



Pycroft Grange Science Progression of Skills Curriculum Map

2019 - 2020

	Area of Science	Science Knowledge	Working Scientifically skills
Year 1	<p>Plants</p> <p>-</p> <p>Animals, including humans</p> <p>Everyday materials</p> <p>-</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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>Ask questions such as Why are flowers different colours?</p> <ul style="list-style-type: none"> • 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 • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • distinguish between an object and the material from which it is made 	<ul style="list-style-type: none"> • identifying and classifying • performing simple tests • identifying and classifying • gathering and recording data to help in answering questions. • ask questions such as Why do some animals eat meat and others not? • performing simple tests (set up a test to see which materials keeps things warmest and know if the test



	<p>Seasonal changes</p>	<ul style="list-style-type: none"> • 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>observe changes across the four seasons</p> <ul style="list-style-type: none"> • observe and describe weather associated with the seasons and how day length varies. 	<p>has been successful and explain what they have learned)</p> <ul style="list-style-type: none"> • identifying and classifying • gathering and recording data to help in answering questions.
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	Area of Science	Science Knowledge	Working Scientifically skills
<p>Year 2</p>	<p>Living things and their habitats</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • explore and compare the differences between things that are living, dead, and things that have never been alive • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • identify and name a variety of plants and animals in their habitats, including microhabitats • describe how animals obtain their food from plants and other animals, using the 	<ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • identifying and classifying (classify or group things according to a given criteria) • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • using their observations and ideas to suggest answers to questions



	<p>Rocks</p> <p>Light</p> <p>Forces and magnets</p>	<ul style="list-style-type: none">• identify that humans and some other animals have skeletons and muscles for support, protection and movement. <p>Rocks</p> <ul style="list-style-type: none">• 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.• compare and group together different kinds of rocks on the basis of their appearance and simple physical properties <p>Light</p> <ul style="list-style-type: none">• 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 shadows are formed when the light from a light source is blocked by a solid object• find patterns in the way that the size of shadows change. <p>Forces and magnets</p> <ul style="list-style-type: none">• compare how things move on different surfaces	<ul style="list-style-type: none">• using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Amend predictions according to findings• identifying differences, similarities or changes related to simple scientific ideas and processes• using straightforward scientific evidence to answer questions or to support their findings.• Be prepared to change ideas as a result of what has been found out during a scientific enquiry
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	<p>States of matter</p> <p>Sound</p>	<ul style="list-style-type: none">• construct and interpret a variety of food chains, identifying producers, predators and prey.<ul style="list-style-type: none">• Identify the different types of teeth in humans and their simple functions <p>States of matter</p> <ul style="list-style-type: none">• compare and group materials together, according to whether they are solids, liquids or gases• observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)• identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. <p>Sound</p> <ul style="list-style-type: none">• 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• find patterns between the volume of a sound and the strength of the vibrations that produced it• recognise that sounds get fainter as the distance from the sound source increases.	<ul style="list-style-type: none">• 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• identifying differences, similarities or changes related to simple scientific ideas and processes• using straightforward scientific evidence to answer questions or to support their findings.• Prepared to change ideas as a result of what has been found out during scientific enquiry
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	Electricity	Electricity <ul style="list-style-type: none"> recognise some common conductors and insulators, and associate metals with being good conductors. 	
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	Area of Science	Science Knowledge:	Working Scientifically skills:
Year 5	Properties and changes of materials	<ul style="list-style-type: none"> 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 know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic demonstrate that dissolving, mixing and changes of state are reversible changes 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 	<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



	<p>Forces</p> <p>Space</p> <p>Living things and their habitats</p>	<ul style="list-style-type: none">• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object• identify the effects of air resistance, water resistance and friction, that act between moving surfaces<ul style="list-style-type: none">• recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect• describe the movement of the Earth, and other planets, relative to the Sun in the solar system• describe the movement of the Moon relative to the Earth• describe the Sun, Earth and Moon as approximately spherical bodies• use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird• describe the life process of reproduction in some plants and animals.• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.	<p>conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</p> <ul style="list-style-type: none">• identifying scientific evidence that has been used to support or refute ideas or arguments.• able to present information related to scientific enquires in a range of ways including IT such as power point• Frequently carry out research when investigating a scientific principle or theory
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	<p>Light</p> <p>Electricity</p>	<ul style="list-style-type: none">• 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.• 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.• recognise that light appears to travel in straight lines• 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.	<ul style="list-style-type: none">• 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 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.• Frequently carry out research when investigating a scientific principle or theory
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