Making a Compass

MATERIALS

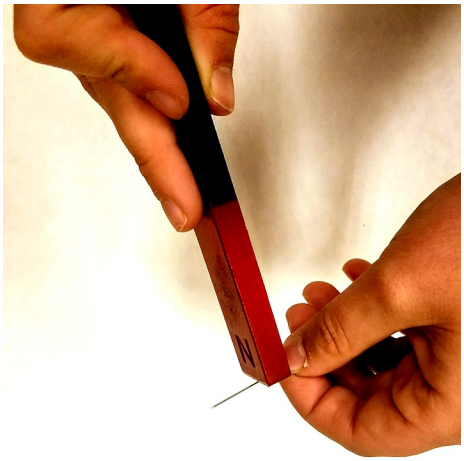
Needle
Magnet
Foam Circles
Bowl with water in it
Compass

A compass is used for orienteering, sailing, and tracking. Compasses existed as early as the 11th or 12th century, and the technology to make one hasn't changed much! All you need is a piece of magnetized steel and a way to allow the iron to "free float."

Make your own compass by magnetizing a needle and allowing it to float in a bowl of water!

STEPS:

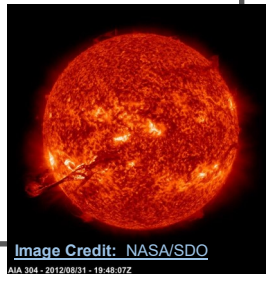
1. Magnetize the needle. To do this, stroke the needle with the north end of the magnet 40 times. Make each stroke go in the same direction.
2. Next, take your foam circle and place the needle upon it.
3. Float the circle in the bowl of water and observe how the needle turns.
4. Note the position of the needle when it stops moving.
5. Compare your compass with an actual compass. How are they similar? What is different?



LET'S EXPERIMENT!

What happens when you place a magnet near the compass? Move the magnet around the bowl and observe what happens.

Make another compass, but this time rub the magnet against the needle with the south pole of the magnet. Did anything change?



A long, magnetic filament burst from the Sun

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