Name & Surname: _____ Class: _____ Date: _____

Light and Shadows

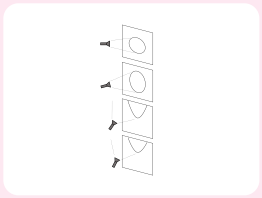
How shadows form and change size

About 40 minutes Level ★★★☆☆

How Shadows Are Made

A **shadow** is a dark shape where light cannot reach. It forms when an **opaque** object blocks light from a **light source**.

- Good light sources are the Sun, a torch and a lamp.
- Opaque things like wood and card block light and make a clear shadow.
- Clear glass lets all light through, so it makes almost no shadow.
- Close light makes a bigger shadow. Light farther away makes a smaller shadow.
- Never look straight at the Sun. It can hurt your eyes.



Task A

Example done for you

/3

Number these steps 1 to 4 to show how a shadow forms.

1 Switch on the torch to make light.

☐ A dark shadow appears on the wall behind the toy.

☐ Put an opaque toy between the torch and the wall.

☐ The toy blocks the light.

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Light Shadow Hunt

Find light, objects and shadows around the room.

Key words

light source: something that makes its own light

opaque: blocks light and makes a shadow

translucent: lets some light through

shadow: dark shape where light is blocked

transparent: lets all light through

Task B

Tick each thing you find in the classroom. Look at light and shadows.



a light source, like a lamp

☐ Found it!

Where? _____



a sunny window

☐ Found it!

Where? _____



an opaque object, like a book

☐ Found it!

Where? _____



a transparent object, like a glass

☐ Found it!

Where? _____

a shadow on a wall or floor

☐ Found it!

Where? _____



a small toy to test shadows

☐ Found it!

Where? _____

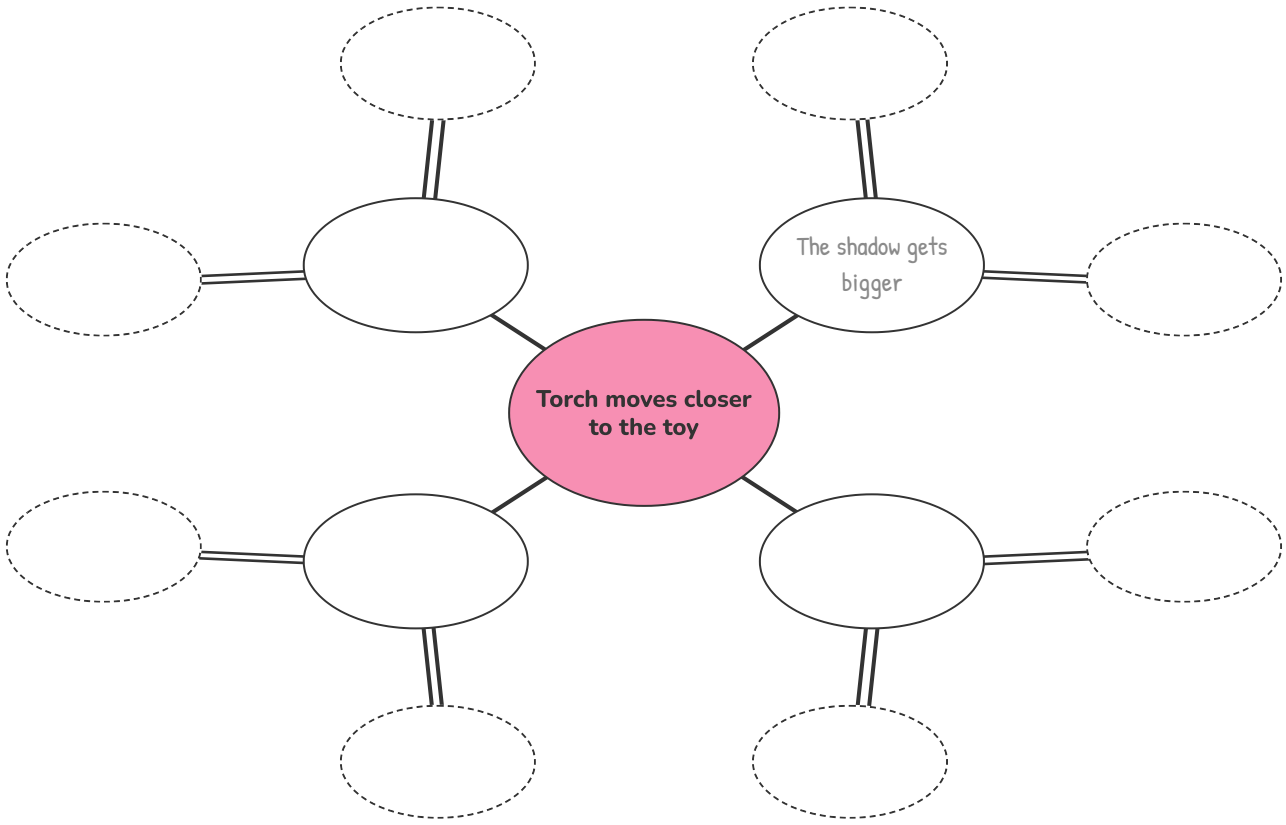
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What Changes Shadows

Show what happens when the light moves.

Task C

The torch moves closer to the toy. What happens to the shadow?



Single lines lead to direct effects; double lines lead to knock-on effects.

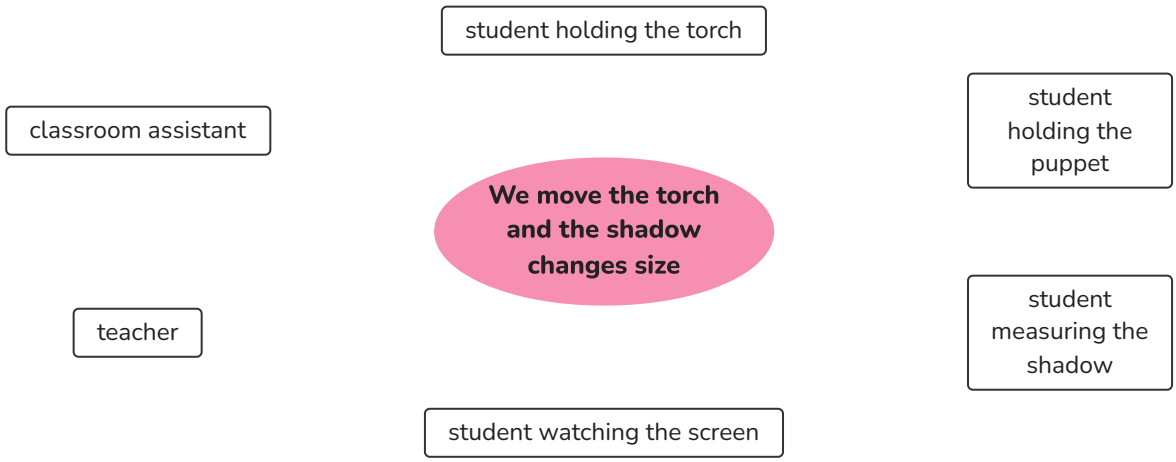
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Seeing Different Views

Write about the shadow test from one viewpoint.

Task D

Choose one viewpoint and write 2 short sentences about the shadow test. Start with: From my place I see...



I am thinking of... from the viewpoint of...

.....

I think... (describe the topic from your viewpoint)

.....

.....

.....

A question I have from this viewpoint is...

.....

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What I Learned

Show how your ideas changed and survey the class.

Task E

Show how your ideas about shadows changed. Start with: I used to think...

How shadows form and change size

I used to think...

.....

.....

.....

.....

➜

Now I think...

.....

.....

.....

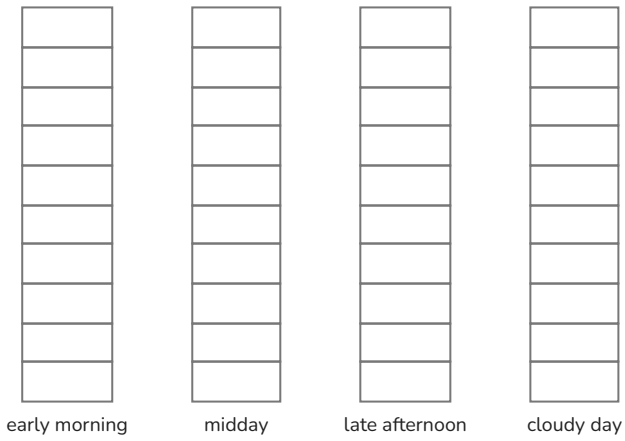
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Task F

Ask 10 friends and tally. Colour one square for each vote.

When is an outdoor shadow longest?

Answer	Tally	Total
early morning		
midday		
late afternoon		
cloudy day		



What does your chart show?

.....

How did I do?

Circle a face for each line.

I can explain how a shadow forms. ☹ 😐 ☺

I can sort opaque and transparent objects. ☹ 😐 ☺

I can describe how shadow size changes. ☹ 😐 ☺

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Answer sheet: Light and Shadows

Task A

1. Switch on the torch to make light. 2. Put an opaque toy between the torch and the wall. 3. The toy blocks the light. 4. A dark shadow appears on the wall behind the toy.

Task B

Answers will vary.

Task C

Answers will vary, e.g. The shadow gets bigger

Task D

Answers will vary.

Task E

Answers will vary.

Task F

Answers will vary.

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