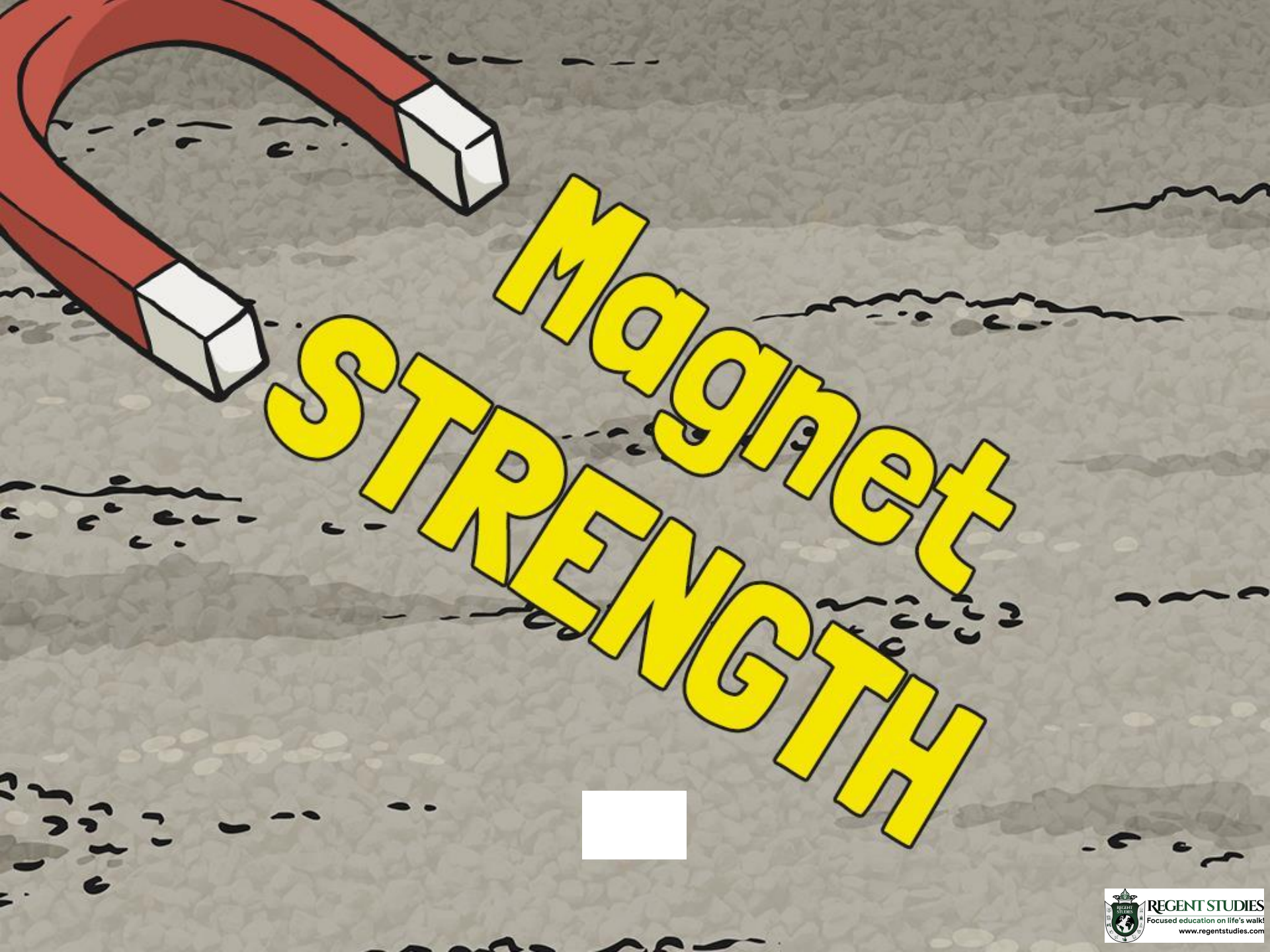
Science

Forces and Magnets



Aim

- I can investigate the strength of magnets.

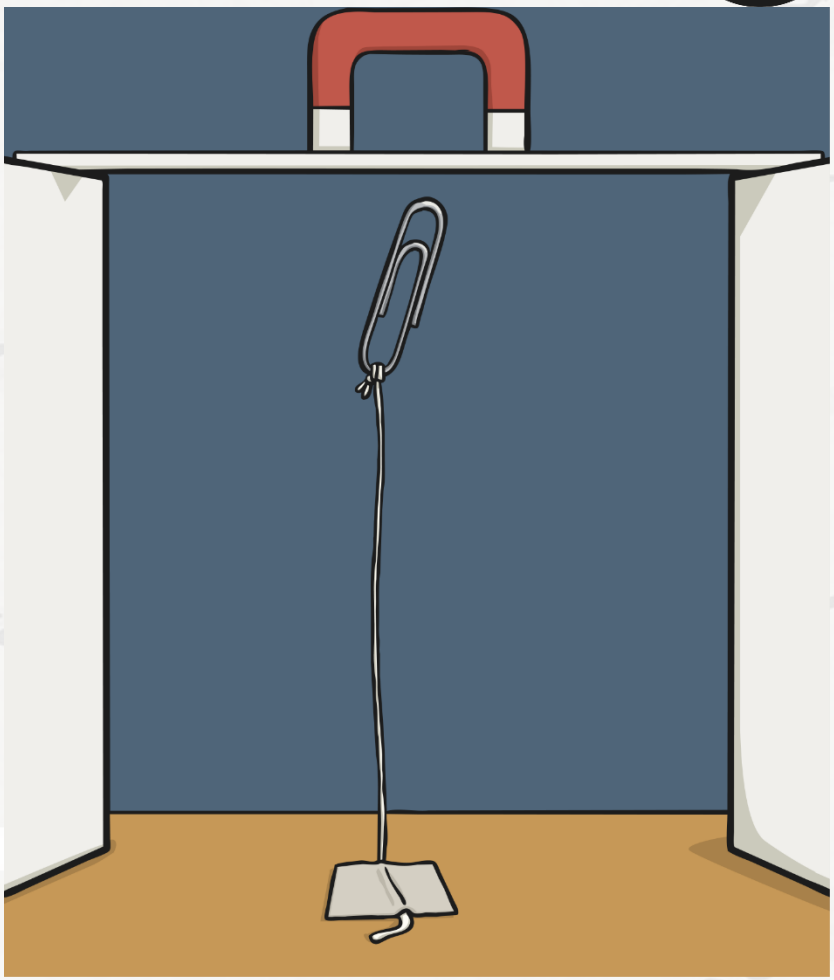
Success Criteria

- I can identify different types of magnet.
- I can predict which magnet will be the strongest.
- I can test my prediction by adding paperclips to different magnets.
- I can record my results in a table and present them in a bar chart.
- I can explain my results.

Magic Magnets

Try this trick to make a paper clip hover:

1. Tie a length of cotton thread to a paper clip.
2. Tape the end of the thread to the table.
3. Hold a magnet above the paper clip.
4. Can you make the paper clip hover above the table?

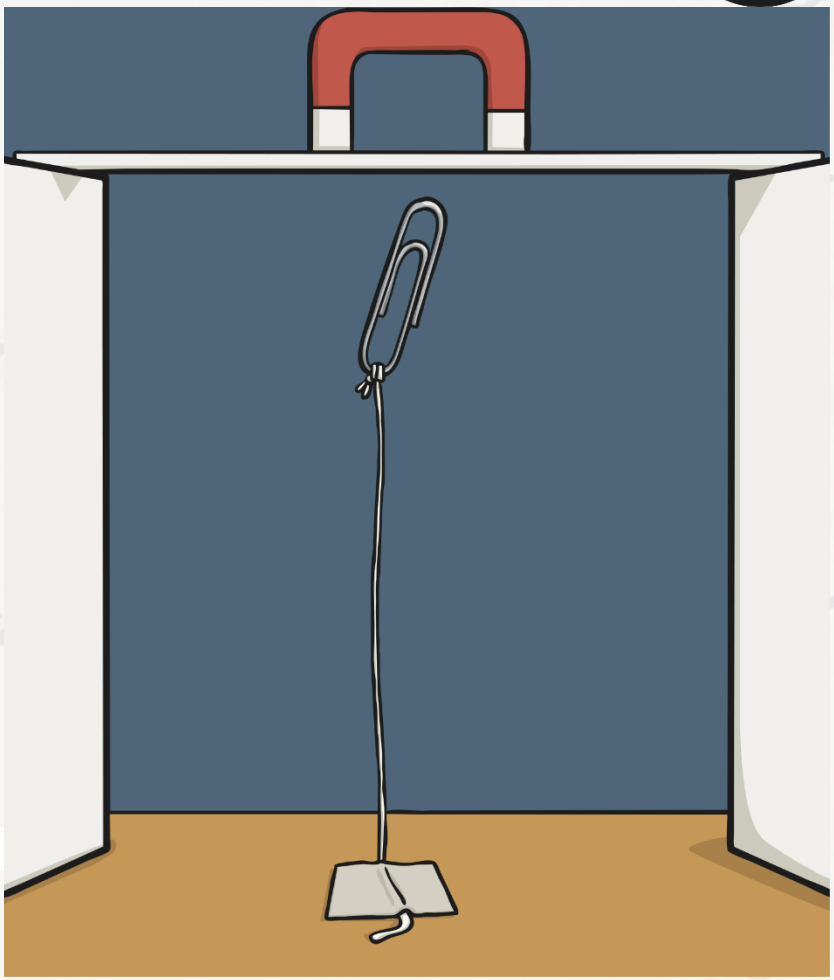


Magic Magnets

As you move the magnet away from the paper clip, it will fall back to the table.

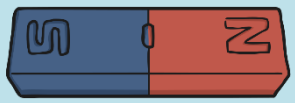
The magnetic force pulling the paper clip up to the magnet is not as strong.

By seeing how many paper clips are attracted to a magnet, you can measure the strength of the magnet's force.



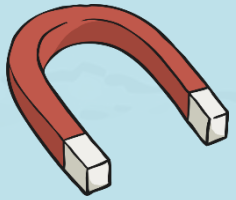
Different Magnets

There are lots of different types of magnets:



Bar magnet

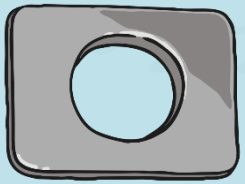
Cylindrical magnet



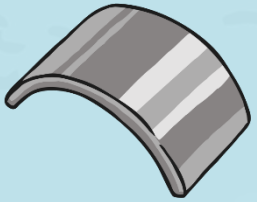
Horseshoe magnet

Button magnet

Ring magnet



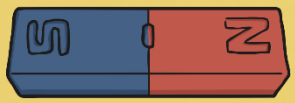
Square magnet



Arc/crescent magnet

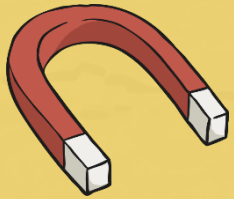
Different Magnets

But which is the strongest? You are going to investigate which type of magnet is the strongest.



Bar magnet

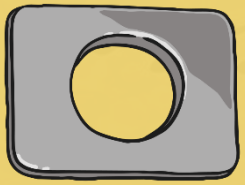
Cylindrical magnet



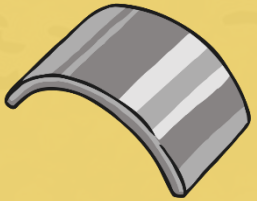
Horseshoe magnet

Button magnet

Ring magnet



Square magnet



Arc/crescent magnet

Investigation Method

1. To measure the strength of each magnet, you will hold a paper clip to a magnet so that it is attracted to it.

2. You will then hold another paper clip to the first one to see if it is also attracted to the magnet, through the first paper clip.

3. Keep adding paper clips in a chain, until no other paper clips are attracted in the chain.

4. Keep a record of how many paper clips were in the chains for each magnet.

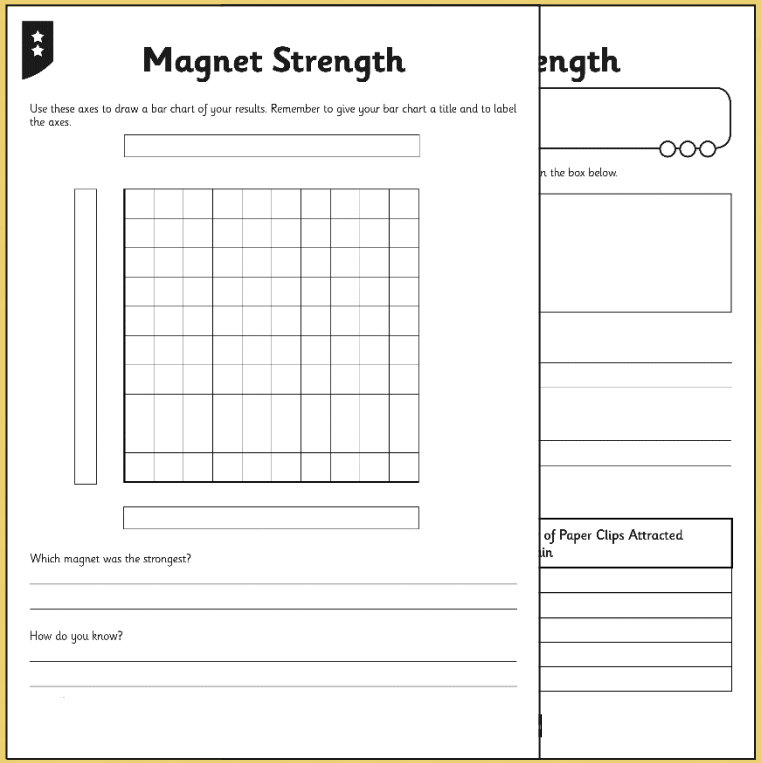
5. The magnet with the longest chain of paper clips is the strongest, as its magnetic force can pull the paper clips over the longest distance.

Which Magnet Is Strongest?

Complete your **Magnet Strength Activity Sheet** with your prediction, then carry out the investigation.

Record your results on the table provided, and represent your results on the bar chart.

Then come to a conclusion to answer this question.



Magnet Strength

Use these axes to draw a bar chart of your results. Remember to give your bar chart a title and to label the axes.

Which magnet was the strongest?

How do you know?

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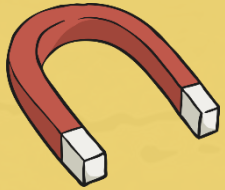
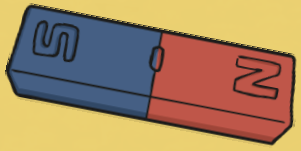
n the box below.

of Paper Clips Attracted
in

Which Magnet Is Strongest?





Around the room you will find pictures of the different types of magnet.

Go to stand near the picture of the magnet you found to be the strongest.

Is everyone standing next to the same magnet?

Explain your results to someone standing next to you, and to someone standing next to a different magnet.

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