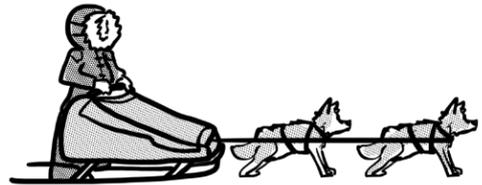


Forces

There are many ways to explain what a force is. Perhaps 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 spot. 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!