

# MAKE YOUR OWN COMPASS

## SUPPLIES

- Magnet
- Needle
- Plastic bottle cap
- Bowl of water

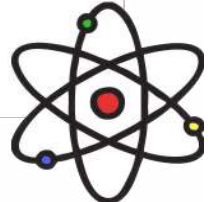
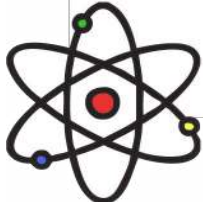
## PROCESS

**STEP 1:** Turn the needle into a magnet. Just rub it along the surface of the magnet about 60 times. Be sure to rub the needle in the same direction every time. Pretty soon, the needle will become a magnet, too.

**STEP 2:** Lay the needle on the rim of a plastic bottle cap. Carefully float the bottle cap in a bowl of water so that it is free to move around. The needle will slowly turn the bottle cap around until it points to the North Pole! (Please note: if it does not work, just try to rub the needle with the magnet again.)

**FINDINGS:** The Earth is a giant magnet with its own unique magnetic field. The magnetized needle is attracted to it and points to the “magnetic north pole” of the Earth's giant magnet. The compass you made works just like the compass on a ship or in a car. These compasses also use a magnet held by something that allows the needle to float very evenly. Often it will be a liquid that does not freeze like oil.

There are rocks that are magnetic called magnetite which actually means magnet mineral. Ancient scientists found that they could use magnetite to help them make a compass. Now, all you need is a magnet, a sewing needle, a cap and a glass of water. A compass is really just a magnet that always points to the North Pole of the Earth.



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**DIY COMPASS**