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| C:\Users\srobinson\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\B89FDD96.tmpC:\Users\srobinson\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\B89FDD96.tmp  **Flookburgh C of E Primary School**  Science Knowledge: Key Stage 1 | | | | | | |
| **Working Scientifically** | | | | | | |
| * Ask questions such as:   + Why are flowers different colours?   + Why do some animals eat meat and others do not?   + Why do trees lose their leaves in Autumn and others do not?   + How long are roots of tall trees?   + Why do some animals have underground habitats? * Set up a test to see which materials keeps things warmest, know if the test has been successful and can say what has been learned * Explain to someone what has been learned from an investigation they have been involved with and draw conculsions from the answers to the questions asked * Use equipment such as thermometes and rain gauges to help observe changes to local environemtn as the year progresses * Use microscopes to find out more about small creatures and plants * Know how to set up a fair test and do so when finding out about how seeds grow best * Classify or group things according to a given riteria, e.g. decisuous and confierous trees * Draw conclusions from fair test and explain what has been found out * Use measures (Y2 mathemtaical limits) to help find out more about the invesetigations they are engaged with | | | | | | |
|  | **Biology** | | | | **Chemistry** | **Physics** |
| **Animals in. Humans** | | **Animals in. Humans** | **Plants** |  |  |
| National Curriculum | * *Name common animals​* * *Carnivores, etc​* * *Alive or dead* * *habitats* * *Adaptations* * *Food chains* | | * *Human body and senses​* * *Animal reproduction* * *Healthy living* * *Basic needs* | * *Common plants​* * *Plant structure​* * *Plant and seed growth​* * *Plant reproduction​* * *Keeping plants healthy* | * *Properties of materials​* * *Grouping materials​* * *Identify different materials​* * *Name everyday materials​* * *Properties of materials* | * *The four seasons​* * *Seasonal weather​* * *Compare the use of different materials​* * *Compare movement on different surfaces* |
| Knowledge Acquired | * Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds​ * Know and classify animals by what they eat (carnivore, herbivore and omnivore)​ * Know how to sort by living and non living things​ * Classify things by living, dead or never lived​ * Know how a specific habitat provides for the basic needs of things living there (plants and animals)​ * Match living things to their habitat​ * Name some different sources of food for animals​ * Know about and explain a simple food chain​   ​ | * Know the name of parts of the human body that can be seen​ * Know the basic stages in a life cycle for animals, (including humans)​ * Know why exercise, a balanced diet and good hygiene are important for humans​ | | * Know and name a variety of common wild and garden plants​ * Know and name the petals, stem, leaves and root of a plant​ * Know and name the roots, trunk, branches and leaves of a tree * Know and explain how seeds and bulbs grow into plants​ * Know what plants need in order to grow and stay healthy (water, light & suitable ​ * temperature) | * Know the name of the materials an object is made from​ * Know about the properties of everyday materials​ * Know how materials can be changed by ​ * squashing, bending,    ​ * twisting and stretching​ | * Name the seasons and know about the type of weather in each season​ * Know why a material might or might not be ​ * used for a specific job |

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| **Working Scientifically** | | | | | | |
| * *Asking relevant questions and using different types of scientific enquiries to answer them* * *Setting up simple practical enquiries, comparative and fair tests* * *Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers* * *Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* * *Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* * *Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* * *Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions* * *Identifying differences, similarities or changes related to simple scientific ideas and processes* * *Using straightforward scientific evidence to answer questions or to support their findings.* | | | | | | |
|  | **Biology** | | | **Chemistry** | **Physics** | |
| **Animals in. Humans** | **Plants** | **Plants** | **Rocks** | **Forces** | **Light** |
| National Curriculum | * *Skeleton and muscles*​ * *Nutrition*​ * *Exercise and health*​ * *Digestive system*​ * *Teeth*​ * *Food chains*​ | * *Plant life*​ * *Basic structure and functions*​   ​ | * *Life cycle*​   + *Water transportation*​ | * *Fossil formation*​ * *Compare and group rocks*​ * *Soil*​   ​ | * *Different Forces*​ * *Magnets*​ | * *Reflections*​ * *Shadows*​ |
| Knowledge Acquired | * Know about the importance of a nutritious, balanced diet​ * Know how nutrients, water and oxygen are transported within animals and humans​ * Know about the skeletal and muscular system of a human​ * Identify and name the parts of the human digestive system​ * Know the functions of the organs in the human digestive system​ * Identify and know the different types of human teeth​ * Know the functions of different human teeth​ * Use and construct food chains to identify producers, predators and prey​   ​ | * Know the function of different parts of flowing plants and trees​ * ​ * ​   ​ | * Know how water is transported within plants​ * Know the plant life cycle, especially the importance of flowers​   ​ | * Compare and group rocks based on their appearance and physical properties, giving reasons​ * Know how soil is made and how  fossils are formed​ * Know about and explain the difference between sedimentary, metamorphic and igneous rock​   ​ | * Know about and describe how objects move on different surfaces​ * Know how a simple pulley works and use to on to lift an object​ * Know how some forces require contact and some do not, giving examples​ * Know about and explain how magnets attract and repel Predict whether magnets will attract or repel and give a reason​ | * Know that dark is the absence of light​ * Know that light is needed in order to see and is reflected from a surface​ * Know and demonstrate how a shadow is formed and explain how a shadow changes shape​ * Know about the danger of direct sunlight and describe how to keep protected​   ​ |
|  | **All Living Things and Their Habitats** | | **States of Matter** | **Electricity** | **Sound** |
| * *Grouping living things*​ * *Classification keys*​   + *Adaptation of living things*​ | | * *Compare and group materials*​ * *Solids, liquids and gases*​ * *Changing state*​   + *Water cycle*​ | * *Uses of electricity*​ * *Simple circuits and switches*​ * *Conductors and insulators*​   ​ | * *How sounds are made*​ * *Sound vibrations*​ * *Pitch and Volume*​ |
|  |  | * Use classification keys to group, identify and name living things​ * Know how changes to an environment could endanger living things​ * Group materials based on their state of matter (solid, liquid or gas)​ | | * Know the temperature at which materials change state​ * Know about and explore how some materials can change state​ * Know the part played by evaporation and condensation in the water cycle​   ​ | * Identify and name appliances that require electricity to function​ * Construct a series circuit​ * Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers)​ * Predict and test whether a lamp will light within a circuit​ * Know the function of a switch​ * Know the difference between a conductor and an insulator; giving examples of each​ | * Know how sound is made, associating some of them with vibrating​ * Know how sound travels from a source to our ears​ * Know the correlation between pitch and the object producing a sound​ * Know the correlation between the volume of a sound and the strength of the vibrations that produced it​ * Know what happens to a sound as it travels away from its source​   ​ |

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| **Working Scientifically** | | | | | | |
| * *planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary* * *taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate* * *recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* * *using test results to make predictions to set up further comparative and fair tests* * *reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a 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* | | | | | | |
|  | **Biology** | | | **Chemistry** | **Physics** | |
| **Animals in. Humans** | | **All Living Things and Their Habitats** | **Properties and Changes in Materials** | **Forces** | **Earth and Space** |
| National Curriculum | * *Changes as humans develop from birth to old age*​ * *The circulatory system*​ * *Water transportation*​ * *Impact of exercise on body*​ | | * *Life cycles – plants and animals*​ * *Reproductive processes*​ * *Famous naturalists*​ * *Classification of living things and the reasons for it*​ | * *Compare properties of everyday materials*​ * *Soluble/ dissolving*​ * *Reversible and irreversible substances*​ | * *Movement of the Earth and the planets*​ * *Movement of the Moon*​ * *Night and day*​ | * *Movement of the Earth and the planets*​ * *Movement of the Moon*​ * *Night and day*​ |
| Knowledge Acquired | * Create a timeline to indicate stages of growth in humans​ * Identify and name the main parts of the human circulatory system​ * Know the function of the heart, blood vessels and blood​ * Know the impact of diet, exercise, drugs and lifestyle on health​ * Know the ways in which nutrients and water are transported in animals, including humans​ | | * Know the life cycle of different living things e.g. mammal, amphibian, insect and bird​ * Know the differences between different life cycles​ * Know the process of reproduction in plants​ * Know the process of reproduction in animals​ * ​ Classify living things into broad groups according to observable characteristics and based on similarities and differences​   Know how living things have been classified​  Give reasons for classifying plants and animals in a specific way​  ​ | * Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets​ * Know and explain how a material dissolves to form a solution​ * Know and show how to recover a substance from a solution​ * Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating) ​ * Know and demonstrate that some changes are reversible and some are not​   Know how some changes result in the formation of a new material and that this is usually irreversible​ | * Know about and explain the movement of the Earth and other planets relative to the Sun​ * Know about and explain the movement of the Moon relative to the Earth​ * Know and demonstrate how night and day are created​ * Describe the Sun, Earth and Moon (using the term spherical) ​ * ​ | * Know about and explain the movement of the Earth and other planets relative to the Sun​ * Know about and explain the movement of the Moon relative to the Earth​ * Know and demonstrate how night and day are created​ * Describe the Sun, Earth and Moon (using the term spherical) ​   ​ |
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|  | |  | **Evolution and Inheritance** | **Electricity** | **Light** |
| * *Identical and non-identical off-spring*​ * *Fossil evidence and evolution*​   *Adaptation and evolution*​ | * *Electrical components*​ * *Simple circuits*​ * *Fuses and voltage*​   ​ | * *How light travels*​ * *Reflection*​ * *Ray models of light*​   ​ |
| * Know how the Earth and living things have changed over time​ * Know how fossils can be used to find out about the past​ * Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents) ​ * Know how animals and plants are adapted to suit their environment​ * Link adaptation over time to evolution​   Know about evolution and can explain what it is​ | * Compare and give reasons for why components work and do not work in a circuit​ * Draw circuit diagrams using correct symbols​ * Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer​   ​ | * Know how light travels​ * Know and demonstrate how we see objects​ * Know why shadows have the same shape as the object that casts them​ * Know how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.​   ​ |