Here are a number of activities that you can try to develop children's understanding of light, how it travels, and how it can be reflected:

Travelling Smiles

- This activity works best in a really dark room.
- Draw a simple image on an interactive whiteboard screen... in the past, I have used a small smiley face.
- Put the mirror in front of the projected image and bounce it to another point in the room.
- Tilt the mirror at different angles and watch the face 'travel' around the room.
- Ask a child to try this and challenge them to reflect the face onto different parts of the classroom.
- Then, ask a child to hold another mirror. Angle the first mirror so that the face reflects onto the second mirror.
- How many times, using lots of different mirrors, can you bounce / reflect the face around the classroom?

What's on top of the table?

- Ask a child to sit carefully underneath a table at the front of the room.
- Place an object on top of the table and ask them to identify what it is... without moving.
- Ask them how this task could be made easier.
- Give them a mirror and ask them to identify the object now.
- Can they explain how they can see the object, even though they are under the table and the object is on top?

Post-It Challenge

- Ask the children to get into pairs.
- Tell child A to draw a simple picture on a Post-It note and stick it onto the back of their partner (B).
- Give the pair of children some mirrors and ask child B to use the mirrors to work out what picture has been drawn.

Moving Light with Mirrors

Background Information:

We can see objects because they reflect (bounce) light into our eyes. Most objects scatter the light they reflect. We see only the object. Mirrors and other shiny surfaces are different. The light that hits a mirror reflects back at exactly the same angle. That's what allows us to see our reflection in a mirror. **Materials:**

- 2 or 3 mirrors
- A flashlight

Procedures:

1. Start with just one flashlight and have the children find the light spot.
2. Introduce one mirror. Shine the light onto the mirror. Challenge the children find the light spot.
3. Challenge the children to move the mirror to get the light spot on to different items.
4. Using a second mirror, shine the flashlight on one mirror and try and bounce the light spot off the second mirror. Challenge the children to move the light spot to a specific location.
5. Repeat by moving the light spot to various locations around the room.

Questions to ask DURING this activity:

1. Where is the light shining? What do you notice about the path of the light?
2. What did you notice when you shone the light in the first mirror?

3. How did you make the light move in different directions? What happened when you added the second mirror? What next? What kinds of patterns did you notice with the path of the light?
4. Try adding a third mirror. Has anything changed? What does the light spot look like now?

Mirror Images

A mirror reflection is backwards to the way we are used to looking at an object. Explore what happens to shapes, letters and other drawings when they're reflected in a mirror. Mirrors also help us find lines of symmetry of an object. If you put the mirror on a line of symmetry, the mirror reflection will complete one whole image of the object.

What you need:

- A mirror
- Drawings of shapes on paper
- Pencil, felts, crayons, etc

Procedures:

1. Have the children look at themselves in the mirror. What do they see? Can they see things behind them? Do they notice anything different about the objects they see in the mirror?
2. Challenge the children to explore pre-drawn shapes (circle, square and triangle) with the mirror.
3. Now have the children draw pictures or words on a piece of paper.
4. Put the mirror on the table near the paper. Encourage the children to explore looking at their pictures and words in the mirror from varying angles and positions.

Questions:

1. What can you see in the mirror?
2. Can you move the mirror and shape to see two copies of the shape, half of the shape, etc? Have students demonstrate. Can you turn the square into a rectangle or a kite shape? How did you do it?
3. Can you turn the triangle into a square or a rectangle? How did you do it?
4. What does your picture look like in the mirror? Is it the same? What is different? Are there some letters or shapes that look the same in the mirror?
5. How does the picture change when you move the mirror?
6. Can you make your picture upside down? How did you do it?
7. Can you make two pictures side-by-side?