Science Medium Term Plan 2021-22 – Cycle A	
Autumn 1	**Autumn 2**
Key Stage 1	
Animals including **humans**	**Animals** including humans
Working Scientifically • Ask simple questions and recognise that they can be answered in different ways • Use simple equipment to observe closely • Perform simple tests • Identify and classify • Use his/her observations and ideas to suggest answers to questions • Gather and record data to help in answering questions	
• Name, draw and label the basic parts of the human body and say which part of the body is to do with each sense • Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene	• Identify and name a variety of common animals • 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 •
Lower Key Stage 2	
Forces and Magnets	**Sound**
Working Scientifically • Ask relevant questions and use different types of scientific enquiries to answer them • Set up simple practical enquiries, comparative and fair tests • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Gather, record, classify and present data in a variety of ways to help with answering questions • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	
• Compare how things move on different surfaces. • Notice that some forces need contact between two objects but magnetic forces can act at a distance. • Compare and group together a variety of everyday materials on the basis of whether or not they are attracted to a magnet, and identify some magnetic materials. • Observe how magnets attract or repel each other and attract some materials and not others. • Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing.	

Upper Key Stage 2	
Animals including humans	
Working Scientifically • Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Use test results to make predictions to set up further comparative and fair tests • 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 • Identify scientific evidence that has been used to support or refute ideas or arguments	
• 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	

Science Medium Term Plan 2021-22 – Cycle A	
Spring 1	**Spring 2**
Key Stage 1	
	Materials and their properties
Working Scientifically • Ask simple questions and recognise that they can be answered in different ways • Use simple equipment to observe closely • Perform simple tests • Identify and classify • Use his/her observations and ideas to suggest answers to questions • Gather and record data to help in answering questions	
	• 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.
Lower Key Stage 2	
States of Matter	
Working Scientifically • Ask relevant questions and use different types of scientific enquiries to answer them • Set up simple practical enquiries, comparative and fair tests • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Gather, record, classify and present data in a variety of ways to help with answering questions • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • Identify differences, similarities or changes related to simple scientific ideas and processes (Year 4 focus • Use straightforward scientific evidence to answer questions or to support his/her findings (Year 4 focus).	
• 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.	

Upper Key Stage 2	
Famous Scientists and Inventors	
Working Scientifically • Find things out using a wide range of secondary sources of information.	
• Steven Hawkings – black holes • Libby Hyman – invertebrates • Mary Leaky – fossils and evolution • Alexander Flemming - penicilin	

Science Medium Term Plan 2021-22 – Cycle A	
Summer 1	**Summer 2**
Key Stage 1	
Plants	
Working Scientifically • Ask simple questions and recognise that they can be answered in different ways • Use simple equipment to observe closely • Perform simple tests • Identify and classify • Use his/her observations and ideas to suggest answers to questions • Gather and record data to help in answering questions	
• 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.	
Lower Key Stage 2	
Plants	
Working Scientifically • Ask relevant questions and use different types of scientific enquiries to answer them • Set up simple practical enquiries, comparative and fair tests • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Gather, record, classify and present data in a variety of ways to help with answering questions • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • Identify differences, similarities or changes related to simple scientific ideas and processes (Year 4 focus • Use straightforward scientific evidence to answer questions or to support his/her findings (Year 4 focus).	
• 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.	

<table>
<tr><th colspan="2">Upper Key Stage 2</th></tr>
<tr><th>Animals including humans</th><th>Properties and changes of materials</th></tr>
<tr><td colspan="2">Working Scientifically
• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
• Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
• Use test results to make predictions to set up further comparative and fair tests
• 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
Identify scientific evidence that has been used to support or refute ideas or arguments</td></tr>
<tr><td>• Describe the changes as humans develop into old age
• 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.</td><td>• 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
• Recognise 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 by 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</td></tr>
</table>