Material Investigation: Flexible

Different materials have different properties. Some materials or objects are more flexible than others. Flexible is the scientific term for bendy. When a material or object is not flexible it is rigid.

Flexibility can be a useful property, for example when we build skyscrapers the steel framed use to build the skyscraper is flexible. This allows the building to slightly move in the wind. If the steel structure were rigid it would break and collapse.

Today we are going to explore what is the most bendy. First, begin by discussing with an adult what objects you know are bendy and what objects are not. How do we bend objects?

In order to conduct our experiment, we need an object made from: stone, paper, wood, plastic, metal and fabric. Next, try bending the object, does it bend a lot? Does it bend slightly? Will it bend at all?

To conduct our investigation hold the end of each object and gently bring your hands together. We need to record our findings from the experiment in the table below. Write down the name of the object and if the object bends then it is flexible so we will put a tick in the flexible box below. If it does not bend then it is rigid, therefore we will tick the rigid box.

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| --- | --- | --- | --- |
| **Material** | **Object** | **Flexible** | **Rigid** |
| Stone |  |  |  |
| Paper |  |  |  |
| Wood |  |  |  |
| Plastic |  |  |  |
| Metal |  |  |  |
| Fabric |  |  |  |

Challenge question – Can you think of a material that is able to be rigid sometimes but flexible other times?