**Introduction to Compass Bearings**

1. Goal
   1. Learn how to take a compass bearing and follow it so this skill can be built on and used during a future outdoor excursion.
2. Objectives
   1. Build students’ confidence using a compass.
   2. Learn how to and practice taking a compass bearing and following it.
   3. Master adjusting a compass bearing and reading it before adding the use of maps to this skill.
3. First Peoples Principles of Learning
   1. “Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).”
   2. This hands-on lesson gives students experience using a compass, including setting the declination and taking and following bearings, while connecting students to the land.
4. Audience
   1. This lesson is designed for a grade 7 class (12- & 13-year-olds)
5. Duration
   1. 1 hour: approximately 15 mins of instruction in the classroom followed by 45 mins of apply the skill outside.
   2. If possible, plan this lesson immediately before a break or lunch time to limit transitioning between outside and inside. This way students can be dismissed from the field.
6. Location
   1. This lesson will take place outside on school property.
   2. As this is practice with the compass, the defined perimeter will allow for practice without getting lost. Students can also be spread out due to the high visibility of the area. Additionally, there are many visual landmarks that can be used (playground, basketball hoops, running track, bleachers, houses along fence line, trees, etc.)
7. Content & Methods
   1. Provide students with an overview of what we will be doing for this lesson: classroom learning followed by a partner activity outside to apply what we’ve learned in the classroom.
   2. Using a document camera, show one of the compasses and review it’s different parts.
   3. Review what was learned previously about how to set a compass declination. They will need to set the declination on the compass they use today.
   4. Shows how to set a bearing on the compass. The direction of travel arrow needs to be pointing to your destination. Turn the compass dial until “red is in the shed” or the compass needle is in the orienting arrow. The bearing is now set.
   5. Optional: show this short video <https://youtube.com/shorts/2lYPQy1EX58?si=m7QvwBjyDunEh_gc>
   6. Discuss outside activity: Students will work with a partner to go from destination to destination in the school ground. They will record the bearing required for getting between each location on the sheet provided (Teacher prep: walk the locations with a compass ahead of time so the correct bearings are on the answer sheet.)
   7. They will do the activity with a partner but should switch which person is holding the compass at each location.
   8. To ensure students are spread out, have the destination lists rearranged so each group starts at a different location rather than everyone walking together and gradually spreading out. Alternatively, provide students with the list and just assign their starting locations and they work down the list and return to the top if they started below the first one.
   9. As students are working throughout the area, circulate and check on groups as needed.
   10. When groups finish, they can compare their worksheet with the answer sheet at the picnic table. If they have any incorrect bearings, they need to go retry them.
   11. Closing: Gather students and reflect on how it went. Did students find it confusing or difficult to read and record the bearings? Did many people get incorrect bearings and have to go check them again? Do they feel confident with this skill?
   12. Collect worksheets and compasses and dismiss students (or return to the classroom and collect items there depending on the time of day).
8. Management and Safety
   1. Students will be required to stay on the backside of the school (not to the front where the parking lot is) so that all students can be seen by the teacher.
   2. Remind students to be aware of others around them when following the bearing to ensure they don’t collide with classmates.
   3. The compasses need to be taken care of. Any intentional mishandling of compasses will result in them being taken away and that student will not participate.
9. Equipment
   1. Compasses: 1 for every 2 students ideally. Groups can be larger if less compasses are available.
   2. Paper
   3. Pencil/pen
   4. Clipboards (one for each group)
   5. Worksheet: Table of destinations with a space for the bearing to be recording for getting to the next destination. (Example attached)
10. Weather Alternative
    1. As we will simply be walking around outside the school, the weather would need to be quite poor for us to not go outside for this activity. With the benefits of doing this outside, I would postpone it rather than move it indoors if it was too poor to go outside.
    2. Raincoats, umbrellas, water resistant shoes recommended if it’s raining. Appropriate warm layers for cold weather.
11. Evaluation
    1. This activity will be used as a formative assessment. If many students get incorrect bearings and have to retry them, plan to do this again for more practice with additional instruction before expanding this skill to include maps.
12. Follow-up
    1. A follow-up activity will be planned for students to learn and practice compass bearings with a map.

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example Worksheet**

Working with a partner, start at your assigned beginning location. Recording the bearing required to get to the next location. Use that bearing to walk to the next location and repeat until all bearings have been recorded.

Don’t forget to set your declination first!

Declination for Terrace, BC: +17°

|  |  |
| --- | --- |
| Location (working down the list) | Bearing to go to the next location |
| 1. Picnic table closet to gym doors |  |
| 1. Basketball hoop at end of track |  |
| 1. Climbing equipment on playground |  |
| 1. Back stop for baseball |  |
| 1. Soccer net closet to the school building |  |
| 1. The dragon painting on the school fence |  |
| 1. Apple tree beside school garden |  |