# Science at Wolsingham Primary School

| Year 1 | | | | | | |
|---|---|---|---|---|---|---|
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| Title | What is special about animals? | What is our body made up of? | What happens to the weather over the year? | What is a material? | What are plants? | Working Scientifically |
| Statutory focus / knowledge and skills | Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.<br><br>Identify and name a variety of common animals that are carnivores, herbivores and omnivores<br><br>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals and invertebrates, and 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. | Observe and describe weather associated with the seasons and how day length varies.<br><br>Observe changes across the four seasons | Distinguish between an object and the material from which it is made.<br><br>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.<br><br>Describe the simple physical properties of a variety of everyday materials.<br><br>Compare and group together a variety of everyday materials on the basis of their simple physical properties of materials on the basis of their simple physical properties. | Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.<br><br>Identify and describe the basic structure of a variety of common flowering plants, including trees. | Ask simple questions and recognising that they can be answered in different ways observing closely,<br><br>Use simple equipment.<br><br>Perform simple tests using their observations and ideas to suggest answers to questions.<br><br>Gather and record data to help in answering questions. |
| Local Learning Links | Low Barns Nature Reserve | | Local seasonal walks | Recycling site | Local area walks<br>Durham Botanical Gardens | Ogden Trust resources<br>CLEAPSS – *Username – silver. Password – fish19* |
| Post Learning Task | Can you sort the given animals and explain how you have done so?<br>Use of subject specific vocabulary list, pre and post teaching. | Can you name the parts of the body?<br>Use of subject specific vocabulary list, pre and post teaching. | Tell me something that happens in each season.<br>Use of subject specific vocabulary list, pre and post teaching. | Can you sort the given materials and explain how you have done so?<br>Use of subject specific vocabulary list, pre and post teaching. | Tell me the parts of a plant.<br>Use of subject specific vocabulary list, pre and post teaching. | **Focus – Identify and Classify**<br>Use of subject specific vocabulary list, pre and post teaching. |
| **Year 2** | | | | | | |
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| Title | What do animals and humans need to stay alive? | What is special about materials? | How can we sort animals? | How do plants grow healthily? | Working Scientifically | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Statutory focus / knowledge and skills** | Notice that animals, including humans, have offspring which grow into adults.<br><br>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).<br><br>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. | Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.<br><br>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | Explore and compare the differences between things that are living, dead, and things that have never been alive.<br><br>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.<br><br>Identify and name a variety of plants and animals in their habitats, including micro-habitats.<br><br>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. | Observe and describe how seeds and bulbs grow into mature plants.<br><br>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. | Asking simple questions and recognising that they can be answered in different ways observing closely,<br>Using simple equipment.<br><br>Performing simple tests using their observations and ideas to suggest answers to questions.<br><br>Gathering and recording data to help in answering questions. | |
| **Local Learning Links** | Visit from school nurse | Sunderland Glass Centre | Mini-beast hunt and dipping at Hardwick Park<br>Local area walks - river | Use of school garden<br>Durham Botanical Gardens | Ogden Trust resources<br>CLEAPSS – *Username – silver. Password – fish19* | |
| **Post Learning Task** | How do humans stay healthy?<br>Use of subject specific vocabulary list, pre and post teaching. | Tell me the properties of wood, metal, cardboard and plastic.<br>Use of subject specific vocabulary list, pre and post teaching. | What are the seven signs of life?<br>Use of subject specific vocabulary list, pre and post teaching. | What do plants need to grow healthily?<br>Use of subject specific vocabulary list, pre and post teaching. | **Focus – Identify and Classify & Observe over Time**<br>Use of subject specific vocabulary list, pre and post teaching. | |
| **Year 3** | | | | | | |
| | **Unit 1** | **Unit 2** | **Unit 3** | **Unit 4** | **Unit 5** | **Unit 6** |
| **Title** | How do animals and humans bodies function correctly? | What is light? | What is a magnet? | What is rock? | How do plants function? | Working Scientifically |
| **Statutory focus / knowledge and skills** | 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. | Recognise that they need light in order to see things and that the dark is the absence of light.<br><br>Notice that light is reflected from surfaces. | Compare how things move on different surfaces.<br><br>Notice that some forces need contact between two objects, but magnetic forces can act at a distance. | Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.<br><br>Describe in simple terms how fossils are formed | Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.<br><br>Explore the requirements of plants for life and growth (air, light, water, nutrients | Asking relevant questions and using different types of scientific enquiries to answer them<br><br>Setting up simple practical enquiries, comparative and fair tests making systematic and careful observations |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Identify that humans and some other animals have skeletons for support, protection and movement. | Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.<br><br>Recognise that shadows are formed when the light from a light source is blocked by a solid object.<br><br>Find patterns in the way that the size of shadows change.<br><br>Know who Thomas Edison was and about his life and work. | Observe how magnets attract or repel each other and attract some materials and not others.<br><br>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.<br><br>Describe magnets as having two poles.<br><br>Predict whether two magnets will attract or repel each other, depending on which poles are facing. | when things that have lived are trapped within rock.<br><br>Recognise that soils are made from rocks and organic matter. | from soil, and room to grow) and how they vary from plant to plant.<br><br>Investigate the way in which water is transported within plants.<br>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. | and, where appropriate, taking accurate measurements using standard gathering, recording, classifying and presenting data in a variety of ways to help in answering questions<br><br>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables<br><br>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further identifying differences, similarities or changes related to simple scientific ideas and processes<br><br>Using straightforward scientific evidence to answer questions or to support their findings. |
| Local Learning Links | Visit from school nurse/dentist | | Durham Uni Outreach | Harehope Quarry<br>Killhope Mining Centre<br>Hancock Museum N'cle | Durham Botanical Gardens | Ogden Trust resources<br>CLEAPSS – *Username – silver. Password – fish19* |
| Post Learning Task | Tell me what you know about teeth and bones.<br>Use of subject specific vocabulary list, pre and post teaching. | How are shadows formed and how can they be changed?<br>Use of subject specific vocabulary list, pre and post teaching. | How do magnets work?<br>Use of subject specific vocabulary list, pre and post teaching. | Name the different types of rock and tell me some of their properties.<br>Use of subject specific vocabulary list, pre and post teaching. | What are the functions of the different parts of a plant?<br>Use of subject specific vocabulary list, pre and post teaching. | **Focus – Pattern Seeking & Fait Test.**<br>Use of subject specific vocabulary list, pre and post teaching. |
| Year 4 | | | | | | |
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| Title | Why is food important to animals and humans? | What is electricity? | How can we group living things? | How can materials be changed? | What is sound? | Working Scientifically |

| | | | | | | |
|---|---|---|---|---|---|---|
| Statutory focus / knowledge and skills | Describe the simple functions of the basic parts of the digestive system in humans.<br><br>Construct and interpret a variety of food chains, identifying producers, predators and prey. | Identify common appliances that run on electricity.<br><br>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.<br><br>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.<br><br>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.<br><br>Recognise some common conductors and insulators, and associate metals with being good conductors.<br><br>Know who Michael Faraday was and about his life and work. | Recognise that living things can be grouped in a variety of ways.<br><br>Explore and use classification keys to help group identify and name a variety of living things in their local and wider environment.<br><br>Recognise that environments can change and that this can sometimes pose dangers to living things. | Compare and group materials together, according to whether they are solids, liquids or gases.<br><br>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).<br><br>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.<br><br>Recognise that vibrations from sounds travel through a medium to the ear.<br><br>Find patterns between the pitch of a sound and features of the object that produced it.<br><br>Find patterns between the volume of a sound and the strength of the vibrations that produced it.<br><br>Recognise that sounds get fainter as the distance from the sound source increases.<br><br>Know who Alexander Graham Bell was and about his life and work. | Asking relevant questions and using different types of scientific enquiries to answer them<br><br>Setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard gathering, recording, classifying and presenting data in a variety of ways to help in answering questions<br><br>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables<br><br>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further identifying differences, similarities or changes related to simple scientific ideas and processes<br><br>Using straightforward scientific evidence to answer questions or to support their findings. |
| Local Learning Links | | | Hancock Museum N'cle | Sunderland Glass Centre | | Ogden Trust resources<br>CLEAPSS – *Username – silver. Password – fish19* |
| Post Learning Task | Draw and label a food chain.<br>Use of subject specific vocabulary list, pre and post teaching. | Draw and label a simple circuit.<br>Use of subject specific vocabulary list, pre and post teaching. | Explain the different ways animals can be grouped.<br>Use of subject specific vocabulary list, pre and post teaching. | Explain how states of matter can be changed.<br>Use of subject specific vocabulary list, pre and post teaching. | How does sound travel?<br>Use of subject specific vocabulary list, pre and post teaching. | **Focus – Research, Pattern Seeking & Fair Test**<br>Use of subject specific vocabulary list, pre and post teaching. |

| Year 5 | | | | | | |
|---|---|---|---|---|---|---|
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| Title | What happens to humans as they age? | Does the earth move in space? | What does life process mean? | Can materials be mixed and separated? | What is a force? | Working Scientifically |
| Statutory focus / knowledge and skills | Describe the changes as humans develop to old age. | Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.<br><br>Describe the movement of the Moon relative to the Earth.<br><br>Describe the Sun, Earth and Moon as approximately spherical bodies.<br><br>Use the idea of the Earth's rotation to explain day and night. And the apparent movement of the sun across the sky. | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird.<br><br>Describe the life process of reproduction in some plants and animals. | 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.<br><br>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.<br><br>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.<br><br>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.<br><br>Demonstrate that dissolving, mixing and changes of state are reversible changes<br><br>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. | Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.<br><br>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.<br><br>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.<br><br>Know who Isaac Newton was and about his life and work. | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br><br>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br><br>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.<br><br>Using test results to make predictions to set up further comparative and fair tests.<br><br>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations.<br><br>Identifying scientific evidence that has been used to support or refute ideas or arguments. |
| Local Learning Links | Visit from grandparents. | Visit from planetarium<br>Centre for Life in N'cle<br>Hancock Museum N'cle | | Visit from Dr Hoare – Newcastle University Outreach (Science in your shopping basket) | Durham Uni Outreach | Ogden Trust resources<br>CLEAPSS – *Username – silver. Password – fish19* |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Post Learning Task** | What are the main changes to humans as they age?<br>Use of subject specific vocabulary list, pre and post teaching. | How do the planets move?<br>Use of subject specific vocabulary list, pre and post teaching. | Tell me about the life process of reproduction of a given plant and animal.<br>Use of subject specific vocabulary list, pre and post teaching. | How can materials be separated?<br>Use of subject specific vocabulary list, pre and post teaching. | What is gravity and what does it do?<br>Use of subject specific vocabulary list, pre and post teaching. | **Focus – Research, Observe over Time, Pattern Seeking & Fair Test**<br>Use of subject specific vocabulary list, pre and post teaching. |
| **Year 6** | | | | | | |
| | **Unit 1** | **Unit 2** | **Unit 3** | **Unit 4** | **Unit 5** | **Unit 6** |
| **Title** | How do living things function? | How does an electrical circuit work? | Can we classify all living things? | Who was Charles Darwin? | How does light travel? | Working Scientifically |
| **Statutory focus / knowledge and skills** | Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.<br><br>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.<br><br>Identify that humans and some other animals have muscles for support, protection and movement.<br><br>Describe the ways in which nutrients and water are transported within animals, including humans. | Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.<br><br>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.<br><br>Use recognised symbols when representing a simple circuit in a diagram. | 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.<br><br>Give reasons for classifying plants and animals based on specific characteristics. | Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.<br><br>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.<br><br>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.<br><br>Know who Charles Darwin was and about his life and work. | Recognise that light appears to travel in straight lines.<br><br>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.<br><br>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.<br><br>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br><br>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.<br>Using test results to make predictions to set up further comparative and fair tests.<br>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. |
| **Local Learning Links** | | Centre for Life, N'cle. | Hancock Museum N'cle | | | Ogden Trust resources<br>CLEAPSS – *Username – silver. Password – fish19* |
| **Post Learning Task** | Name the main parts of the human circulatory system, and describe the functions | How can the brightness of a lamp or volume of a buzzer be changed in a circuit? | How can living things be grouped? | What is evolution? | How do we see things? | **Focus – Identify & Classify, Pattern Seeking, Observing** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | of the heart, blood vessels and blood.<br>Use of subject specific vocabulary list, pre and post teaching. | Use of subject specific vocabulary list, pre and post teaching. | Use of subject specific vocabulary list, pre and post teaching. | Use of subject specific vocabulary list, pre and post teaching. | Use of subject specific vocabulary list, pre and post teaching. | **over Time, Research & Fair Test.**<br>Use of subject specific vocabulary list, pre and post teaching. |