

## Whole School Working Scientifically Overview

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Working scientifically</b></p> <p>This concept involves learning the methodologies of the discipline of science.</p>	<p>Comment and ask questions.</p> <p>Talk about some of the things they have observed.</p> <p>Talk about why things happen and how things work.</p> <p>Look closely at similarities, differences, patterns, and change.</p>	<p>Ask simple questions.</p> <p>Observe closely, using simple equipment.</p> <p>Perform simple tests.</p> <p>Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions.</p>	<p>Ask relevant questions.</p> <p>Set up simple, practical enquiries and comparative and fair tests.</p> <p>Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions and suggest improvements, new questions, and predictions for setting up further tests.</p> <p>Identify differences, similarities or changes related to simple, scientific ideas and processes.</p> <p>Use straightforward, scientific evidence to answer questions or to support their findings.</p>	<p>Ask relevant questions.</p> <p>Set up simple, practical enquiries and comparative and fair tests.</p> <p>Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions and suggest improvements, new questions, and predictions for setting up further tests.</p> <p>Identify differences, similarities or changes related to simple, scientific ideas and processes.</p> <p>Use straightforward, scientific evidence to answer questions or to support their findings.</p>	<p>Plan enquiries, including recognising and controlling variables where necessary.</p> <p>Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.</p> <p>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</p> <p>Present findings in written form, displays and other presentations.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Plan enquiries, including recognising and controlling variables where necessary.</p> <p>Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.</p> <p>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</p> <p>Present findings in written form, displays and other presentations.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	

Working Scientifically	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Testing</b>	<p>Perform simple tests (EYFS focus).</p> <p><i>E.g. Will a material sink or float?</i></p>	<p>Perform simple tests (Year 1 focus).</p> <p><i>E.g. Which material would be best to keep things dry?</i></p>	<p>Perform simple comparative and fair tests (Year 2 focus).</p> <p><i>E.g. What do plants need to stay healthy?</i></p>	<p>Set up simple practical enquiries, comparative and fair tests.</p> <p><i>E.g. How is water transported in plants?</i></p> <p>Set up a fair test with different variables.</p> <p>Can explain why a test is fair.</p>	<p>Set up simple practical enquiries, comparative and fair tests.</p> <p><i>E.g. Do sounds get fainter as the distance from the sound source increases?</i></p> <p>Set up a fair test with more than one variable.</p> <p>Can explain why a test is fair.</p>	<p>Set up an investigation when it is appropriate</p> <p>Set up a fair test when needed.</p> <p><i>E.g. Which surfaces create most friction?</i></p> <p>Set up an enquiry-based investigation</p> <p>Know what variables are in a provided enquiry and can isolate each one when investigating.</p> <p><i>E.g. How effective are parachutes when made with different materials?</i></p>	<p>Know which type of investigation is needed to suit a particular scientific enquiry</p> <p><i>E.g. What is the relationship between pulse and exercise?</i></p> <p>Set up a fair test when needed</p> <p><i>E.g. Does light travel in straight lines?</i></p> <p>Know how to set up an enquiry-based investigation</p> <p><i>E.g. What is the relationship between oxygen and blood?</i></p>

Rose Hill Primary School

Progression of Skills

Subject: **Science**

<p><b>Scientific questioning</b></p>	<p>Comment and ask questions.</p> <p><i>E.g. Why do animals live in different places?</i></p>	<p>Ask simple questions and recognise that they can be answered in different ways.</p> <p><i>E.g. Why do some animals eat meat and others do not?</i></p>	<p>Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum.</p> <p><i>E.g. Why is it important to eat healthily?</i></p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p><i>E.g. Why do shadows change during the day?</i></p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p><i>E.g. What is pitch?</i></p>	<p>Plan different types of scientific enquires to answer given questions.</p>	<p>Plan different types of scientific enquiries to answer their own or others' questions.</p>
<p><b>Measuring</b></p>	<p>Talk about some of the things they have observed.</p> <p>Look closely at similarities, differences, patterns, and change.</p>	<p>Use simple equipment to observe closely (Year 1 focus).</p>	<p>Use simple equipment such as thermometers and rain gauges to observe closely changes over time (Year 2 focus).</p>	<p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (Year 3 focus).</p>	<p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (Year 4 focus).</p>	<p>Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (Year 5 focus).</p> <p><i>Maths capacity and mass</i></p>	<p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (Year 6 focus).</p> <p><i>Maths capacity, mass, ratio, and proportion.</i></p>

Rose Hill Primary School

Progression of Skills

Subject: **Science**

<p><b>Gathering and recording</b></p>	<p>Gather data to help in answer questions.</p> <p><i>E.g. Which materials are used to build the houses of the three little pigs?</i></p>	<p>Gather and record data to help in answering questions (Year 1 focus).</p>	<p>Gather and record data to help in answering questions including from secondary sources of information using drawings, labelled diagrams, block graphs or tables. (Year 2 focus).</p>	<p>Gather, record, classify and present data in a variety of ways to help in answering questions drawings, labelled diagrams, keys and child constructed bar charts and tables (Year 3 focus).</p>	<p>Gather, record, classify and present data in a variety of ways to help in answering questions drawings, labelled diagrams, keys and child constructed bar charts and tables (Year 4 focus).</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs (Year 5 focus).</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs (Year 6 focus).</p>
<p><b>Communicating findings</b></p>	<p>Talk about some of the things they have observed.</p> <p>Talk about why things happen and how things work.</p>	<p>Make a simple written explanation about what has been learned from an investigation or what conclusions have been found.</p>	<p>Communicate his/her ideas, what he/she does and what he/she finds out in a variety of ways.</p> <p><i>E.g. simple written reports or write ups.</i></p>	<p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (Year 3 focus).</p>	<p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (Year 4 focus).</p>	<p>Report and present 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 (Year 5 focus)</p>	<p>Report and present 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 (Year 6 focus)</p>

Rose Hill Primary School

Progression of Skills

Subject: **Science**

<p><b>Classifying</b></p>	<p>Identify and classify.</p> <p><i>E.g. How do materials feel?</i></p>	<p>Identify and classify (Year 1 focus).</p> <p><i>E.g. Mammals and birds.</i></p> <p>Venn Diagrams</p>	<p>Identify, group, and classify according to a given criteria (Year 2 focus).</p> <p><i>E.g. Sorting deciduous and coniferous trees.</i></p> <p>Venn Diagrams</p>	<p>Group information according to common factors (Year 3 focus).</p> <p><i>e.g. Magnetic materials.</i></p> <p>Venn Diagrams with bisecting sets Carroll Diagrams</p>	<p>Group information according to common factors (Year 4 focus).</p> <p><i>E.g. Materials that make good conductors or insulator.</i></p> <p>Venn Diagrams with bisecting sets Carroll Diagrams Classification keys</p>	<p>Group and classify things and recognise patterns using appropriate ways of presenting.</p> <p>Venn Diagrams with bisecting sets Carroll Diagrams Classification keys</p>	<p>Group and classify things and recognise patterns using appropriate ways of presenting.</p> <p>Venn Diagrams with bisecting sets Carroll Diagrams Classification keys</p>
<p><b>Scientific research</b></p>				<p>Use research to find out a range of things (Year 3 focus).</p> <p><i>E.g. What are the main differences between sedimentary and igneous rocks?</i></p>	<p>Use research to find out a range of things (Year 4 focus).</p> <p><i>E.g. How much time it takes to digest our food.</i></p>	<p>Find things out using a wide range of secondary sources of information (Year 5 focus).</p>	<p>Find things out using a wide range of secondary sources of information (Year 6 focus).</p>

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Biology Plants</b></p> <p><b>This concept involves becoming familiar with different types of plants, their structure and reproduction.</b></p>	<p>Comment and ask questions.</p> <p>Show care for living things and the environment.</p> <p>Develop understanding of growth, decay, and changes over time.</p> <p>Know about similarities and differences in relation to living things.</p>	<p>Identify and name a variety of common plants, including garden plants, wild plants, and trees and those classified as deciduous and evergreen.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers</p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Identify and name a variety of common plants, including garden plants, wild plants, and trees and those classified as deciduous and evergreen.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers</p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.</p> <p>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>Investigate the way in which water is transported within plants.</p> <p>Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers</p> <p>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>Investigate the way in which water is transported within plants.</p> <p>Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p><i>Relate knowledge of plants to studies of all living things.</i></p>	<p><i>Relate knowledge of plants to studies of evolution and inheritance.</i></p> <p><i>Relate knowledge of plants to studies of all living things.</i></p>

Rose Hill Primary School

Progression of Skills

Subject: **Science**

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Biology</b> <b>Animals including humans</b></p> <p>This concept involves becoming familiar with different types of animals, humans, and the life processes they share.</p>	<p>Comment and ask questions.</p> <p>Observe the effects of physical activity on their bodies.</p> <p>Eat a range of healthy food and understand a need for variety in food.</p> <p>Show some understanding that good practices regarding exercise, eating, sleeping and hygiene can contribute to good health.</p> <p>Know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.</p>	<p>Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals, and invertebrates , including pets).</p> <p>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>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Investigate and describe the basic needs of animals, including humans , for survival</p>	<p>Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals, and invertebrates , including pets).</p> <p>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>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Investigate and describe the basic needs of animals, including humans , for survival</p>	<p>Identify that animals including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.</p> <p>Identify that humans and some animals have skeletons and muscles for support, protection, and movement.</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p>	<p>Identify that animals including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.</p> <p>Identify that humans and some animals have skeletons and muscles for support, protection, and movement.</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p>	<p>Describe the changes as humans develop to old age.</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the importance of diet, exercise, drugs, and lifestyle on the way the human body functions.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>Describe the changes as humans develop to old age.</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the importance of diet, exercise, drugs, and lifestyle on the way the human body functions.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans</p>

Rose Hill Primary School

Progression of Skills

Subject: **Science**

		<p>(water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</p>	<p>(water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</p>	<p>Construct and interpret a variety of food chains, identifying producers, predators, and prey.</p>	<p>Construct and interpret a variety of food chains, identifying producers, predators, and prey.</p>		
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Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Biology</b>  <b>Living things and their habitats</b></p> <p>This concept involves becoming familiar with a wider range of living things, including insects, and understanding life processes.</p>	<p>Comment and ask questions.</p> <p>Know about similarities and differences in relation to living things.</p> <p>Talk about some of the things they observed.</p> <p>Show care and concern for living things and their environment.</p>	<p>Explore and compare the differences between things that are living, that are dead and 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 the basic needs of different kinds of animals and plants and how they depend on each other.</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>Describe how animals obtain their food from plants and other</p>	<p>Explore and compare the differences between things that are living, that are dead and 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 the basic needs of different kinds of animals and plants and how they depend on each other.</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>Describe how animals obtain their food from plants and other</p>	<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to specific habitats.</p>	<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to specific habitats.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Describe how living things are classified into broad groups according to common observable characteristics.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Describe how living things are classified into broad groups according to common observable characteristics.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>

Rose Hill Primary School  
Progression of Skills  
Subject: **Science**

		animals, using the idea of a simple food chain, and identify and name different sources of food.	animals, using the idea of a simple food chain, and identify and name different sources of food.				
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Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Biology Evolution and inheritance</b></p> <p>This concept involves understanding that organisms come into existence, adapt, change, and evolve and become extinct.</p>	<p>*Comment and ask questions.</p> <p>*Look at similarities, differences, patterns, and change.</p>	<p><i>Identify how humans resemble their parents in many ways.</i></p>	<p><i>Identify how humans resemble their parents in many ways.</i></p>	<p><i>Identify how plants and animals, including humans, resemble their parents in many features.</i></p> <p><i>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</i></p> <p><i>Identify how animals and plants are suited to and adapt to their environment in different ways.</i></p>	<p><i>Identify how plants and animals, including humans, resemble their parents in many features.</i></p> <p><i>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</i></p> <p><i>Identify how animals and plants are suited to and adapt to their environment in different ways.</i></p>	<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>

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<p><b>Chemistry Materials</b></p> <p>This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.</p>	<p>Comment and ask questions.</p> <p>Talk about some of the things they have observed.</p> <p>Talk about why things happen and how things work.</p> <p>Begin to describe the texture of things.</p> <p>Look closely at similarities, differences patterns and change.</p>	<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p>Identify and compare the suitability of a</p>	<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p>Identify and compare the suitability of a</p>	<p>Rocks and Soils</p> <p>Compare and group together different kinds of rocks on the basis of their simple, physical properties.</p> <p>Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p> <p>States of Matter</p> <p>Compare and group materials together, according to whether they are</p>	<p>Rocks and Soils</p> <p>Compare and group together different kinds of rocks on the basis of their simple, physical properties.</p> <p>Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p> <p>States of Matter</p> <p>Compare and group materials together, according to whether they are</p>	<p>Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</p> <p>Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving, and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday</p>	<p>Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</p> <p>Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving, and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday</p>

		<p>variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.</p>	<p>variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.</p>	<p>solids, liquids, or gases.</p> <p>Observe that some materials change state when they are heated or cooled and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>solids, liquids, or gases.</p> <p>Observe that some materials change state when they are heated or cooled and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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, oxidation, and the action of acid on bicarbonate of soda.</p>	<p>materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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, oxidation, and the action of acid on bicarbonate of soda.</p>
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<p><b>Physics</b>  <b>Forces and magnets</b></p> <p>This concept involves understanding what causes motion.</p>	<p>Comment and ask questions.</p> <p>Talk about some of the things they have observed.</p> <p>Talk about why things happen or how things work.</p> <p>Look closely at similarities, differences, patterns, and change.</p>	<p><i>Notice and describe how things move, using simple comparisons such as faster and slower.</i></p> <p><i>Compare how different things move.</i></p>	<p><i>Notice and describe how things move, using simple comparisons such as faster and slower.</i></p> <p><i>Compare how different things move.</i></p>	<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>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>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>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>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.</p> <p><i>Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.</i></p> <p><i>Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers, and springs.</i></p> <p>Understand that some mechanisms including levers, pulleys, and gears, allow a smaller force to have a greater effect.</p>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.</p> <p><i>Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.</i></p> <p><i>Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers, and springs.</i></p> <p>Understand that some mechanisms including levers, pulleys, and gears, allow a smaller force to have a greater effect.</p>

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Physics</b>  <b>Light</b></p> <p>This concept involves understanding how light and refraction affect sight.</p>	<p>*Comment and ask questions.</p> <p>*Talk about some of the things they have observed.</p> <p>*Talk about why things happen or how things work.</p> <p>*Look closely at similarities, differences, patterns, and change.</p>	<p><i>Observe and name a variety of sources of light, including electric flames and the Sun, explaining that we see things because light travels from them to our eyes.</i></p>	<p><i>Observe and name a variety of sources of light, including electric flames and the Sun, explaining that we see things because light travels from them to our eyes.</i></p>	<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>Understand that light appears to travel in straight lines.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.</p> <p>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.</p>	<p>Understand that light appears to travel in straight lines.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.</p> <p>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.</p>

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Physics Sound</b></p> <p>This concept involves understanding how sound is produced how it travels and how it is heard.</p>	<p>*Comment and ask questions.</p> <p>*Talk about some of the things they have observed.</p> <p>*Talk about why things happen or how things work.</p> <p>*Look closely at similarities, differences, patterns, and change.</p>	<p><i>Observe and name a variety of sources of sound, noticing that we hear with our ears.</i></p>	<p><i>Observe and name a variety of sources of sound, noticing that we hear with our ears.</i></p>	<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>		

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Physics Electricity</b></p> <p>This concept involves understanding circuits and their role in electrical applications.</p>	<p>*Comment and ask questions.</p> <p>*Talk about some of the things they have observed.</p> <p>*Talk about why things happen or how things work.</p> <p>*Look closely at similarities, differences, patterns, and change.</p>	<p><i>Identify common appliances that run on electricity.</i></p> <p><i>Construct a simple series electrical circuit.</i></p>	<p><i>Identify common appliances that run on electricity.</i></p> <p><i>Construct a simple series electrical circuit.</i></p>	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Physics</b>  <b>Earth and Space</b></p> <p>This concept involves understanding what causes seasonal changes, day, and night.</p>	<p>*Comment and ask questions.</p> <p>*Talk about some of the things they have observed.</p> <p>*Talk about why things happen or how things work.</p> <p>*Look closely at similarities, differences, patterns, and change.</p>	<p><i>Observe the apparent movement of the Sun during the day.</i></p> <p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p><i>Observe the apparent movement of the Sun during the day.</i></p> <p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p><i>Describe the movement of the Earth 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 movement of the Earth 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>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth, and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	<p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth, and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>

*Items in italics are not statutory in the English National Curriculum.*

\*Not explicitly taught though may be covered in other areas of the EYFS curriculum.