

Vocabulary

Science	acoustics	the qualities in a room that affect sound
	attract	to draw by a physical force causing or tending to cause to approach
	amplitude	a measure of the strength of a sound wave
	battery	provides power for electrical items.
	cell	a battery is an example of a cell.
	circuit	a complete route which an electric current can flow around.
	conductor	a material that allows electricity to travel
	components	parts of a circuit
	copper	a material used to conduct electricity
	current	a flow of electricity through a wire.
	electric	the flow of tiny particles called electrons
	electricity	an energy used for power
	electromagnetic spectrum'	the order of wave lengths from longest to shortest
	electrons	very small piece of energy
	generators	machines that make electrical energy
	insulator	does not allow electricity to pass through
	magnet	a piece of iron or other material exhibiting properties of magnetism
	opaque	not able to see through; not transparent
	repel	to push back or away by a force, as one body acting upon another
	shadow	dark shape on a surface that is made when something stands between a light and the surface
translucent	allows light to travel through	
transparent	can be seen through	
ultraviolet light		
vacuum	a space without air or matter	
vibrations	invisible waves that move quickly	
voltage	force of an electric current	
volume	how loud or quiet a sound is	
Art and Design	analyse	look at or study
	cold colours	show sad, calm, and tranquil emotions
	emotions	feelings
	logo	symbol
	monochrome	black and white
	warm colours	associated with happy, joyful emotions

Could you live without electricity?

Year 3 Crew
Knowledge Organiser
Terms 3 and 4

Enquiries

What if we cut off all the power?
How do you make a bulb brighter?
How can we use shadows to demonstrate our imaginations?
What does silence sound like?
Can you make a game using sound, light and electricity?

Key Facts

We see light from the sun every day. Light is measured in 'waves' Light will travel in a completely straight line until it hits an object that will bend it (refract).
Light travels in a vacuum at 300,000 km per second (186,000 miles per second).
A light source is something that emits light by burning, electricity or chemical reactions.
Sound comes from vibrations. These vibrations create sound waves. The vibration makes the air around the object vibrate and the air vibrations enter your ear. These are called sound waves. Sound cannot travel through a vacuum.
Dogs can hear sound at a higher frequency (pitch) than humans. The scientific study of sound waves is known as acoustics. Electricity is generated using energy from natural sources such as the Sun, oil, water and wind. These can also be called fuel sources.
A circuit contains a battery (cell), wires and an appliance that requires electricity to work (such as a bulb, motor or buzzer).

Anchor texts

Ice Palace by Robert Swindells

Related texts

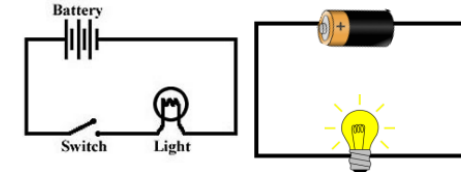
The Dark by Lemony Snicket

Leon and The Place Between by Grahame Baker Smith

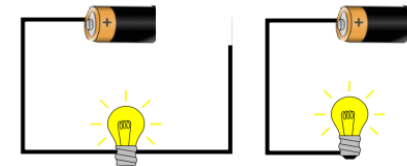
The Owl who was Afraid of the Dark by Jill Tomlinson



Diagrams

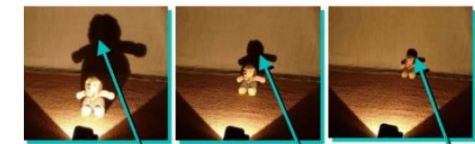
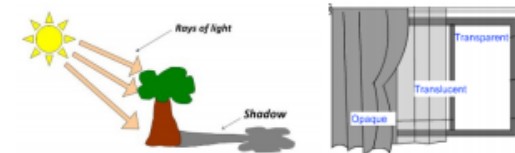


These are complete **circuits** - they have a **battery (cell)** and a **component (bulb)**. The **wires** are placed in the right places of the **battery** for the **circuit** to work.



These **circuits** will not work as they are incomplete.

How are shadows formed?



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

