

Science: Knowledge Organiser – Light

Light Sources



Key Vocabulary - Light

light	A form of energy that travels in a wave from a source
light source	An object that makes its own light
reflection	Reflection is when light bounces off a surface changing the direction of a ray of light
incident ray	A ray of light that hits a surface
reflected ray	A ray of light that has bounced back after hitting a surface
refraction	When light bends as it passes from one medium to another. For example light bends when it moves from air into water
visible spectrum	Light that is visible to the human eye. It is made up of a colour spectrum
shadow	An area of darkness where light has been blocked
transparent	Describes objects that let light travel through them easily, meaning you can see through it
translucent	Describes objects that let some light travel through but scatters the light so we cannot see through it properly
opaque	Describes objects that do not let any light pass through them.

Key Knowledge

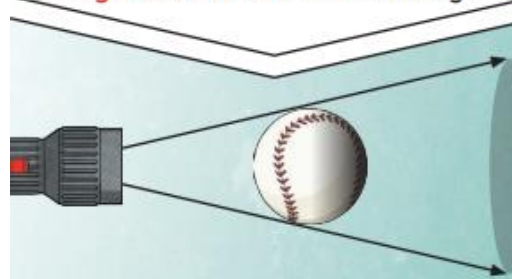


The spoon in this water looks as if it is bent. This is because **light** bends when it moves from air to water. When **light** bends in this way, it is called **refraction**.

Isaac Newton shone a **light** through a transparent **prism**, separating out **light** into the colours of the rainbow (red, orange, yellow, green, blue, indigo and violet) - the colours of the **spectrum**. All the colours together merge and make visible **light**.



A **shadow** is always the same shape as the object that casts it. This is because when an **opaque** object is in the path of **light** travelling from a **light source**, it will block the **light** rays that hit it, while the rest of the **light** can continue travelling.



When white light shines at a glass prism, the light spreads into different colours – this is called dispersion.

We need **light** to be able to see things. **Light** waves travel out from sources of **light** in straight lines. These lines are often called rays or beams of **light**.

Light from the sun travels in a straight line and hits the chair. The **light** ray is then **reflected** off the chair and travels in a straight line to the girl's eye, enabling her to see the chair.



Light and Shadows Fact Sheet

S.O.S. A shadow is formed behind an object when it blocks the light. source → object → shadow	Some light can pass through translucent materials, such as sun glasses.	The sun is a source of light. The moon is not a source of light. We can see it because it reflects light from the sun.
A mirror is highly polished and reflects light. We can see images of ourselves and other objects in mirrors.	Light is blocked by opaque materials, like this mug. Clear glass is transparent and allows all light to pass through.	A periscope has two angled mirrors, that reflect the light. This enable us to see around corners