



Science Topic : Light Year 6 Term 1

Key Knowledge
To understand:
<ul style="list-style-type: none"> Recognise that light appears to travel in straight lines (The Ray model of light)
<ul style="list-style-type: none"> Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
<ul style="list-style-type: none"> Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
<ul style="list-style-type: none"> Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
<ul style="list-style-type: none"> In Lower Key Stage 2, children recognized that they need light in order to see things and that dark is the absence of light; noticed that light is reflected from surfaces; recognized that light from the sun can be dangerous and that there are ways to protect their eyes; recognized that shadows are formed when the light from a light source is blocked by a solid object; and, found patterns in the way that the size of shadows change.
<ul style="list-style-type: none"> What are light sources? These are places from which light is emitted: e.g. Sun, candles, torches, fire, etc
<ul style="list-style-type: none"> How do we see an object? When light reaches an object, it can be absorbed, or it can pass through the object or it can be reflected. Light can be scattered in all directions. Light colours reflect more light than darker colours. White objects reflect nearly all light. Black reflects very little light.
<ul style="list-style-type: none"> What does 'transparent'/'translucent'/'opaque' mean? Light passes through some materials and not others. Light passes through transparent materials (objects are not 'see through' – light passes through the material). Light passes through translucent materials but the light source is not clear. No light passes through opaque materials.
<ul style="list-style-type: none"> How are shadows formed? Light is reflected of an object. The area that the light is therefore unable to reach is called a shadow.

Key Vocabulary
Prior vocabulary dark dull bright ray shadow reflect bounce mirror source sunset light object sunrise position material
Refraction Refraction happens when objects slow down the light beam, and it deflect its path (slightly change its direction). Visible light is one part of the electromagnetic spectrum. Within this spectrum there are seven connecting bands of electromagnetic waves. Their properties change as the frequency or wavelength changes.
Opaque Not capable of having light pass through it. (e.g. black sheet of card)
Translucent Light may pass through but images on the other side are not clearly visible.
Transparent Light passes through and images are clearly visible on the other side
Lens Piece of glass or other see-through material that is curved on one or both sides.
Absorption An object which takes in light, opposite to reflection (bouncing back)
Electromagnetic spectrum Light of different wavelengths looks like different colours to us. These form a visible light region of the electromagnetic spectrum
Frequency How fast a light wave vibrates up and down.
Wavelength Distance between two peaks of a wave.

