

Investigating Friction

Which surfaces will you test?

Which surface do you predict will create the most friction for the toy car?

Measure how high the ramp needs to be for the car to start to move over each surface.
Record your results below.

Surface	Height of Ramp When the Car Started Moving

Which surface created the most friction for the toy car?

Which surface created the least friction?

Was your prediction accurate?

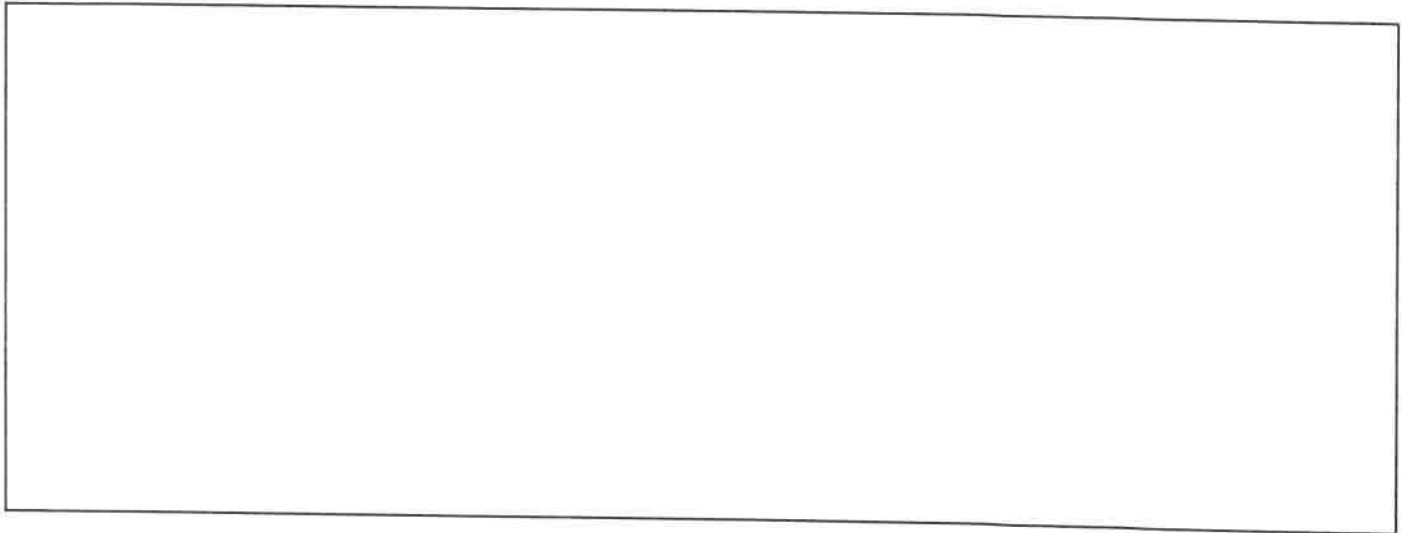
Can you explain your findings? Why did the different surfaces create different amounts of friction?

Use these words to help you explain your ideas.

rough  smooth  surface  force  friction 

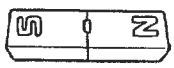
Magnetic Game

Design and label your magnetic game in the box below.

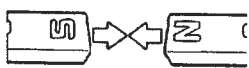


How does your game use magnetic forces to attract materials?

Use these words to help you explain your ideas.



magnet



attract



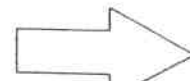
iron



steel



paper clip



force



pull

Your partner should fill in this section when they have played your game.

What was the game like?

What did you enjoy about playing it?

How was the force of magnetic attraction used in this game?

✓ Make a Magnetic Compass

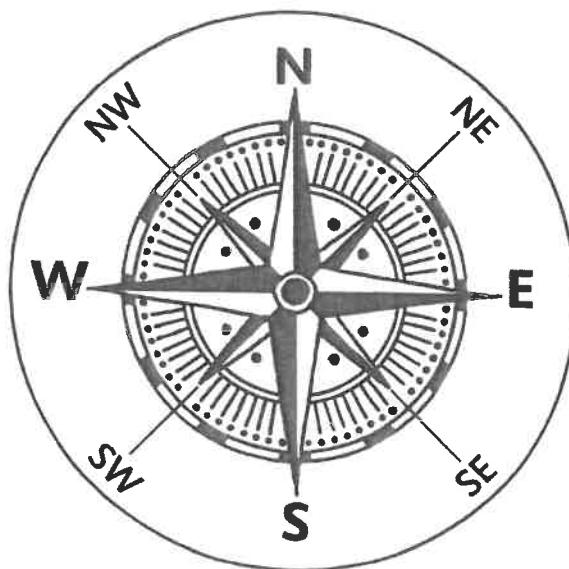
You will need:

- A bar magnet
- A flat plastic lid
- A plastic bowl
- Water
- Compass template (below)

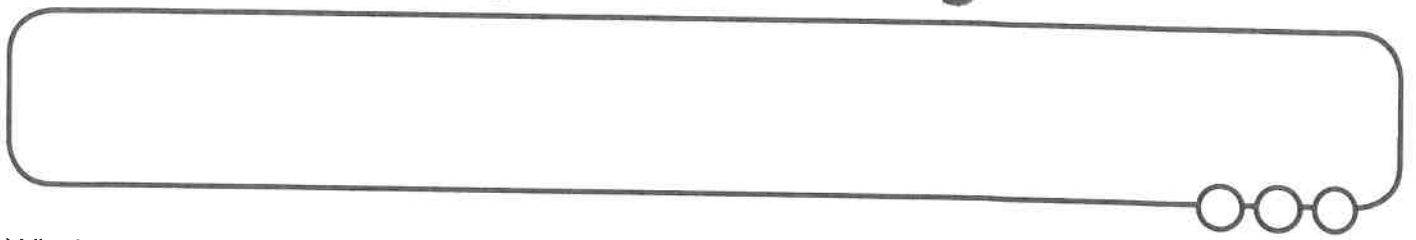
What to do:

1. Cut out the compass template and stick it inside the plastic lid, so that it faces outwards.
2. Place the bar magnet inside the plastic lid on the compass template, making sure it is placed along the north-south line with the north pole of the magnet on the 'north' side of the line.
3. Half fill the plastic bowl with water. Float the plastic lid on the water.
4. The magnet will cause the plastic lid to rotate on the water until the north pole of the magnet points north.
5. Keep your compass away from computers and other devices that contain magnets, as it could disrupt their systems.
6. Test your compass by slowly turning the bowl around. The magnet should continue to point north even if the bowl moves.

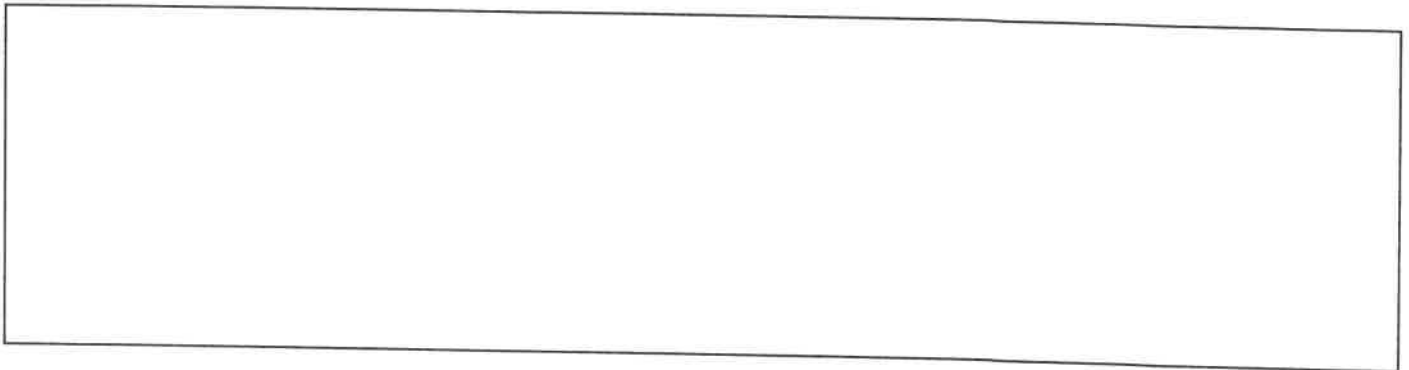
Compass Template



Magnet Strength



Which magnets are you going to test? Draw and name them in the box below.



Which magnet do you predict will be the strongest?

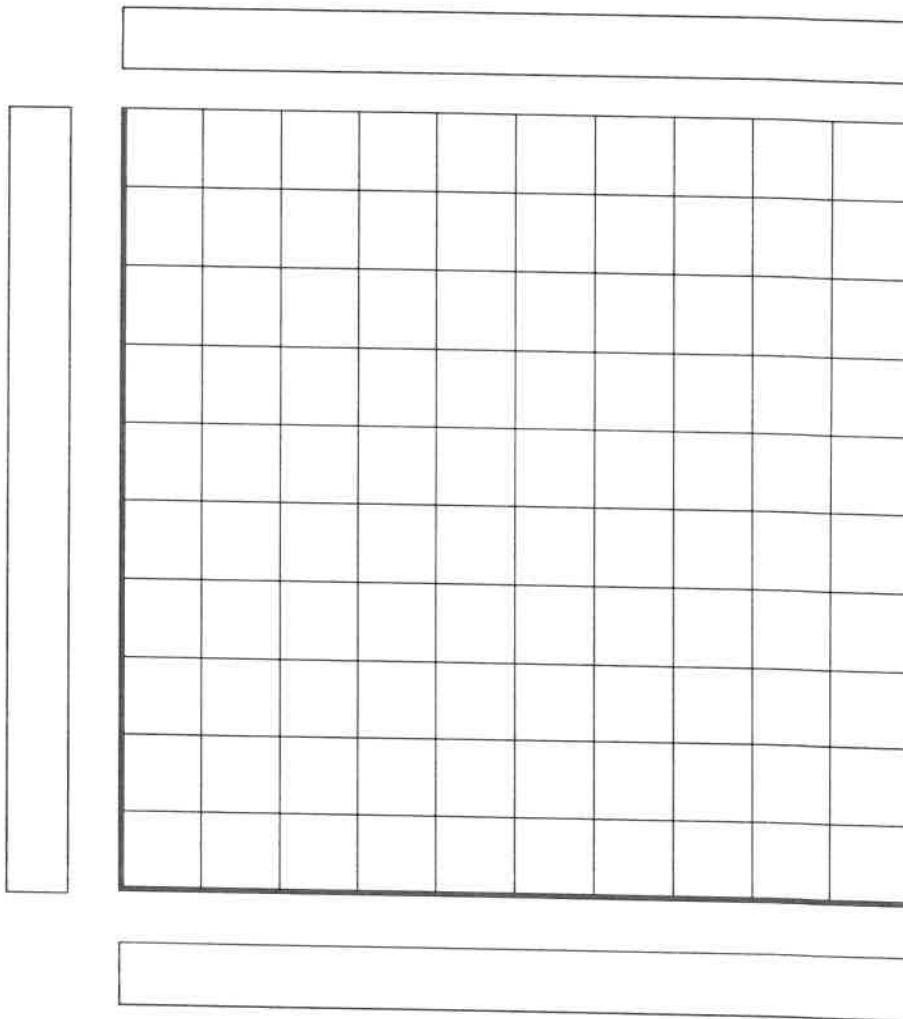
Why do you predict this?

Complete this table with your results.

Type of magnet	Number of Paper Clips Attracted in a Chain

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?

Why do you think it is stronger?

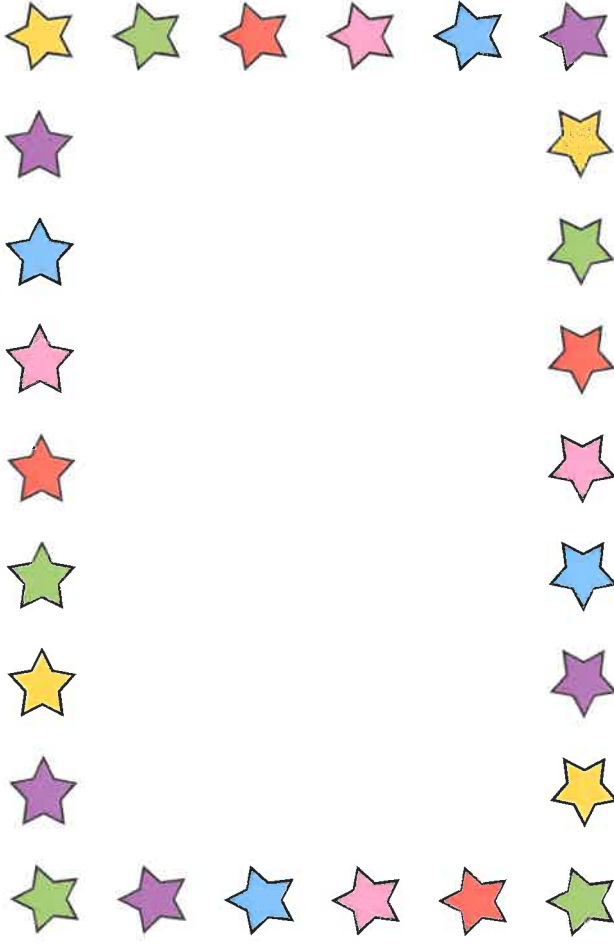
Forces and Magnets Quiz

1. Can you name a metal that is attracted to magnets?
2. Can you name a metal that is not attracted to magnets?
3. Will the north pole of a magnet attract or repel the north pole of another magnet?
4. Will an aluminium drinks can be attracted to a magnet?
5. Will an iron nail be attracted to a magnet?
6. The rougher the surface, the more friction is produced. True or False?
7. The bumpy soles of your shoes create a force called air resistance that stops your feet sliding on slippery surfaces. True or False?
8. Friction can cause heat. True or False?

All About Me!

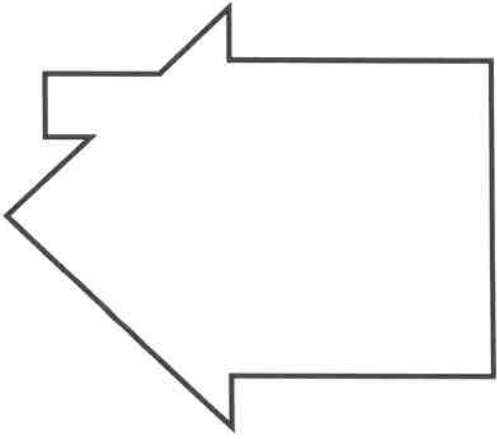
Name:

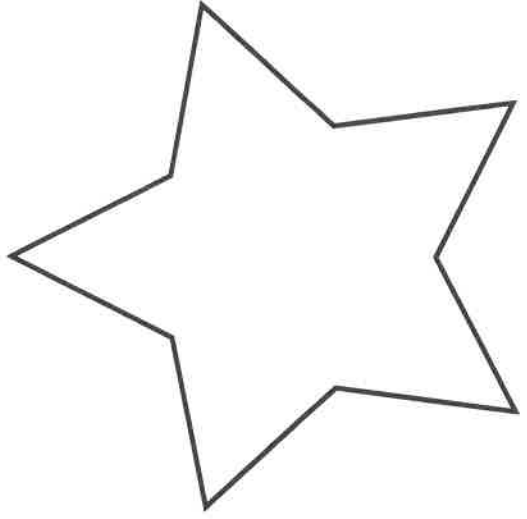
Introducing me!



My birthday is:

Significant People and Pets in My Family



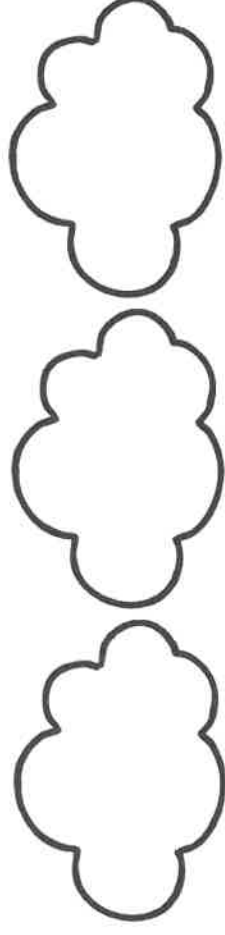


In the star, jot down any words which you feel best describe your family.

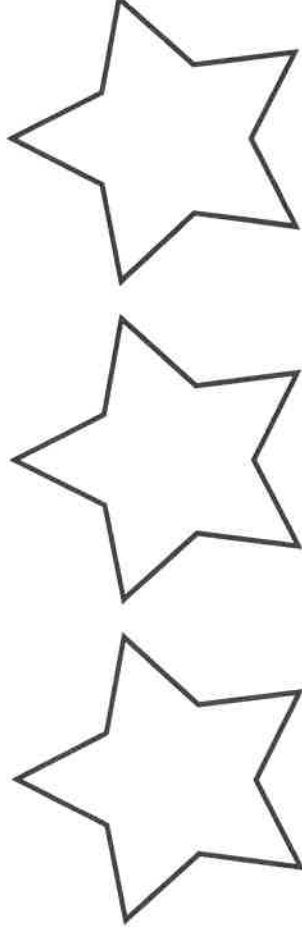
Hey, class teacher, I'd also like to let you know ...

Briefly explain your choices.

My top three favourite places!



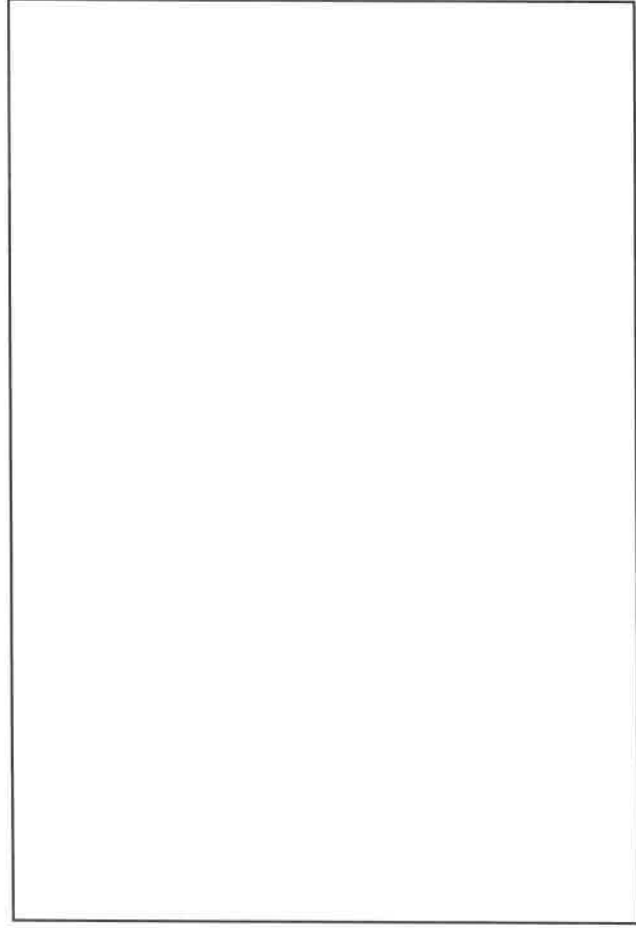
Three significant things that have happened to me:



The top three people or animals that I like to spend time with are:

--	--	--

**Think of an animal which best represents you,
and explain your reasons.**



**When I think about the coming school year, I
feel good about ...**

I'm a bit apprehensive about ...

Let me tell you about a brilliant weekend I had!

Imagine you are going to apply for your ideal job.

What would it be?

What qualities and skills could you offer?

Why do you think you would be the right person for this job?



In my family, we like to:

Choose two people in your family who are really good at something, and explain what it is.

_____ is really good at

_____ is really good at

Here's a funny story about something that happened in our family:

