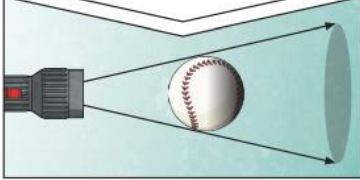
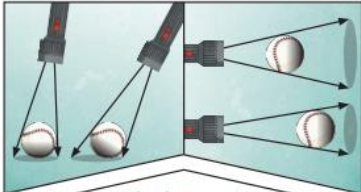


- 1.) We can see objects because light reflects off them and into our eyes.
- 2.) Light reflects off most objects, especially colours like white and yellow.
- 3.) If there is no light at all (pitch-black), then there is no light to reflect and we can't see anything at all.
- 4.) At night you can still see a bit in the dark because the moon is reflecting light.

Year 6  
Science  
Summer 1

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.



Shadows can also be elongated or shortened depending on the angle of the **light source**. A **shadow** is also larger when the object is closer to the **light source**. This is because it blocks more of the **light**.

**Key Vocabulary**

<b>light</b>	A form of energy that travels in a wave from a source.
<b>light source</b>	An object that makes its own <b>light</b> .
<b>reflection</b>	<b>Reflection</b> is when <b>light</b> bounces off a surface, changing the direction of a ray of <b>light</b> .
<b>incident ray</b>	A ray of <b>light</b> that hits a surface.
<b>reflected ray</b>	A ray of <b>light</b> that has bounced back after hitting a surface.
<b>the law of reflection</b>	The law states that the angle of the <b>incident ray</b> is equal to the angle of the <b>reflected ray</b> .

Light

As the earth spins, it makes the sun appear to rise in the east in the morning. Because the sun hits an object at an angle, the shadow is long.

As the earth continues to spin the sun is overhead by midday. Because the sun hits the object from above, the shadow is short.

As the earth spins and the sun sets in the west in the evening, the shadow is long.

**Key Vocabulary**

<b>refraction</b>	This is when <b>light</b> bends as it passes from one medium to another. E.g. <b>Light</b> bends when it moves from air into water.
<b>visible spectrum</b>	<b>Light</b> that is visible to the human eye. It is made up of a colour <b>spectrum</b> .
<b>prism</b>	A <b>prism</b> is a solid 3D shape with flat sides. The two ends are an equal shape and size. A <b>transparent prism</b> separates out visible <b>light</b> into all the colours of the <b>spectrum</b> .
<b>shadow</b>	An area of darkness where <b>light</b> has been blocked.
<b>transparent</b>	Describes objects that let <b>light</b> travel through them easily, meaning you can see through the object.
<b>translucent</b>	Describes objects that things let some <b>light</b> through, but scatters the <b>light</b> so we can't see through them properly.
<b>opaque</b>	Describes objects that do not let any <b>light</b> pass through them.

LIGHT SOURCES

A mirror is not a light source. It reflects light so doesn't create it.

Rainbows are formed when the sun shines through water particles (transparent) and when white light passes through, it 'bends' and splits into the range of colours which make white light

**ROY G. BIV**