EXPERIENTIAL COMMUNITY CREATIVITY RESPONSIVE

| Year 6: Science Overview 2021- 2022/2022 -2023 | | | | | |
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| **Topic** | **Autumn**<br>**We Are Made by History?**<br>*Anglo Saxons & Kingdom of Benin* | **Spring**<br>**Birth of Nations**<br>*Vikings & Crime and Punishment (social justice)* | | **Summer**<br>**Inheriting the World**<br>*Evolution & inheritance/Microorganisms* | |
| **Main focus** | **Geography Focus** | **History Focus** | | **Science Focus** | |
| Knowledge | Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood<br><br>Describe the ways in which nutrients and water are transported within animals, including humans<br><br>Recognise the impact of diet, exercise, drugs, and lifestyle on the way their bodies function | **Light**<br>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 eye<br><br>Use the idea that light travels in straight lines to explain why shadow have the same shape as the objects that cast them | **Electricity**<br>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 | **Evolution and Inheritance**<br>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 parent<br><br>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. | **Living Things and Their Habitats**<br>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>Describe how living things can be classified into broad groups and give reasons for those classifications |

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| **Enquiries** | **Researching - Children present what they've learned in different ways**<br>How does the circulation system work?<br>How does our circulatory system keep us alive?<br>How does our heart work?<br><br>**Observing Over Time**<br>Observe pulse rates before, during and after exercise.<br><br>**Pattern Seeking**<br>Children generate questions for investigation such as:<br>▪ Do older people have lower pulse rates?<br>▪ Do boys have higher pulse rates? | What is light and how do we see it?<br><br>Which material is most reflective?<br><br>How can we see different colours?<br><br>How does my shadow change over the course of a day?<br><br>Why do some people need to wear glasses?<br><br>**Comparitive/Fair testing**<br>Investigate the shape of shadows and link this to light travelling in straight lines. | How would you group electrical components and appliances based on your own criteria?<br><br>Can you incorporate a switch into a circuit to turn it on and off?<br><br>**Comparative/Fair testing**<br>Does the number/voltage of cells in a circuit affect the brightness of a bulb or the loudness of a buzzer?<br><br>Which type of fruit makes the best battery? | **What is adaptation?**<br>Workshop at London Zoo<br><br>**Researching**<br>Research different types of a species and their characteristics making them suitable for different habitats e.g. penguins.<br><br>**Pattern seeking**<br>Bird beak investigation - Compare the effectiveness of different beaks in collecting food.<br><br>What have you inherited from your parents? Bring in baby pictures?<br><br>Sorting activity - Inherited characteristics or environmental characteristics | **Classifying**<br>Classify plants into flowering, mosses, ferns and conifers, based on specific characteristics.<br><br>**Classifying**<br>Create a branching database/ dichotomous key to classify a set of living things.<br><br>**Researching**<br>Research the characteristics of a vertebrate/ invertebrate group and present what they've learned in different ways<br><br>**Researching**<br>Research how microorganisms can be helpful/harmful |
| Knowledge Matrix | Knowledge Matrix - Pre-Knowledge and Future Learning | | | | |
| Working Scientificallly | Working Scientifically Skills Year 5 and Year 6 | | | | |
| Experiences | **Heart dissection** | | | **What is adaptation?** Workshop at London Zoo | |

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| Key Vocabulary | **Animals including humans -** Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle | **Light:** Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, straight lines, light rays | **Electricity-** Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage | **Evolution and Inheritance** - Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils | **Living things and their habitats -** Classification, micro-organism, invertebrates, vertebrates, offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils |
| Assessment Tasks | **Comparitive/Fair testing**<br>**TAPS Assessment - Heart Rate Poses**<br>To investigate the effect of stationary exercises on heart rate | **Comparitive/Fair testing**<br>**TAPS Assessment - Investigating Shadows**<br>Investigate the shape of shadows and link this to light travelling in straight lines. | | | **Classifying**<br>**TAPS Assessment - Outdoor Keys**<br>Create a branching database/ dichotomous key to classify a set of living things. |
| Cross-curricular tasks | **To write a non-chronological report on the circulatory system.** | **Macbeth Shadow Puppets**<br><br>**Make a Viking Sun compass**<br>https://www.moortown.leeds.sch.uk/blog/2018/10/24/making-viking-sun-compass/ | | **RSE - Sexual reproduction** | **21st Century learning Environmentalism - we can make a difference.**<br><br>**A study of ecological movements, for example, the Chipko movement** |
| Events | **Y6 trip to France**<br>**Black History Month**<br>**Anti- Bullying Week** | **Big Garden Birdwatch**<br>**Book Week**<br>**Crick Workshops**<br>**Science Week - Theme "Connections"** | | **STEAM Exhibition**<br>**Healthy Schools Week**<br>**Sports day** | |

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| | | | **Great Big School Clean** | | | |
| Core texts | **Grimm Tales** Philip Pullman<br><br>**Beowulf** by Michael Morpurgo | **Children of the Quicksands** Efua Traore<br><br>**Guardian Article** 'Germany returns bronzes' | **Macbeth** William Shakespeare<br><br>**Shakespeare Stories** Andrew Garfield<br><br>**Mr William Shakespeare's plays** by Marica Williams<br><br>**Macbeth** Graphic Nove | **The Island** Armin Greder<br><br>**Little Freak film** Edwin Schaap<br><br>**Persuasive speeches** (Barack Obama; Martin Luthor King; Emma Watson; Afua Hirsch) - Equal rights | **Titanium** Music video - supernatural powers | **Darwin's Dragons** Lindsay Galvin<br><br>**On the Origin of Species by** Sabina Radeva<br><br>**Can we save the Tiger?** by Martin Jenkins<br><br>**The Hidden Forest** by Jeannie Baker |
| Science is: | **RESPONSIVE** Responds to what is happening right now<br>**CREATIVE** Linked to science and the arts<br>**COMMUNITY** Has a purpose<br>**EXPERIENTIAL** Is enhanced by experiences | | | | | |