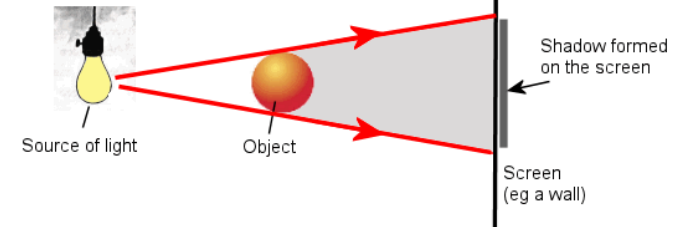


Light and Shadows



Curriculum Links:

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



Key Facts:

- A light source is something which emits light by burning, electricity or chemical reaction. Burning light sources includes: the Sun, fire and stars. Electric lights includes lamps, torches etc. Chemical reactions are caused when chemicals reacts and light is the product eg. glow sticks
- Dark is the absence of light. The Sun and stars always emit light but we can only see the stars when it is dark. We cannot see the Sun's light as the Earth turns
- The Moon is not a source of light, it reflects the sun light making it appear as though it emits light
- Light travels in straight lines. When it is blocked by an opaque object a shadow is formed
- When light is shone on to a transparent object, the light travels through it, we can see through it and it makes a very faint shadow
- When light is shone on to a translucent object, some of the light travels through it, we can still see bright light sources and it makes a fairly dark shadow
- The size of the shadow changes as the light source moves further way—the further away the shadow, the smaller the shadow

Key Vocabulary

Dark	The absence of light
Dim	Light which is not bright
Electricity	A form of energy carried by wires to provide power for devices
Emit	To emit light means to produce it
Light	A brightness which lets you see things
Opaque	An object or substance you cannot see through
Reflect	Sent back from the surface and not pass through it
Shadows	A dark shape on a surface which is made when something stands between light and a surface
Source	Where something comes from
Translucent	An object or surface which lets some light though
Transparent	An object or substance which you can see through

Possible experiences:

- Investigate the brightness of torches
- Explore shadows—can you change the shape or size of them?
- Investigate what happens when light is reflected from different materials
- Create shadow puppets
- Create sundials/ sunglasses

We should already know:

- Some objects can produce light—wither by burning or electricity
- Shiny materials do not make light but reflect it
- Shadows are created when certain objects block light