Knowledge Organiser: Light

Careers connected to light: optometrist, optic scientists, lighting engineer



Lesson Sequence



1. Identify the difference between light sources and non-light sources



2. Explore the light that comes from the sun and how to stay safe



3. Explore materials which are reflective



4. Discover how shadows are formed



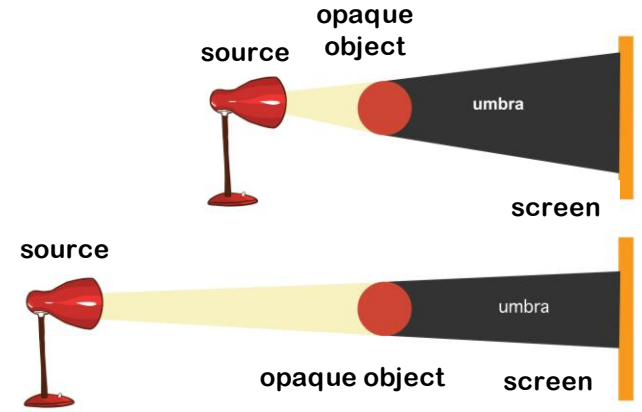
5. Investigate how shadows change throughout the day



6. Investigate how you can change the size of a shadow

Size of a shadow changes

A shadow is caused when light is blocked by an opaque object. A shadow is larger when an object is closer to the light source. This is because it blocks more of the light.



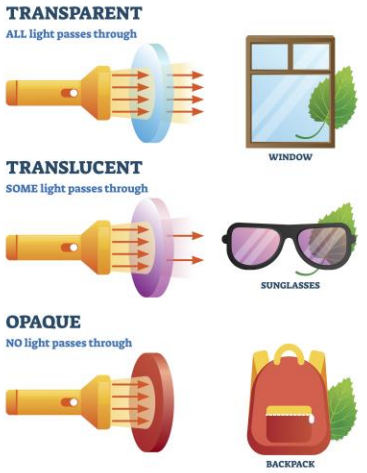
Key Facts

We need light to be able to see things. Light travels in a **straight line**. When light hits an object, it is reflected (**bounces off**). If the reflected light hits our eyes, we can see the object. Some surfaces and materials reflect light well. Other materials do not reflect light well. **Reflective surfaces** and materials can be very useful. Remember the Sun can be dangerous.



Mirrors and reflection

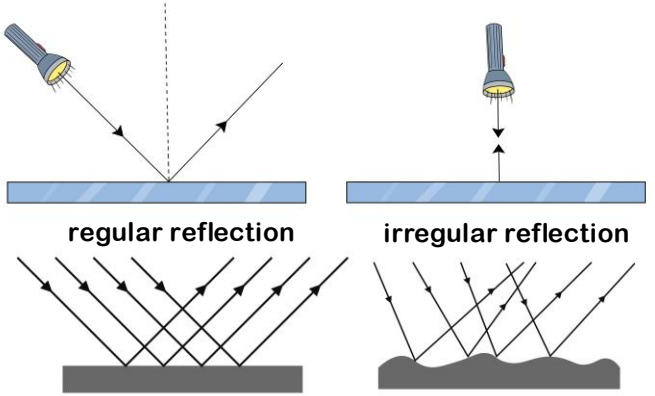
Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



Light is reflected from surfaces

Light from the torch hits the object.

The light is reflected from the object.



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Before and After Test



How does light travel?	before	after
In a straight line		
In a curvy line		
Light is everywhere		
Light does not travel		

Sources of light include...	before	after
the sun		
the moon		
street lights		
torches		

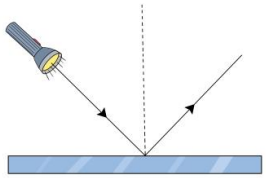
Dark means?	before	after
When there is a little bit of light so you can see		
The absence of light		
You must eat carrots so you can see		
The switch is turned off		

Looking directly at the Sun is...?	before	after
dangerous		
safe		
ok if there are clouds		
ok if the sun is rising or setting		

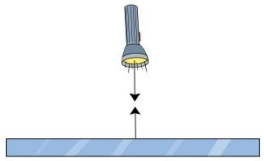
When light bounces off a surface, it is..?	before	after
absorbed		
dissolved		
reflected		
bounced		

What is the correct meaning of translucent?	before	after
semi-transparent		
opaque		
transparent		
solid		

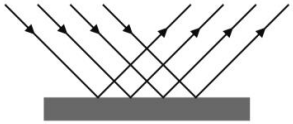
If you were to pay a visit to a funfair, which diagram shows a reflective surface which is likely to distort your reflection?



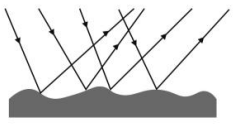
before after



before after



before after



before after

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Unit Rocket Words: Year 3 – Light



Rocket Words

light	a form of energy that allows our eyes to see
reflect	the process that describes light bouncing off a surface
vitamin D	a vitamin that come from sunlight or food and important for bone strength
ultraviolet rays	type of light that can be harmful
fluorescent	gives a highly visible reflection of light
high visibility	can be seen easily
shadow	a dark image that is formed when an object blocks the light
ray	a thin beam of light
cast	to throw or project
position	where something is placed
shape	the outline of something
puppet	a doll that looks like a person or an animal

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