L3 recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>L4 recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>L5 find patterns in the way that the size of shadows change.</p> <p><u>Forces and Magnets</u></p> <p>FM1 compare how things move on different surfaces</p> <p>FM2 notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>FM3 observe how magnets attract or repel each other and attract some materials and not others</p> <p>FM4 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</p> <p>FM5 describe magnets as having two poles</p> <p>FM6 predict whether two magnets will attract or repel each other, depending on which poles are facing</p>

# National Curriculum-Progression in Science

## Science Progression of skills Year 4



	Working Scientifically ( <b>Statutory in BOLD</b> )	KS2
National Curriculum Programme of Study	<p>asking relevant questions and using different types of scientific enquiries to answer them</p> <p>setting up simple practical enquiries, comparative and fair tests</p> <p>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings</p>	<p><u>Living things and their Habitats</u>                      LH1 recognise that living things (including those in the locality) can be grouped in a variety of ways                      LH2 explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment                      LH3 recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><u>Animals including Humans</u>                      AH1 describe the simple functions of the basic parts of the digestive system in humans                      AH2 identify the different types of teeth in humans and their simple functions                      AH3 construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p><u>States of Matter</u>                      SM1 explore a variety of everyday materials and develop simple descriptions of the states of matter SM2 compare and group materials together, according to whether they are solids, liquids or gases                      SM3 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)                      SM4 identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p><u>Sound</u>                      S1 identify how sounds are made, associating some of them with something vibrating                      S2 recognise that vibrations from sounds travel through a medium to the ear                      S3 find patterns between the pitch of a sound and features of the object that produced it                      S4 find patterns between the volume of a sound and the strength of the vibrations that produced it                      S5 recognise that sounds get fainter as the distance from the sound source increases.</p> <p><u>Electricity</u>                      E1 identify common appliances that run on electricity                      E2 construct a simple series circuit, identifying/naming its basic parts, including cell, wire, bulb, switch and buzzer                      E3 use their circuits to create simple devices                      E4 draw the circuit as a pictorial representation (not necessarily using conventional circuit symbols)                      E5 about precautions for working safely with electricity.                      E6 identify whether or not a lamp will light in a simple series circuit/                      E7 recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit                      E8 recognise some common conductors and insulators, and associate metals with being good conductors</p>



# National Curriculum-Progression in Science

## Science Progression of skills Year 5



	Working Scientifically ( <b>Statutory in BOLD</b> )	KS2
National Curriculum Programme of Study	<p>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>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> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	<p><u>Living things and their Habitats</u>                      LH1 recognise that living things (including those in the locality) can be grouped in a variety of ways                      LH2 explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment                      LH3 recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><u>Animals including Humans</u>                      AH1 describe the simple functions of the basic parts of the digestive system in humans                      AH2 identify the different types of teeth in humans and their simple functions                      AH3 construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p><u>States of Matter</u>                      SM1 explore a variety of everyday materials and develop simple descriptions of the states of matter SM2 compare and group materials together, according to whether they are solids, liquids or gases                      SM3 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)                      SM4 identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p><u>Sound</u>                      S1 identify how sounds are made, associating some of them with something vibrating                      S2 recognise that vibrations from sounds travel through a medium to the ear                      S3 find patterns between the pitch of a sound and features of the object that produced it                      S4 find patterns between the volume of a sound and the strength of the vibrations that produced it                      S5 recognise that sounds get fainter as the distance from the sound source increases.</p> <p><u>Electricity</u>                      E1 identify common appliances that run on electricity                      E2 construct a simple series circuit, identifying/naming its basic parts, including cell, wire, bulb, switch and buzzer                      E3 use their circuits to create simple devices                      E4 draw the circuit as a pictorial representation (not necessarily using conventional circuit symbols)                      E5 about precautions for working safely with electricity.                      E6 identify whether or not a lamp will light in a simple series circuit/                      E7 recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit                      E8 recognise some common conductors and insulators, and associate metals with being good conductors</p>

# National Curriculum-Progression in Science

## Science Progression of skills Year 6



	Working Scientifically ( <b>Statutory in BOLD</b> )	KS2
National Curriculum Programme of Study	<p>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>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> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	<p><u>Living things and their Habitats</u>                      LH1 recognise that living things (including those in the locality) can be grouped in a variety of ways                      LH2 explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment                      LH3 recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><u>Animals including Humans</u>                      AH1 describe the simple functions of the basic parts of the digestive system in humans                      AH2 identify the different types of teeth in humans and their simple functions                      AH3 construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p><u>States of Matter</u>                      SM1 explore a variety of everyday materials and develop simple descriptions of the states of matter SM2 compare and group materials together, according to whether they are solids, liquids or gases                      SM3 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)                      SM4 identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p><u>Sound</u>                      S1 identify how sounds are made, associating some of them with something vibrating                      S2 recognise that vibrations from sounds travel through a medium to the ear                      S3 find patterns between the pitch of a sound and features of the object that produced it                      S4 find patterns between the volume of a sound and the strength of the vibrations that produced it                      S5 recognise that sounds get fainter as the distance from the sound source increases.</p> <p><u>Electricity</u>                      E1 identify common appliances that run on electricity                      E2 construct a simple series circuit, identifying/naming its basic parts, including cell, wire, bulb, switch and buzzer                      E3 use their circuits to create simple devices                      E4 draw the circuit as a pictorial representation (not necessarily using conventional circuit symbols)                      E5 about precautions for working safely with electricity.                      E6 identify whether or not a lamp will light in a simple series circuit/                      E7 recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit                      E8 recognise some common conductors and insulators, and associate metals with being good conductors</p>

