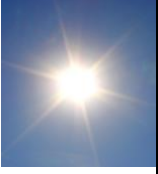
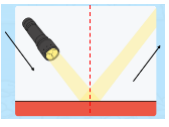



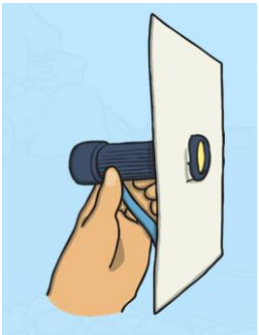
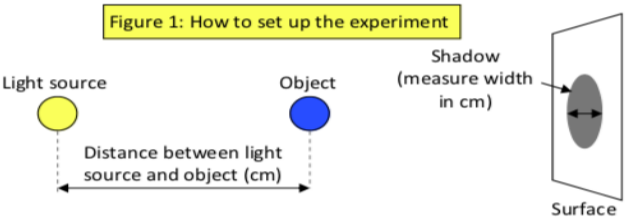




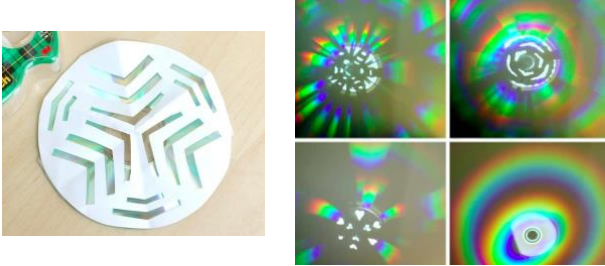



SCIENCE Y3 – Explore Light, Dark and Shadows!

	SUNLIGHT	LIGHT & REFLECTION	SHADOWS
ACTIVITY	<p>Create a sunlight safety information poster.</p> <p>How can you stay safe in the sun? How can our eyes be protected in the sun? How can our body be protected in the sun?</p> 	<p>What is reflection? Research and teach somebody. What are reflective surfaces useful for? Which colours do you think reflect most light?</p> 	<p>How are shadows formed? Which materials block light?</p> <p>Make a shadow theatre using a torchlight and your fingers or puppets. Can you tell a story?</p> 
INVESTIGATE	<p>Try growing a seed plant in sunlight and one in darkness. Compare their growth after the same length of time. What is similar/different? Why? Draw and label your results.</p>	<p>How many sources of light can you find around your house? Count them and make a tally chart.</p> <p>You could draw pictures of the light sources or sort them according to different categories.</p>	<p>On a sunny day, make different poses with your body outside and observe your shadows. You could even collaborate with others to create a picture with your shadows.</p> 
	<p>What melts in the sun?</p> <p>Place various objects or materials in the sun (some that you predict will melt).</p> <p>Time how long it takes for melting to happen! (If you want it to be a fair test to see which melts the fastest, you need the same/similar amount of each object and to note the time when each one has melted).</p>  <p>Create a checklist to identify which materials melted in the sun and produce a graph or chart using your result of the times taken to melt.</p>	<p>Which materials reflect light?</p> <p>You can make a simple reflection tester by attaching a piece of white card to the front of a torch – cut a hole in the centre of the card so that it fits snugly around the torch and you won't have to hold it. If the material reflects the light, it will shine through the card and light it up!</p>  <p>List your materials, make your predictions, then create a checklist table to show if they are reflective: <u>Material Prediction Reflective test</u></p> <p>Which other materials reflect light? Can you design a new reflective item for a useful purpose?</p>	<p>How do shadows change when the distance between the object and light source changes? Set up investigation as shown in the diagram.</p> <div style="text-align: center;">  <p>Figure 1: How to set up the experiment</p> </div> <p>Measure how far the light source is from the object. Measure the width of the shadow at its widest point. Record the starting width, then move the light source further away a bit at a time and record the width next to the new distance. Can you notice any patterns? Can you predict the width of the shadow each time before you measure it? Repeat at least 6 times.</p> <p>Make a graph to show your results clearly. Can you draw pictures to illustrate the different shadows?</p>

	<p>Wrap black and white paper each around 2 glasses or jars filled halfway with water. Leave both in the sun. Measure their temperatures and compare, then continue to see the difference at equal intervals of time. What do you notice? What can you conclude?</p> 	<p>Explore mirror reflection! What happens when two mirrors face each other? (Look in a mirror whilst holding another one facing it). What happens when you hold letters or words in front of a mirror?</p> 	<p>Make a human sundial outside using your body's shadow! Just stand in the same sunny spot at intervals during the day (it can't be cloudy!). Measure the length of your shadow - if you have chalk you could use different colours to draw round it. Why does it change size at different times of day?</p> 
	<p>Experimenting with Crayons!</p> <p>Create thick and thin crayon shavings. Predict which will melt fastest. Observe and make conclusions.</p>  <p>Put a black and a white crayon on a coloured piece of paper in the sun. Observe changes every hour (you could photograph, draw or describe). Which melts fastest and what can you conclude about the colours?</p>	<p>Rainbow reflections!</p> <p>Reflect sunlight onto the shiny side of a CD and watch the Rainbow! You could even trace the circular outline of your CD onto paper and cut out the circles.</p> <p>Then make snowflake shapes to place over the CD and observe the patterns!</p> 	<p>Toy shadows!</p> <p>Use different types of toys to create shadows and then draw around them. You could use Lego or building blocks to make different structures and observe the differences between their shadows and any patterns.</p> 
<p>WEBSITES</p>	<p>https://www.bbc.co.uk/bitesize/topics/zbssgk7</p> <p>https://www.theschoolrun.com/what-is-light</p> <p>http://resources.hwb.wales.gov.uk/VTC/light/eng/Introduction/default.htm</p> <p>https://www.stem.org.uk/resources/elibrary/resource/30653/making-shadows</p> <p>https://www.youtube.com/watch?v=YuUJCNzfoBw (Kids Academy on Youtube – Light and Shadows for Kids)</p> <p>https://www.youtube.com/watch?v=d7yTlp4gBTI , https://www.youtube.com/watch?v=IOIGOT88AqC (Peekaboo Kidz on Youtube – The Dr. Binocs Show – Light and Shadows)</p>		

