Year 3 Science - Marvelous Mirrors

LO: to use a mirror to reflect light and explain how mirrors work.
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.
Can you use the mirrors to reflect the beam of light onto the different objects?

https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/zqdxb82

https://www.sciencekids.co.nz/gamesactivities/howwesee.html
For your task today, pick any of the activities from this list and investigate.

Mirror Message
Mirror Maze
Mirror Magic
Mirror Mosaic
Mirror Master

There are Education City activities to complete when you have finished.
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

Draw a wavy line on the floor with chalk.
Hold a mirror over your head so you can see the line and your feet reflected in it.
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?
Lesson 3 - Mirrors.notebook

Activity 1. Start by exploring what happens with two mirrors facing each other.

Activity 2: Dual Reflections
Step 1: Tape two small mirrors together on one side to form a right angle.

Step 2: Set the mirrors on their sides, and place a small object between them. You will be able to see many sides of the object in the mirrors.

Step 3: Move the mirrors closer together and farther apart and observe what happens to the images.
Mirror Mosaic

Place two mirrors upright like a book.

Using objects around the house create a pattern - you could also draw a pattern and place it in front of the mirrors.
Mirrors Master

For this task, you will become the quiz master!

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

You should think of questions about mirrors and reflective surfaces.

Remember to make an answer sheet so that the person who does your quiz can mark their work!