

Staplegrave Church School
Knowledge and Skills Progression in Science

Light

Year group	Knowledge	Skills	Vocabulary
1			
2			
3	<p>Dark is the absence of light and we need light to be able to see.</p> <p>Light can be reflected from different surfaces. Some surfaces are poor reflectors, such as some fabrics, while other surfaces are good reflectors, such as mirrors.</p> <p>Light from the Sun is damaging for vision and the skin. Protection from the Sun includes sun cream, sun hats, sunglasses and staying indoors or in the shade.</p> <p>A shadow is formed when light from a light source, such as the Sun, is blocked by an object. Opaque objects cast dark shadows. Translucent objects cast pale shadows. Transparent objects cast very pale shadows.</p> <p>Shadows change shape and size when the light source moves. For example, when the light source is high above the object, the shadow is short and when the light source is low down, the object's shadow is long.</p>	<p>Describe the differences between dark and light and how we need light to be able to see.</p> <p>Group and sort materials as being reflective or non-reflective.</p> <p>Explain why light from the Sun can be dangerous.</p> <p>Explain, using words or diagrams, how shadows are formed when a light source is blocked by an opaque object.</p> <p>Find patterns in the way shadows change during the day.</p>	<p>Light and Shadows</p>
4			
5			
6	<p>A shadow appears when an object blocks the passage of light. Apart from some distortion or fuzziness at the edges, shadows are the same shape</p>	<p>Explain, using words, diagrams or a model, why shadows have the same shape as the objects that cast them and how shadows can be changed.</p>	

	<p>as the object. The distortion or fuzziness depends on the position or type of light source.</p> <p>Light sources give out light. They can be natural or artificial. When light hits an object, it is absorbed, scattered, reflected or a combination of all three. Light from a source or reflected light enter the eye. Vertebrates, such as mammals, birds and reptiles, have a cornea and lens that refracts light that enters the eye and focuses it on the nerve tissue at the back of the eye, which is called the retina. Once light reaches the retina, it is transmitted to the brain via the optic nerve.</p> <p>Light travels in straight lines.</p>	<p>Explain that, due to how light travels, we can see things because they give out or reflect light into the eye.</p> <p>Identify that light travels in straight lines.</p>	<p>Light Theory</p>
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