



HOLY TRINITY

Science Progression of Knowledge & Skills – Light

Light	Knowledge	Skills	Key Vocabulary
<p>Year 3 Light and Shadow</p>	<p>Children will learn that darkness is the absence of light, and that without light we cannot see.</p> <p>Children will learn about some differences between night and day, including starting to understand how the Sun rises and sets.</p> <p>Children will share their ideas about how objects could be tested to determine whether or not they will make a shadow.</p> <p>Children will learn about how shadows are created.</p> <p>Children will discuss and predict what will happen to a shadow cast by a stick in sunlight throughout the day.</p> <p>Children will learn that some surfaces reflect more light than others.</p>	<ul style="list-style-type: none"> • 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 straightforward scientific evidence to answer questions or to support their findings • Recognise that they need light in order to see things and that dark is the absence of light • Notice that light is reflected from surfaces • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Recognise that shadows are formed when the light from a light source is blocked by a solid object • Find patterns in the way that the size of shadows change 	<p>light see dark reflect reflective surface natural star Sun Moon artificial torch candle lamp translucent transparent</p>



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<p>Year 6 Seeing Light</p>	<p>Children revisit their knowledge about how shadows are formed and the objects which create them.</p> <p>Children conduct an investigation into how we can change and manipulate shadows 'shape, length, intensity and in particular, size.</p> <p>Children will study the anatomy of our eyes and how the different parts allow us to see.</p> <p>Children will learn that all objects reflect and absorb different amounts of light.</p> <p>Children will learn about the law of reflection and use their knowledge and understanding of identifying and measuring angles to predict reflected light rays.</p> <p>Children will learn about how refraction can bend and change the direction of light rays.</p> <p>Children will investigate how white light can be split into the seven colours of the rainbow. They will find out about Isaac Newton's experiments with prisms and discuss how we see colours.</p>	<ul style="list-style-type: none">•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 degree of trust in results, in oral and written forms such as displays and other presentations•Recognise that light appears to travel in straight lines•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•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•Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	<p>light travels straight reflect reflection refraction light source object shadows mirrors periscope rainbow filters</p>
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