

Light & Shadows



What we already know:

- ✓ Certain things produce light, usually by burning (e.g. the Sun) or electricity (e.g. street lights)
- ✓ Shiny materials do not make light but do reflect it.
- ✓ Shadows are caused when certain materials block light.

We are learning to:

- 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 shadows are formed when the light from a light source is blocked by a solid object.
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.
- Find patterns in the way that the size of shadows change.





Roby Park Primary School Year 3

Physics

Light & Shadows



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- ✓ Shadows are caused when certain materials block light.

Key Vocabulary

Light - a brightness that lets you see things.

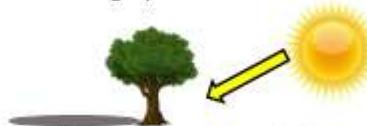
Dark- the absence of light.

Transparent - If an object or substance is transparent, you can see through it.

Translucent - if a material is translucent, some light can pass through it.

Opaque - if an object or substance is opaque, you cannot see through it
Shadows - a dark shape on a surface that is made when something stands between a light and the surface.

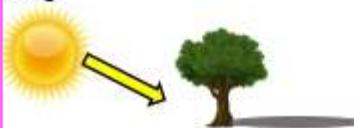
As the earth spins, it makes the sun appear to rise in the east in the morning. Because the sun hits an object at an angle, the shadow is long.



As the earth continues to spin the sun is overhead by midday. Because the sun hits the object from above, the shadow is short.



As the earth spins and the sun sets in the west in the evening, the shadow is long.



The Power of Five

Light travels in straight lines. It travels from the light source either directly into our eyes, or reflecting off objects at 670 million mph.

LIGHT SOURCES



Because light travels in straight lines, when it hits an object, it is blocked. It can't bend around the object so it casts a shadow.

Investigate!

Play a mirror relay when the room has been darkened. Explore shadow formation using lights (e.g. torches) and different objects. Discover 'opaque', 'transparent' and 'translucent' Discuss how and why shadows change. Produce a shadow puppet play. Describe and explain the scientific principles behind their shadow puppetry.



Roby Park Primary School Year 3
Physics
Light & Shadows



3Ws

When light bounces off a surface,
it is..

dissolved bounced reflected

What do we call objects through
which light cannot travel?

Why should we not look directly at
the sun?

3 2 1

Name 3 colours in the rainbow.

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.....
.....

List 2 ways to stay healthy

.....
.....

Recall 1 reason why a shadow gets
smaller.

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Name 5 sources of light



VOCABULARY UNSCRAMBLE

e o a p q u

You cannot see through it

h a s s d w o

a dark shape on a surface that is
made when something stands
between a light and the surface

t i l h g

a brightness that lets you see
things.

Speedy Pencil. Write as much as you can remember in 5 minutes



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