














Light Year 6

Science Concepts	 Nature Knowing about the natural world	 Phenomenon Observing facts and events	 The Real World Knowing about scientists and science in our everyday lives
National Curriculum	<ul style="list-style-type: none"> 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 an opaque object Find patterns in the way that the size of shadows change 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 by shadows have the same shape as the objects that cast them 		<ul style="list-style-type: none"> Performing test Gathering and recording data Observing and measuring Identifying and classifying
Common Misconceptions	<ul style="list-style-type: none"> Some children may think light does not travel in straight lines when it bounces off a mirror Some children may think that the moon is a light source To avoid the misconception that the sun moves, ensure that when demonstrating, it is always the object that moves closer to or further away from the light source when shadows are formed. 		
Safety	<ul style="list-style-type: none"> Warn children that if they stare directly at the sun, even for very short periods or wearing dark glasses, they will likely result in permanent eye damage. The possibility of eye injury increases greatly if the sun is viewed directly through a telescope, binoculars or any other optical instrument. 		

Lesson	Learning Intention	Concept
1. What is light and where does it come from? (NOA)	<ul style="list-style-type: none"> Define light and dark Describe different light sources Test transparent, translucent and opaque materials 	 Phenomenon
2. What is reflection and how can we use it? (NOA)	<ul style="list-style-type: none"> What happens to light when it is reflected Describe different types of reflection Describe different uses of reflection 	 Phenomenon
3. What can we see in a mirror?	<ul style="list-style-type: none"> Light from an object can be reflected by a mirror, the reflected light enters our eyes and we see the object The direction of a beam or ray of light travelling from a light source can be indicated by a straight line with an arrow 	 The Real World
4. Which surfaces are more reflective?	<ul style="list-style-type: none"> Shiny surfaces reflect light better than dull surfaces Make and record comparisons of how different surfaces reflect light and draw conclusions from the comparisons 	 The Real World
5. How do shadows change?	<ul style="list-style-type: none"> Identify factors which might affect the size and position of the shadow of an object Investigate how changing one factor causes a shadow to change Consider trends in results and to decide whether there are results which do not fit the pattern Check measurements by repeating them 	 Phenomenon
6. What is refraction and how can we use it? (NOA)	<ul style="list-style-type: none"> What happens to light when it refracts Identify whether reflection or refraction has taken place 	 Phenomenon
7. How do we see light? (NOA)	<ul style="list-style-type: none"> Name the parts of the eye Describe how the lenses in glasses work 	 Nature
8. Who was Isaac Newton?	<ul style="list-style-type: none"> 	 The Real World
9. Where do different colours	<ul style="list-style-type: none"> How white light is split into different colours Primary and secondary colours of light How is a rainbow made? 	 The Real World

come from? (NOA)		
10. What are some uses of light? (NOA)	<ul style="list-style-type: none"> • Build a shadow puppet theatre • How a periscope works • How different types of lenses work 	
Review	<ul style="list-style-type: none"> • Complete end of unit quiz. • Return to cover page and identify any misconceptions they may have had at the beginning of the unit, or add anything further to the question. 	