

## Science Activity 1.

Go through powerpoint and discuss the following with your child.

- What are shadows and how are they formed?
- Explain that light always travels from a source. How many different light sources can you think of? Which of these sources are natural and which are man-made?
- Look at the pictures of light sources on the slides. Some of these do not emit light but reflect it. Which of these light sources should not be in this list? (water and moon)
- Show children the diagram on the slides of a torch, a wall and an object in between. Invite children to explain what will happen when the light is switched on. EXTEND - do all objects create a shadow? Invite children to suggest objects that may not (i.e. transparent objects).
- Explain that light travels from a source and always travels in a straight line. Light cannot bend or turn around corners.

Find a dark place or make a dark place with a blanket and chairs.

Provide children with a torch and a selection of objects to put in front of the light's path.

Provide children with opaque (let no light through) objects that will cast dark shadows. E.g tops from tea, coffee, sugar caddies.

To extend children, provide a variety of transparent (lets all light through), translucent (lets some light through) and opaque objects to investigate.

Ask children to look closely at the shape of the shadow and let them experiment in how they can get the shadow to change shape, e.g. smaller, longer, fatter or thinner etc.

Provide children with paper and ask them to record the different shadows they create and annotate what is happening (e.g. that the light is travelling from the source in a straight line and that the object blocks (or not in the case of transparent objects) the light, causing a shadow to form. Also how they can make the shadow change.

Invite them to explain to you what is happening and why.

Extension: Create a shadow puppet theatre - you will need sticks or straws and cut out characters to create a play. You could recreate a scene from Harry Potter and perform it to your family. Use an old cereal box to create the sides and the stage. Have fun!