

LESSON 1: COMPASS BASICS

Grade-Level Outcomes

Primary Outcome

Outdoor pursuits: Demonstrates correct technique for basic skills in 1 self-selected outdoor activity. (S1.M22.6)

Embedded Outcome

Challenge: Recognizes individual challenges and copes in a positive way, such as extending effort, asking for help or feedback and/or modifying the tasks. (S5.M3.6)

Lesson Objectives

The learner will:

- recognize and understand the parts of a compass.
- exhibit knowledge of a compass by translating it to a map.

Equipment and Materials

- Compasses
- Computer to watch video clips
- Paper and pencils

Introduction

To start our module on geocaching and orienteering, today we will learn to read and use a compass effectively. Orienteering is an adventure activity that works not only your body, but your mind, as well. The goal of orienteering is to navigate in sequence between points marked on a map and decide the best route for completing the course in the quickest time. Geocaching is hiding objects for other people to find, using a global positioning device, or GPS. It's sort of like high-tech scavenger hunting.

Show students a video (do a keyword search for “geocaching,” “compass,” “orienteering,” etc.).

Instructional Task: The Basics of the Compass

■ PRACTICE TASK

Conduct an informal pre-assessment.

Guiding questions for students:

- Who has used a compass while on an adventure?
- Who can tell me why someone would use a compass, especially since we have computers, phones, and GPS?

Who can name the parts of a compass?

Teach the components of the compass and the rules of thumb for using one, including:

- the four compass directions and degrees
- the dial
- the needle
- direction of travel
- holding it flat
- moving your body, not the compass
- “red Fred in the shed” to face north

Have students start to explore using the compass with maps after giving them the attached worksheet.

Extension

Have students use the compass to find north, south, east, and west.

Student Choices/Differentiation

- Students may start to use degrees or challenge each other to find secondary directions such as southwest or northeast.
- Show how-to videos (keywords: “compass 101,” “how to use a baseplate compass,” etc.)

What to Look For

- Students are using the correct vocabulary.
- Do students understand all the parts of the compass?
- Are they using the compass effectively?
- Are they demonstrating the four major directions correctly?

Instructional Task: Map Drawing and Compass Reading

■ PRACTICE TASK

Students draw maps of the local community, labeling the school, major roads, their homes, and landmarks in the community. Each map should include a compass rose, which helps users orient themselves when using the map by indicating the four major directions: North, South, East, and West. Make sure that the compass directions are correct in the rose.

Extension

Have students check one another's maps for correct orientation. To do that, students hold a compass at waist level and allow it to find its bearings. Students then use these bearings to line up the map's North alignment with the compass's North alignment to determine whether the map is oriented correctly.

EMBEDDED OUTCOME: S5.M3.M6. This is a good opportunity to discuss constructive ways of supporting peers and providing appropriate feedback on their maps.

Student Choices/Differentiation

Students could use technology to make their map or work in groups to enhance understanding.

What to Look For

- Can students use the compass effectively to navigate to a desired location or direction?
- Can students identify the various parts of the compass?
- Are students using teamwork and giving corrective feedback?

Instructional Task: Compass Game

■ PRACTICE TASK

One person is the compass needle in the center of the group. That student's

- front will be north.
- back will be south.
- left will be west.
- right will be east.

“The needle” calls out a direction and other students align themselves with that direction, based on the needle (e.g., they would move to behind the needle for south).

Extension

The needle can change her position by moving around the area and spinning, making classmates have to respond to the movement to find their next placement.

Student Choices/Differentiation

Students may wear a pinny labeled with compass directions to help at the beginning of the activity.

What to Look For

- Are students able to orient themselves to the center person?
 - Are they navigating on their own or watching others for direction?
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Formal and Informal Assessments

- Informal pre-assessment
- Informal teacher observation

Closure

- Why is it important to learn how to use a compass?
- Why is learning the directions on a compass important, and how can you use them if you are lost?

As you gain more knowledge of the compass and how to use it, you will undertake fun challenges and adventures. We will start with compass work and then go on to geocaching using GPS tracking devices.

Reflection

- Were students able to identify the components of the compass?
- Were students able to use the compass rose to check one another's maps?
- Did students provide constructive ways to support one another during the lesson today?

Homework

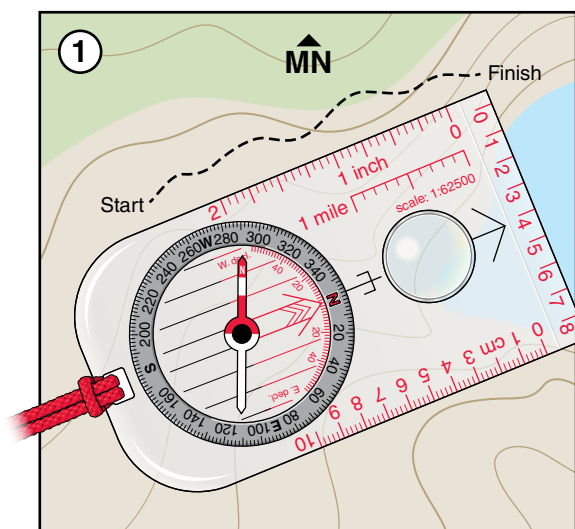
Share the video that we watched in class with a friend or family member, and teach him or her how to read and use a compass.

Resources

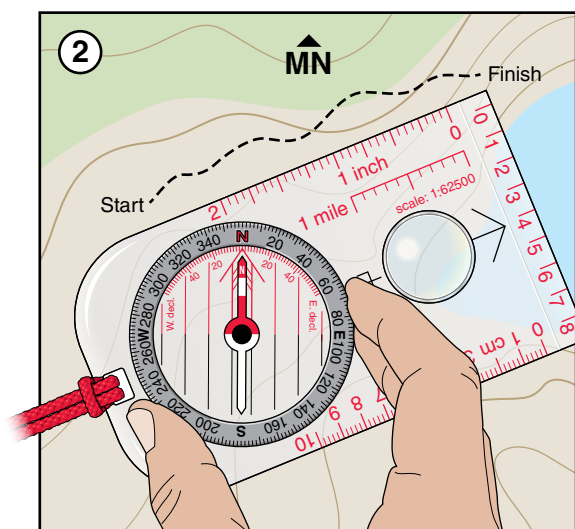
Internet keyword search: "geocaching," "compass," "orienteering"
Compass illustrations on handout

FIND YOUR WAY WITH A MAP

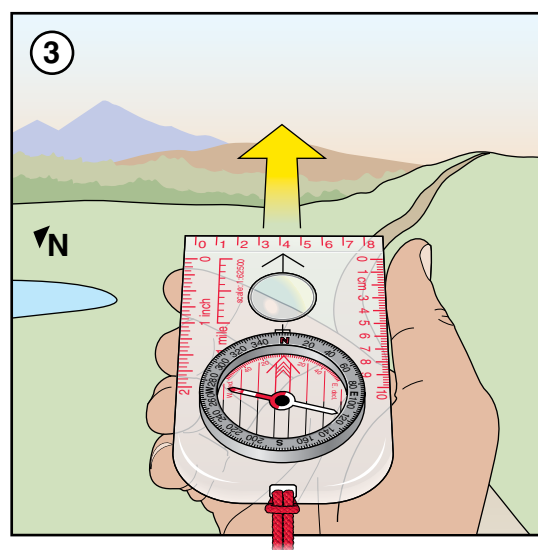
STEP 1. Place your compass on the area map with the base plate edge connecting where you are with where you want to go.



STEP 2. Set the compass heading by turning the compass dial until the N on your compass aligns with magnetic north on the map.



STEP 3. Remove the compass from the map and hold it level in front of you, with the direction-of-travel arrow pointing straight ahead. Turn your body until the red end of the needle is directly over the orienting arrow, pointing to the N on the dial.



From R.J. Doan, L.C. MacDonald, and S. Chepko, eds., 2017, *Lesson planning for middle school physical education* (Reston, VA: SHAPE America; Champaign, IL: Human Kinetics).