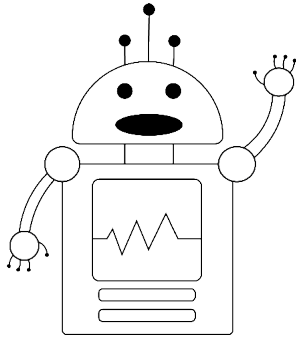


## Opposites Attract

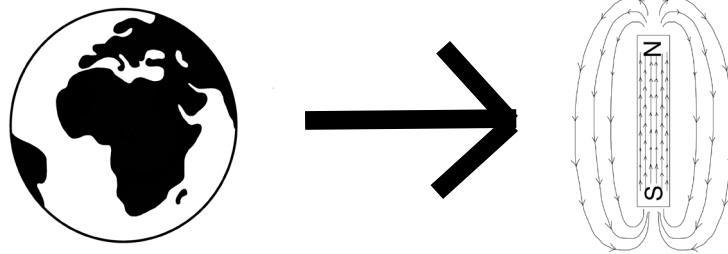
This activity was created by Toni.



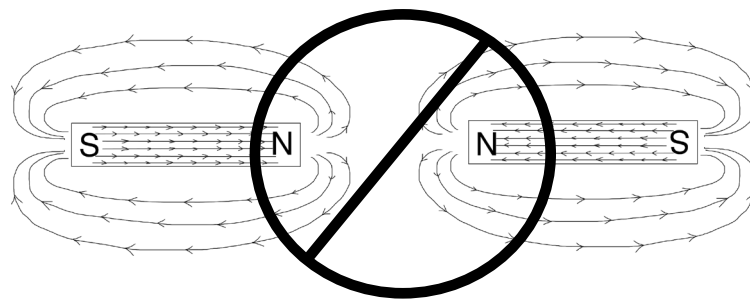
ESIW is learning more about the Earth. Something that ESIW finds confusing is some of our sayings. Today they are wondering where the saying “Opposites attract” comes from.

This sentence describes a really cool scientific property called “magnetism”. Magnets are specific rocks and metals that have invisible fields around themselves called “magnetic fields”. These magnetic fields are made of super small particles called electrons travelling in a specific direction.

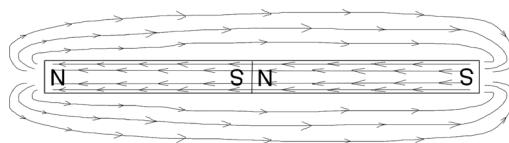
Have you ever heard of the Earth’s North and South Poles? Magnets have those too! One end of a magnet is its north pole and the other is its south pole. The electrons in a magnetic field always travel from the north to the south pole.



This means that if you try to put two of the same poles together, the magnets will repel away from each other. This is because their magnetic fields are going in opposite directions.



But if you try to put opposite poles of two magnets together, they attract each other and end up making a really strong magnetic field together. This is where the phrase “Opposites attract” comes from!



Turn the page to continue this activity!

SLO : 3-3-07, 3-3-08, 3-3-09

Date: \_\_\_\_\_

Name: \_\_\_\_\_

## Compasses

Speaking of north and south poles, did you know that Earth is a giant magnet? The Earth's core has lots of metal in it which means the Earth has a very big magnetic field around it. This means that we can use magnets to make sure we never get lost!

A compass is a navigation tool that people use to help them figure out what direction they need to travel in when they want to go somewhere. All compasses have a lightweight magnet that tells us where North is. Most compass magnets are red on one end and white on the other. The red side represents the south pole of the magnet. It is attracted to the north pole of the Earth's magnetic field. This is very important because if someone who is lost can figure out where North is, they know where all the directions are and can more easily find their way home!

On every magnet you'll see the four basic directions, North, South, East and West. What lots of compasses will also have is the directions in between, marked here with arrows. These directions include North West, South East, South West and North East.

Based on the information above, can you label all the in-between directions on the compass? Can you draw what a compass' magnet would look like and colour it in?

