

Year6				
<i>Topic</i>	<i>Prior Learning</i>	<i>Present learning</i>	<i>Misconceptions</i>	<i>Future learning</i>
<p>Light <u>National Curriculum</u></p> <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"> Recognise that they need light in order to see things and that dark is the absence of light. (Y3 - Light) Notice that light is reflected from surfaces. (Y3 - Light) Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light) Recognise that shadows are formed when the light from a light source is blocked by an opaque object. (Y3 - Light) Find patterns in the way that the size of shadows change. (Y3 - Light) 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) 	<p><u>Knowledge and Understanding</u></p> <ul style="list-style-type: none"> difference between reflection and refraction -of the natural phenomena because of refraction -how the human eye works -uses of different types of mirrors <p><u>Investigations:—</u></p> <ul style="list-style-type: none"> -plan a fair test to investigate the relationship between light sources, objects and shadows by using shadow puppets -investigate periscope and kaleidoscope -draw ray diagram to explain the two types of eclipses -investigate reflections in mirrors <p><u>Vocabulary:</u> phenomena contingency ray reflection refraction mirror dispersion</p>	<p>Some children may think:</p> <ul style="list-style-type: none"> we see objects because light travels from our eyes to the object. 	<ul style="list-style-type: none"> The similarities and differences between light waves and waves in matter. (KS3) Light waves travelling through a vacuum; speed of light. (KS3) The transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface. (KS3) 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. (KS3) Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras. (KS3) Colours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection. (KS3)

