

WHERE IN THE WORLD IS THE ARCTIC?

Summary:

Students map the arctic in relation to their home in order to learn the location and countries of the arctic.

Grade Level:

3-4; 5-8; K-2

Time

one class period.

Subjects:

geography, language arts, math, science

Skills

application, comparison, analysis

Learning Objectives

Students will be able to:

- ✓ Identify the arctic region on a world map.
- ✓ Calculate the distance between where they live and the arctic region.
- ✓ Record prior knowledge and perceptions of the arctic and compare these to what they know about their own community.

Materials

- ✓ Colored pencils
- ✓ Three maps showing different perspectives/orientations
- ✓ Copies of Student Activity Sheet
- ✓ Reference maps and atlases

Background

Latitude lines are imaginary lines that run east/west on the globe in concentric circles. They are useful in determining the distance a given point is north or south of the equator. The arctic tundra is circumpolar, meaning it is an ecosystem that spans the globe around the pole. It is found in Asia, North America, and eight northern countries within Europe, generally above 60 degrees north

The arctic tundra is a nearly treeless zone of land found between the northern ice cap and the taiga, a zone of scattered evergreen trees.

latitude. The arctic Circle occurs at 66 degrees north latitude.

The arctic tundra is a nearly treeless zone of land found between the northern ice cap and the taiga, a zone of scattered evergreen trees. The imaginary line that distinguishes the treeless tundra from the taiga is called the tree line.

Because the arctic is geographically far away from most of North America's population, it is a location that may be difficult for students to understand. This activity, and those that follow, will help students to identify the location of the arctic circle and its relationship to their own community.

Procedure

1. Hand out the world maps provided and have students look them over. Ask the class, *Have you ever thought about which way is "up" on the earth? Does it feel like you are at the "top?" Are you at the top? How do you think people in Australia might feel about their location on North American world maps? Why would different maps be oriented in different ways? Discuss How do the maps differ? What seems most important in each map, and why?* Have students locate the continents and oceans on each map. *Which map is easiest to use? Why?*
2. Focus on the map with the North Pole at the center (Map 3). Note the location of the arctic Circle at 66° north latitude. This is the imaginary



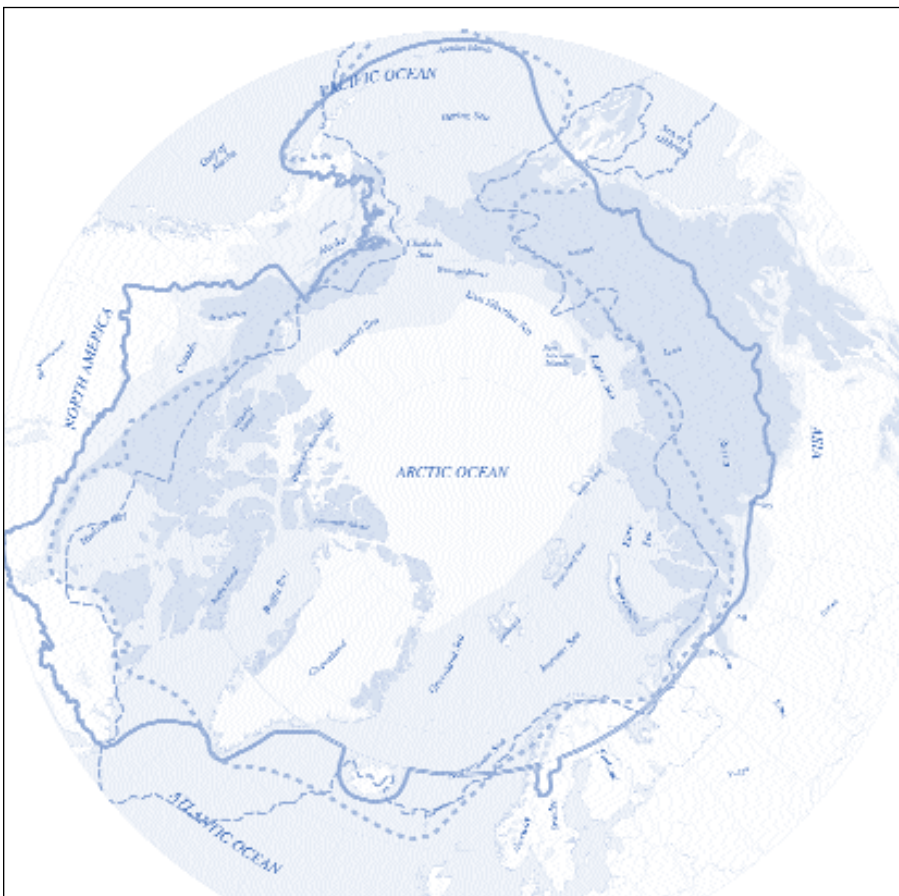
line that is commonly used to mark the boundary of the arctic region. *Which countries of the world are located within the Arctic Circle?* Using colored pencils and a world map or atlas for reference, and working in small groups, fill in the map of the arctic using Map I. Include the names of countries or continents, the location of the Arctic Circle, the North Pole and the ice cap, the Arctic Ocean, and the tundra. Student maps should be saved so they can be used

again in other activities in this guide.

3. Determine the latitude of your school. *How many degrees is your school from the Arctic Circle? How many miles or kilometers is your school from the Arctic Circle? The North Pole?* Calculate the distances based on the scale of the map you are using. To illustrate the distance of the Arctic Circle from your school, take the class outdoors and, (using an appropriate scale, for example, one foot on your schoolyard equals 250 miles.)

measure the simulated distance from the school to the Arctic Circle (or North Pole). When outside, choose a point that will serve as the location of your school and mark it. Then, determine where the Arctic Circle would be based on your chosen scale and mark that. Next, pick a familiar landmark (i.e., the state capitol, a museum, zoo, or park) and measure how far that landmark is from your school using a map and the map's scale. Then use the same outdoor scale and mark where that landmark would be on the schoolyard. Have students observe and compare the three distances.

4. The arctic is probably a long distance from your school. Explain that the arctic is usually a very cold place. Ask students to imagine what life is like on the cold, windy tundra of the arctic. *What plants, animals, and people likely live there?*
5. Have each student fill in the Arctic Comparisons worksheet based on their preconceptions and existing ideas of the arctic. This is not a research project; rather, students are just recording their initial ideas. More advanced students can write a paragraph about what they think the arctic would be



SOURCE: UNEP



like—*what might they see in terms of plants and animals? What would the weather feel like? What might they eat?*

Below the arctic row on their worksheets (or a separate page), students should fill in the corresponding information for their own school community. *What similarities and differences do they observe? Why do these differences exist between your school area and the arctic?*

Modifications for Younger Students (K-2)

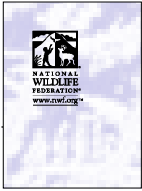
Help students to identify their location on a world map. Point out the arctic's location. Explain to students how far away this is, relative to the size of your state or the size of the country. For the Arctic Comparisons worksheet, have students draw pictures in each box of the chart and explain their drawings to each other.

Modifications for Older Students (5-8)

After identifying the arctic on several maps, ask students what kinds of challenges arctic explorers may have faced in mapping this area? Have students investigate the history of arctic exploration and try to find early maps of the area. How did they change over time?

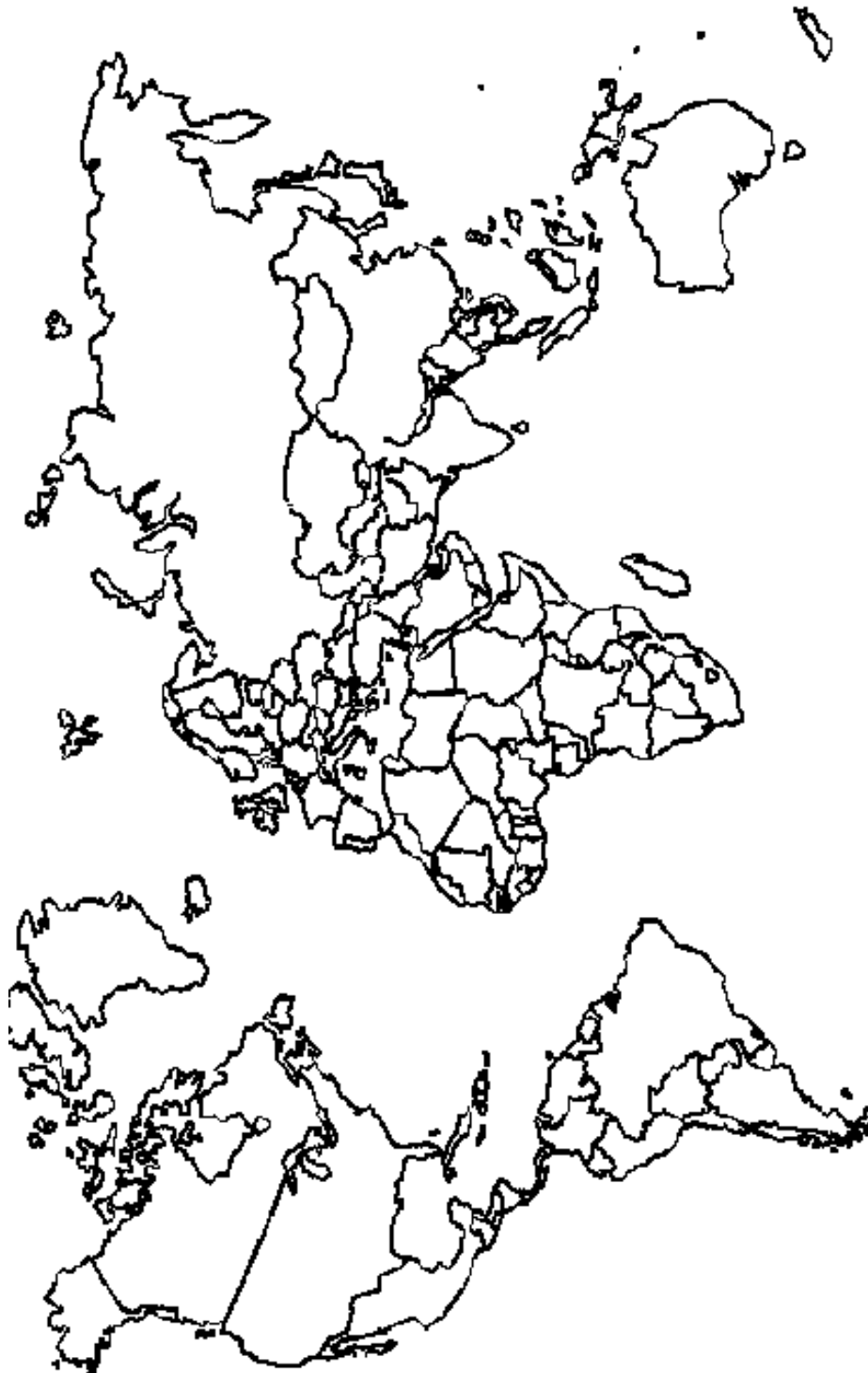
Assessment

Have students write a report or essay on how their lives would be different if they lived in the arctic region.



WORK SHEET

WORLD MAP I

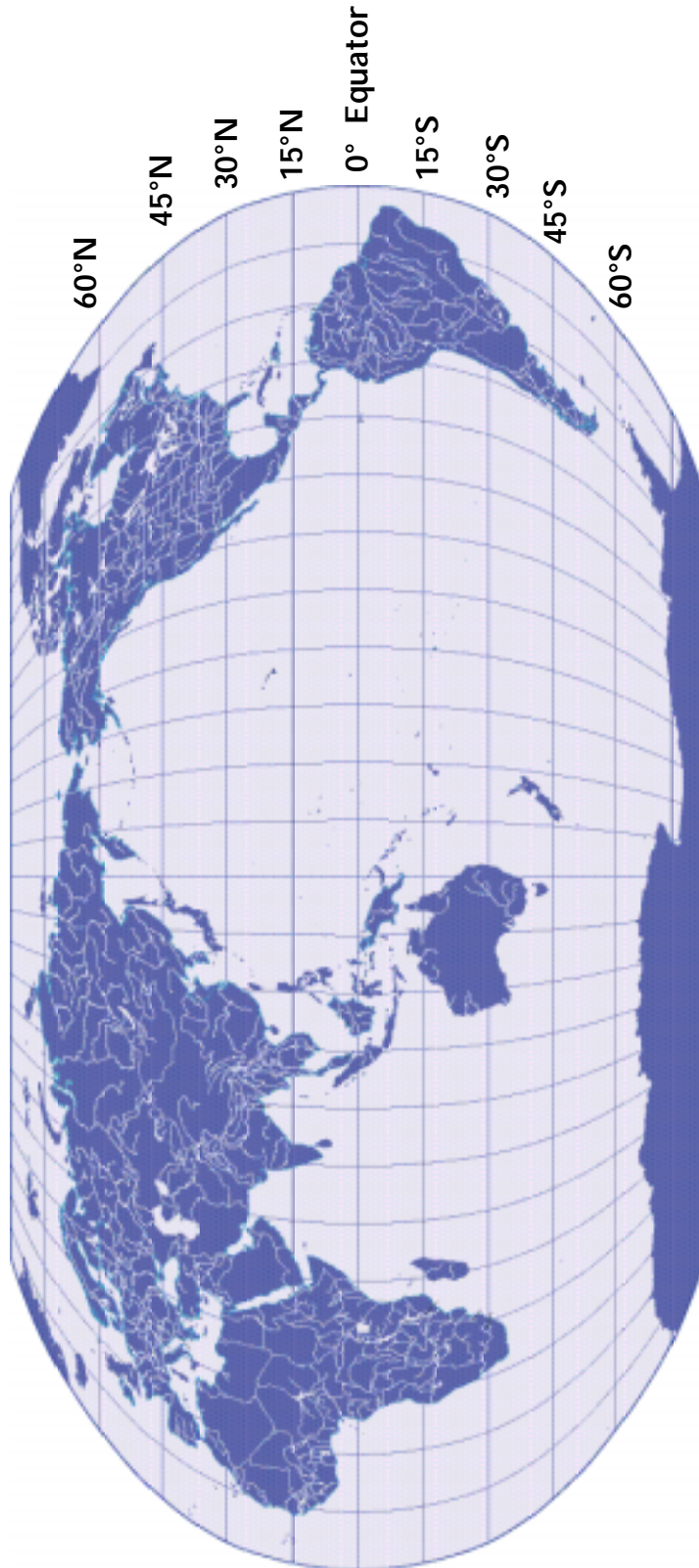


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WORK SHEET

WORLD MAP II

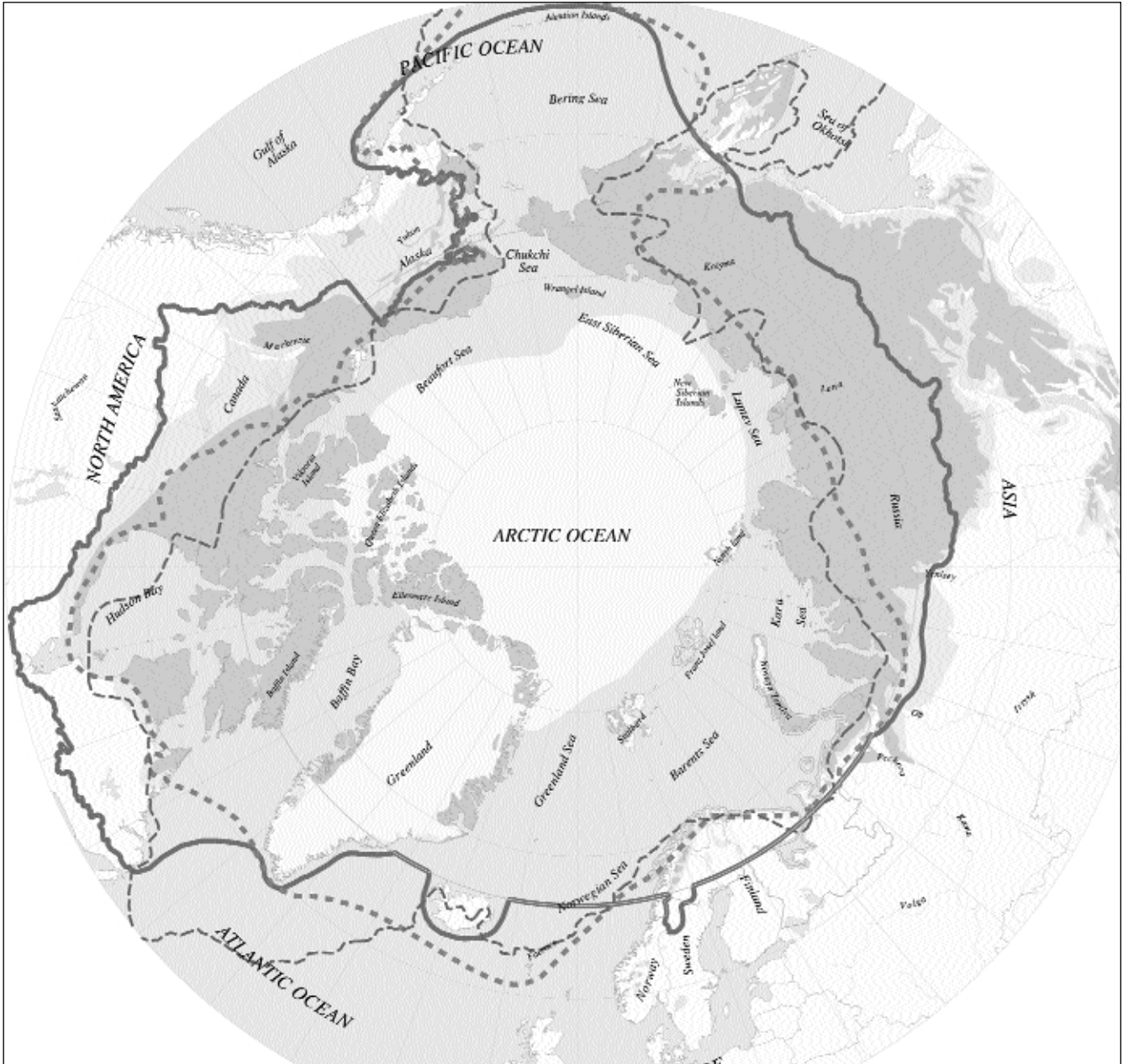


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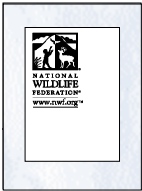


WORK SHEET

MAP III



Map courtesy of United Nations Environment Program



WORK SHEET

ARCTIC COMPARISONS

People		
Plants		
Animals		
Weather		
ARCTIC		YOUR SCHOOL'S COMMUNITY