



Year Groups: Years 3 and 4 (KS2)    Date: Monday 27<sup>th</sup> April 2020

Subject: Science - Light



LO: I am able to notice that light is reflected from surfaces;

I am able to recognise that shadows are formed when the light from a light source is  
blocked by a solid object

### Key Facts:

- Light is reflected from surfaces.
- Light travels in straight lines.
- Shadows are formed when the light from a light source is blocked by a solid object.
- The Sun rises in the East and sets in the West.

### Pre-Learning: Compass Points

Ensure that children know the 4 compass points - North/ South/ East/ West.

### Activity 1: Explore - Where can shadows be found?

Take the children on a 'shadow search' around the home/ garden. Every time a shadow is discovered, encourage the children to indicate the light source/s and the object that is blocking the light from that source/s. Children could take photos of their finds, which can then be stuck into a workbook, tweeted or uploaded to Purple Mash, along with an explanation as to how the shadow was created.

Provide children with the opportunity to make shadows with torches.

The following video will help children to develop their thinking:

<http://www.bbc.co.uk/learningzone/clips/how-does-light-create-shadows/2172.html>

### Activity 2: Explore - Which is the darkest shadow?

Try to establish with children that dark shadows indicate that there is very little light bouncing off of that place (maybe none). Where there are no shadows, this is where light is being bounced off of objects (reflected). Establish the formation of shadows - Light is reflected of an object. The area that the light is therefore unable to reach is called a shadow.



### Activity 3: Explore - Transparent/ Translucent/ Opaque

Light passes through some materials and not others. Light passes through **transparent materials** (objects that are not 'see through' - light passes through the material). Light passes through **translucent materials** but the light source is not clear. No light passes through **opaque materials**.

Explore around your home looking for examples of transparent, translucent and opaque objects, then complete the tasks on **Purple Mash - 2do - Shadows Placing** and **School Website - Light and Dark - Shadows**. Children will need to know that the Sun rises in the East and sets in the West first.

### Activity 4: Explore - How can we change the size of a shadow?

Show: <http://www.bbc.co.uk/learningzone/clips/how-shadows-are-made-shadow-puppets/2175.html>

Ask the children to find a way of making a shadow of a puppet on a stick on a white screen (a frame with white paper/material inside). Ask the children to explore - find ways to change the size of the puppet's shadow.