

NAVIGATION Box

Objectives

Students will learn the following:

- > Cardinal directions
 - > Map basics
 - > Magnetic north vs. true north
 - > Compass basics and functions
 - > How to determine a bearing
 - > Map reading and using the sun to navigate
 - > Hands-on activities (DIY compass, 3-leg compass walk, DIY sundial, etc.)
 - > National Park Spotlight
 - > Empathy around Alzheimer's
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Materials

The materials included in the box are:

- > Way finding resource cards
 - > Compass
 - > Watch
 - > Signal mirror
 - > Practice map
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Discussion

You may want to use the following as a discussion guide with your child:

- > Why is it important to know how to read a map?
 - > What are some of the benefits of being able to use a compass?
 - > In the age of technology, why are physical maps still important?
 - > Why is it important to know the difference between true and magnetic north?
 - > Why is it important to always tell someone your intended route before heading out to explore?
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Evaluation

Test your child's newfound knowledge with the following questions:

- > What are the four cardinal directions?
- > What is the difference between true north and magnetic north?
- > Name at least three (3) parts of the compass and their function.
- > How do you determine your bearing?
- > What is a topographical map?
- > In what direction should you always orient your map when determining your path?
- > In what direction does the sun travel?

Vocabulary*

*provided by the Merriam-Webster Dictionary

Bearing – A determination of position. CONTEXT: Finding the correct bearing will keep you headed in the right direction.

Declination – Angular distance north or south from the celestial equator measured along a great circle passing through the celestial poles. CONTEXT: Knowing the declination of your current location will help you choose the right bearing.

Degree – A unit of measure for angles equal to an angle with its vertex at the center of a circle and its sides cutting off $\frac{1}{360}$ of the circumference. CONTEXT: The degree dial on your compass will help you get the proper bearing.

Topography – The art or practice of graphic delineation in detail usually on maps or charts of natural and man-made features of a place or region, especially in a way to show their relative positions and elevations. CONTEXT: Knowing the topography can help you choose a better, easier route.

Horizontal – Parallel to, in the plane of, or operating in a plane parallel to the horizon or to a baseline. CONTEXT: Holding the compass flat is important to getting a correct reading on the compass.

Landmark – A conspicuous object on land that marks a locality. CONTEXT: Move in the direction of your landmark; then take new compass readings to make sure you are still going the right way.

Legend – An explanatory list of the symbols on a map or chart. CONTEXT: Every map should have a legend that tells you what all the symbols on the map mean.

Magnetic – A body having the property of attracting iron and producing a magnetic field external to itself. CONTEXT: Your compass needle is attracted to the power of the magnetic north pole.

Map – A representation usually on a flat surface of the whole or a part of an area. CONTEXT: Bringing along a current, updated map of your travel area is vital to being able to navigate correctly.
