

Year 2/3 Knowledge Organiser Science – Light

Vocabulary

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| 1 | light source | Objects that give off light (e.g. light bulbs, flames, the Sun). |
| 2 | luminous | A word that means gives off light. |
| 3 | darkness | A place that is lacking light. |
| 4 | reflect | When light touches a surface, it will be sent back and will not pass through it. |
| 5 | reflection | An image that you can see in a mirror, glass or water. |
| 6 | light meter | An instrument that measures the amount of light in given place. |
| 7 | artificial | Created by human beings. |
| 8 | opaque | If an object or substance is opaque , you cannot see through it. |
| 9 | shadow | A dark shape on a surface that is made when an object stands between light and the surface. |
| 10 | position | The position of someone or something is the place where they are in relation to other things. |
| 11 | noon | Noon is twelve o'clock in the middle of the day. |
| 12 | natural | Natural things exist or occur in nature and are not made or caused by people e.g. wood, rocks, water. |
| 13 | transparent | An object that allows all light to pass through it. |
| 14 | translucent | An object that allows some light to pass through it. |

Key Learning

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| 1 | Light allows humans and animals to see things. For example, when the sun is shining, we can see objects more clearly. A lightbulb in your house allows you to see objects inside when it is dark outside. Darkness is the absence of light. The darker it is, the harder it is to see things. |
| 2 | Reflection takes place when light bounces off an object Uses: as a mirror, to look behind yourself, in a periscope Specular reflection - when all light reflects in the same direction Diffuse reflection - when all light reflects off an object in many different directions. |
| 3 | Refraction takes place when light changes direction when it moves from one transparent material to another Uses: jewellery to make an object 'sparkle', to get different colours of light from white light, in lenses (e.g. glasses). |
| 4 | The sun is a source of natural light. The sun's light is very powerful and can damage our eyes. Humans need to protect their eyes from the sun with sunglasses and hats. Never look directly at the sun, even if you are wearing sunglasses. Artificial lights such as spotlights and lightbulbs may also damage your eyes. |
| 5 | Shadows are formed when an object that is opaque blocks light. Different objects create different shadow shapes. At different times of the day, our shadows change size and position because of where the sun is in the sky and how it shines down on objects. |
| 6 | Larger objects will create larger shadows, whereas smaller objects create smaller shadows. You can change the size and shape of the shadow by moving the light source away from the object. |

Uses of light

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| shadow theatre | <i>What is it?</i> Opaque characters are placed between a light and a screen to make shadows <i>From:</i> from China and Indonesia originally. |
| periscope | <i>What is it?</i> Tube with two mirrors to reflect light along. <i>Why?</i> They can help someone see around corners or in a submarine. |
| lenses | <i>What are they?</i> Curved pieces of transparent materials. <i>Why are they helpful?</i> They help focus light onto a point (convex) or spread light out (concave). <i>Uses:</i> convex for long-sighted people, concave for short-sighted people. |