Day 6 - Christmas Compass - Science behind

The science behind it:

If you're curious as to how it works, the needle is metal, and can be made magnetic by an external magnetic field. This ability for the needle, or paperclip to become a magnet itself after being exposed to the magnetic field of the original magnet, is called paramagnetism.

Once the needle is magnetised, it needs to move freely in order to point to the north pole, as it won't be strong enough to move by itself to align to the earths magnetic field if it is just on the table. So that is why we place it on something which floats, such as the cork, but a leaf can also work, and place it on a bowl of water. The magnetised needle will want to align to the magnetic field of the earth, and this set up means it can do so with minimal resistance.



