High Ash School Curriculum Intent Two Year Cycle

Foundation

Topic	Autumn 1 - All about me	Autumn 2 - Celebrations	Spring 1 - Traditional Tales	Spring 2 - Minibeasts and growing	Summer 1- People who help us	Summer 2 - Under the Sea
National Curriculum Objectives	-Explore the world around them, making observations and drawing pictures of themselves and others. -Know similarities and differences between the natural world around them -Work and play cooperatively and take turns with others.	-I can explore the world around me, making observations of colour. -I can participate in discussions and offer my own ideas using scientific words. -I understand some important processes and changes in the world, including colour and how they change by mixing.	-Offer explanations for why things might happen, making use of recently introduced vocabulary from stories. -Understand some important processes and changes in the natural world around them, drawing on their experiences of what has been read in class. – offer explanations for why things might happen, making use of recently introduced vocabulary from stories when appropriate.	- I can understand important changes and processes in the natural world. - I can explore the natural world around me. - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	-Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. -Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. -Talk about the lives of the people around them and their roles in society.	-Explore the natural world around them, making observations and drawing pictures of animals and plants. -I can identify animal habitats. -I can group fish based on my observations -I can make observations of the natural world. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. –I understand why things float or sink Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. - I can make observations of plants and animals
Working Scientifically Objectives	-Observe parts of the body -Explain ideas clearly -Record learning in a table	-Ask how and why questions -To Show curiosity and question why things happen (Prediction) -Observe and describe what they see using everyday language (Observation)	-I can make careful observations -I can identify different liquids. -I can ask and answer simple questions linked to my test. - I Can plan simple tests	I can make careful observations. - I can test out my ideas by planting seeds. - I can record my findings. - I can interpret my findings using a model. - I can record using my chosen method. - I can talk about my learning when creating my habitat.	- I can test out ideas to find out new things. -I can explain why it is important to clean our teeth. - I can ask questions about why firefighters need to stay fit and healthy. - I can give detailed descriptions and record my results using pictures. - I can use my observation skills to solve problems.	-Ask how and why questions (Asking questions) -Make basic predictions (Prediction) -Observe closely (Observation) -Draw animals with detail (Recording)

Year One and Two

Cycle One	Aut 1	Aut 2	Spring 1	Spring 2	Summer 1	Summer 2
Science Topic	Animals Y1		Materials Y1	Animals Y2		Materials Y2
National Curriculum Objectives	-I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals -I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. -I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) -I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.		-I can distinguish between an object and the material from which it is made. -I can identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. -I can describe the simple properties of a variety of everyday materials. -I can compare and group together a variety of everyday materials on the basis of their simple properties.	-I notice that animals including humans have offspring which grow into adults. I can find out about and describe the basic needs of animals including humans for survival. -Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene		-To identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper, cardboard for particular uses. - I can find out how the shape of solid objects made from materials can be changed by squashing, bending, twisting and stretching.
Working Scientifically objectives	-Ask questions -Venn diagrams --Make comparisons and give reasons. -Observe features of human body -Carry out tests to compare and classify -Make predictions using senses.		Use observations to classify. Record in a table. Ask and answer questions. Make predictions on best materials. Evaluate test	-Asking simple questions and recognising that they can be answered in different ways -Observing closely, using simple equipment -Performing simple tests -Identifying and classifying -Using their observations and ideas to suggest answers to questions -Gathering and recording data to help in answering questions.		-Asking simple questions and recognising that they can be answered in different ways -Observing closely, using simple equipment -Performing simple tests -Identifying and classifying -Using their observations and ideas to suggest answers to questions -Gathering and recording data to help in answering questions.
Cycle Two	Aut 1		Spring 1	Spring 2		Summer 2
Science Topic	Living things and Habitats Y2		Plants Y1	Season Y1		Plants Y2
National Curriculum Objectives	-Explore and compare the differences between things that are living, dead and things that have never been alive. - Identify most living things live in habitats to which they are suited and describe how different habitats provide for basic needs of different kinds of animals and plants and how the depend on each other. - Identify and name a variety of plants and animals in their habitat, including microhabitats. -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.		-To identify and describe the basic structure of a variety of common flowering plants including trees. -To identify and name a variety of common wild and garden plants including deciduous and evergreen trees	-I can observe changes across four seasons. I- can observe and describe weather associated with the seasons and how day length varies.		-To observe and describe how seeds and bulbs grow into mature plants. -Find and describe how plants need water, light and a suitable temperature to grow and stay healthy.
Working Scientifically objectives	-Asking simple questions and recognising that they can be answered in different ways -Observing closely, using simple equipment -Performing simple tests -Identifying and classifying -Using their observations and ideas to suggest answers to questions -Gathering and recording data to help in answering questions.		-Asking simple questions and recognising that they can be answered in different ways -Observing closely, using simple equipment -Performing simple tests -Identifying and classifying -Using their observations and ideas to suggest answers to questions	-Asking simple questions and recognising that they can be answered in different ways -Observing closely, using simple equipment -Performing simple tests -Identifying and classifying -Using their observations and ideas to suggest answers to questions		-Asking simple questions and recognising that they can be answered in different ways -Observing closely, using simple equipment -Performing simple tests -Identifying and classifying -Using their observations and ideas to suggest answers to questions -Gathering and recording data to help in answering questions.

Year Three and Four

Cycle One	Aut 1	Aut 2	Spring 1	Spring 2	Summer 1	Summer 2
Science Topic	Animals Y3	States of Matter Y4	Sound Y4	Animals Y4		Electricity Y4
National Curriculum Objectives	-I can identify that humans and some other animals have skeletons and muscles for support, protection and movement. -I can 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.	-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. -Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	-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 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.	- Describe the simple functions of the basic parts of the digestive system in humans. -Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.		-Identify common appliances that run on electricity. -Construct simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. -Identify whether or not a lamp will light in a simple circuit, based on whether or not the lamp is part of a complete loop with a battery. -Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. -Recognise some common conductors and insulators, and associate metals with being good conductors.
Working Scientifically objectives	-Locate and label the bones in the body - I can answer questions about the uses of our bones. -Record using labelled drawings and scientific language. -I can evaluate my design and suggest improvements. -I can make careful observations to sort animals into groups. -I can make predictions from questions raised. -I can use scientific language to discuss ideas. -I can record my results in a table. -I can record my results in a bar chart. -I can evaluate my learning using scientific language.	- I can compare and group materials together depending on their properties. - I can look for patterns in my observations. - I can construct a fair test to investigate melting points. - I can observe what happens when a liquid changes to a solid. - I can carry out a fair test and identify change and measure factor.	-I can observe vibrations which cause sound. -Measure distance to nearest cm. -Set up tests to create the best string phone. -Record results in a table and spot patterns. -Record sound measured in DB in a table. -Produce a line graph. -Evaluate musical instrument based on sound and knowledge of pitch. -Observe how sounds are created. Set up own tests and record results.	-Observe the similarities and differences in human/animal teeth. -Interpret and present learning of the digestive system through models. - Set up own test to see the effects of different liquids on tooth decay. -Make predictions based on scientific knowledge of liquids to decay teeth. - I can record my results in a table and a bar graph. - I can ask questions to find out what animals eat.		-I can record my work using labelled drawings -I can make predictions using scientific language -I can interpret my results using my scientific knowledge -I can identify the properties of different materials. -I can pose scientific questions

Cycle Two	**Aut 1**	**Aut 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Science Topic	Living things and habitats Y4	Forces Y3	Light Y3	Rocks Y3		Plants Y3
National Curriculum Objectives	-To recognise that living things can be grouped in a variety of ways. -To explore and use classification keys to help group. -Identify and name a variety of living things in the environment. -Recognise that environments can change and this can sometimes pose dangers to living things.	I can compare how things move on different surfaces. I notice that some forces need contact between two objects, but magnetic forces can act at a distance. I can observe how magnets attract or repel each other and attract some materials and not others. I can 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. I can describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	To recognise we need light in order to see things and that dark is the absence of light. Light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect your eyes. Recognise that shadows are formed when light from a light source is blocked by an opaque object. Find pattens in the way that the shadows change.	To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed when things that have lived are trapped within rock. To recognise that soils are made from rock and organic matter.		I can identify and describe the functions of different parts of a flowering plant. I can explore the requirements of plant life and growth. I can investigate the way in which water is transported within plants. I can explore the part that flowers play in the lifecycle of flowering plants including pollination, seed formation and seed dispersal.
Working Scientifically objectives	-Observe characteristics of living things - Identify similarities and differences in characteristics. -To gather and record data in a table. -I can ask relevant questions to classify things - I can use evidence to answer questions	-Group and identify forces based on observations - Research John McAdam to create own road surfaces -Sort and classify materials into magnetic and non-magnetic. -I can carry out a fair test using magnets. - I can spot patterns in my drawings and explain what is happening using magnetic fields. - I can use research and secondary sources to aid my explanations.	-I can compare how different materials react to light. - I can identify patterns in my results to answer questions -I can observe what happens over time. -I can spot patterns in results to answer questions. -I can look for patterns in results, I can observe a shadow over time. -I can carry out a fair test and control variables. -I can look for patterns in the size of the shadows.	-Make careful observations and identify similarities and differences. -Record classifications in a table, Venn or Carrol diagram. -I can record my results in a table - Interpret the process of fossilisation using models and pictures. -Ask questions to deepen my learning about rock formation. -I can set up tests to answer questions.		- I can identify parts of the plant - I can carry out a comparative test. - I can make observations over time. - I can use research and my own scientific knowledge to explain the process. - I can look for patterns. - I can identify and classify different seeds.

Year Five and Six

Cycle One	Aut 1	Aut 2	Spring 1	Spring 2	Summer 1	Summer 2
Science Topic	Materials Y5	Living Things Y5	Animals Y5	Living Things Y6		Animals Y6
National Curriculum Objectives	-Compare and group together everyday materials based on their properties, including hardness, solubility, transparency, conductivity 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 solid, liquid and gas to decide how mixtures might be separated including through filtering, sieving and evaporation. -Give reasons based on evidence from comparative 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 this kind of change is not usually reversible including changes associated with burning and the action of acid on bicarbonate of soda.	-Describe the differences in life cycles of a mammal, an amphibian, an insect and a bird. -Describe the life process of reproduction in some plants and animals.	Describe the changes as humans develop from birth to old age	-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. -Give reasons for classifying plants and animals based on specific characteristics.		-I can identify the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood. -I can describe the ways in which nutrients and water and transported within animals including humans. -I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.
Working Scientifically objectives	-Evaluate my test. -I can make predictions about which materials are soluble and insoluble. -I can use scientific language and illustrations to discuss, communicate and justify ideas. -I can make careful observations when heating solutions. -I can plan my own test based on how materials react with one another. - I can record results in a table	-Use oral and written forms to report conclusions. -Present data in a variety of different ways to help answer my questions. -Ask relevant questions and find ways to answer them. -I can make accurate and relevant predictions. -I can suggest next steps based on the weakest aspects of the enquiry. -Record my results using a bar chart and explain the results.	-Make predictions on gestation periods. -Record data using scatter graphs -Make careful observations as we grow older -Record learning using scientific diagrams. -Interpret findings to help others.	-Record in a table -Answer own questions. - Use classification keys. -Raise questions about animals to group. -Observe and raise questions. -Predict how microorganisms will decay food -Evaluate effects of yeast.		-Use scientific diagrams - Take accurate measurements -Use labelled diagrams to explain -Use models to explain my thinking -Plan investigation and record results. -Observe what happens using a model.

Cycle Two	**Aut 1**	**Aut 2**	**Spring 1**	**-Spring 2**	**Summer 1**	**Summer 2**
Science Topic	Electricity Y6	Forces Y5	Space Y5	Evolution Y6		Light Y6
National Curriculum Objectives	-To 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. -To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. -To use recognised symbols when representing a simple circuit in a diagram.	I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces I can 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 Earth rotation to explain day and night due to the apparent movement of the sun across the sky.	-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.		-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.
Working Scientifically objectives	-Answer questions by investigating -Take accurate measurements -Develop prediction -Present results in line graph. -Use diagrams to support explanation	-Observe different forces and measure the force using different equipment. -Set up a test to change the speed of a pendulum. - Interpret and communicate results from data using scientific vocabulary - Plan different types of enquiry to answer a question. -Take measurements using a range of scientific equipment. -Record results in a table.	-Raise questions and suggest reasons for similarities and differences. -Use measurement to represent planets in a model - Record my work using scientific diagrams and labels. -Use a model to discuss, communicate and justify scientific ideas using scientific vocabulary. - Present results in a variety of ways to answer a question. - Plan your own test and control variables.	-Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. -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		-Use scientific models and labelled diagrams. -Use diagrams to support explanation. -Make careful observations. -Draw diagrams with accuracy - Evaluate using scientific language