

# Light Knowledge Organiser

## Light sources

A light source makes light. The Sun and other stars, fires, torches and lamps all make their own light, so they are examples of sources of light.

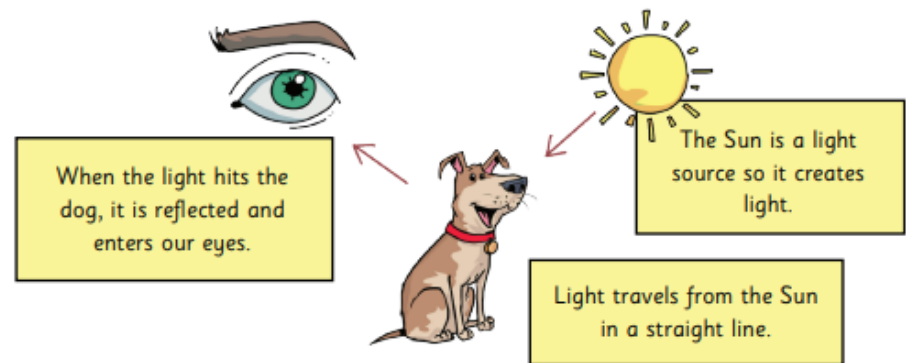


## Reflective light

We can see things because light is reflected. Some materials reflect light better than others.

Light travels in straight lines. When light from an object is reflected by a surface, it changes direction.

Smooth, shiny surfaces such as mirrors and polished metals reflect light well. Dull and dark surfaces such as dark fabrics do not reflect light well.



## Dark

Darkness is what happens when there is an absence of light. When there is no light, it is dark.



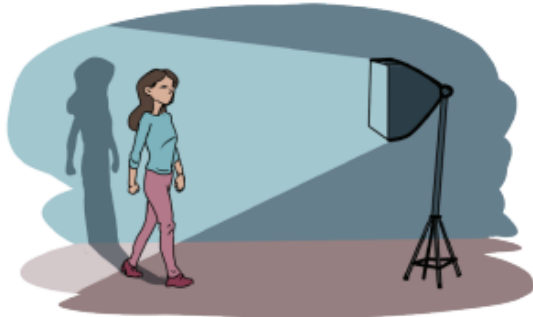
## The Sun

The Sun is the biggest light source we use. It is a giant ball of hot, burning gas. It can damage our eyes if we look directly at it. We should protect our eyes from the Sun by wearing sunglasses and a hat.



## Shadows

A shadow is made when an object blocks light. A shadow is a dark area or shape caused by a solid object blocking the rays of light from a light source.



## Types of objects

Objects are either opaque, translucent or transparent.

Opaque objects let no light pass through.

Translucent objects let some light pass through.

Transparent objects let light pass through.



## Key Vocabulary

**dark** - the absence of light

**direction** - the way that something is moving

**light** - a source of energy that allows you to see

**light ray** - an imaginary line that represents the line of light

**light beam** - a group of light rays

**light source** - something that makes light

**opaque** - cannot be seen through

**reflect** - bounces off or changes direction

**reflective** - something that reflects well

**refraction** - when light changes direction when going through the boundary of a state of matter

**see** - to perceive with the eyes

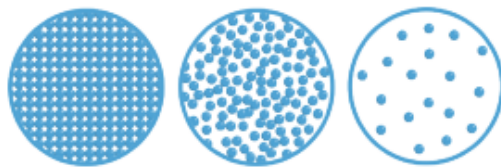
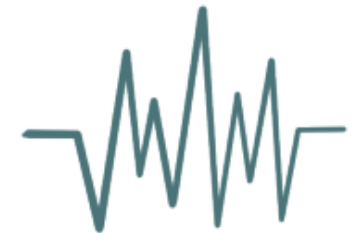
**shadow** - a dark area or shape produced by an object coming between rays of light and a surface

**transparent** - can be seen through

**translucent** - can be seen through, but not clearly

# Sound Knowledge Organiser

Sounds are made when objects vibrate. The **vibration** makes the air around vibrate, and the air vibrations enter your **ear**. You hear the **vibrations** as **sounds**. You cannot always see the vibrations, but if something is making a **sound**, a part of it is vibrating. The **vibrations** travel in all directions and they don't travel in **straight lines**.



solid

liquid

gas

The vibrations caused by the sound can travel through the air (**gas**) but can also travel through **liquids and solids**.

Sounds can be **high** or **low**. We call this the pitch. The pitch of a sound is how high or low the **sound** is. A high sound has a high pitch and a low sound has a low pitch. The pitch of a sound is due to how many times the object **vibrates** each second. The higher the number of vibrations the higher the **pitch**.

We can change the **pitch** of the **sound** we make on different **instruments**.

