

# My Knowledge Journal



## Light and Shadows

Name: \_\_\_\_\_

# Pre Knowledge Quiz

Q1. What does the word **light** mean?

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Q2. What is a light source? Colour 2 boxes.

Sun

Headlights

Mirror

Moon

Q3. What surfaces reflect light the best? Circle the correct answer.

A rough and uneven surface.

A smooth, shiny flat surface.

How does light travel?	Tick the correct answer	When light bounces off a surface it is...	Tick the correct answer
In a curvy line		absorbed	
In a straight line		dissolved	
Light does not travel		reflected	
Light is everywhere		bounced	

Complete the sentence: Dark means \_\_\_\_\_

Match the words to their description.

translucent

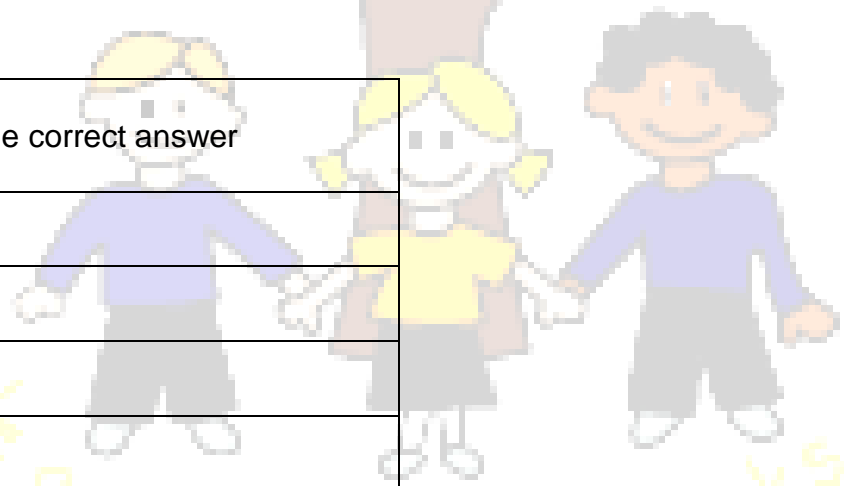
you cannot see through it and a dark shadow is formed

transparent

you can see a little light through it and a fairly dark shadow is formed

opaque

you can see through it completely and a faint shadow is formed



Shadows are formed when...	Tick the correct answer
Light is let through an object	<input type="checkbox"/>
Light reflects off an object	<input type="checkbox"/>
It is dark	<input type="checkbox"/>
Light cannot travel through an object	<input type="checkbox"/>

# Light and Shadows Knowledge Organiser

## What should I already know?

- The materials everyday objects are made from
- Some simple physical properties of a variety of everyday materials – being able to group these together on the basis of their characteristics
- How to identify and classify, and how to use observations to suggest answers to questions
- How to observe using simple equipment and perform simple tests
- How to gather and record data to answer simple questions
- That questions can be answered in a variety of ways

## Key Vocabulary

Dark	The absence of light
Electricity	A form of energy that can be carried by wires and is used for heating and lighting, and to provide power for machines
Source	Where something comes from
Reflects	Sent back from the surface and does not pass through it
Surface	The flat top part of it or the outside
Shadows	A dark shape on a surface that is made when something stands between a light and the surface
Light source	An object that makes its own light
Ray	Waves of light are called light rays. They can also be called beams
Angle	The direction from which you look at something
Translucent	A material that light can pass through
Transparent	An object or substance that you can see through
Opaque	An object or substance that you cannot see through

## Why do we need light?

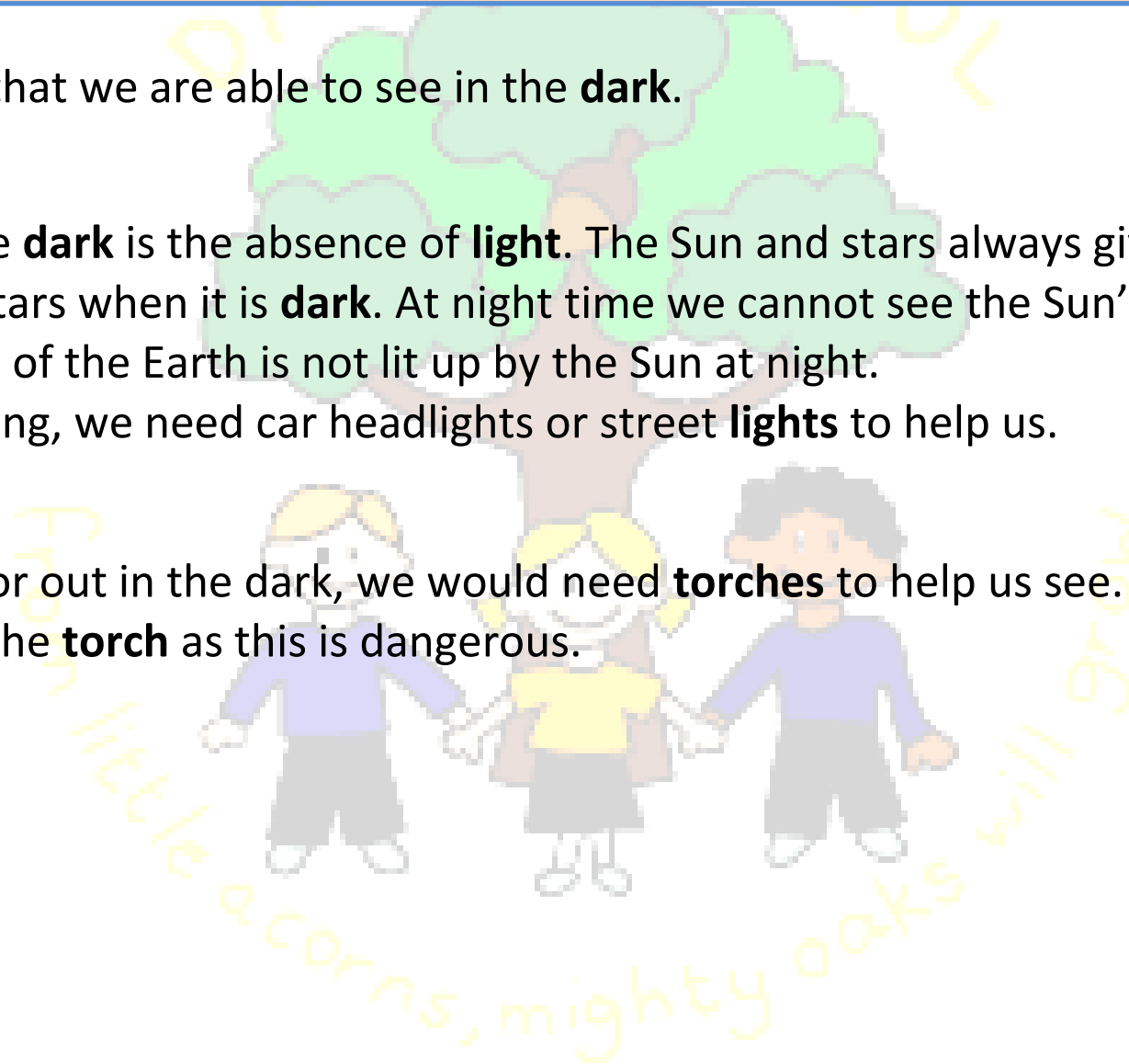
We need **light** so that we are able to see in the **dark**.

This is because the **dark** is the absence of **light**. The Sun and stars always give us **light** but we can only see the stars when it is **dark**. At night time we cannot see the Sun's **light** as the Earth turns and our part of the Earth is not lit up by the Sun at night.

When we are driving, we need car headlights or street **lights** to help us.



If we are walking or out in the dark, we would need **torches** to help us see. You should not look directly into the **torch** as this is dangerous.



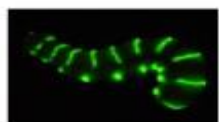
# What is a light source?

A **light source** is something that **emits light** by burning, electricity or **chemical reactions**.

Burning **light sources** include the Sun, flames from a fire and stars.

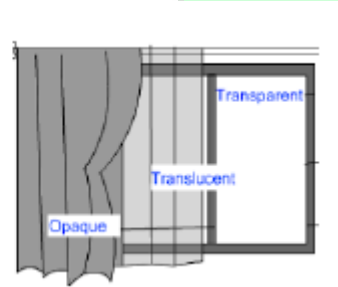
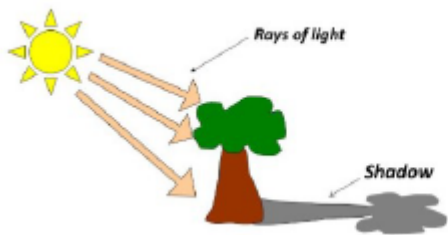
We must never look directly at the Sun as the **light** produced is very **bright** and can be harmful to our eyes. This is why we wear **sunglasses**.

**Electric lights** include lamps, car headlights and street **light**.



**Lights** that are caused by **chemical reactions** are much less common. This happens when different chemicals react and **light** is a **product** of that reaction. Examples can include glow sticks and fire flies.

## How are shadows formed?



When **light** is blocked by an **opaque** object, a **dark shadow** is formed. An **opaque** material blocks **light** so we can't see through it and shine a **light** through it.

When **light** is shone onto a **transparent** object, the **light** travels through it, we can see through it and it makes a very faint **shadow**.

When **light** is shone onto a **translucent** object, some of the **light** travels through it, we can see **bright light sources** through it and it makes a fairly **dark shadow**.

The size of a **shadow** changes as the **light source** moves. The further away the **light source** is, the smaller the **shadow** is. The closer the **source** of the light, the bigger the shadow.

# My Knowledge Builder

My Previous Knowledge...

New knowledge ...

Lesson  
1

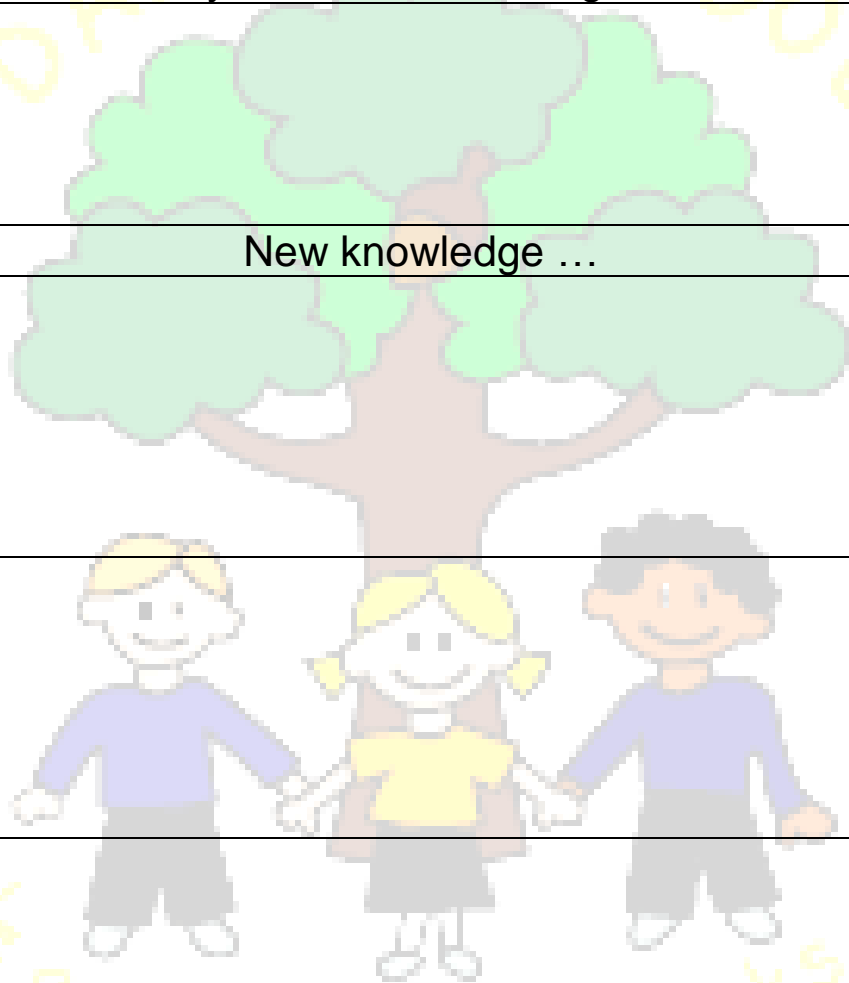
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Lesson  
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Lesson  
3

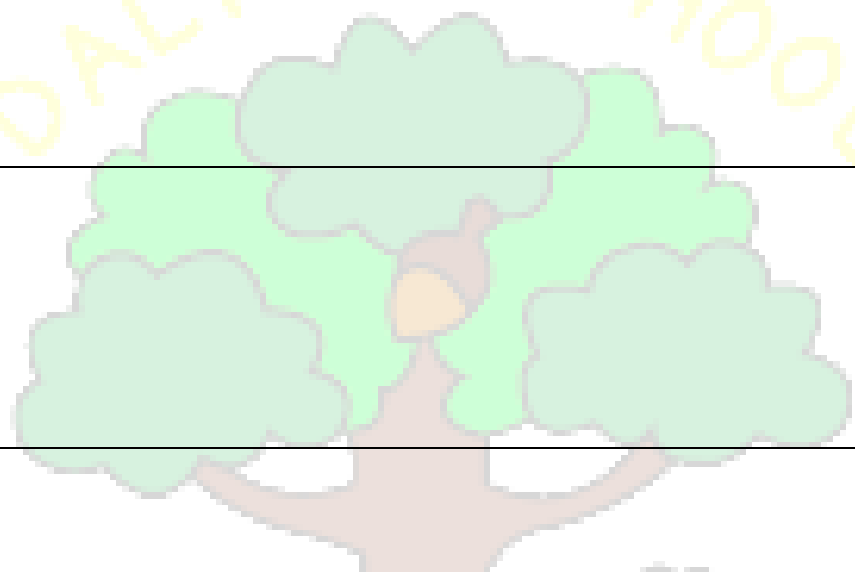
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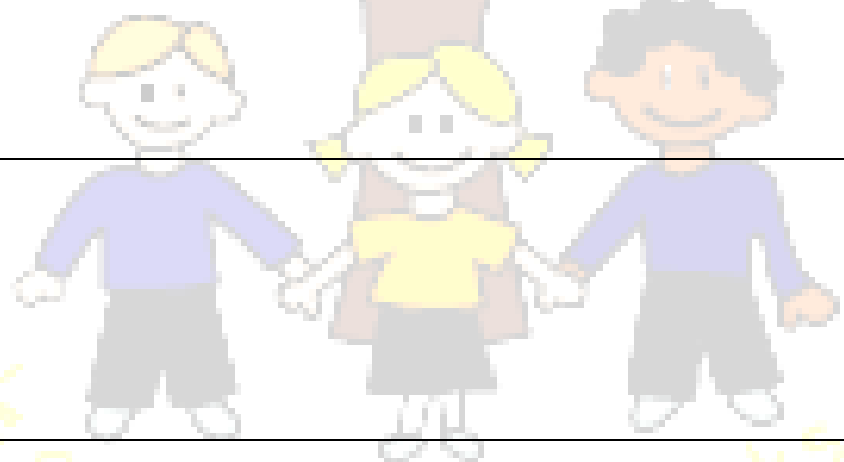


Lesson 4	<ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>
Lesson 5	<ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>
Lesson 6	<ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>
Lesson 7	<ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>

DALTON SCHOOL



From little acorns, mighty oaks will grow



## Post Knowledge Quiz



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Headlights

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Complete the sentence: Dark means \_\_\_\_\_

earcorns, mighty oaks

Match the words to their description.

translucent

you cannot see through it and a dark shadow is formed

transparent

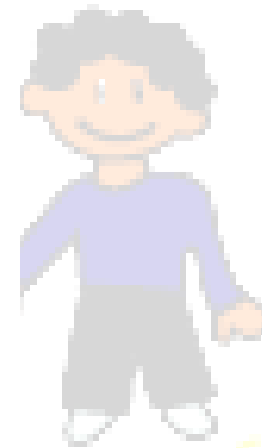
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opaque

you can see through it completely and a faint shadow is formed

Shadows are formed when...	Tick the correct answer
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It is dark	
Light cannot travel through an object	

SCHOOL

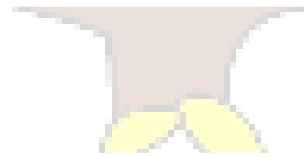


EAR CORNS, mighty oaks will grow

DALTON SCHOOL



F



M

Clear corns, mighty oaks will

