



Quarrybrook

EXPERIENTIAL EDUCATION CENTER

Program Title: **Map It Out!**

Audience: 2nd grade students

Program Theme: With map-reading skills and an understanding of how to link a map to the actual landscape, we can successfully navigate our way through a new, unfamiliar area.

Program Goals: Through fun practice activities, students will learn the cardinal and intercardinal directions, and will use a compass to find those directions on Earth. Then students will begin to develop map-reading skills, by orienting their map with the landscape around them, walking a route while following landmarks on their map, and drawing their new, unmarked trail onto their map.

Next Generation/Common Core Connections:

Topics: 2-ESS2 Earth's Systems/MP.5 Use appropriate tools strategically.

Dimensions: Patterns

Program Outline:

Activity 1: GLOBE AND COMPASS DEMONSTRATION (45 min.) – We will introduce the Earth globe, discuss the four cardinal directions, and show where they correspond to the Earth's poles. We'll introduce the compass rose graphic, a symbol that students will see for the rest of their lives. We'll start recognizing the order of N, E, S, and W within the symbol. Students will be introduced to a compass and how it works. With our compasses, together we will figure out where north, south, east, and west are in relation to where they are standing, and where the Quarrybrook building is. As each cardinal direction is found and pointed to by the group, a teacher or other adult will place an orange playing cone in the direction students are pointing in, and will stand by that cone, representing that direction. When all four direction stations are in place, the group will have made their own compass rose, correctly lined up with the Earth.



Teachers and chaperones will hold the playing cones, as the students direct them on where they should be placed in order to set up a large playing-field compass.

Objectives: Students will become familiar with the four cardinal directions. Students will use a compass to mark where those directions point, in relation to the Quarrybrook building.

Intended Outcome: Students will use a compass to find the locations of the four cardinal directions.

Activity 2: CARDINAL FACE-OFF (5 min.) – Students will practice their understanding of the four cardinal directions by correctly identifying them with their bodies. Students will stand in the center of the compass rose formed in Activity 1. Leader will call out a direction, such as “North!” Students will turn their bodies, or point their arms, in that direction. Stop as needed to help students remember the correct placements of the cardinal directions.



Teachers will continue to represent their directions at the cones, and we will ask all grown-ups to participate in this turning game with the students. Your reinforcement of modeling the decision-making of which way to turn will be helpful!

Objective: Students will practice their knowledge of the locations of the four cardinal directions through a physical activity.

Intended Outcome: Students will name and correctly identify the locations of the four cardinal directions.

Activity 3: COMPASS JUMP (10 min.) – This game extends the concept one more level by introducing the four intercardinal directions (northeast, southeast, southwest, northwest). We will mark these by four hula hoops, inbetween the orange cones. Students will be split into eight groups, each standing at a different direction. The instructor will slowly and clearly call out two different direction names (“East” and “West” “Go”). The students standing in those two directions will have to switch places with each other. We will run several rounds of this, stopping as needed to reiterate where the directions are.



Grown-ups will be helpful in keeping the students on track with directions, and in providing one-on-one explanations as needed.

Objectives: Students will learn the four intercardinal directions, and practice their knowledge of the locations of the four cardinal and four intercardinal directions through a physical activity.

Intended Outcome: Students will name and correctly identify the locations of both the four cardinal and four intercardinal directions.

Activity 4: MAP QUEST (60 min.) – Students will be given a clipboard, pencil, and a paper map of Quarrybrook. After we have introduced it to them and explained the legend and its important symbols, the students will be challenged to find several landmarks along an unmapped trail. They will be given information on the landmarks and then asked to help us draw this new trail onto our map. We will work together to fill the map in as we travel along our journey.



All adults will be helpful in aiding students in recognizing where they are on their map, and in drawing the new trail we’re walking onto their map.

Objectives: Students will learn how to use a map legend. Students will learn how to orient their physical location at different trail landmarks, with their map. Students will then be challenged to help us add our newest Quarrybrook trail to the map.

Intended Outcome: Students will be able to transfer information between their two-dimensional maps and their three-dimensional surroundings. They will know where to look for the next trail landmark drawn on their map, based on its location relative to other landmarks described in the map legend.

Conclusion/Wrap-up: We will ask students to name the cardinal and intercardinal directions, and we will compare the newly-marked trails on our individual maps with each other. We will discuss the challenges and successes of working through this activity on the trail. We can discuss the myriad different kinds of maps we might use in our life, to learn information and have adventures!

Successful completion of this program will help support your students' proficiency in NGSS

Performance Expectations:

2-ESS2.B Maps show where things are located. One can map the shapes and kinds of land and water in any area.

MP.5 Use appropriate tools strategically.