

The background is split into two main sections. The left section features a bright yellow sun with rays emanating from it, set against a lighter yellow background. The right section is a dark grey or black background with a subtle grid pattern. A large, light yellow rectangular box is centered over the sun, containing the title text.

# Materials and Light

# Aim

- I can explore properties of materials and say if they are opaque, transparent, translucent or reflective.

# Success Criteria

- I can test materials and record my results.
- I can explain what opaque, transparent, translucent and reflective mean.
- I know that I need light to see things.

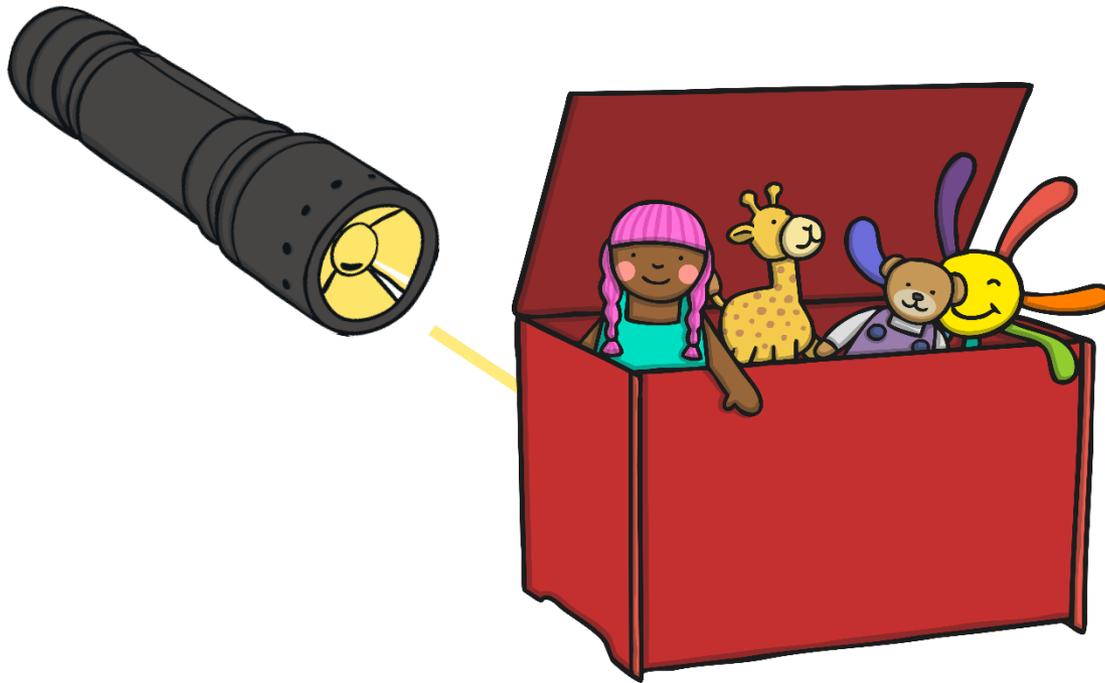
# Light and materials

Watch the video and see if you can identify what opaque, transparent and reflective mean.



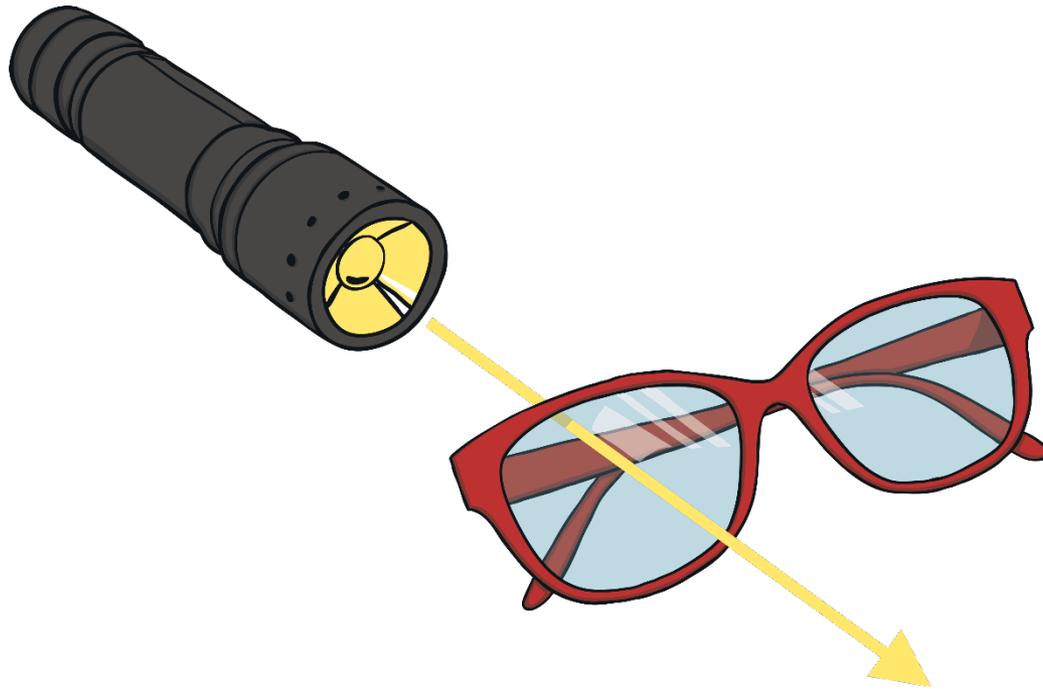
# Opaque

If an object is opaque, it means no light can pass through it. It blocks the light.



# Transparent

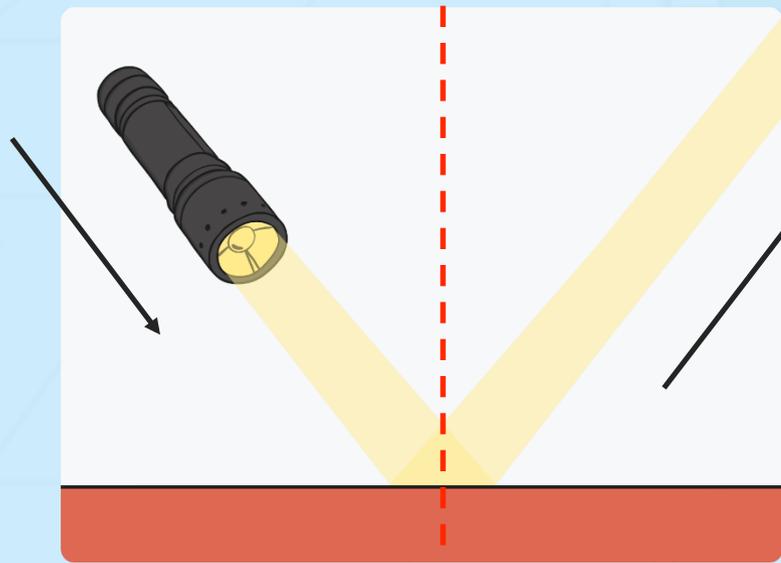
If an object is transparent, it means light completely passes through it and you can see clearly through it.



# Reflective

When light hits a reflective material, it bounces off.

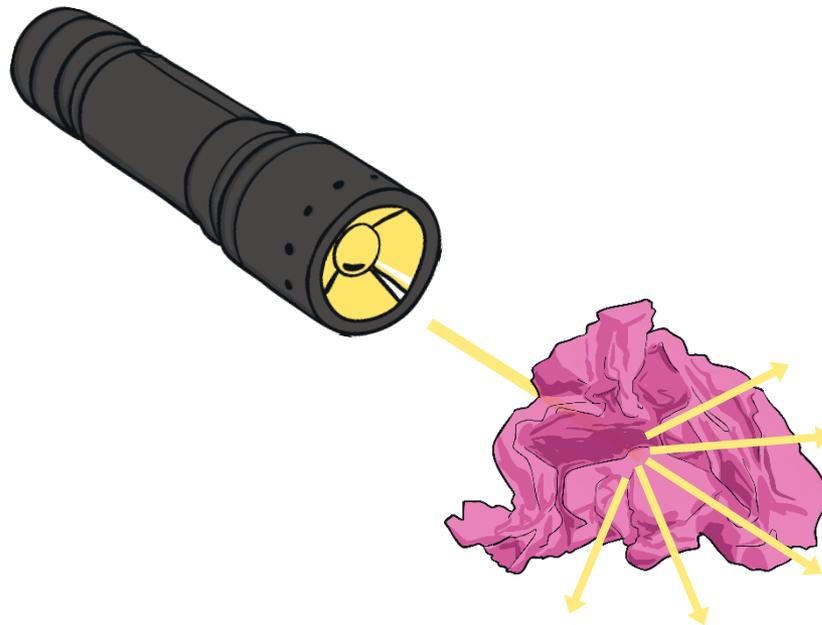
Light from the torch hits the material.



The light is reflected from the object.

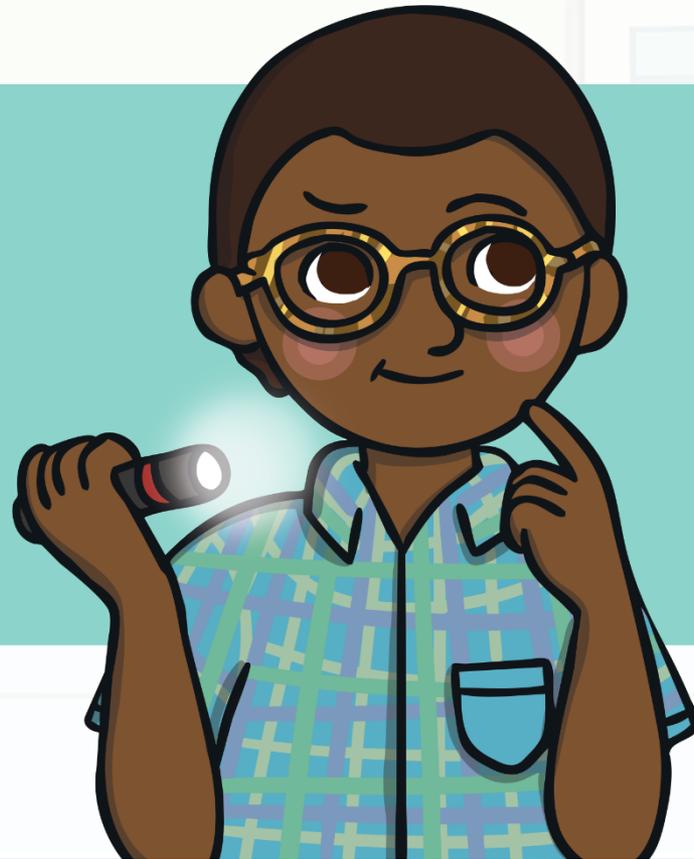
# Translucent

If an object is translucent, it means that some light passes through it but the light is scattered so you can't see clearly through it.



# What Do You Think?

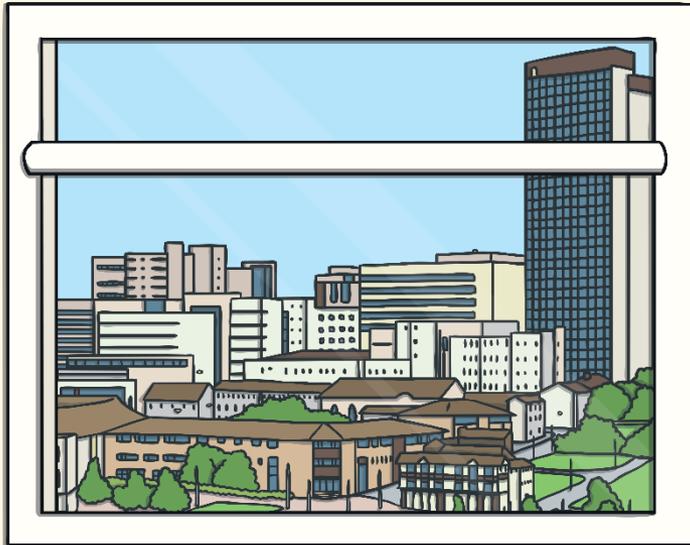
Look at these objects and decide if you think they are translucent, transparent or opaque.



# Transparent, Translucent or Opaque?

1

A window



Click on an answer below to see if you're correct.

Well Done! You're correct!

Never mind. Keep trying.

Never mind. Keep trying.

# Transparent, Translucent or Opaque?

2

Sunglasses



Click on an answer below to see if you're correct.

Never mind. Keep trying.

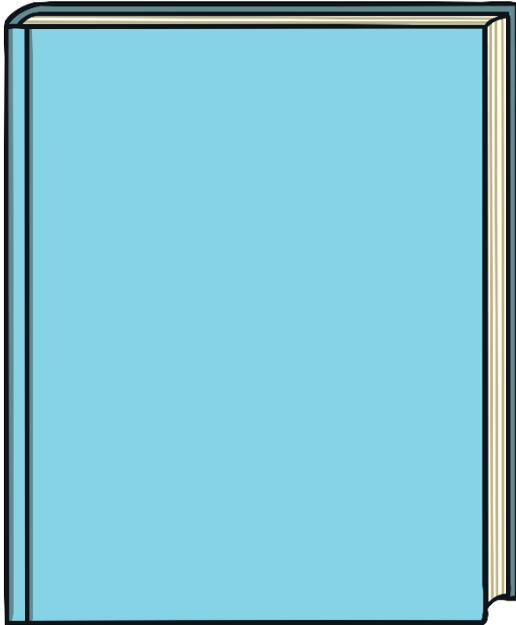
Well Done! You're correct!

Never mind. Keep trying.

# Transparent, Translucent or Opaque?

3

A book



Click on an answer below to see if you're correct.

Never mind. Keep trying.

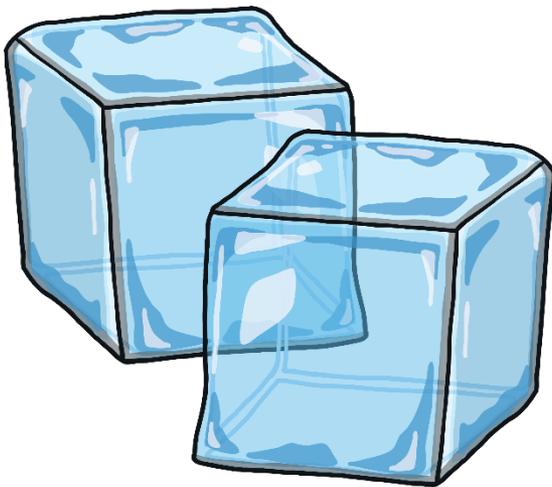
Never mind. Keep trying.

Well Done! You're correct!

# Transparent, Translucent or Opaque?

4

Ice cubes



Click on an answer below to see if you're correct.

Never mind. Keep trying.

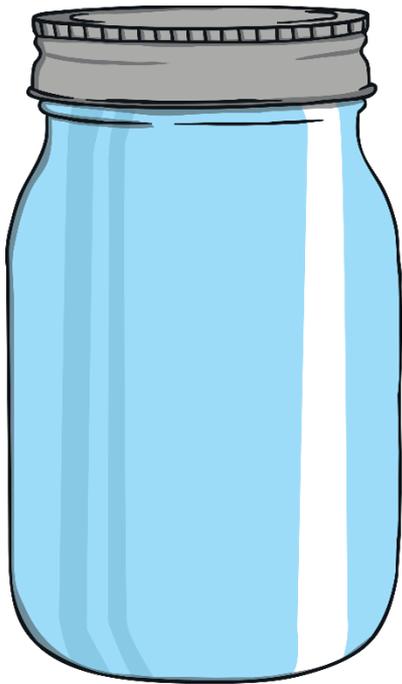
Well Done! You're correct!

Never mind. Keep trying.

# Transparent, Translucent or Opaque?

5

A glass jar



Click on an answer below to see if you're correct.

Well Done! You're correct!

Never mind. Keep trying.

Never mind. Keep trying.

# Transparent, Translucent or Opaque?

6

A coat



Click on an answer below to see if you're correct.

Never mind. Keep trying.

Never mind. Keep trying.

Well Done! You're correct!

# Transparent, Translucent or Opaque?

7

A lamp shade



Click on an answer below to see if you're correct.

Never mind. Keep trying.

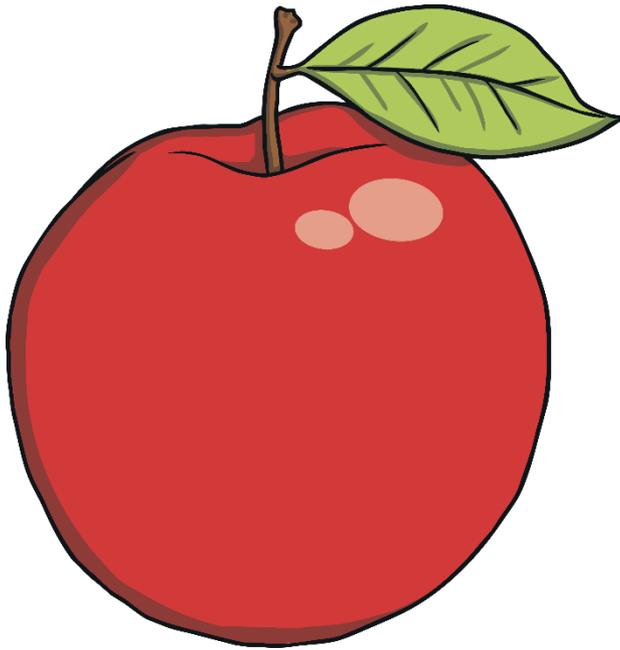
Well Done! You're correct!

Never mind. Keep trying.

# Transparent, Translucent or Opaque?

8

An apple



Click on an answer below to see if you're correct.

Never mind. Keep trying.

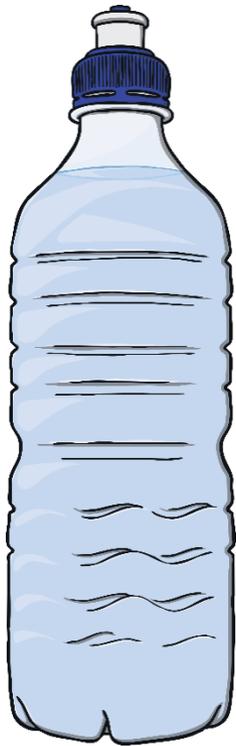
Never mind. Keep trying.

Well Done! You're correct!

# Transparent, Translucent or Opaque?

9

A bottle of water



Click on an answer below to see if you're correct.

Well Done! You're correct!

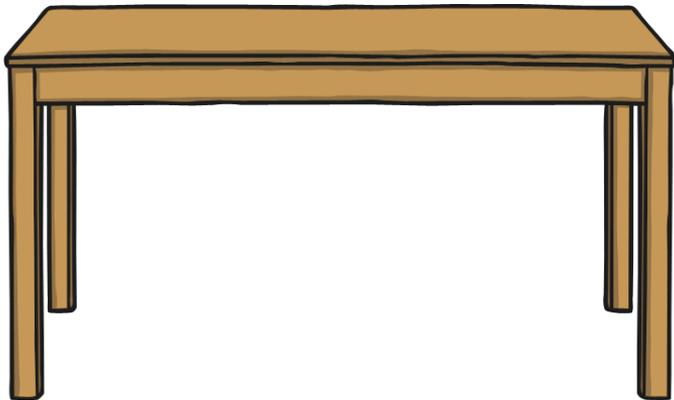
Never mind. Keep trying.

Never mind. Keep trying.

# Transparent, Translucent or Opaque?

10

A table



Click on an answer below to see if you're correct.

Never mind. Keep trying.

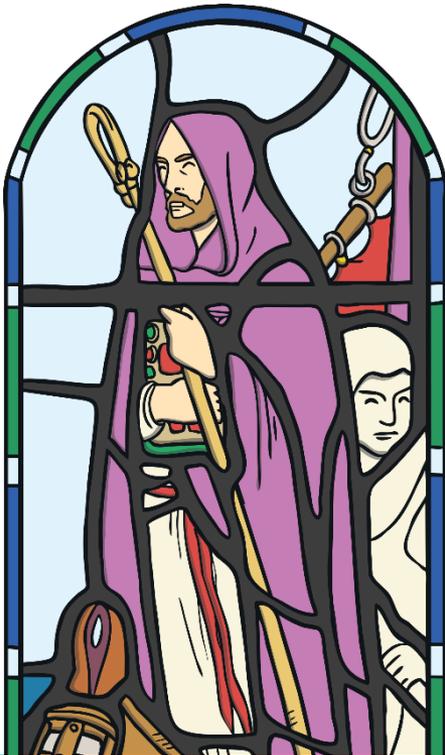
Never mind. Keep trying.

Well Done! You're correct!

# Transparent, Translucent or Opaque?

11

A stained glass window



Click on an answer below to see if you're correct.

Never mind. Keep trying.

Well Done! You're correct!

Never mind. Keep trying.

# Today's Task

Select some objects at home or school and explore whether they are opaque, transparent, translucent or reflective.

Record your results in the table provided.

OLI: To explore if objects are opaque, translucent, transparent or reflective.

Choose some different objects from around the house and test them using a light to see if they are opaque, translucent, transparent or reflective. Record your findings in the table below.

**Opaque:** No light can pass through it. It blocks the light.  
**Translucent:** Some light passes through it but the light is scattered so you can't see clearly through it.  
**Transparent:** Light completely passes through it and you can see clearly through it.  
**Reflective:** The light bounces off the object.

Object	Opaque	Translucent	Transparent	Reflective
Example: 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

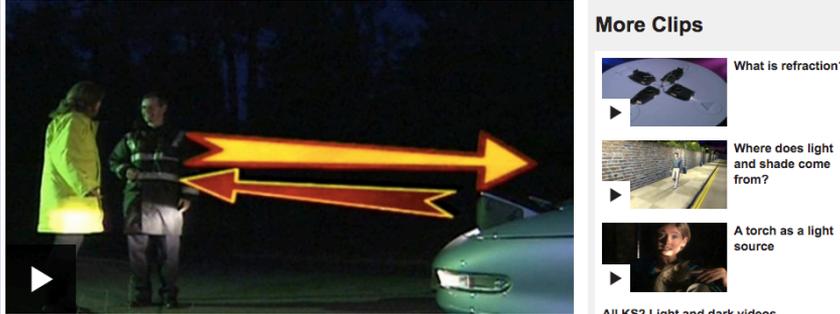
If you want to learn more about reflective materials and their uses, you can go to BBC Bitesize and watch this short video on the use of reflective materials for safety.

Maybe you could have a go at designing your own jacket for wearing out in the dark. Think about what colours and materials would be best for your design.

**The use of reflective materials for safety**

Part of Science | Light and dark

Duration 01:52



More Clips

- What is refraction?
- Where does light and shade come from?
- A torch as a light source

All KS2 Light and dark videos

<https://www.bbc.co.uk/bitesize/clips/ztcg9j6>