

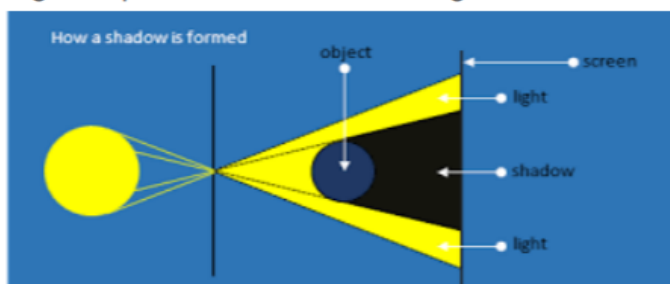
Science Knowledge Organiser

Light

Yr 5

Main Foci: Physics & Biology

SHADOWS - Light travels in straight lines. This leads to shadows being formed because, if an object is in the way, the light will move in a straight line past it rather than surrounding it.

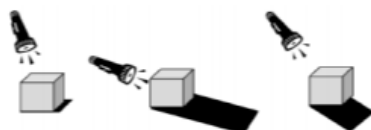


The shadow's shape will be the same as the object which has blocked the light.



The size of the shadow changes as the light source moves, the further away from the light source the smaller the shadow is and the closer the light source is to the object the bigger the shadow.

The angle of the light source also makes a difference to the size of the shadow.



KEY VOCABULARY AND SPELLINGS

Light Source – an object that emits its own light

Emits – to emit light means to produce it

Opaque – you cannot see through it

Transparent – you can see through it

Translucent – some light can pass through it

Reflects – when a light ray hits a surface and bounces off

Shadow – a dark shape that appears on a surface when something stands between the light source and the surface

REFLECTION – When light from an object is reflected by a surface, it changes direction. It bounces off at the same angle it hits it.

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.

Example: light travelling and reflecting from a smooth surface.



Example: light travelling and reflecting from a rough surface.



LIGHT AND DARK – We need light so that we are able to see. Dark is the absence of light.

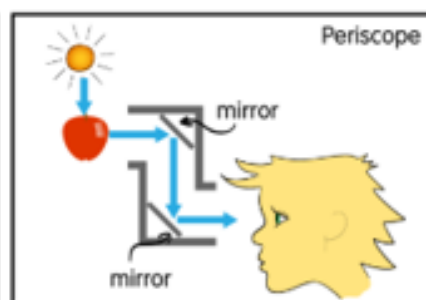
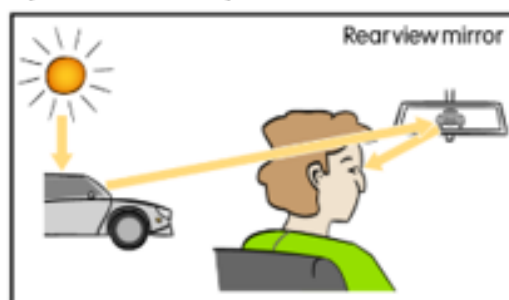
A light source can emit light by burning, electricity or chemical reactions, some examples include:

Burning – sun, flames from a fire, stars.

Electricity – lamps, car headlights, street lights.

Chemical Reactions – light is a product of the reaction e.g. glow sticks.

Know how the movement of light from source to object to eye can be explained.



Objects that block light will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object.

Transparent objects will not block light.

Opaque objects will obscure light (change the shape of the shadow)

Know that light contains seven colours (rainbow) and that these colours can be separated using water and prisms. This is called refraction.

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