

## SCIENCE UNIT OVERVIEWS 2020-2021

Year group and unit	Working Scientifically	Science Content & Knowledge	Previous learning to recap	Key vocabulary
<b>Year 6 Autumn 1</b> <i>How does light travel and what is the effect on shadows?</i>	<b>Can they plan different types of scientific enquiries to answer questions?</b> E.g. investigating how the distance from a light source effects the size of a shadow <b>Can they identify variables</b> and understand that fair testing relies on <b>controlling one variable?</b> <b>Can they take measurements using a range of scientific equipment?</b> E.g.– measuring size of shadow using standard units.	<b>Can they recognise that light appears to travel in straight lines?</b> <b>Can they 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?</b> <b>Can they 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?</b> <b>Can they use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them?</b>	Y3 Autumn 1: Light & shadows  Y5 Spring 1: Earth & Space (including night and day)  Properties of materials across all year groups	Transparent Opaque Translucent Magnify Lens Refraction Light source Prism Spectrum Luminous Non-luminous
<b>Year 6 Autumn 2</b> <i>How and why do living things evolve over time?</i>	<b>Can they identify scientific evidence that has been used to support or refute ideas or arguments?</b> E.g. Charles Darwin’s work and how he found ways to prove that evolution is real – even against what many people believed at the time.	<b>Can they recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago?</b> <b>Can they recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents?</b> <b>Can they identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution?</b>	Y2 Spring 1: How living things are suited to their habitat.  Y3 Spring 1: Rocks & Fossils  Y4 Spring 1: Classification keys & habitats  Y5 Autumn 2: life cycle & reproduction of living things	Evolution Inheritance DNA Natural selection Ancestor Generation Fossilisation Charles Darwin Extinct Species
<b>Year 6 Spring 1</b> <i>How can the components of a circuit vary in function? How does</i>	<b>Can they report and present findings from enquiries, including conclusions, causal relationships and explanations?</b> E.g. investigating how increasing the number of components in a circuit will change the voltage and being able to explain the	<b>Can they associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit?</b> <b>Can they compare and give reasons for variations in how components function, including the brightness of bulbs,</b>	(Link with DT – electrical circuits)  Y4 Spring 2: Electricity and simple series circuits	Static electricity Filament Voltage Insulator Conductor Fuse

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<p><i>this impact on other elements?</i></p>	<p>relationship between amount of components and electrical strength.  <b>Can they have a degree of trust in results?</b>                      E.g. repeating test results to see how they change and how reliable they are</p>	<p><b>the loudness of buzzers and the on/off position of switches?</b>  <b>Can they use recognised symbols when representing a simple circuit in a diagram?</b></p>	<p>Properties of materials across all year groups</p>	<p>Component Circuit symbols Electrons</p>
<p><b>Year 6 Spring 2</b>  <i>What is the importance of classification systems and why are they valuable to scientific discovery?</i></p>	<p>Can they use a classification key to group or name some insects in their local environment?  <b>Can they record scientific data using diagrams?</b> E.g observing how spore prints change appearance on paper depending on their distance from it? Link with COVID-19 and potential spread of the virus from one person to another</p>	<p><b>Can they describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals?</b>  <b>Can they give reasons for classifying plants and animals based on specific characteristics?</b>                      Can they talk about who Carl Linnaeus was and why he was important in the world of classification?                      Can they understand that large groups, like animals, plants and micro-organisms, can be subdivided?</p>	<p>Y2 Spring 1: Living things and their habitats                       Y4 Spring 1: Classification keys                       Y6 Autumn 2: Evolution &amp; Inheritance</p>	<p>Classify Species Microorganism Kingdom Fungi Bacteria Virus Characteristic Subdivided</p>
<p><b>Year 6 Summer 2</b>  <i>What is the impact of diet, exercise, drugs and lifestyle on the way our bodies function?</i></p>	<p><b>Can they identify scientific evidence that has been used to support or refute ideas or arguments?</b> Can they explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health?  <b>Can they record data using graphs?</b> E.g. heart rate when resting and after exercise – Plot these on a dual bar graph for the whole class – gather data into a table.</p>	<p><b>Can they identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood?</b>  <b>Can they recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function?</b>  <b>Can they describe the ways in which nutrients and water are transported within animals, including humans?</b></p>	<p>Y2 Summer 2: Exercise and nutrition for humans                       Y3 Summer 2: Types of nutrition &amp; human skeleton/muscles                       Y4 Summer 2: Human digestive system                       Y5 Summer 2: How humans develop as they grow to old age</p>	<p>Circulatory system Heart Blood vessels Blood Diet Drugs Lifestyle Function Nutrients Addiction Balanced diet Transportation Substances</p>