

Long-term Plan for [Subject]

2016-2017

Subject Leader: [J.OPPONG]

[Title of unit], [Main focus], [WS - Assessment focus], [Other assessment focus], [Cultural links to place of work]

Working and Thinking Scientifically (WS)

YR [5]	First half of term		Second half of term	
Autumn	. WS –Working scientifically/ Measurement	WS –Working scientifically/ Safety in the Lab	Chemistry- Properties and Changes of Materials	Chemistry- Properties and Changes of Materials
	<p>Pupils will learn to take measurements, using a range of scientific equipment with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>WS-planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>make predictions to set up further comparative and fair tests</p>	<p>Pupils will be taught to use practical scientific methods, processes and skills which would be used through the year.</p> <p>Students will be introduced to the Laboratory and how to stay safe in the lab.</p> <p>WS-recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p style="text-align: center;">End of topic test</p>	<p>Pupils will be reviewing and extending their knowledge of materials from previous years, pupils study dissolving and learn how to recover materials from a solution.</p> <p>They will investigate chemical reactions including burning and use a key and a series of simple tests to identify some mystery powders. They will learn about reversible and irreversible changes and they create a drama about the life of a famous materials scientist.</p> <p>WS-Observe and 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.</p>	<p>Chemical Reactions</p> <p>They will be taught methods of separating mixtures and carry out an investigation on “sewage” to clean it up before discharge into a river.</p> <p>WS-Research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers,</p> <p>WS- Plan & carry out investigation, report findings & conclusion using an investigation frame</p> <p>WS – Evaluate investigation, explain data</p> <p style="text-align: center;">End of topic test</p>

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Spring	Physics-Earth and Space	Physics-Time Zone	Biology -Living things and their habitats	Biology - Living Things and their Habitats
	<p>Pupils will study our solar system, learning about the relative movements of the planets and the Moon and relating these to the way we experience the Sun and the Moon on Earth</p> <p>WS-Research a major celestial feature and create a presentation about it</p> <p>WS – Design a model on Solar System</p>	<p>They will carry out some research into planets and investigate the way meteorites have shaped the surface of the Moon.</p> <p>They would be able to explain how the view from the Earth of the Moon causes the phases in a regular sequence</p> <p>WS- Measure with accuracy and precision, repeat readings</p> <p>WS- Identify & explain anomalous results from a given data</p> <p>End of topic test</p> <p>Trip to the Space Centre</p>	<p>Pupils will revisit the life cycle of plants, and learn about pollination.</p> <p>WS-Observe changes in the life cycle of butterflies and compare it how different animals reproduce and grow.</p> <p>WS- Record detailed evidence of life cycles & link to seasons</p>	<p>They compare the life cycles of birds, mammals, insects and amphibians and learn that insects and amphibians undergo metamorphosis</p> <p>WS – link observations to scientific knowledge</p> <p>End of topic test</p>

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Summer	Physics-Force	Physics-Force	Biology – Animals, including Humans: Changes as Humans Develop	Physics ,Biology and Chemistry/ Decay and Recycling
	<p>Pupils learn more about the forces of gravity and friction and investigate the friction of different surfaces. They study air resistance, investigate paper spinners falling, look at floating and sinking and build a self-righting boat.</p> <p>WS-Explore resistance in water by making and testing boats of different shapes. Design and make products that use levers, pulleys, gears and/or springs and explore their effects.</p> <p>WS– Pupil presentation/ check understanding of graphs and interpretation of data</p> <p>WS –Investigation, interpretation and analysis of data</p> <p>WS- Explain need to repeat tests for accuracy</p>	<p>Learning about simple forces includes activities to study pulleys, gears and other simple machines and gives pupils the chance to use their knowledge of machines to build a catapult.</p> <p>WS: Judge accuracy of results</p> <p>WS– Pupil presentation/ check understanding of graphs and interpretation of data</p> <p>End of topic test</p> <p>Year 5 science day and science show external scientist</p>	<p>Describe the basic changes as humans develop from birth to old age</p> <p>Explain the development of a baby</p> <p>Note: Changes experienced in puberty are not covered because it will it as the get to year 7.</p> <p>WS- researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</p> <p>WS-Poster and presentation using Scientific terms.</p> <p>Revision of all year 5 topics.</p> <p>End of Year test</p>	<p>Pupils will carry out a number of visits in and around the school to look for evidence of decay. They will create a compost heap and observe it over time. Natural and man-made materials will be left in different places to see how well they break down. Pupils will also carry out a litter survey in the local area and report back through a school assembly. They will also study about:</p> <ul style="list-style-type: none"> • the process of decay and its usefulness • The factors that will accelerate decay • Know that some materials can be recycled into useful new materials • Evaluate the impact of litter on the environment <p>WS-plan an investigation identifying independent, dependent & control variables</p> <p>WS-select appropriate way to present data</p> <p>Reasoned, well-evidenced conclusions</p>

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