

LEYS FARM JUNIOR SCHOOL
Science Long Term Plan 2021/2022

	Autumn	Spring	Summer
Y3	<p style="text-align: center;">Stone Age (Cavemen and Creatures)</p> <p>Lights and Shadows (Physics)</p> <ul style="list-style-type: none"> • Why we need light • How light is reflected • What shadows are • Patterns (size) of shadows throughout the day <p>Rocks & Fossils (Geology/ Biology)</p> <ul style="list-style-type: none"> • Comparing and grouping fossils • Types of rocks • How soil is made • Explore local environment for different rocks and soils 	<p style="text-align: center;">Anglo Saxons/Vikings (Villainous or Valiant?)</p> <p>Parts of Plants - Garden Based Learning (Geology, Biology)</p> <ul style="list-style-type: none"> • Requirements of different plants • Water transportation • Functions of parts of flowering plants • Life cycles, including pollination and seed dispersal <p>What plants need - Garden Based Learning (Geology/ Biology)</p> <ul style="list-style-type: none"> • Requirements of plants for life and growth • Explore how needs vary between plant to plant • Link back to parts of a plant 	<p style="text-align: center;">A Child Like Me (Around the World in 80 Days)</p> <p>Movement and Feeding (Biology)</p> <ul style="list-style-type: none"> • Nutrition for both • Dietary needs • animals and humans • Skeletons • Muscles • Support, protection and movement • Invertebrates and Vertebrates <p>Magnets and Forces (Physics)</p> <ul style="list-style-type: none"> • How things move on different surfaces • Name forces • Magnets repel or attract • Magnets have 2 poles • Explore everyday items – attract or repel
<p>Working Scientifically Focus:</p> <ul style="list-style-type: none"> • Asking relevant questions and using different types of scientific enquiries to answer them. • Setting up simple practical enquiries, comparative and fair tests. • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. • Using straightforward scientific evidence to answer questions or to support their findings. • <i>Year 3 ensure children are supported in all aspects of planning, carrying out and writing up investigations by the end of Year 4.</i> • <i>Use Year 3 investigation proforma often as a whole class or with group support.</i> 			
Y4	<p style="text-align: center;">Stone Age (Cavemen and Creatures)</p> <p>Grouping Living Things (Biology)</p> <ul style="list-style-type: none"> • How micro-organisms, plants and animals are classified into broad groups according to characteristics. 	<p style="text-align: center;">Anglo Saxons/Vikings (Villainous or Valiant?)</p> <p>Sound (Physics)</p> <ul style="list-style-type: none"> • Vibrations • The Ear • Patterns with pitch • Patterns with volume • How sounds can change 	<p style="text-align: center;">A Child Like Me (Around the World in 80 Days)</p> <p>Human Nutrition (Biology)</p> <ul style="list-style-type: none"> • Digestion system • Teeth • Main body parts • Healthy Eating and caring for our bodies

	<ul style="list-style-type: none"> Name a variety of living things in local area <p>Dangers to Living Things (Biology)</p> <ul style="list-style-type: none"> Environments can change Construct and interpret food chains 	<p>Electricity (Physics)</p> <ul style="list-style-type: none"> Common appliances that use electricity Simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Conductors and insulators Switches 	<p>Changes of state (Chemistry)</p> <ul style="list-style-type: none"> Compare and group materials together Observe that some materials change state Evaporation and Condensation Water Cycle
<p>Working Scientifically Focus:</p> <ul style="list-style-type: none"> Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Using straightforward scientific evidence to answer questions or to support their findings. <i>Year 4 ensure children are supported in all aspects of planning, carrying out and writing up investigations by the end of Year 4.</i> <i>Use Year 4 investigation proforma often as a whole class or with group support.</i> 			
<p>Y5</p>	<p>Tudors (Tudor Tales)</p> <p>Earth and Space (Physics/Geology)</p> <ul style="list-style-type: none"> movement of the Earth, moon and other planets, relative to the Sun. Explain day and night and the apparent movement of the sun across the sky. <p>Forces (Physics)</p> <ul style="list-style-type: none"> Magnets Gravity Air and water resistance Friction Mechanisms, including levers, pulleys and gears, which allow a smaller force to have a greater effect. 	<p>Black History (Out of Africa)</p> <p>Materials (Chemistry)</p> <ul style="list-style-type: none"> Compare and group together everyday materials Solubility, transparency, conductivity (electrical and thermal) Magnetic materials <p>Particular uses of everyday materials</p> <p>Types of changes (Chemistry)</p> <ul style="list-style-type: none"> Separation and dissolving Solids, mixtures and gases Reversible and non-reversible changes <p>Separating Mixtures (Chemistry)</p> <ul style="list-style-type: none"> Knowledge of solids, liquids and gases Filtering, sieving and evaporating Materials that will dissolve Reversible changes 	<p>Victorians (Children of the Revolution)</p> <p>Life Cycles (Biology)</p> <ul style="list-style-type: none"> The differences in the life cycles of a mammal, an amphibian, an insect and a bird Life process of reproduction in some plants and animals. Observe life-cycle changes in a variety of living things Reproduction – including sexual and asexual reproduction in plants and sexual reproduction in animals. <p>Changes as we get older (Biology)</p> <ul style="list-style-type: none"> The changes as humans develop to old age.

Working Scientifically Focus:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- 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
- *Use Year 5/6 Investigation Proforma - encourage Year 5s to write up independently where possible.*

<p>Y6</p>	<p style="text-align: center;">Tudors (Tudor Tales)</p> <p>Evolution and Inheritance (Geology/ Biology)</p> <ul style="list-style-type: none"> • Fossilisation • How living things have changed over time • Offspring • Adaptation • Survival of the Fittest – Darwin • Dangers to living things <p>Classifying Living things (Biology)</p> <ul style="list-style-type: none"> • How micro-organisms, plants and animals are classified into broad groups according to characteristics. • Reasoning for classifying based on specific characteristics • Identify scientific evidence – refute or support 	<p style="text-align: center;">Black History (Out of Africa)</p> <p>Our bodies (Biology) Changes as we get older -</p> <ul style="list-style-type: none"> • The changes as humans develop to old age. <p>Human Nutrition</p> <ul style="list-style-type: none"> • Functions of the digestive system • Healthy Eating and caring for our bodies <p>Bones & Muscles</p> <ul style="list-style-type: none"> • Functions of the skeleton • Names of common bones and muscles • How muscles work • Types/functions of teeth <p>Light and Sight (Physics)</p> <ul style="list-style-type: none"> • How we see • Shadows • Colours • Refraction • How light travels 	<p style="text-align: center;">Victorians (Children of the Revolution)</p> <p>Changing circuits (Physics)</p> <ul style="list-style-type: none"> • Simple & parallel circuits and part names • Buzzers • Lights • Voltage • Using Symbols • Conductors and insulators <p>Review and Celebration</p>
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- *Use Year 5/6 Investigation Proforma - encourage Year 6s to write up independently where possible.*

Aspects of working scientifically to be embedded into all programmes of study. These skills should be built upon each year, so that children are confident with all aspects of working scientifically by the end of KS2. See 'Big Ideas of Science' for 'working scientifically' guidance.