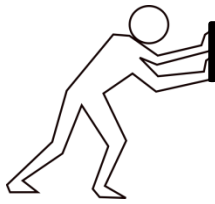


FORCES 1



Pushes and pulls

Index:

- Magnets ☐
- Materials attracted to a magnet ☐
- Measuring the strength of a magnet ☐

Name _____

Form _____

Magnets

Magnets are attracted to anything that contains

The magnetism is strongest at the

Magnets have **two** poles:

N = The North seeking pole
S = The South seeking pole



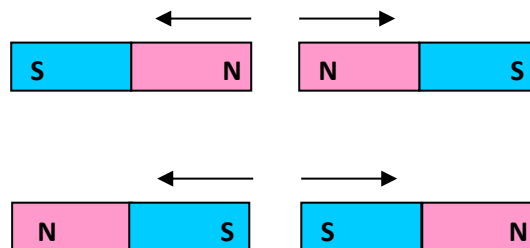
Iron filings sticking to a magnet

Rules about the poles:

If the poles are

they

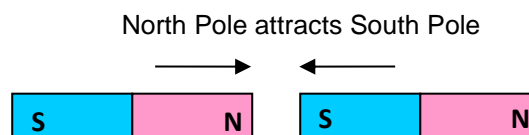
each other



If the poles are

they

each other



	THE SAME	DIFFERENT	
POLES	IRON	ATTRACT	REPEL

Experiment to discover which materials are attracted to a magnet

Results

Material	Prediction Guess the result before doing the test Yes= attract	Actual result Put a tick in this column if the object is attracted to the magnet
Aluminium		
Plastic ruler		
Paper clip (Iron)		
Piece of wood		
Copper		
Brass		
Steel scissors (take care!)		
Iron nail		
2p (or 1p) coin		

Word Bank

Aluminium, Iron, Brass, Plastic, Brass, Copper, Wood, Glass

Words:

magnetic = attracted to a magnet
Non-magnetic = not attracted to a magnet
Attract = Pull together
Repel = Push away

My conclusion is that

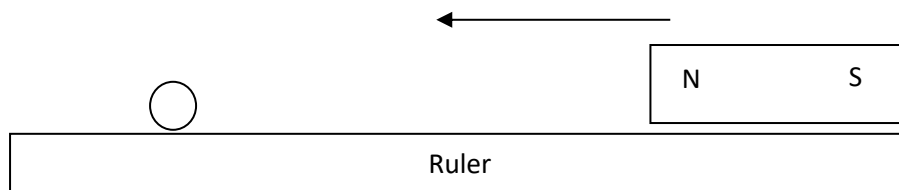
.....

Investigating the strength of a magnet

We are trying to find out if large magnets are stronger than small magnets

We are going to do this by slowly bringing a magnet towards a steel ball bearing and measure the distance between the magnet and the ball when the ball first moves.

To keep it a fair test we used the same sized balls for each experiment. The results are more accurate if we take each measurement twice



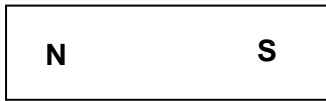
Results

Length of magnet	Distance of magnet from ball bearing when the ball moves	
	1 st reading	2 nd reading

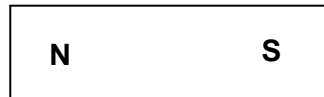
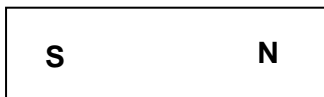
This was my conclusion:

Magnetic Force

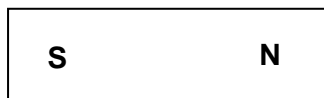
1. Beside each diagram below write the word **Attract**, **Repel** or **No Effect**



.....

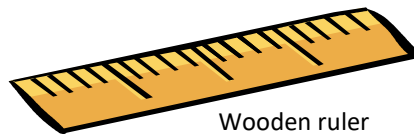


.....



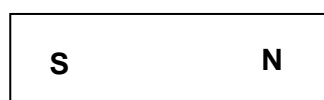
Iron nail

.....



Wooden ruler

.....



.....



Aluminium
kitchen foil

.....

2. How many **POLES** does a magnet have **1 2 3 4**
(circle the correct answer)

3. Here is a picture of a magnet:

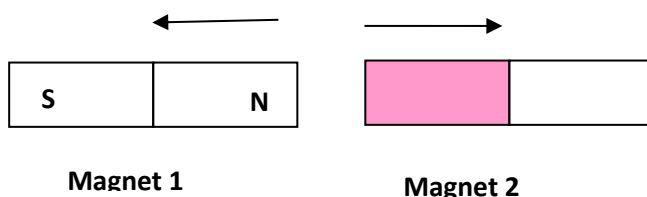


- a) Write N and S on the magnet to show where the poles are
b) What do the N and S stand for?

N =

S =

4. One magnet is brought near another and they try to **push apart** from each other



What type of pole is the red (shaded) pole on magnet 2?

Is it **North** or is it **South**

How do you know?.....

5. Sometimes people say two magnets repel or attract each other.

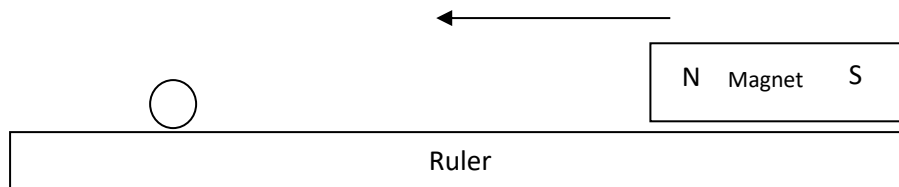
What does repel mean? *Pull together* *push apart*

What does attract mean? *Pull together* *push apart*

(circle the correct answer)

Testing the strength of a magnet

Peter slowly slide a magnet towards a steel ball and measured the distance between the magnet and the ball when the ball first started to move.



He repeated each experiment twice

These were his results

Type of magnet	Distance of magnet from ball bearing when the ball moves	
	1 st reading	2 nd reading
Bar Magnet	5mm	6mm
Flat magnet	8mm	7mm
Horseshoe magnet	0mm	0mm
Button Magnet	3mm	4mm

6. Why did Peter take two readings instead of just one?

.....

Peters conclusion is that Flat Magnets are the strongest

7. Do you think Peter is correct with his conclusion (yes or no)?

8. Give a reason for your answer above:

.....

9. Peter thinks flat magnets are always stronger than bar magnets.
What do you think peter should do to see if this is true?

.....

10. What kind of statement is this: **Prediction** or **Conclusion**