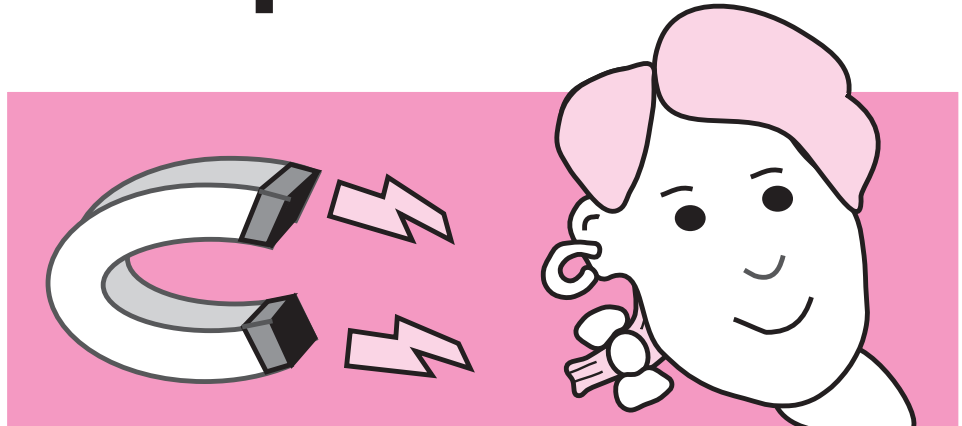


Magnets make patterns



All magnets are surrounded by invisible patterns called magnetic fields.

Today you will work with your team to show the magnetic patterns around some magnets.

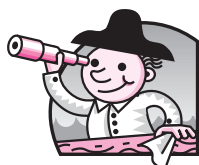


Team investigation

What patterns can we make with our magnets?

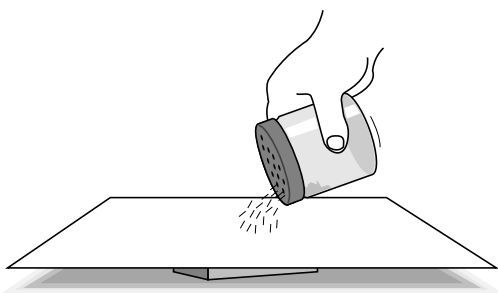
Team equipment

- newspaper (to cover your work area)
- 2 magnets, each covered with plastic
- 3 sheets of card
- 1 shaker (or container), holding iron filings
- 1 teaspoon (not needed if you are using a shaker)
- job badges for director, manager and speaker



How to find out

- 1 Put a sheet of card over one of your magnets.
- 2 Carefully sprinkle about half a teaspoon of iron filings onto the card, over the magnet. Don't use too many filings—you will get clearer patterns with a light sprinkling.



- 3 Gently tap the edge of the card and observe the pattern that is formed.
- 4 Lift up the card and roll it slightly so that you can pour the iron filings back into the container. Take it in turns to sprinkle the iron filings onto the card.
- 5 See what pattern you can make if you put two magnets close to each other.
- 6 Take turns to produce different patterns. Try turning your magnets on their sides or putting them on top of each other.
- 7 When you each have a pattern you want to keep, ask your teacher to spray your cards with vinegar solution and then leave them undisturbed for at least two hours. Make sure your name is on your card.

Let's talk about it



- 1 How many different patterns did you make?
- 2 How did the patterns change when you placed two magnets near each other?
- 3 What do you think will happen to the iron filings when they are sprayed with vinegar solution?
- 4 Which team skills did you find easy?
- 5 Which team skills did you find difficult?
- 6 How could you do your team job better?