



Parent Resources for Make a Compass

Goals of this lesson:

- Students will follow step-by-step directions to make a floating compass.
- Students will use the compass and the Compass Rose to review the Cardinal Directions: East, North and West and will be introduced to South.
- Review the Directions Unit by completing a crossword puzzle.

For additional information, copy and paste these links into your browser:

Sid the Science Kid uses a compass:

<https://clever.discoveryeducation.com/learn/player/eb999998-d787-4a03-93b2-2bef6c242e13>

Review the Cardinal Directions:

<https://clever.discoveryeducation.com/learn/player/921eb6f3-78d1-4cd5-839f-e5de13c3c5db>

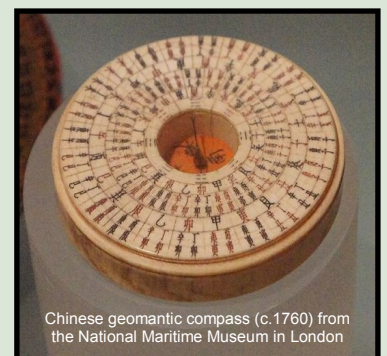
2000 Year History of the Compass

The compass was invented more than 2000 years ago. The first compasses were made of lodestone, a naturally magnetized stone of iron, in Han Dynasty China (20 BC – 20 AD). Early compasses were used to choose areas suitable for building houses, growing crops, and to search for rare gems.

Compasses were later adapted for navigation during the Song Dynasty in the 11th century (960–1279 AD). Later compasses were made of iron needles, magnetized by striking them with a lodestone.

Magnetized needles and compasses were first described in medieval Europe by the English theologian Alexander Neckam (1157–1217 AD). Dry compasses began appearing around 1300 in medieval Europe and the medieval Islamic world.

This was replaced in the early 20th century by the liquid-filled magnetic compass.



Chinese geomantic compass (c. 1760) from the National Maritime Museum in London

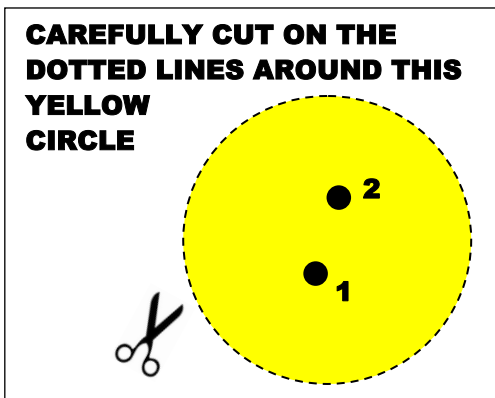
Make a Compass

A compass uses Earth's magnetic field to find the direction North.

Gather a few supplies to make your own compass:

- This printed sheet
- Scissors
- Sewing Needle
- Refrigerator Magnet
- Small Bowl
- Water

STEP 1



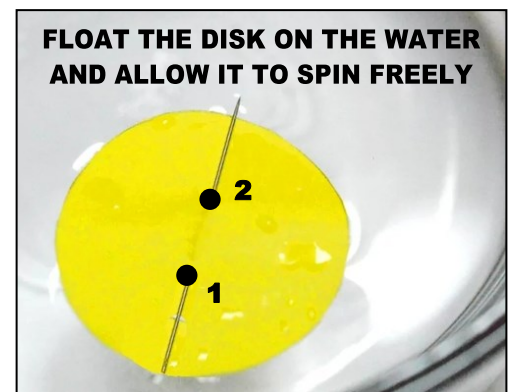
STEP 4



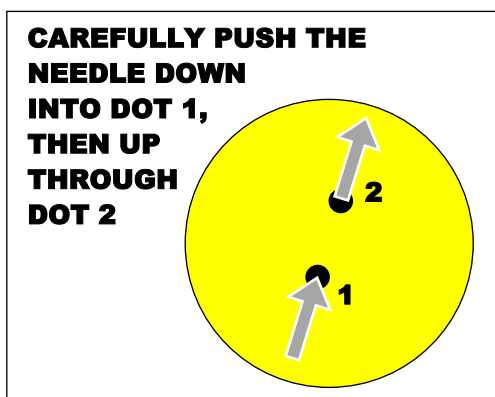
STEP 2



STEP 5



STEP 3



STEP 6

AFTER THE DISK STOPS SPINNING, ONE END OF YOUR NEEDLE IS POINTING TOWARD THE NORTH.

NEXT, WE WILL SEE WHICH END THAT IS.

Which way is North?

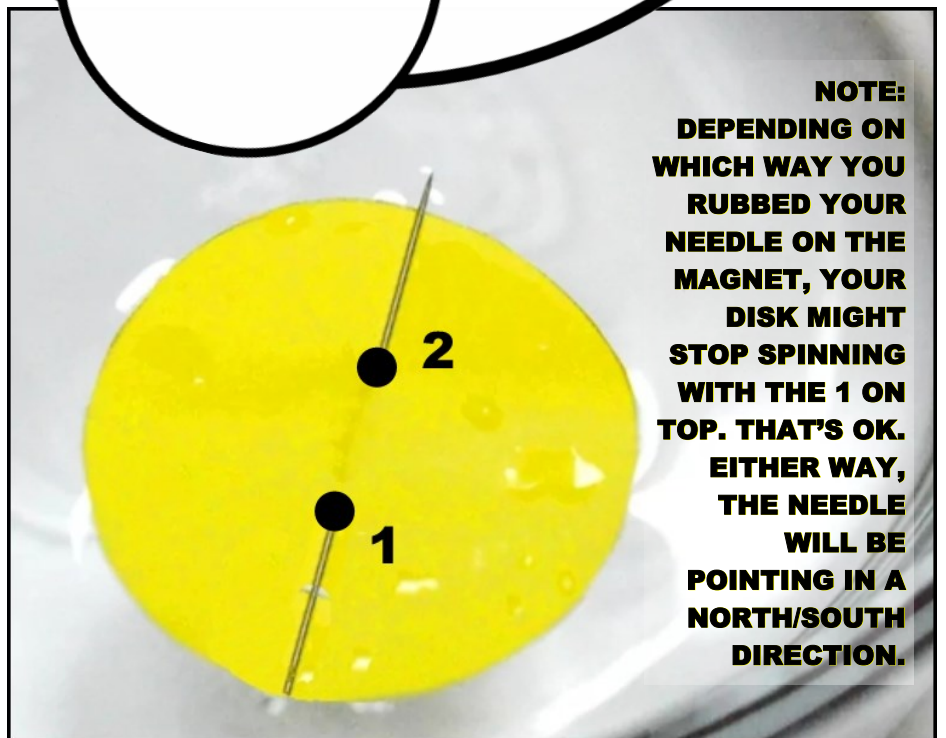
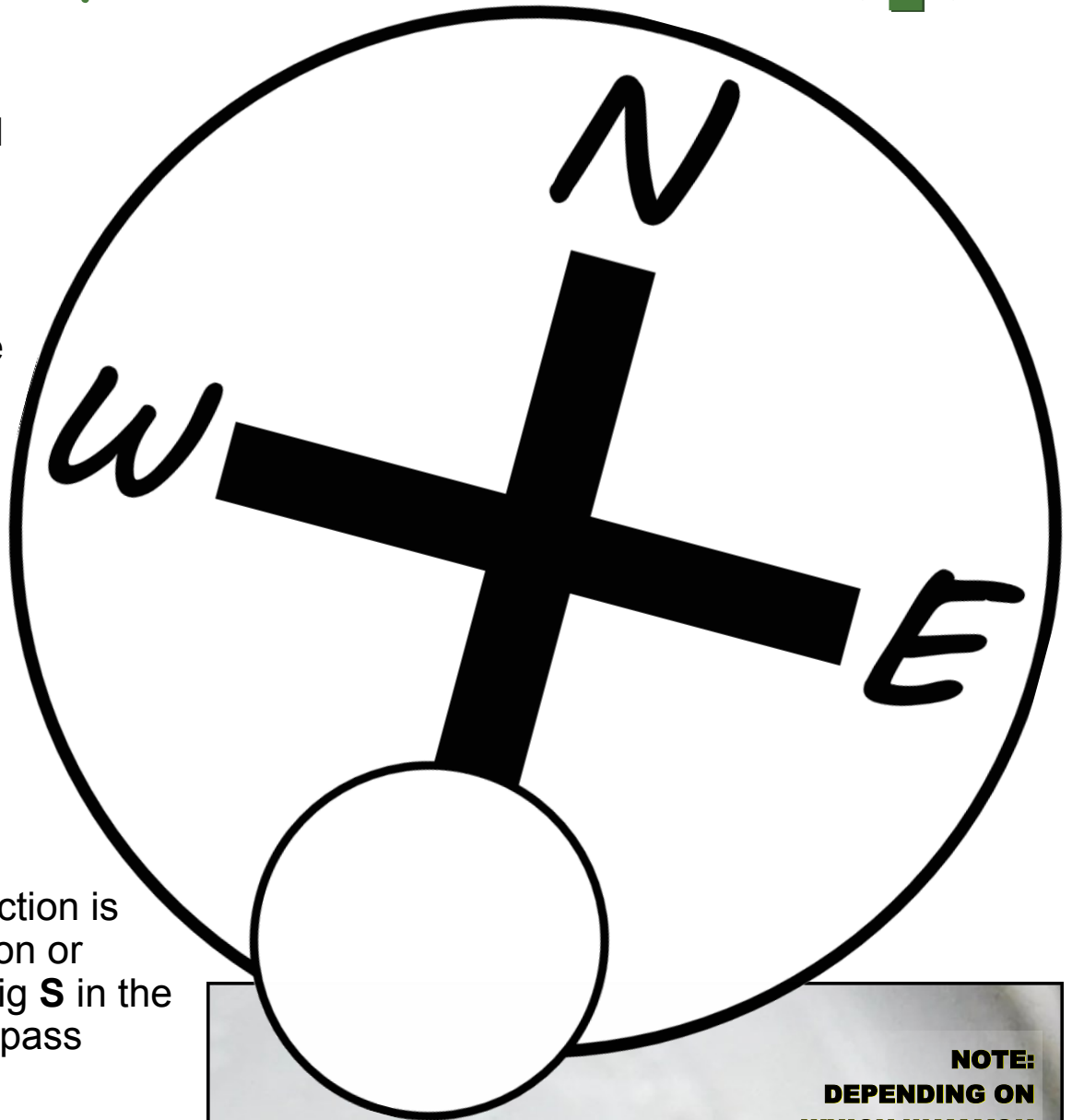
Take your floating disk, a marker, and this page outside. Lay this sheet down so that the E (or East) is facing the direction where the Sun rises.

Set your bowl on the ground or a table. Allow the floating disk to settle. Now, one end of the needle should be pointing toward the N (or North) on your Compass Rose.

The opposite direction is **South**. Use a crayon or marker to write a big **S** in the circle on your Compass Rose.

Your Compass Rose is now complete! You have identified all four of the Cardinal Directions: East, North, West and **South**.

Birds that migrate (like the Canada Goose) fly **South** for the Winter. They do that to follow the food, so they can eat during the months when the weather is cold.



NOTE:
DEPENDING ON WHICH WAY YOU RUBBED YOUR NEEDLE ON THE MAGNET, YOUR DISK MIGHT STOP SPINNING WITH THE 1 ON TOP. THAT'S OK. EITHER WAY, THE NEEDLE WILL BE POINTING IN A NORTH/SOUTH DIRECTION.

