









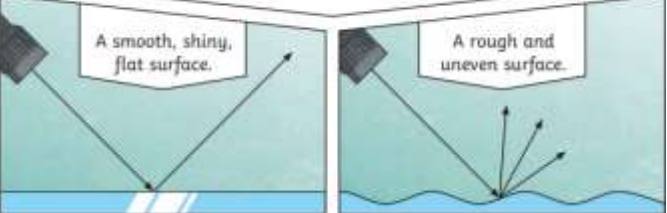

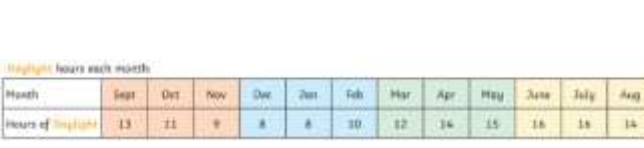



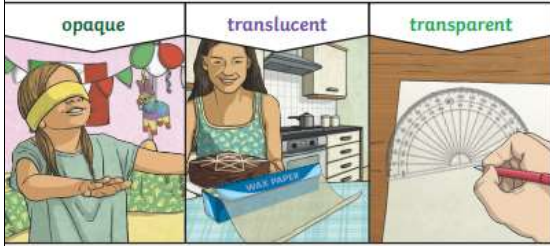


## Year 3 Autumn 2- Light and Shadows- Can you have shadows without light?

Key Vocabulary		Prior knowledge	Sticky Knowledge																										
<b>Light</b> 	A form of energy that travels in a wave from a source.	In Reception: <ul style="list-style-type: none"> <li>learnt about light and where it comes from.</li> </ul> In year 1 we: <ul style="list-style-type: none"> <li>Observed changes across the four seasons</li> <li>Observed and described weather associated with the seasons and how day length varies.</li> </ul>	We need <b>light</b> to be able to see things. <b>Light</b> travels in a straight line. When <b>light</b> hits an object, it is <b>reflected</b> (bounces off). If the <b>reflected light</b> hits our eyes, we can see the object. Some surfaces and materials <b>reflect light</b> well. Other materials do not <b>reflect light</b> well. <b>Reflective</b> surfaces and materials can be very useful...																										
<b>Light source</b> 	An object that makes its own light.	<div style="text-align: center;">  <p>The Four Seasons</p> <table border="1" style="margin: auto;"> <tr> <td style="background-color: #f8d7da;">autumn September October November</td> <td style="background-color: #d1ecf1;">winter December January February</td> </tr> <tr> <td style="background-color: #d4edda;">spring March April May</td> <td style="background-color: #fff3cd;">summer June July August</td> </tr> </table> </div>	autumn September October November	winter December January February	spring March April May	summer June July August	A shadow is caused when <b>light</b> is blocked by an opaque object. A shadow is larger when an object is closer to the <b>light</b> source. This is because it blocks more of the <b>light</b> .																						
autumn September October November	winter December January February																												
spring March April May	summer June July August																												
<b>Dark</b> 	The absence of light.																												
<b>Reflection</b> 	The process where light hits the surface of an object and bounces back into our eyes,	 <p>hi-vis jacket      cat's eyes</p>																											
<b>Shadow</b> 	An area of darkness where light has been blocked.		The surfaces that reflect <b>light</b> best are smooth, shiny and flat.																										
<b>Ray</b> 	Waves of light are called light rays.	 <p>A smooth, shiny, flat surface.      A rough and uneven surface.</p>																											
<b>Opaque</b> 	Describes objects that do not let any light pass through them.	 <p>Temperature - how hot or cold it is      Sunshine - how sunny it is      Rainfall - how much rain there is Wind direction - which way the wind is blowing      Wind force - how strong the wind is      Cloud cover - how dark the clouds will be</p>	When the <b>light</b> source is directly above the object, the shadow will be directly underneath.																										
<b>Transparent</b> 	Describes objects that let light travel through them easily, meaning that you can see through an object.	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Month</th> <th>Sept</th> <th>Oct</th> <th>Nov</th> <th>Dec</th> <th>Jan</th> <th>Feb</th> <th>Mar</th> <th>Apr</th> <th>May</th> <th>June</th> <th>July</th> <th>Aug</th> </tr> </thead> <tbody> <tr> <td>Hours of daylight</td> <td>13</td> <td>11</td> <td>9</td> <td>8</td> <td>8</td> <td>10</td> <td>12</td> <td>14</td> <td>15</td> <td>16</td> <td>16</td> <td>14</td> </tr> </tbody> </table>	Month	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Hours of daylight	13	11	9	8	8	10	12	14	15	16	16	14	When a <b>light</b> source is to one side of an object, the shadow will appear on the opposite side. The shadow will also be longer.
Month	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug																	
Hours of daylight	13	11	9	8	8	10	12	14	15	16	16	14																	
<b>Translucent</b> 	Describes objects that let some light through, but scatter the light so we can't see through them properly.	<h3 style="text-align: center;">Knowledge and Assessment</h3> <ul style="list-style-type: none"> <li>Recognise that they need light in order to see things and that dark is the absence of light.</li> <li>Notice that light is reflected from surfaces.</li> <li>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</li> <li>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>Find patterns in the way that the size of shadows change</li> </ul>	midday      sunset																										
<b>Reflect</b> 	To bounce off.	 <p>opaque      translucent      transparent</p>																											