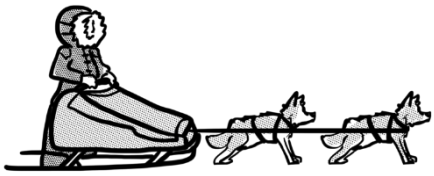
GROUP 1

Forces

There are many ways to explain what a force is. The simplest way to think of a force is as something that can make an object move from one position to another. If an object is not staying still, there is (or was) a force that caused that movement. What is more, the object will continue to move until there is another force working in the opposite direction.

Many forces are very easy to see. There are ones that involve pushing, like when you are rolling a giant snowball to make the body of a snowman. There are also ones that involve pulling, such as a team of huskies with a sledge. In both cases, you can clearly see who or what is doing all the work. It all depends on whether they are behind or in front of the object as it moves.

Pushing force



Pulling force

There are, however, some forces that you cannot see at all. We don't mean things like the wind in the sails of a boat – that force is invisible because we can't see air, although we can still feel it. No, we're talking about things like gravity – the force that pulls objects towards the centre of the Earth. You can't see it. You can't even feel it in the same way that you can sense the brush of the breeze through your hair. However, you will certainly know about it if you've ever lost your grip on the monkey bars!

Magnetism is another force you can only notice by the effects it has on certain materials. It's almost magic the way a magnet can pick up a nail, let alone the way it can still work through different materials. Have you ever seen iron filings moving around on a piece of card because there is a magnet shifting underneath?

If that's hard to wrap your head around, magnetism can be both a pushing and a pulling force … at the same time! It all depends which end, or pole, of another magnet is closest. We call these opposite ends north and south. The north pole will attract the south pole of another magnet but repel the north.

So, if you have a magnet and you know which way round its poles are, you can also work out which is the north end and which is south of any other magnet, just by moving it close enough. The proof will be in the pudding, as they say … or rather the pushing or the pulling!

Questions for *Forces*

Monday 29th June – reading fluency

Practise reading the text to yourself, highlight any words you are finding tricky. Ask someone to echo read the text with you (they read the sentence and then you read the sentence).

Tuesday Vocabulary:

1. Look at the first paragraph. **Find** and **copy** a word that means *place*.

_____

2. … *such as a team of huskies with a sledge* … what are huskies?

_____

3. *The north pole will attract the south pole* … Which group of words means the same as *attract* in this sentence? **Tick one**.

pull towards it	☐	push away from it	☐
behave nicely to	☐	start a fight with	☐

Wednesday Retrieval

4. What does two things does the text say that a force is?

_____

5. What was given as the example of a pushing force?

_____

6. What are the two poles (ends) of a magnet called?

_____

Inference

7. If we can't see magnetism, how do we know about it?

_____

8. *If that's hard to wrap your head around …* Which group of words best explains what this means? **Tick one**.

If that feels like your skull …	☐	If you're wearing a hat …	☐
If that's not easy to understand …	☐	If that makes you sad …	☐

Thursday - Summarise

9. Here are some summaries of different paragraphs in the text. Number them from **1** to **4** to show the order in which they appear in the text.

- ☐ Some forces are invisible.
- ☐ Magnetism is a force that only works on some materials.
- ☐ Forces can push or pull.
- ☐ Forces make things move.

_____

Predict

10. What would gravity do to your body *if you've ever lost your grip on the monkey bars*?

_____

Compare

11. Using what the text says, describe **one** way in which **magnetism** is

a. Similar to other forces

_____

_____

b. Different from other forces

_____

_____

Summarise

12. Using the whole text, **tick one box** in **each row** to show whether each statement is true or false.

	True	**False**
All forces are easy to see.		
Magnetism can be blocked by paper or card.		
The north pole of one magnet will pull towards the south pole of another.		

Answers for *Forces*

Set A:

Vocabulary:
1. position
2. (breed of) dogs
3. pull towards it
Retrieval:
4. make an object move (from one position to another)
5. rolling a giant snowball
6. north and south
Inference:
7. You can see its effects on other materials.
8. If that's not easy to understand …
Summarise:
9.

3	Some forces are invisible.
4	Magnetism is a force that only works on some materials.
2	Forces can push or pull.
1	Forces make things move.

Predict:
10. It would pull you down to the ground./You would fall down.
Compare:
11.
a. It can make objects move. It can be a pulling or a pushing force.
b. It can't be seen. It doesn't work on all materials.
Summarise:
12.

	True	False
All forces are easy to see.		✓
Magnetism can be blocked by paper or card.		✓
The north pole of one magnet will pull towards the south pole of another.	✓	

commissioned by The PiXL Club Ltd. July 2019