



Science

Light

Marvellous Mirrors



Aim

- I can use a mirror to reflect light and explain how mirrors work.

Success Criteria

- I can explain why mirrors are good reflectors.
- I can use mirrors to reflect light onto different objects.
- I can explain how mirrors work when carrying out different tasks.

Reflective Surfaces

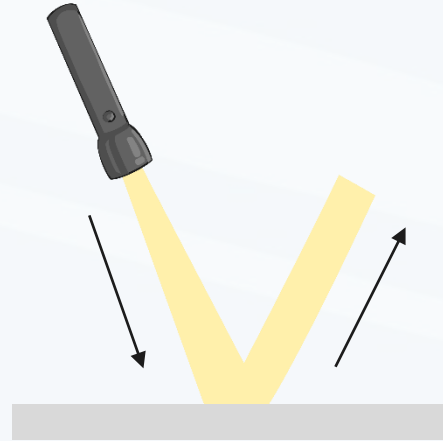


Some surfaces reflect light better than others.

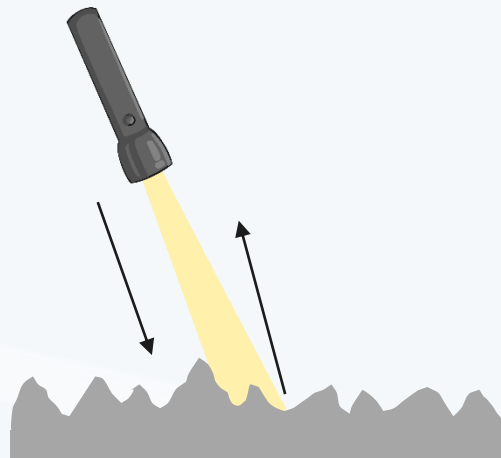
The surfaces that reflect light best are smooth, shiny and flat.

This is because the light rays bounce off these surfaces at the same angle.

If light hits a rough surface, the light rays all bounce off at different angles, meaning the light is scattered. It does not reflect well.



When the light rays hit the smooth mirror, they all bounce off at the same angle, creating a clear reflection.



When the light rays hit a rough surface, they scatter in all different directions, so it doesn't reflect well.

What Is a Mirror?

The most familiar type of mirror is a plain mirror, which has a flat surface.

Plain mirrors are commonly made of a flat, polished piece of glass with a shiny metal backing, such as silver or aluminium.

The light reflected by a mirror preserves most of the characteristics of the original light, so it creates a clear image.

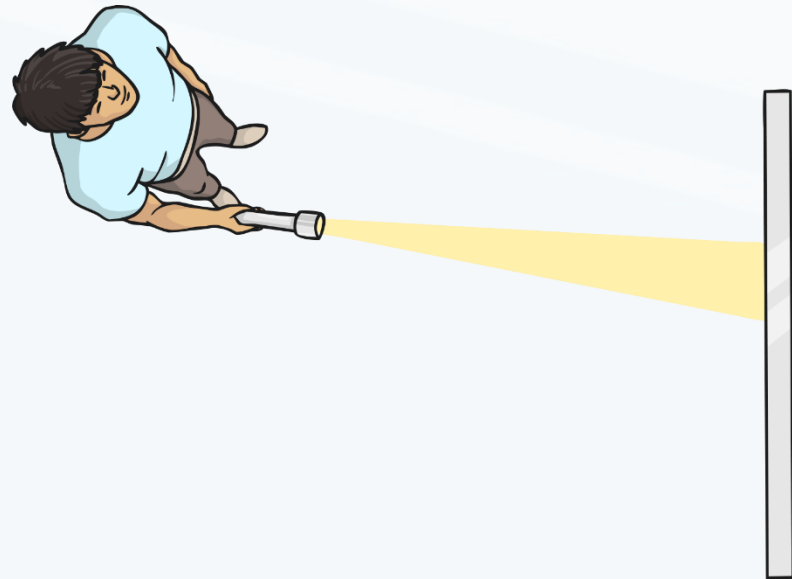
An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



Using Mirrors



Can you use the mirrors to reflect the beam of light onto the different objects?

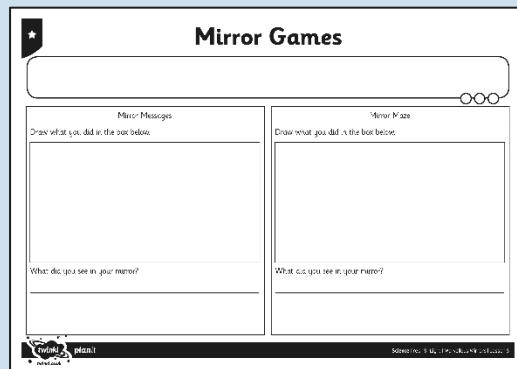


Mirror Games

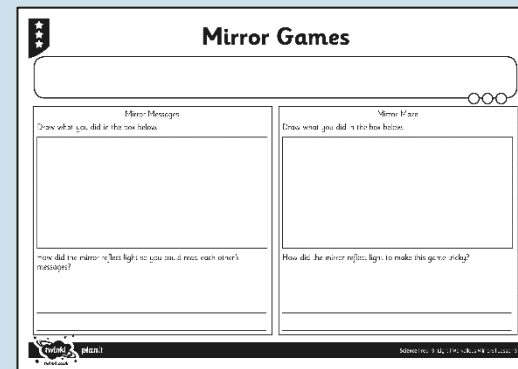
You are going to play a mirror game.

While you are playing the game, **think carefully about how the mirrors are reflecting light.**

Use your Mirror Game Activity Sheet to record your thoughts and ideas.

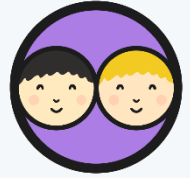


This is a worksheet titled "Mirror Games" with a star icon in the top left corner. It features two main columns. The left column is headed "Mirror Messages" and contains the instruction "Draw what you did in the box below" above a large empty box. Below this box is the question "What did you see in your mirror?" followed by two horizontal lines for writing. The right column is headed "Mirror Maze" and contains the instruction "Draw what you did in the box below" above a large empty box. Below this box is the question "What did you see in your mirror?" followed by two horizontal lines for writing. At the bottom left is a small logo for "twinkl" and at the bottom right is a small text string "twinkl.co.uk".



This is a worksheet titled "Mirror Games" with a star icon in the top left corner. It features two main columns. The left column is headed "Mirror Messages" and contains the instruction "Draw what you did in the box below" above a large empty box. Below this box is the question "How did the mirror reflect light so you could read each other's messages?" followed by two horizontal lines for writing. The right column is headed "Mirror Maze" and contains the instruction "Draw what you did in the box below" above a large empty box. Below this box is the question "How did the mirror reflect light to make this game tricky?" followed by two horizontal lines for writing. At the bottom left is a small logo for "twinkl" and at the bottom right is a small text string "twinkl.co.uk".

Mirror Messages



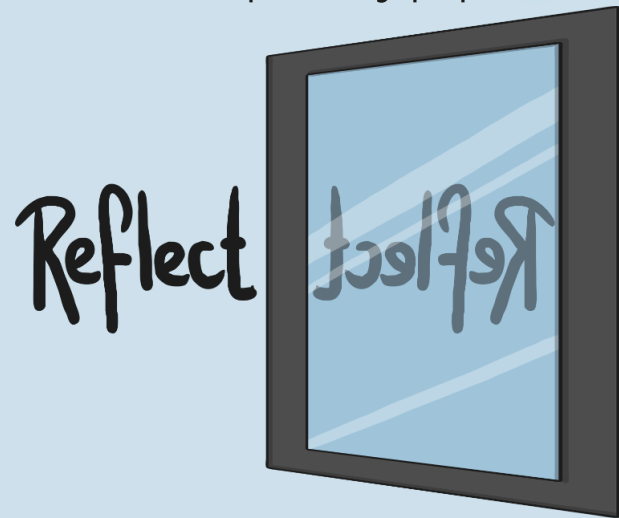
In this game, you should use your mirror to write a mirror message to your partner.

1. Write a short message in normal writing (between one to three words is enough). Then hold a mirror at the right hand side of the page, so you can see your message reflected in the mirror.

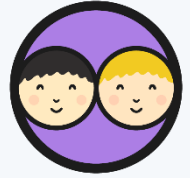
2. Copy the message you see in the mirror onto another piece of paper, so that your writing is reversed.

3. Swap messages with your partner, and hold the mirror at the left hand side of the page. Can you read their message in the mirror?

4. Think about how the mirrors helped you read the messages.



Mirror Maze

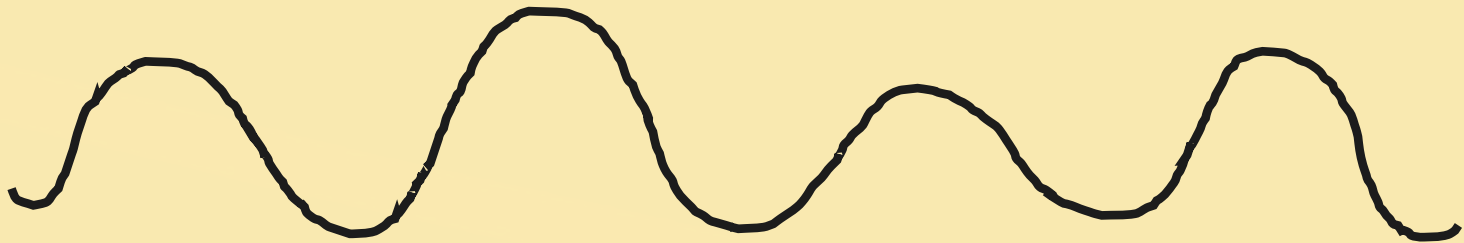


If you have access to chalk you could draw a wavy line on the floor outside. Hold a mirror over your head so you can see the line and your feet reflected in it. **Remember not to look directly at the sun while doing this part.**

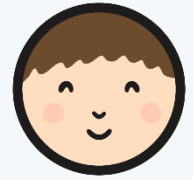
By looking only in the mirror, try to follow the wiggly line from one end to the other.

Take your time when carrying out this task and be very careful.

Why does only being able to look in the mirror make this hard?



Marvellous Mirrors Quiz



For this task, you will become the quiz master!

You will create a quiz for someone else in your family to try out.

You should think of questions about mirrors and reflective surfaces.

Remember to discuss the answers with your partner.

Marvellous Mirrors Quiz

Question 1:
Partner's Answer:

Question 2:
Partner's Answer:

Question 3:
Partner's Answer:

Question 4:
Partner's Answer:

Question 5:
Partner's Answer:

Use these words and pictures to help.

mirror reflect light bounce smooth rough

reverse surface bright see useful

twinkl planit Science | Year 3 | Light | Marvellous Mirrors | Lesson 3

Quiz

smooth rough

reverse surface bright see useful

twinkl planit Science | Year 3 | Light | Marvellous Mirrors | Lesson 3

Marvellous Mirrors Quiz Results



When you have finished, swap quizzes and see if you can answer the questions correctly.

Marvellous Mirrors Quiz	ous Mirrors Quiz
<input type="text"/>	<input type="text"/>
Question 1: Partner's Answer:	
Question 2: Partner's Answer:	
Question 3: Partner's Answer:	
Question 4: Partner's Answer:	
Question 5: Partner's Answer:	
Question 6: Partner's Answer:	
Question 7: Partner's Answer:	



Aim



- I can use a mirror to reflect light and explain how mirrors work.

Success Criteria

- I can explain why mirrors are good reflectors.
- I can use mirrors to reflect light onto different objects.
- I can explain how mirrors work when carrying out different tasks.

