**Science-**

**Light:**

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

**Lesson 3:**

**LO: To be able to explain how a mirror works and describe how images in mirrors may look ‘different.’**

**Key Information:** 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.

**Brainstorm:**

**What Is a Mirror?**

Mirrors are very good reﬂectors of light. Can you think of when you have seen or used a mirror in the last twenty four hours? Think about mirrors that we use help us see more e.g. car mirrors, mirrors on turnings on bends as well as mirrors we use to see our reﬂection.

**Key information:** 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.

<https://www.youtube.com/watch?v=FRM-fcDnaA4>

In the above video he bends a mirror to change how the light reflects, you can get a similar effect by looking at your reflection in a shiny spoon, one side of the spoon curves outwards and the other is curved inwards. Test it out and see what happens your reflection.

<https://www.youtube.com/watch?v=ibuD8PqVDBA>

**Try out the mirror game below:**

**Use a mirror to write a message to a partner.**

1. **Write a short message on a piece of paper. Hold a mirror at the right hand side of the page, so you can see your message reflected in t he mirror.**
2. **Copy the message in the mirror carefully on to another piece of paper, so your writing is reversed.**
3. **Give your message to someone at home and have them place a mirror at the left hand side of the page. Can they read your message in the mirror?
Think about how mirrors helped you to read the message.**

**Task 1: Complete the table below:**

|  |  |  |
| --- | --- | --- |
| **Type of surface:** | **How my reflection looked:** | **Challenge: Can you explain why your reflection looked this way?**  |
| Smooth, flat mirror |  |  |
| Curved outwards (e.g. back of a spoon) |  |  |
| Curved inwards (e.g. inside of a spoon) |  |  |

**Task 2: Can you design a poster to explain how a mirror works? Use written explanations as well as labelled diagrams to give as much detail as possible.**

**Look at the statements below, try to decide which you think are true and which you think are false. Try to explain why you think this for each. Can you come up with a way to test any of them out?**

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