



Light is all around us. It comes in different forms, both natural and man-made. Man-made light is created by electricity. Our indoor lamps, street lights and the lights on our phones are all man-made. They need a plug or a battery for power.

The Sun is our greatest source of natural light. Lightning is natural light – even though, like artificial light, it is electrical. Fire also provides natural light. Incredibly, there are even animals that can create their own natural light, such as fireflies and jellyfish.

Light is a kind of energy. It travels extremely quickly, at approximately 300,000 kilometres per second. It is too fast for us to see it moving. Light radiates out from a light source and bounces off everything else. The way we see objects is the way they bounce light into our eyes. Light can't go around objects as it can only travel naturally in straight lines.

Light behaves differently depending on the type of object with which it comes into contact.

Opaque things allow no light through them. They create dark shadows in the spaces behind them, because the light can't bend around them. Your reading book and pencil are opaque.

Translucent things allow some light to pass through them, but not all. Coloured plastic, paper and even leaves are translucent.

Transparent things allow all light through them. Air, clear glass and water are almost completely transparent. We can still see shadows from heat haze in the air and ripples in water, though.

Shadows, as well as light, are useful.

In the past, people used them to tell the time, on sundials. A sundial has one opaque vertical hand, in the middle of the clock face. The hand makes a shadow that moves as the sun crosses the sky, allowing people to tell the time.

People can also use shadows for entertainment, called shadow plays. They create shapes by moving puppets, or their hands, between a light source and a screen. They can then tell a story, using the shadow puppets to act it out.

Why not experiment, and see what shadow puppets you can form with your hands!

