

Light Progression map Year 6

Previous Year: Year 5	Current Year: Year 6	Next Year: KS3
<ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The similarities and differences between light waves and waves in matter. Light waves travelling through a vacuum; speed of light. The transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface. Use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lens in focusing (qualitative); the human eye. • Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras. • Colours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection.
<p style="text-align: center;"><u>Learning Values:</u></p> <ul style="list-style-type: none"> -respect -responsible -resourceful -resilient -risk taker 	<p style="text-align: center;"><u>How can the learning be applied?</u></p> <ul style="list-style-type: none"> Explore different ways to demonstrate that light travels in straight lines e.g. shining a torch down a bent and straight hose pipe, shining a torch through different shaped holes in card. Explore the uses of the behaviour of light, reflection and shadows, such as in periscope design, rear view mirrors and shadow puppets. 	<p style="text-align: center;"><u>Key learning for the topic:</u></p> <p>Light appears to travel in straight lines, and we see objects when light from them goes into our eyes. The light may come directly from light sources, but for other objects some light must be reflected from the object into our eyes for the object to be seen. Objects that block light (are not fully transparent) will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object.</p>
<p style="text-align: center;"><u>Possible stimulus to teach:</u></p> <p>The King who Banned the Dark by Emily Haworth-Booth</p> <p>Letters from the Lighthouse by Emma Carroll</p> <p>Edison: The Mystery of the Missing Mouse</p> <p>Treasure by Torben Kuhlmann</p>		