**Science-**

**Light:**

The children will be learning:

* To explore how we need light to see things and why some things are easier to see than others
* To investigate how different objects reﬂect different amounts of light
* To design and produce reﬂective strips for night safety
* To explain how a mirror works and describe how images in mirrors may look ‘different’
* To identify how shadows are formed
* To identify what affects the shape of a shadow

<https://www.bbc.co.uk/bitesize/topics/zbssgk7>

**Lesson 1:**

**LO: To explore how we need light to see things and why some things are easier to see than others**

**By the end of the lesson I:**

* **MUST- be able to understand why it is harder to see objects when it gets dark.**
* **SHOULD- be able to describe why we need light to see things.**
* **COULD- be able to use scientific observations.**

**To start you can start to create a KWL chart on light.**

1. What do you already know?
2. What would you like to find out?

**EXPLORE:**

1. Look at a shiny object such as a piece of tinsel and ask: *Why can we see the tinsel?*
2. Then look at a brightly coloured object such as an apple, or brightly coloured ball and ask: *Why can we all see the apple?*
3. Finally look at something dark coloured and dull like a gym shoe and ask *how we can see that.*

(**Note**: Make sure that they recognise that they can see all the objects. Encourage answers that refer to eyes, and light e.g. the blinds are up, the light is on.)

**Key Information:** The sun and the electric light are light sources, that this is where the light comes from.

**Can you think of some other light sources.**

**Can you find out if the following statements are true or false?**

|  |  |
| --- | --- |
| 1. In a dark room you cannot see anything. | 6. The sun and electric lights are light sources. |
| 2. Light always comes from a light source. | 7. We see things because light travels from our eyes to the objects. |
| 3. Cats can see in the dark. | 8. You only find light in bright places. |
| 4. We cannot see things if there is no light. | 9. In a darkened room you will be able to see after a while because your eyes will adjust. |
| 5. We see things because light is reflected from objects and travels to our eyes. | 10. Shiny things reflect light better than dull black objects do. |

**ENQUIRE:**

**You will need an empty box, for example a shoebox.**

**A selection of different objects as outlined below.**

**White Hat: *What do we need to see?***

You will need to gather a selection of different objects. Any classroom objects are suitable, but should include **two or more coloured objects of the same shape but different colours** (such as marbles or pens/pencils), **some shiny objects** (coins, pieces of foil, jewellery) and **some duller or black objects** (these can be paper or card shapes).

**Which objects do you think will be easier or harder to see if it was darker in the room?**

**Activity:** Place objects in a box and then try to see what is visible through a peephole.

The intention for children is to investigate how hard or easy it is to see objects in different amounts of light.

Why do you think it is harder to see objects in the box?

What would make it easier to see the objects in the box?

Which objects were the hardest to see in the box?

Which objects were easier to see? What do you think made them easier to see?

**Challenge:** Can you think of some other objects that would be a) Harder to see I the box and b) easier to see in the box?

**Write out and complete the paragraph below to show your learning, you can also go back to your KWL chart and fill in what you have learnt:**

