



Autumn 2	Light					
Prior learning	EYFS - light topic, Year 3 light topic					
Lesson objective	Explore how light travels	Explore reflection	Explore reflection and explain how it can be used to help us see	Investigate how shadows can change	Investigate how we can show why shadows have the same shape as the object that casts them	Investigate how we see objects
Key vocabulary	light eye light source symbol scientific diagram	reflected prediction fair test variable table	periscope angle mirror line of sight utilise	shadow block opaque transparent translucent	plan sun shade real life problem rotate direction	optical phenomena disperse spectrum refraction
Creative context						
Substantive knowledge	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	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	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
Disciplinary knowledge	Record data and results of increasing complexity using scientific diagrams and labels Identifying scientific evidence that has been used to support or refute ideas or arguments	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Recording data and results of increasing complexity using scientific diagrams	Identifying scientific evidence that has been used to support or refute ideas or arguments	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Reporting and presenting findings from enquiries, Including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary



		and labels, classification keys, tables, scatter graphs, bar and line graphs			as displays and other presentations	
Recorded learning	<p>Draw 3 scientific diagrams.</p> <p>Diagram 1: A candle and an eye.</p> <p>Diagram 2: The first part of the mini experiment - a torch, a straight cardboard tube and an eye.</p> <p>Diagram 3: The second part of the mini experiment - a torch, a bent cardboard tube and an eye.</p> <p>Use the diagrams to help explain how light travels in straight lines.</p>	<p>Measure the reflectivity of different surfaces using a reflective light catcher.</p> <p>Record results in a table and draw conclusions based on findings.</p>	<p>Make a periscope, test it to see if it works and explain how the light travels from the things they are looking at to their eye.</p>	<p>Set up and carry out an enquiry to find out that the size of the object's shadow increases as the distance between the light source and the object decreases.</p>	<p>Design investigation to test best position for sun umbrellas to protect people. Make a prediction, record results and write conclusion</p>	<p>Carry out 4 practicals to further their understanding of light, recording their observations. (see Developing Experts)</p>
Future learning						