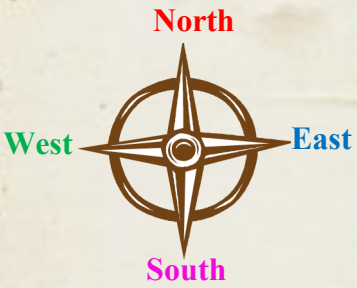
Mad About Maps

When learning to use a compass and map, it is important to start with the basics. These tools for **navigating**, or finding your way around, have been used by people for hundreds of years. No matter where you are or where you are going, the four **cardinal directions** never change. Knowing the directions is very important.

English: *Map*
French: *Carte*
Ojibwe: *Akii-mazina'igan*



Remember the four cardinal directions with a saying:

Never **E**at **S**our **W**atermelon

Make up your own saying! Can you make more than one? Write them in your Nature Notebook!

N_____ **E**_____ **S**_____ **W**_____

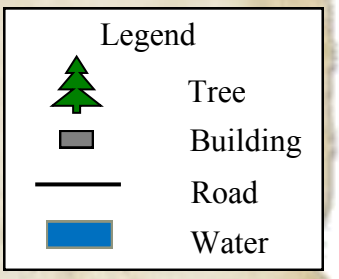
1. Map Your Backyard

You probably know your backyard like the back of your hand. Put that knowledge on paper by making a map! You will need blank paper and pencil crayons.

a. First you will need a **north arrow** at the top of your map. This will tell you how to look at the map. Lay a piece of paper down with the compass on top. The magnetic arrow on the compass points north. Turn the top of your page to line up with north. Draw an arrow pointing the same direction, and add the other directions. This is your north arrow!

b. With north still lined up, start to draw what is around you. You might have trees, buildings, trails, gardens, or a shoreline on your map. Make sure that each type of object has a unique symbol. It may help to imagine what a bird would see if it looked down. You are drawing a bird's eye view.

c. Adding a **legend** is like adding a dictionary. You can look up the meaning of shapes and colours on a map. In a corner of your map, list the symbols you used and write what they are.



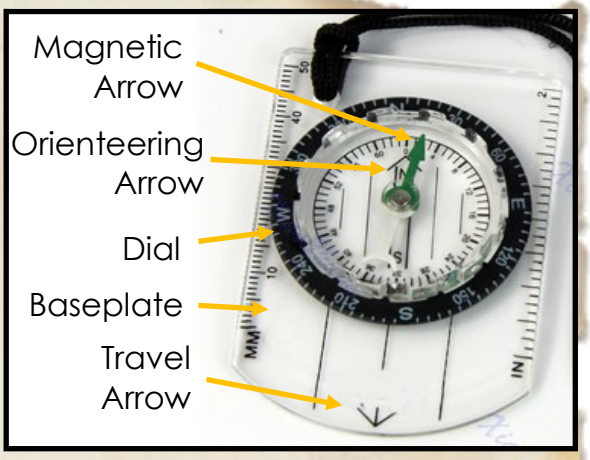
Test your map!

e. Ask a friend or parent to hide 'treasure' and draw an **X** on the map where it is. Ask them to draw a trail on the map for you to follow to the treasure. Use the trail and the map symbols to find your way to the treasure!

f. After you find the treasure, ask a friend or parent to hide it in a different place and only draw an **X** on the map, no trail! See if you can find your way using only the map symbols.

2. Use a Compass

People have used compasses for over 2,000 years! The Earth's **magnetic field** ensures the magnetic arrow on your compass will always point north.



Finding Cardinal Directions

a. Hold the compass flat at waist height.
b. Rotate until you are facing the same direction as the **magnetic arrow**. You will be facing north!
c. Now turn to your right and you will face east. Turn right again to face south. Practice finding the cardinal directions at different locations.

Travel from A to B

d. Stand in your mapped area. Draw an A on your map where you are standing, and choose and object to label B and travel too.
e. Lay your map down and draw a line from A to B. Place the long edge of the **baseplate** against this line with the **travel arrow** facing the same direction as B. Turn the dial so **N** (north) lines up with your map's north arrow.
f. Hold your compass flat at waist height and turn your body until the magnetic arrow lines up with **N**. The **travel arrow** will face B! Keep the magnetic arrow aligned with **N** and walk in the direction the travel arrow points.
g. If you can't see B, walk straight towards a landmark in B's direction.

Repeat step f until you reach Point B!

BONUS! Look at the numbers on the dial, these are called **degrees** and they can help determine your **bearing**, or direction of travel. What number is the orienteering arrow pointed to? This is your bearing in degrees.

3. Three-leg Compass Walk

This activity will help you practice using a compass and following bearings.

a. In an open space, mark your start position by leaving an object at your feet.
b. Set your compass to North (the magnetic arrow lines up with **N**). Look in the direction of the travel arrow and pick a object in the line of sight.
c. Walk 50 paces toward that object. Count paces on one foot (1 pace = 1 left step and 1 right step).
d. After 50 paces, set your compass to 120 degrees. Turn to the direction of the travel arrow, sight a new object, walk 50 paces and stop.
e. Set your compass to 240 degrees and repeat. You should end basically where you started.
f. How precise you can be? Can you end up exactly on top of your starting object?