Higham Primary School Progression of Knowledge and Skills – Science

Intent
At Higham, we recognise the importance of science in every aspect of daily life and it is our intention to develop in our pupils a lifelong curiosity in the subject. At Higham, in conjunction with the aims of the National Curriculum, our science teaching offers opportunities for the children to: • Develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics. • Develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them. • Be equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future. Our curriculum is planned so that pupils progressively build on learnt scientific knowledge and skills. Pupils regularly have the opportunity to apply skills with increased independence, raising questions and recognising ways in which they might answer them. We want pupils to develop their ability to work scientifically by planning enquiries, identifying variables, taking accurate measurements, recording data and results, making predictions, carrying out comparative and fair tests, reporting their findings, and identifying scientific evidence. As children progress through the school, it is our aim to ensure that they understand and build upon key scientific knowledge and concepts and increase their technical vocabulary.
Implementation
Teachers at Higham create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Our curriculum is structured into carefully planned units of work, which enable children to learn and retain important and useful knowledge relating to the unit as well as developing their scientific enquiry skills. These are developed with increasing depth and challenge as children move through the year groups. Within a unit of work, children will carry out investigations and hands-on activities, be encouraged to ask their own questions and be given opportunities to use scientific skills and research to discover the answers. Each lesson has a clear focus and the sequence of lessons helps to embed scientific knowledge and skills, with each lesson building on previous learning. There is also an opportunity to recap concepts and vocabulary where necessary and to regularly review and evaluate children's understanding. Lessons are well resourced and teachers demonstrate how to use equipment safely and the various working scientifically skills in order to embed scientific understanding. Opportunities are also provided to develop children's understanding of their surrounding by access to our well maintained outdoor learning environment. In the Early Years, science is taught through the children learning about the world around them in their learning through play. Additional opportunities are provided in Science, such as an after school Science club, Stem ambassadors and Crest awards.
Impact
Our teaching of science at Higham results in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world. Children's work shows, a range of evidence of the curriculum coverage for all scientific topics and there is clear progression of children's work and development of skills. Children are encouraged to become increasingly independent in science, selecting their own equipment and materials, completing pupil led investigations and choosing their own strategies for recording. Progress is measured through a child's ability to know more, remember more and explain more and this can be assessed in different ways. Teachers build into the lessons precise questioning to assess conceptual knowledge and skills, give feedback with next step questions to push learning on and long-term attainment and progress is recorded using our assessment spreadsheets. The importance of science will be recognised across the school, through our learning environment and with science technical vocabulary displayed, spoken and used by all learners. Children who feel confident in their science knowledge and enquiry skills will be excited about science, show that they are curious to learn more and will see the relevance of what they learn in lessons to real-life situations and understand the importance of science in the real world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. There is a clear progression of children's work and development of their skills. Children's work shows a range of topic and evidence of the curriculum coverage for all the science topics. Feedback from the teachers has impact on our pupils, often with next step questions to push learning on.

Early Years Foundation Stage			
ELG	Understanding the World	The Natural World	• Explore the natural world around them, making observations and drawing pictures of animals and plants. • 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. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ideas & Evidence In Science	Begin to develop an understanding what scientists are and what they do.	Can recognise that scientists find out about scientific ideas by asking questions and testing them.	Can recognise that scientists collect evidence by making observations and measurements in order to answer a question.	Can recognise why it is important to collect evidence by making observations and measurements to answer a question, and that science has made our lived better.	Can recognise that scientific ideas are based on evidence, have made our lives better and that there is some risk in science.	Can describe how experimental evidence and creative thinking are combined to provide scientific explanations that has changed over time.	Can describe how experimental evidence and creative thinking are combined to provide scientific explanations that change over time and has both positive and negative effects.
Asking Questions And Enquiry	Can ask how and why questions to develop their understanding of different topics and the world around them.	Can ask some simple questions to find out about the world around us and with teacher guidance, recognise that they can be answered using different types of enquiry (observing changes over time, noticing patterns, grouping/classifying, simple comparative tests and using secondary sources).	Can ask simple questions to find out about the world around us and make simple suggestions about the different types of enquiry that could be used to collect evidence to answer a question (observing changes over time, noticing patterns, grouping/classifying, simple comparative tests and using secondary sources)	Can recognise how scientific ideas and concepts can be turned into relevant questions that can be investigate and put forward their own ideas about how to find the answer to a scientific question using different types of enquiries (observing changes over time, noticing patterns, grouping/classifying, comparative tests, fair tests and using secondary sources)	Can turn existing scientific ideas into a question form that can be investigated and begin to plan different types of scientific enquiries, including recognising and controlling variables with teacher guidance.	Can form scientific questions for enquiry based on scientific ideas/concepts and recognise which can be investigated and those which are theoretical. Plan different types of enquiries to answer questions, including identifying and controlling variables.	Can explore scientific ideas/concepts and form clear enquiry questions about scientific phenomena, recognising which can be investigated and those which are theoretical. Select and plan the most appropriate types of enquiry to answer questions, including identifying and controlling variables, where necessary.
Predicting and Hypothesising	Begin to make simple predictions, 'I think…'	Can make a simple prediction, 'I think…'	Can make a prediction with a simple reason, 'I think…because…'	Can make a prediction, giving a reason based on everyday experience	Can make a prediction, giving a reason which considers scientific ideas and is based on everyday experience	Can hypothesise, giving a reason which considers scientific ideas and uses knowledge of a similar everyday experience applied it to a new situation, e.g. I think little bits of sugar dissolve faster than a sugar lump	Can hypothesise, giving a reason which is based on scientific concepts and uses knowledge of a similar everyday experience, applied it to a new situation, e.g. I think little bits of sugar dissolve faster than a sugar lump
Planning an Enquiry	Children can explore scientific invitations to play and plan how to approach the challenge appropriately e.g. using pipettes of water to melt the ice, and talk about what they are doing.	Can plan a simple test guided by the teacher	Can make a simple plan for a test within a framework provided by the teacher, e.g. using a planning frame or set of questions, focusing on a limited number of variables	Can make a simple plan which identifies the basic features of the test, e.g. what is being changed, what is being measured and which variables are being controlled to keep the test fair	Can decide on a clear plan to answer the question which identifies the key features of a fair test, e.g. what is being changed, what is being measured and which variables are being controlled to keep the test fair	Can decide on an appropriate way to collect data to answer a question and with guidance, create a clear plan which identifies the independent, dependent and control variables	Can identify and plan an appropriate approach to answer a scientific question, identifying clear independent, dependent and control variables

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fair Testing	Begin to develop an understanding of fair testing.	Can recognise unfairness and what is being changed in a test	Can, with teacher guidance, identify what is being changed, what is being measured, and one or two variables which need to stay the same in order to make the test fair	Can carry out a fair test which identifies the variable being changed, measured and controlled. Recognise and explain why it is fair	Can make a plan which identifies how one variable is changed, while all the others are kept the same	Can identify key variables to be considered and with teacher guidance, choose one independent variable to change, decide how to measure the effect (dependent variable) and which variables to control	Can identify key variables to be considered and choose an appropriate variable to be varied (independent variable), measured for effect (dependent variable) and variables that need to be controlled.
Observing and Measuring	Begin to observe changes within their environment e.g. seasonal changes by exploring the school grounds. Explore mass, length, capacity through invitations to play.	Can begin to observe closely using simple equipment provided and measure in non-standard units. For example, compare length, area and volumes visually, mass by feel, temperature by touch, time by clapping or ordering, sound, light force using senses	Can use simple equipment provided to make observations and measurements related to the test, measuring in standard and non-standard units.	Can make observations and measurements which are relevant to the test. Can measure quantities in standard units, using a range of simple equipment.	Can select suitable equipment for a test and make a series of accurate observations and measurements which are adequate for the test.	Can select apparatus for a range of tests and use effectively, making a series of systematic observations, measurements and comparisons. Can recognise patterns and begin to repeat observations and measurements, offering simple explanations for any differences found.	Can select apparatus for a range of tests and use effectively, making a series of systematic observations, measurements and comparisons with precision appropriate to the test. Can recognise patterns and repeat observations and measurements, offering possible explanations for any differences found.
Investigating	Can perform simple tests with adult guidance.	Can perform simple tests with support	Can perform simple tests	Can set up simple practical enquiries and consider fair tests	Can set up simple practical enquiries and consider comparative and fair tests	Can set up practical enquiries and use results to begin to set up comparative and fair tests	Can set up practical enquiries and use results to plan and set up further comparative and fair tests
Recording Results	Begin to record results verbally, tally charts, picture charts etc.	Can describe simple features, observations and measurements and record in a variety of simple ways, e.g. pictures, words, provided tables	Can describe observations and measurements in a variety of ways, including simple tables, labelled drawings, bar charts and through the use of scientific vocabulary	Can record observations and measurements in a variety of ways, including ICT. Can record results in a variety of ways, including simple tables, labelled diagrams, keys and bar charts.	Can record observations, measurements and comparisons using tables, including ICT. Can construct their own tables, choosing headings and the number and range of measurements, draw labelled diagrams, keys and bar charts.	Can record observations and measurements systematically, including the use of ICT. Can begin to choose the best method, e.g. scientific diagrams, classification keys, tables, bar and line graphs, repeated tests and averaging (mean)	Can record observations and measurements systematically, including the use of ICT. Can record results of increasing complexity and choose the best recording method, e.g. scientific diagrams, classification keys, tables, bar and line graphs, repeated tests and averaging (mean)

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Presenting Results	Children will verbally present results.	Can, where appropriate, record observations in a bar chart (e.g. pictogram) with axis labelled by the teacher	Can, where appropriate and supported by the teacher, record observations and measurements in simple bar charts	Can, where appropriate, record observations and standard measurements in bar charts, deciding on the axes	Can, where appropriate, record observations, measurements and comparisons using bar charts, choosing scale and labelling axes. Can begin to plot points to form simple graphs and use these to point out and interpret patterns in data	Can, where appropriate, present data as bar charts and line graphs. Can construct bar and line graphs, selecting scale and labelling axes. Can begin to interpret and systematically explain patterns in data.	Can, where appropriate, choose to present increasingly complex data as bar charts and line graphs. Can construct bar and line graphs, selecting scale and labelling axes. Can interpret and systematically explain patterns in data.
Drawing Conclusions	Children can talk about what they did and what happened. They may draw experiment findings with adult guidance.	Can talk about what happened, communicating their findings in a simple way, e.g. talk, drawing, simple charts	Can explain what happened and relate this to their earlier prediction made	Can identify and explain simple patterns in recorded measurements and observations, and communicate what has been found in a simple scientific way	Can begin to relate conclusions to patterns in data and to prior scientific knowledge and understanding. Can explain conclusions using appropriate scientific language	Can draw conclusions which are consistent with evidence and relate these to scientific knowledge and understanding. Can use appropriate scientific language and conventions to communicate quantitative and qualitative data	Can draw clear conclusions, which are linked to evidence from data patterns and relate these to scientific knowledge and understanding. Can use accurate scientific language and conventions to communicate quantitative/qualitative data and explain causal relationship.
Reviewing the Test	Children to begin using reviewing language e.g. I think, Next time.	Can identify which parts of the test have been done well and which need to be improved	Can question how carefully the test has been carries out and what needs improvement	Can suggest improvements to the test to improve accuracy	Can suggest improvements to the tests, giving reasons	Can evaluate the accuracy of tests and make practical suggestions about how working methods could be improved	Can evaluate the effectiveness of their tests, the limitations and suggestion how methods could be improved

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Biology Plants	*Pupils should be taught to:* • How to plant a seed or a bulb and record, verbally and by drawing, the changes. • To identify their class tree and discuss how it changes through the seasons.	*Pupils should be taught to:* • 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	*Pupils should be taught to:* • Observe and describe how seeds and bulbs and grow into mature plants • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	*Pupils should be taught to:* • 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 ways om 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	*Relate knowledge of plants to studies of all living things*	*Relate knowledge of plants to studies of all living things*	*Relate knowledge of plants to studies of all living things* *Relate knowledge of plants to studies of evolution and inheritance*

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Biology **Animals including humans**	*Pupils should be taught to:* • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Begin to have an understanding that some animals are carnivores, herbivores and omnivores. • Explore their senses in a range of invitations to play. • Name parts of their bodies.	*Pupils should be taught to:* • 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.	*Pupils should be taught to:* • Notice that animals, including humans, have offspring which grow into adults • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	*Pupils should be taught to:* • 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 • Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	*Pupils should be taught to:* • Describe the simplest function 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	*Pupils should be taught to:* • Describe the changes as humans develop to old age	*Pupils should be taught to:* • 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.

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Biology **Living things and their Habitats**	*Pupils should be taught to:* • Explore where different animals live and how that compares to where we live.		*Pupils should be taught to:* • 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 micro-habitats • 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.		*Pupils should be taught to:* • Recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Recognise that environments can change and that this can sometimes pose dangers to living things	*Pupils should be taught to:* • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Describe the life processes of reproduction in some plants and animals	*Pupils should be taught to:* • Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including mirco-organisms, plants and animals • Give reasons for classifying plants and animals based on specific characteristics

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Biology **Evolution and Inheritance**		*Identify how humans resemble their parents in many features*	*Identify how humans resemble their parents in many features*	*Identify how plants and animals, including humans, resemble their parents in many features* *Identify how animals and plants are suited to and adapt to their environment in different ways* *See Rocks re-fossils*	*Identify how plants and animals, including humans, resemble their parents in many features* *Identify how animals and plants are suited to and adapt to their environment in different ways*	*Identify how plants and animals, including humans, resemble their parents in many features* *Identify how animals and plants are suited to and adapt to their environment in different ways*	*Pupils should be taught to:* • 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

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Chemistry Materials	Everyday materials *Pupils should be taught to:* • Explore a range of different materials and their uses during Get Busy Times. • Consider which materials make work best in different situations e.g. plastic to make a boat float rather than paper.	Everyday materials *Pupils should be taught to:* • 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	Use of Everyday Materials *Pupils should be taught to:* • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, brick, rock, paper and cardboard for particular uses • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Rocks *Pupils should be taught to:* • Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • 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	States of Matter *Pupils should be taught to:* • 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 Celsius (°C) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Properties and Changes of Materials *Pupils should be taught to:* • 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 to 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	

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Physics **Understand movement, forces and magnets**	*Children to explore movement, forces and magnets through a range of open-ended resources and invitations to play.*	*Notice and descry-be how things move, using simple comparison such as faster and slower* *Compare how different things move*	*Notice and describe how things move, using simple comparison such as faster and slower* *Compare how different things move*	Forces and Magnets *Pupils should be taught to:* • Compare how things move on different surfaces • Notice that some forces need contact between two objects, but magnetic forces can act at a distance • Observe how magnets attract or repel each other and attract some materials and not others • Compare and group together a variety of everyday materials on the basis on whether they are attracted to a magnet, and identify some magnetic materials • Describe magnets as having two poles • Predict whether two magnets will attract or repel each other, depending on which poles are facing		Forces *Pupils should be taught to:* • 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 • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	
Physics **Understand Light and Sound**	*Observe and name a variety of sources of light, including electric lights, flames and the Sun.* *Explore Natural Lights and torch light when learning about Aurora Borealis.* *Observe and name a variety of sources of sound, noticing that we hear with our ears*	*Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes* *Observe and name a variety of sources of sound, noticing that we hear with our ears*	*Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes* *Observe and name a variety of sources of sound, noticing that we hear with our ears*	Light *Pupils should be taught to:* • Recognise that they need light in order to see things and that the dark is the absence of light • Notice that light is reflected from surfaces • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Recognise that shadows are formed when the light	Sound *Pupils should be taught to:* • Identify how sounds are made, associating some of them with something vibrating • Recognise that vibrations from sound travel through a medium to the ear • Find patterns between the pitch of a sound and the features of the object that produced it • Find patterns between the volume of a sound and the		Light *Pupils should be taught to:* • 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

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				from a light source is blocked by a solid object • Find patterns in the way that the size of shadows changes	strength of the vibrations that produced it • Recognise that sounds get fainter as the distance from the sound source increases		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 object that cast them
Physics Understand Electricity	*Children to show an understanding that electricity makes some things work and is turned on and off via a switch.*				*Pupils should be taught to:* • Identify common appliances that run on electricity • Construct a 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 series circuit, based on whether of 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		*Pupils should be taught to:* • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a 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
Physics Understand the Earth's movement in space	Seasonal change *Pupils should be taught to:* • Observe changes across the four seasons • Discuss some of the weather associated with the changes in season and begin to notice how the length of day varies.	Seasonal change *Pupils should be taught to:* • Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies				Earth and Space *Pupils should be taught to:* • Describe the movement of the Earth, and the other planets, relative to the Sun • 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	

Higham Primary School Progression of Knowledge and Skills – Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						night and the apparent movement of the sun across the sky	

Items in light grey boxes are not statutory in the Science National Curriculum

Higham Primary School Progression of Knowledge and Skills – Science

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically Vocabulary Question, Answer, Observe, Test, Compare, Describe, Equipment, Identify, Classify, Sort, Group, Record, Diagram, Chart, Data	**Working Scientifically Vocabulary** Question, Answer, Observe, Test, Equipment, Identify, Classify, Sort, Group, Patterns, Record, Diagram, Chart, Data, Compare, Contrast, Describe	**Working Scientifically Vocabulary** Research, Fair Test, Variables, Careful Observations, Accurate Measurements, Prediction, Explanations, Results, Conclusion, Evidence, Keys	**Working Scientifically Vocabulary** Research, Fair Test, Variables, Order, Careful Observations, Accurate Measurements, Prediction, Explanations, Results, Conclusion, Evidence, Keys, Comparative Test, Enquiry, Increase, Decrease, Data Loggers, Thermometers,	**Working Scientifically Vocabulary** Comparative Test, Fair Test, Plan, Notice Patterns, Relationships, Independent Variable, Dependent Variable, Controlled Variable, Accuracy, Precision, Degree Of Trust, Classification Keys, Scatter Graphs, Line Graphs, Causal Relationships, Support/Refute, Data Loggers	**Working Scientifically Vocabulary** Comparative Test, Fair Test, Plan, Notice Patterns, Relationships, Independent Variable, Dependent Variable, Controlled Variable, Accuracy, Precision, Degree Of Trust, Classification Keys, Scatter Graphs, Line Graphs, Causal Relationships, Support/Refute, Fact, Opinion, Observation Over Time, Pattern Seeking, Identifying Classifying And Grouping, Using Secondary Sources
Animals Including Humans Fish, Reptiles, Mammals, Birds, Amphibians (+ Examples Of Each) Herbivore, Omnivore, Carnivore, Leg, Arm, Elbow, Head, Ear, Nose, Back, Wings, Beak	**Animals Including Humans** Grow, Survival, Water, Air, Food, Adult, Baby, Offspring, Kitten, Calf, Puppy, Exercise, Hygiene, Nutrition	**Animals Including Humans** Movement, Muscles, Bones, Skull, Nutrition, Skeletons, Support, Protection	**Animals Including Humans** Mouth, Tongue, Teeth, Oesophagus, Digestive System, Stomach, Small Intestine, Large Intestine, Acids, Enzymes, Herbivore, Carnivore, Canine, Incisor, Molar, Producers, Consumers	**Animals Including Humans** Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty	**Animals Including Humans** Internal Organs, Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration
Plants Deciduous, Evergreen Trees, Common, Wild, Garden Plants, Leaves, Flowers (Blossom), Petals, Fruit, Roots, Bulb, Bud, Seed, Trunk, Branches, Stem	**Plants** Seeds, Bulbs, Water, Light, Temperature, Growth, Healthy, Germination, Reproduction	**Plants** Air, Light, Water, Nutrients, Soil, Support, Structure Reproduction, Transportation, Dispersal, Pollination, Flower	**Living Things And Their Habitats** Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment, Habitats, Flowering Plants, Non-Flowering Plants	**Living Things And Their Habitats** Mammal, Reproduction, Insect, Amphibian, Bird, Offspring, Life Cycle	**Living Things And Their Habitats** Classification, Vertebrates, Invertebrates, Micro-Organisms, Amphibians, Reptiles, Mammals, Insects
Everyday Materials Wood, Plastic, Glass, Paper, Water, Metal, Rock, Hard, Soft, Bendy, Rough, Smooth, Shiny, Dull, Waterproof, Absorbent	**Living Things And Their Habitats** Living, Dead, Alive, Habitat, Energy, Food Chain, Predator, Prey, Woodland, Pond, Desert, Shelter	**Rocks** Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent, Properties, Sedimentary	**States Of Matter** Solid, Liquid, Gas, Evaporation, Condensation, Particles, Temperature, Freezing, Heating, Changing State, States Of Matter, Degrees Celsius	**Properties And Changes Of Materials** Hardness, Solubility, Transparency, Conductivity (Electrical And Thermal), Magnetic, Filter, Evaporation, Dissolving, Separating, Mixing, Reversible And Irreversible Changes Chemical	**Evolution And Inheritance** Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics

Higham Primary School Progression of Knowledge and Skills – Science

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal Changes Summer, Spring, Autumn, Winter, Sun, Day, Moon, Night, Light, Dark, Wind, Rain, Snow, Hail, Sleet, Fog, Sun, Hot, Warm, Cold	**Everyday Materials And Their Uses** Hard, Soft, Stretchy, Stiff, Shiny, Dull, Rough, Smooth, Bendy, Waterproof, Absorbent, Opaque, Transparent, Brick, Cardboard, Fabrics, Squashing, Bending, Twisting, Stretching Elastic, Foil	**Light** Light, Shadows, Mirror, Reflective, Dark, Reflection, Natural, Artificial	**Sound** Volume, Vibration, Wave, Pitch, Tone, Speaker	**Earth And Space** Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases Of The Moon, Star	**Light** Refraction, Reflection, Light, Spectrum, Rainbow, Colour, Filters
Living Things And Their Habitats Habitat, Mini-Beasts, Micro Habitats		**Forces And Magnets** Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull	**Electricity** Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators	**Forces** Air Resistance, Water Resistance, Friction, Gravity, Newton, Gears, Pulleys	**Electricity** Cells, Wires, Bulbs, Switches, Buzzers, Motors, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell, Symbols