Homemade Compass

Sections

Joey Scouts | **Cub Scouts** | **Scouts** | Venturer Scouts | Rover Scouts

Scouts VICTORIA

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Challenge Areas

COMMUNITY | CREATIVE | OUTDOOR | PERSONAL GROWTH

Scout Method Elements

COMMUNITY INVOLVEMENT | **LEARNING BY DOING** | **NATURE AND THE OUTDOORS** | PROMISE AND LAW | PERSONAL PROGRESSION | PATROL SYSTEM

SYMBOLIC FRAMEWORK | **YOUTH LEADING, ADULTS SUPPORTING**

SPICES Growth Areas

CHARACTER | EMOTIONAL | **INTELLECTUAL** | PHYSICAL | SOCIAL | SPIRITUAL

The Adventure

Make your own compass out of a needle, a magnet, and a cork and then test the accuracy and your knowledge of directions.

Plan

1. Investigate navigational compasses. How do they work and what are the main parts of them?
2. Investigate metals. What are some of their properties?
3. Investigate magnetism and types of magnetism
4. Read the safety information and discuss with your leaders or another appropriate adult what safety equipment, precautions, and supervision may be required. Ensure that you have these safety measures in place before starting the ‘Do’ section.
5. Gather all the equipment that you need to make your compass. You will need a magnet (the stronger the better), a sewing needle, a leaf or a section of cork (or anything small that will float), water, and a shallow non-metal bowl or container.

Do

1. Fill a bowl with about 3 cm of water. You want enough water that your cork (or similar object) will float but not too much that you risk spilling your compass water.
2. Float a "coin" of cork or a leaf in the middle of the bowl.
3. Carefully stroke the magnet along the needle, in the same direction with the same end of the magnet about 30-40 times. This will magnetise the needle and align the electrons.
4. Gently place your needle on the cork and watch what happens.
5. The needle will give you a good north-south line but you will need to work out which end is pointing north. Consider other ways that you can tell cardinal directions.
6. Play a short navigational game using your homemade compass and/or compare it to a store-bought compass.

Review

1. Were you able to successfully make your compass and determine North? Why or why not?
2. What did you enjoy most about this activity? What did you learn?
3. How do you think your compass might change with different varibles such as different types of metals?
4. What do you think you could do to improve your compass?
5. How do you think this knowledge might be useful in your Scouting adventures?

Safety

- Sharps warning: Needles can be quite pointy and prick individuals. Take care when handling.
- Magnets, especially strong magnets, can be dangerous and should be kept away from electronics, magnetic strip cards, and metals as it may damage data and present a pinching hazard.
- As compasses rely on magnetism, make sure to keep the magnet and magnetised needle away from other compasses as this can damage the compass.

Variations

- Try with other types of needles. Would a paper clip work?
- Consider further investigating magnetic fields.
- This challenge card pairs well with some OAS statements from Stages 1-3 of Bushwalking and Bushcraft.