



## Year 3 Science Knowledge Organiser: Light



### Subject Specific Skills

- I can recognise that they need light in order to see things and that dark is the absence of light
- I can notice that light is reflected from surfaces
- I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- I can recognise that shadows are formed when the light from a light source is blocked by an opaque object
- I can find patterns in the way that the size of shadows change.

### Prior Learning

- Some sources of natural and artificial light e.g. the sun, a light bulb
- Some uses of light including plants needing light to grow

### Key Knowledge:

**Shadows:** A shadow is formed when an object does not allow the light to pass through it.



**LARGE SHADOW**  
when the toy is  
close to the light

**SMALLER  
SHADOW** when the  
toy is further from  
the light

**TINY SHADOW**  
when the toy is a  
long way from the  
light

The object needs to be an opaque object. If it is transparent then the light will pass through it, whereas a solid object will block it. Some light passes through translucent objects. Although some light is blocked, some gets through and so a shadow is formed. These shadows are not as dark.

### Key Vocabulary

**Visible light:** A visible form of energy that enables us to see.

**Ray:** Waves of light are called light rays. They can also be called beams.

**Reflection:** The process where light hit the surface of an object and bounces back in to our eyes

**Light Source:** Something that creates its own light.

**Dark** is the absence of light.

**Opaque:** Objects that do not let light pass through

**Transparent:** light can travel through easily

**Translucent:** some light can travel through

**Key Individual:**  
**Augustin-Jean  
Fresnel**



### Key Knowledge: Light and how we see things

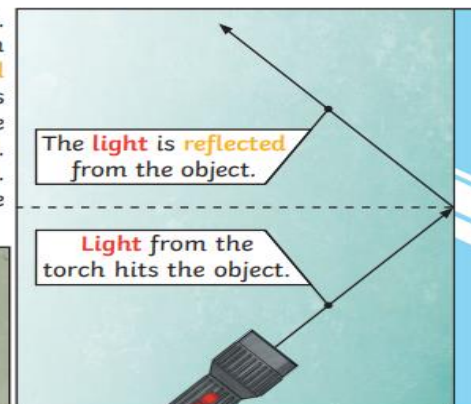
We need **light** to be able to see things. **Light** travels in a straight line. When **light** hits an object, it is **reflected** (bounces off). If the **reflected light** hits our eyes, we can see the object. Some surfaces and materials **reflect light** well. Other materials do not **reflect light** well. **Reflective** surfaces and materials can be very useful...



hi-vis jacket



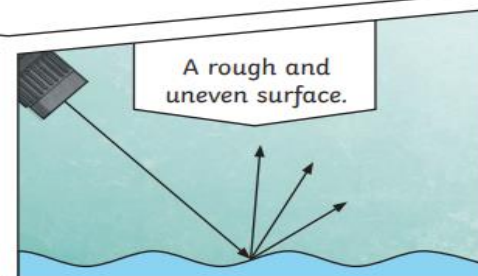
cat's eyes



The surfaces that reflect **light** best are smooth, shiny and flat.



A smooth, shiny,  
flat surface.



A rough and  
uneven surface.