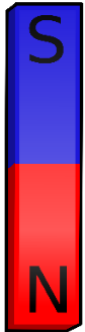


## Magnets and unrelated



[By: torisan, Courtesy: Open Clip Art Library  
[http://www.publicdomainfiles.com/show\\_file.php?id=13526266824356](http://www.publicdomainfiles.com/show_file.php?id=13526266824356)]



[Shared by: Chris 09—5-2012  
<http://www.clker.com/clipart-magnet-.html>]

The magnets kids play with are made of iron. There are two main types, the straight ones called ‘bar’ magnets and the ones shaped like horseshoes, which [you wouldn’t be surprised] are called ‘horseshoe’ magnets.

There are also ‘fridge magnets’, but we won’t spend much time on them.

In the picture of the horseshoe magnet you see the thing that makes magnets interesting and important. The magnet has pulled three nails onto its ends and is holding them there. If you try to pick up nails with a pencil or a piece of chocolate – it will not work. So, there is something special about magnets.

We said before that everything is made of atoms, and atoms contain electrons which go whizzing around a lump in the middle. Now, the electrons are also spinning as they go around. OK, a magnet has most of its electrons spinning the same way. [You can make most of the electrons in a piece of iron spin the same way, and so make a magnet]

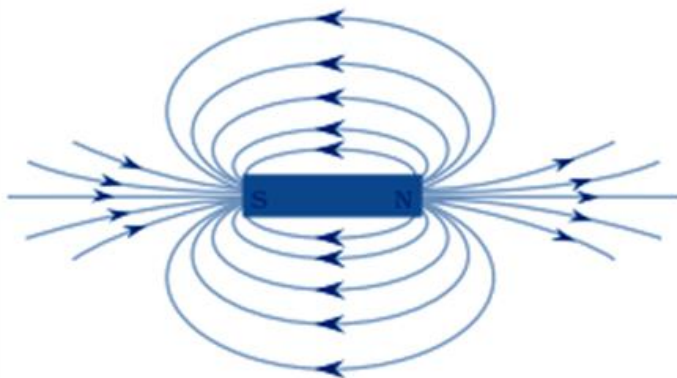
Now, we know that if you bring a piece of iron close to one end of a bar magnet, the magnet will pull that iron up to it. [See the nails and the horseshoe magnet, above]

Now, what happens if you bring one end of a bar magnet up to the end of your bar magnet? The answer is very surprising!

Either they will firmly snap together, or they will jump apart!!

That is because magnets have two different parts – these are called ‘poles’. One is called the ‘north’ pole and the other is called the ‘south’ pole. Well, different poles, a ‘north’ and a ‘south’ pole attract each other – and the magnets jump together with a snap.

But, the same sort of poles (two ‘norths’, or two ‘souths’) push each other away. Very interesting.

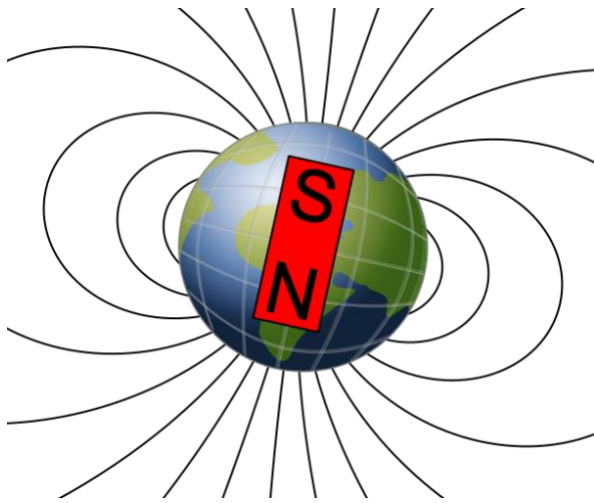


[We offer free download of Magnetic field lines clipart  
<https://clipground.com/magnetic-field-lines-clipart.html>]

So, the north and south pole of a bar magnet are different. This picture has arrows connecting the poles – you can't see lines connecting the poles, but there is an invisible force field between the two. If you brought together two poles which both had the force field shooting

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out, they would push each other apart. But, if you brought together one pole which had the field shooting out, and another which had the field shooting in, they would snap together.



[From Wikimedia Commons. Many thanks.  
[https://commons.wikimedia.org/wiki/File:Earth%27s\\_magnetic\\_field,\\_schematic.svg](https://commons.wikimedia.org/wiki/File:Earth%27s_magnetic_field,_schematic.svg)]

This section on magnets has been very difficult. Here is the last, hard but interesting, bit.

The Earth has a lot of iron inside. It is as if there is a giant bar magnet inside the world. This picture shows the magnetic force field around the earth. This is very important because it made the compass possible – if it had not been for the compass, we would never have been able to explore the world.

The ‘needle’ [or pointer] in a compass is a tiny magnet. In the Earth’s magnetic field it swings around and always points in the same direction [north].

## Golf puzzle



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You have seen a few golf balls. Why do they have those little dimples on them?

Well, a golf ball with little dimples on it goes twice as far as a golf ball which is completely smooth.

We can't explain it – but the dimples have an effect on the air, and this lets the ball slip through the air more easily. So, those little dimples are useful after all!!

## Snail update



Snails can sleep for up to 3 years.

## Important information

You will be pleased to learn...

1. It is impossible to lick your own elbow
2. A hippopotamus can run faster than a man
3. A crocodile cannot stick its tongue out
4. Water covers 70% of Earth
5. The shark is the only fish that can blink with both eyes
6. An ostrich's eye is bigger than its whole brain
7. Kangaroos can't walk backwards

## Sahara Desert

This is the Sahara Desert – the third largest desert in the world. It is the largest hot desert in the world.



So, this is where it is:



The two bigger deserts are cold deserts, one at the Arctic [North Pole] and one in the Antarctic [South Pole].