**Science-**

**Forces and Magnets**

**Some useful links:**

<https://www.bbc.co.uk/bitesize/topics/znmmn39>

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

<https://www.theschoolrun.com/homework-help/magnets>

**Lesson 9:**

**LO: To explore which materials are magnetic**

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

**Success Criteria:**

**I can explain that magnets produce a force that attracts some materials.**

**I can use a magnet to separate items that are magnetic and non-magnetic.**

**I can name some magnetic materials and some non-magnetic materials.**

These children are using a magnet to pick up different objects. They are talking about what magnets are and how they work. Which child's ideas do you agree with?

**I think the magnet is sticky. It has some special glue on it to make things stick to it. This is how we can pick things up using the magnet.**

**I think magnets are special objects that connect to any other object.**

**I think the magnet produces a force to pull the different objects onto it.**

**What Is a Magnet?**

A magnet is a special type of object. It produces an area of magnetic force around itself, called a magnetic field.

If certain materials enter this magnetic field, they will be attracted to the magnet. This will cause the materials to stick to the magnet.

Try it! Move a magnet slowly towards a steel paper clip. As the paper clip enters the magnetic field around the magnet, it will 'jump' towards the magnet.

A magnetic field is the area around a magnet that produces a pulling force on certain materials. The magnetic field is invisible, so we can't see it.

**Watch this clip to see how magnets are used in a scrapyard to sort different materials.**

<https://www.bbc.co.uk/bitesize/clips/zcntsbk>

**Magnets at the Scrapyard**

The magnets in the scrapyard sorted the magnetic materials from the non-magnetic materials.

Magnetic materials are attracted to magnets. This means they will stick to a magnet.

Non-magnetic materials are not attracted to magnets, and will not stick to them.

But which materials are magnetic and which ones aren't?

**Investigation: You will need a magnet of some sort, one off your refrigerator should work!**

Gather some different objects made of different materials and place them on a table. Use your magnet to help you sort them into two piles, magnetic and non-magnetic. Keep track of them in the table below.

|  |  |
| --- | --- |
| **Magnetic** | **Non-Magnetic** |
|  |  |

**Answer the following:**

What types of material are magnetic?

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Are all metals magnetic?

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Can you explain what a magnet is? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What are some benefits of magnets?

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**If you do not have access to a magnet to complete your own investigation, watch the video at the link below to help you complete the task.**

<https://www.bbc.co.uk/bitesize/topics/zyttyrd/articles/zw889qt>