

Delaware Recommended Curriculum

This unit has been created as an exemplary model for teachers in (re)design of course curricula. An exemplary model unit has undergone a rigorous peer review and jurying process to ensure alignment to selected Delaware Content Standards.

Unit Title: **Developing Mental Maps**

Designed by: **Kristin Becker**
District: **Red Clay Consolidated School District**

Content Area: **Social Studies**
Grade Level: **4**

Summary of Unit

A mental map is a person's internalized picture of a part of the Earth's surface. It helps make sense of the world by storing and recalling information about the patterns of the Earth's human and natural features. A well-developed mental map is a great asset in understanding local, national, and world events. Students need to develop mental maps that reflect the relative location and knowledge of major landforms and climatic zones, human settlements, political divisions, and economic activities at local, state, national, and world scales. Students also need to develop the ability to create, use, and interpret maps and other geo-graphics crucial to analyzing and solving geographic problems.

Stage 1 – Desired Results

(What students will know, do, and understand)

Delaware Content Standards

- **Geography Standard One 4-5a:** Students will demonstrate development of mental maps of Delaware and of the United States which include the relative location and characteristics of major physical features, political divisions, and human settlements.

Big Ideas

- Patterns
- Spatial thinking

Unit Enduring Understandings

Students will understand that:

- Mental maps summarize differences and similarities about places. These differences and similarities lead to conflict or cooperation and the exchange of goods and ideas between peoples.
- Mental maps change as the scale moves from local to global; we know more about our home area than more distant places; and these differences affect how we feel and behave towards places that are distant versus those that are close.
- The ways mapped patterns are analyzed and used help solve societal problems.
- Maps can be used to distort or introduce bias into the information they portray.

Unit Essential Questions

- Why does *where* matter?
- To what extent are mental maps of different scales linked?
- To what extent are human settlements connected?

Knowledge and Skills

Students will know...

- mental map
- contiguous
- relative location
- physical features
- water features
- land features
- political divisions
- boundary
- border
- human settlement

Students will be able to...

- Identify the location of land and water features, political divisions, and human settlements on a map of Delaware and its surrounding area based on their mental maps.
- Sketch a relatively accurate representation of the United States of America based on their mental maps, including at least two of each of the following: land features, water features, political divisions, and human settlements.

Stage 2 – Assessment Evidence

(Evidence that will be collected to determine whether or not Desired Results are achieved)

Transfer Task

This summative assessment is a transfer task that requires students to use knowledge and understandings to perform a task in a setting or context.

The assessment and scoring guide should be reviewed with students prior to instruction. Students should work on the task after lessons have been completed.

Essential Questions Measured by the Transfer Task

- Why does *where* matter?

Problem	Your Irish cousins are living with your family for the summer. They want to travel around the US, but need a better understanding of it. They wish to visit at least two land features, two water features, two political divisions (states), and two human settlements.
Role/ Perspective	The student is helping his/her cousins by planning a fun, summer road trip. He/she should create a map to aid them on their trip.

Product/Performance

Sketch a map of the US, reflecting its general shape. Be sure to include the contiguous states, as well as Alaska and Hawaii. Mark at least two land features, two water features, two political divisions (states – in addition to Alaska and Hawaii), and two human settlements. Mark your route with a highlighter.

Rubric

	Score of 1	Score of 2	Score of 3	Score of 4
Map Sketch	Not recognizable as the US.	Somewhat recognizable as the US.	Mostly recognizable as the US.	Clearly recognizable as the US.
Marked at least 8 locations (2 in each category)	Correctly marked 3 or fewer required components	Correctly marked 4 or 5 required components	Correctly marked 6 or 7 required components	Correctly marked all 8 required components

Performance Level	Score
Advanced	8
Meets the Standard	6-7
Below the Standard	5
Well Below the Standard	2-4

Student Self-Assessment and Reflection

When students are required to think about their own learning, to articulate what they understand and what they still need to learn, achievement improves.

– Black and William, 1998; Sternberg, 1996; Young, 2000.

How a teacher uses the information from assessments determines whether that assessment is formative or summative. Formative assessments should be used to direct learning and instruction. They are not intended to be graded.

The Checks for Understanding at the end of each instructional strategy should be used as formative assessment and may be used as writing prompts or as small-group or whole-class discussion. Students should respond to feedback and be given opportunities to improve their work. The rubrics will help teachers frame that feedback.

An interactive notebook or writing log could be used to organize student work and exhibit student growth and reflection.

Stage 3 – Learning Plan

(Design learning activities to align with Stage 1 and Stage 2 expectations)

Lesson One: Mental Map of Delaware

Essential Questions

- Why does *where* matter?
- To what extent are human settlements connected?

Instructional Strategies

Strategy One: Gathering Information Building a Mental Map

First, have students sketch what they believe to be the shape of Delaware. Then, they can compare their sketch to the actual shape. Finally, students turn and talk, discussing and describing the shape to help them hold on to the mental image.

Provide students with a template of the shape/outline of Delaware. Consider using card stock or even an opened-file folder, particularly if students have access to larger 11 x 17 paper to complete this activity. Sample outline maps of Delaware, if needed, can be found at:

- [Outline Map of Delaware 1](#)
- [Outline Map of Delaware 2](#)

Have students trace the template of Delaware onto a blank sheet of paper.

Have students mark political features, such as the counties and some cities/towns (Wilmington, Dover, beach towns, your own town, etc.). Have students point to where these places are located to the best of their knowledge before you reveal the location. You should mark a class map as students mark theirs (possibly a poster, on the overhead, via a projector, etc.).

TEACHER TIP: Consider completing each step on an overhead transparency or Smartboard in addition to the hard copy. When finished, have students evaluate how the information changes as you overlay the various maps to create one detailed map.

Add landforms/physical features. Pose lots of questions to the students:

- Do we have mountains? plains/farmland? forests? waterways?, etc. Include the [highest point in Delaware, Ebright Azimuth, as well.](#)

Check for Understanding

- ❖ Sketch an outline of the state of Delaware ([APPENDIX A](#)). Draw a smiley face where you live.

2 – This response demonstrates relative knowledge of Delaware's shape AND indicates the relative location of the student's hometown.

1 – This response demonstrates relative knowledge of Delaware's shape with an inaccurate relative location of the student's hometown.

Strategy Two: Extending and Refining Beyond our Borders

Ask students: What borders Delaware? Have students add bordering states and waterways as the teacher adds these to the class map. See [APPENDIX B](#) for a completely labeled map.

TEACHER TIP: Continue the overlay activity from Strategy One.

Check for Understanding #1

- ❖ What states and bodies of water border Delaware?

Rubric

2 – Correctly identifies 3 states and 2 bodies of water.

1 – Correctly identifies 2 states and 1 body of water.

Check for Understanding #2

- ❖ Using the labels provided in [APPENDIX C](#), place the labels on the correct locations of a blank Delaware map ([APPENDIX D](#)).

A larger version of Appendix D is [here](#).

- ❖ Students will need to cut out the labels. Consider having students color-code the labels by shading them with colored pencils:

blue = water features
green = land features
purple = political divisions
orange = human settlements.

Rubric

2 – Correctly labels at least 20 locations correctly.

1 – Correctly labels 16 to 19 locations correctly.

Strategy Three: Application

Road Trip

Have students complete a [Day Trip Planner \(APPENDIX E\)](#). Pose these questions to the students:

- Where will you go?
- What will you pass?
- How will you travel?

Students should work in groups of two or three to support meaningful discussion and cooperative decision-making. Each student should complete a *Day Trip Planner*.

Suggestions for places to visit/things to do:

- Wilmington Blue Rocks game, Wilmington, DE
- Delaware State Fair, Harrington, DE
- Cape May, NJ
- Philadelphia Flyers game, Philadelphia, PA
- Baltimore Orioles game, Baltimore, MD
- NASCAR race, Dover, DE
- Cape Henlopen State Park, Lewes, DE
- Kalmar Nyckel Tall Ship, Lewes, DE or Wilmington, DE
- Rehoboth Beach Boardwalk
- Bethany Beach Boardwalk
- Trap Pond State Park, Laurel, DE
- Killen's Pond State Park, Felton, DE

In addition to completing the trip planner, students should mark their routes on their maps with string, wikki stix, permanent marker, etc.

Check for Understanding #1

- ❖ Why is having a mental map of the state in which you live helpful? Use an example to explain your answer.

Rubric

2 – This response gives a valid reason with an accurate and relevant example.

1 – This response gives a valid reason with an inaccurate, irrelevant, or no example.

Lesson Two: Mental Map of the United States

Essential Question

- Why does *where* matter?
- To what extent are human settlements connected?

Instructional Strategies

Strategy One: Gathering Information “Regions Jigsaw Activity”

Divide students into groups - one group for each of the five regions: Northeast, Southeast, Midwest, Southwest, and West. Each group is responsible for learning about a region in the US and creating a presentation for the class.

Note to teacher: Be flexible with the number of regions, since there are other ways to define and characterize regions. Students should be aware of this from their experience in the 3rd grade [DRC unit Regions](#). The websites below also recognize the possibility of more than five U.S. regions.

Ideally students will be able to access these (and other) websites; however, the information from these sites can be easily printed and copied for student use:

- [The National Atlas](#)
- [Education Place](#)
- [Annenberg Foundation Interactive Maps](#)

Check your classroom and school libraries for books that may provide information. Students should identify major cities within their region, and then research the [weather/climate](#) of one city for their weather report.

Distribute large chart paper and a printed [map of the US](#) to each group ([APPENDIX E](#)). In addition, provide each group with a list of requirements ([APPENDIX G](#))¹ for the presentation, such as giving a weather report, list of states, landforms, tourist attractions (state parks, monuments, historical areas, landforms, etc.)

Allow for student self-discovery. However, be sure that the students have included at least the following in their presentations:

¹ Appendix G is formatted for the teacher to cut in half in order to reduce paper usage.

Water Features	Physical Features	Human Settlements
Arctic Ocean	Appalachian Mountains	Atlanta
Atlantic Ocean	Atlantic Coastal Plain / Piedmont	Boston
Chesapeake Bay	Cascade Mountains	Chicago
Delaware Bay	Continental Divide	Denver
Great Lakes (names optional)	Great Basin	Houston
Gulf of Mexico	Great Plains	Los Angeles
Mississippi River	Rocky Mountains	Miami
Pacific Ocean	Appalachian Mountains	New Orleans
		New York City
		Philadelphia
		Phoenix
		Seattle
		St. Louis
		Washington, D.C.

This is an opportunity for students to mentally place the states, as well as features such as the Great Lakes and Mount Saint Helens. Students should teach their fellow students in ways that are comfortable for them, whether it is writing, drawing, speaking, acting, etc.

Check for Understanding #2

- ❖ Have students pinpoint Delaware's location on a U.S. map – paper map, desk map, Smartboard, etc.

Rubric

1 – Student correctly identifies the relative location of Delaware.

TEACHER TIP: This is a good time to discuss the actual location (and size) of Alaska and Hawaii. Though many fourth graders will have grasped the concept of their actual locations and sizes, it is important to review so that students are not harboring misconceptions about these two states.

Strategy Two: Extending and Refining Time Zone Map

Provide each student with a copy of a [time zone map](#) (APPENDIX H). If possible, project this or a similar map on a screen or Smartboard for hands-on student use.

Practice reading and interpreting the map with questions like: If it's 7:00 in DE, what time is it in CA? This activity reinforces the "mental map" of the U.S. Students need to locate states in order to answer the questions. (Purposely choose a map without the names of the states. Students may need to refer to a desk map to confirm the name of some states.) After the teacher poses a number of questions to the students, have students "quiz" each other.

This [interactive website](#) will provide you with the current date and time of any state.

Check for Understanding

- ❖ It's 5 o'clock in Delaware. What time is it in California? How do you know?

Rubric

2 – This response gives an accurate time with an appropriate explanation.

1 – This response gives an accurate time, but lacks an appropriate explanation.

Strategy Three: Extending and Refining Sports Plot

Locate and plot the location of all the NFL teams, MLB teams, etc. on a U.S. map. This should be done as a class activity on one large map. Start with the teams that students know by heart, and then refer to online lists for more. Websites include www.mlb.com, www.nhl.com, etc. Then, have students analyze the completed map.

Facilitate discussion about the location of these professional sports teams.

- Why were these locations chosen?
- Why do some cities have multiple professional sports teams while others have none?

Be sure to address access to stadiums, populations, large cities/settlements, access to transportation, etc.

Check for Understanding

- ❖ Refer to the class "Sports Plot" map.
- ❖ Choose a new city for a professional sports team. Explain why you chose this city.

Rubric

2 – This response gives a valid city with an accurate and relevant explanation.

1 – This response gives a valid city with an inaccurate, irrelevant, or no explanation.

Strategy Four: Extending and Refining Our Neighbors

Color and label a [map of North America \(APPENDIX I\)](#). This is a good time to reinforce the contiguous United States and reflect again on the location of Alaska and Hawaii.

Check for Understanding

- ❖ Name our neighbor to the north, our neighbor to the south, the body of water to the west, and the body of water to the east.

Strategy Five: Application Geography Line-up²

Provide students with a copy of [APPENDIX J](#). These are the 50 United States.

Have the students cut them out to make 50 small cards with which to work. Call out the names of four states. Have students “line up” the states from east to west, west to east, north to south, or south to north.

Change the number/names of states to simplify or accelerate the level of difficulty of this task. Have students check their answers using a map of the US and/or review the answer as a class. Consider having students work in pairs.

Example: Teacher says, Grab the state cards of Alaska, Texas, Iowa, and Maine. Line up these states from north to south. Students then “line up” the cards and check their answers. Encourage students to discuss the strategies they used to determine their answers.

TEACHER TIP – Differentiate for this activity as needed. Some students may want to challenge themselves, while others may need to use a US map as a reference. Allow for both approaches.

Note: The “Check for Understanding” below is very basic. It should be completed without the use of a map.

Check for Understanding

- ❖ Choose the states Delaware, Texas, and California. Have students line them up from east to west.

² A special thank you to Paul Nagel of the Louisiana Geography Education Alliance for sharing this *Geography Line-up* activity at the National Council for Geographic Education conference and for granting permission for use in this unit.

Resources and Teaching Tips

Additional activities to support and enhance each student's mental map of the United States:

- **Who am I?** Create riddles for the students. Then, challenge them to create riddles of their own. Example: I am a state in the contiguous US. I am a state with two parts. One part is shaped like a mitten. The other part looks like a stalagmite. I am known for manufacturing cars. My capital is Lansing. Who am I?
- **Water? Water!** Study the location of major cities and waterways. Note the many common locations. Discuss why so many major cities were settled along waterways.
- **The Scrambled States of America** game, based on the book by Laurie Keller. This is a fantastic game that everyone can play. A reference map is provided for each player.
- **Puzzles, Puzzles, Puzzles** – Students love puzzles! The more they work with puzzles of the US, the stronger their mental maps will become. Puzzles can be set up as a classroom station, available during homeroom time, an option for indoor recess, or even sent home with one student per night as a family homework activity. Puzzles are an easy way to review the US map throughout the school year, not just during this unit.
- **Delaware's Strange Shape** – From the Delaware Public Archives Kit for grades 4 and 8 Lesson B has a play about how Delaware's political borders were decided. The lesson can be printed from:
<http://archives.delaware.gov/outreach/education/lessonb.shtml>
- **Choropleth Mapping** – Choropleth maps using colors of graduated hue changes to represent the data. For the Population Density Map students should either complete the map with shades of one color or varying shades that illustrate gradual changes. Ask students to identify patterns of population density while referring to the names of the states. Where do most people live? Which areas are the less crowded? Why do you think these patterns exist?
- **Where Would You Like to Live?** - Have students complete another Choropleth map by identifying which states they would like to visit. The Legend is 5 scale, with #5 being Very Desirable to #1 being Very Undesirable. Have students draw conclusions about their maps. Are there areas that seem more desirable than others? Why? (Has television suggested some places are better than others? Do family live in other states? Does the perception of climate affect a student's choice?)
- **Origin of State Names** – Have students identify the origin of each state's name as either: American, English, French, Indian/Native

American, Spanish or Other. Students can use whatever color they wish for the map, but each category should have a unique color.

Literature recommendations:

Literature recommendations to provide background information and/or supplement the unit include:

- *Me on the Map* by Joan Sweeney
- *Where Do I Live?* by Neil Chesnow
- *Mapping Penny's World* by Loreen Leedy

Common Core State Standards Connections

Content Standards integrated within instructional strategies

Reading Standards for Informational Standards in Social Studies Grade 4

- Determine the meaning of general academic and domain-specific words or phrases in a text relevant to grade 4 social studies.

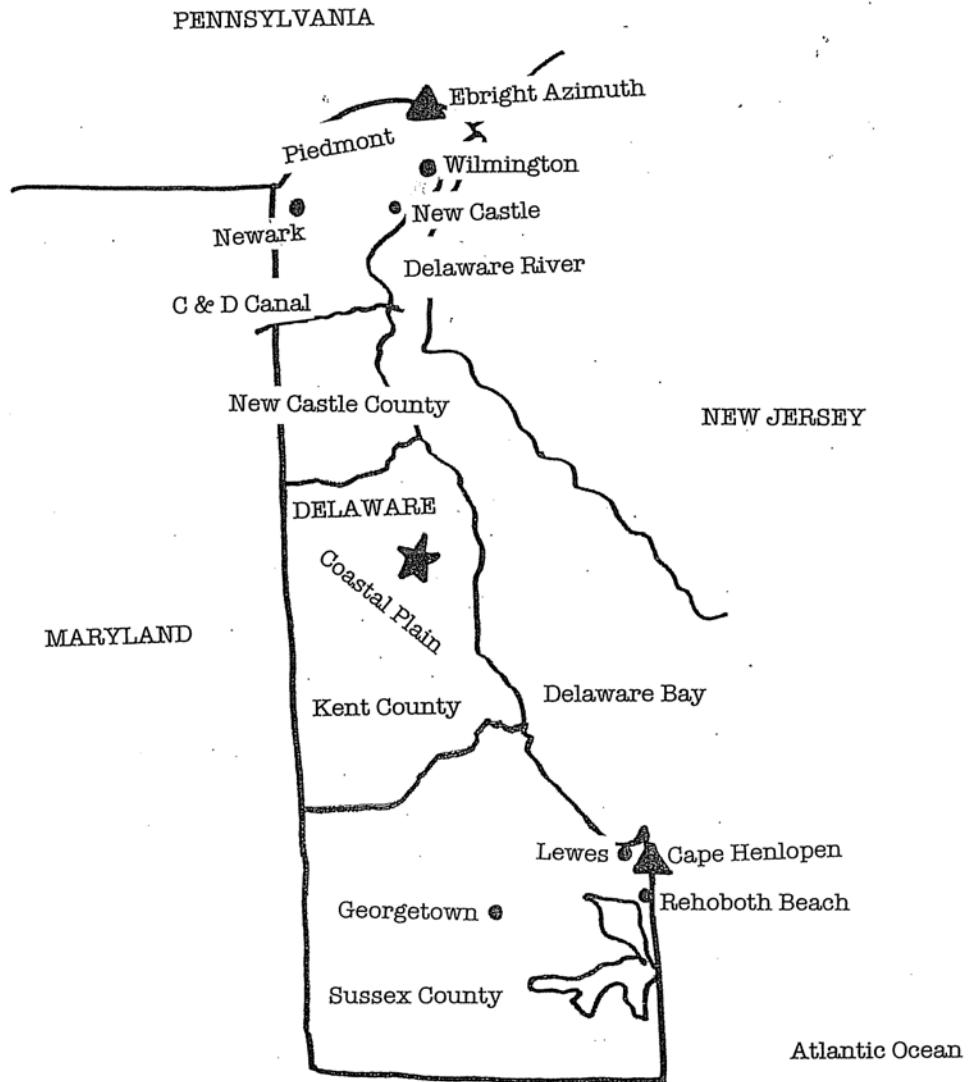
Writing Standards in Social Studies Grade 4

- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Appendix A

Sketch an outline of the state of Delaware. Then, draw a smiley face where you live.

Appendix B



Appendix C

MAP OF DELAWARE LABELS

WATER FEATURES

Delaware River

Delaware Bay

Atlantic Ocean

C & D Canal

LAND FEATURES

Piedmont

Coastal Plain

Cape Henlopen

Ebright Azimuth

POLITICAL DIVISIONS

DELAWARE

MARYLAND

NEW JERSEY

PENNSYLVANIA

New Castle County

Kent County

Sussex County

HUMAN SETTLEMENTS

Wilmington

Newark

New Castle

Dover

Georgetown

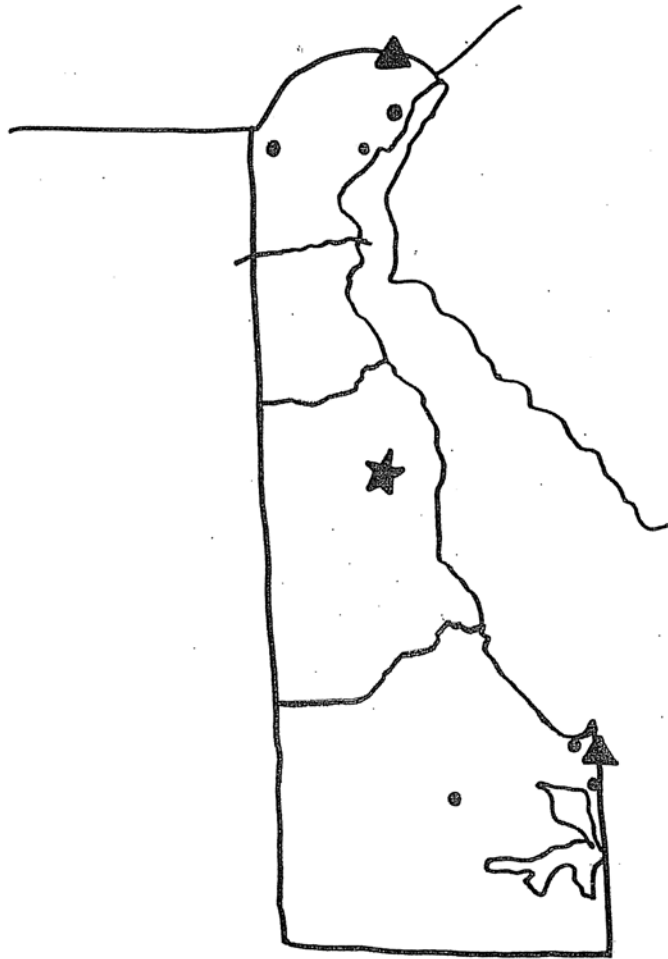
Lewes

Rehoboth Beach

Appendix D



Appendix D (Small)



Appendix E

Day Trip Planner

Name _____

Traveling Companion(s) _____

Starting location _____

Destination _____

In which direction will you be traveling?

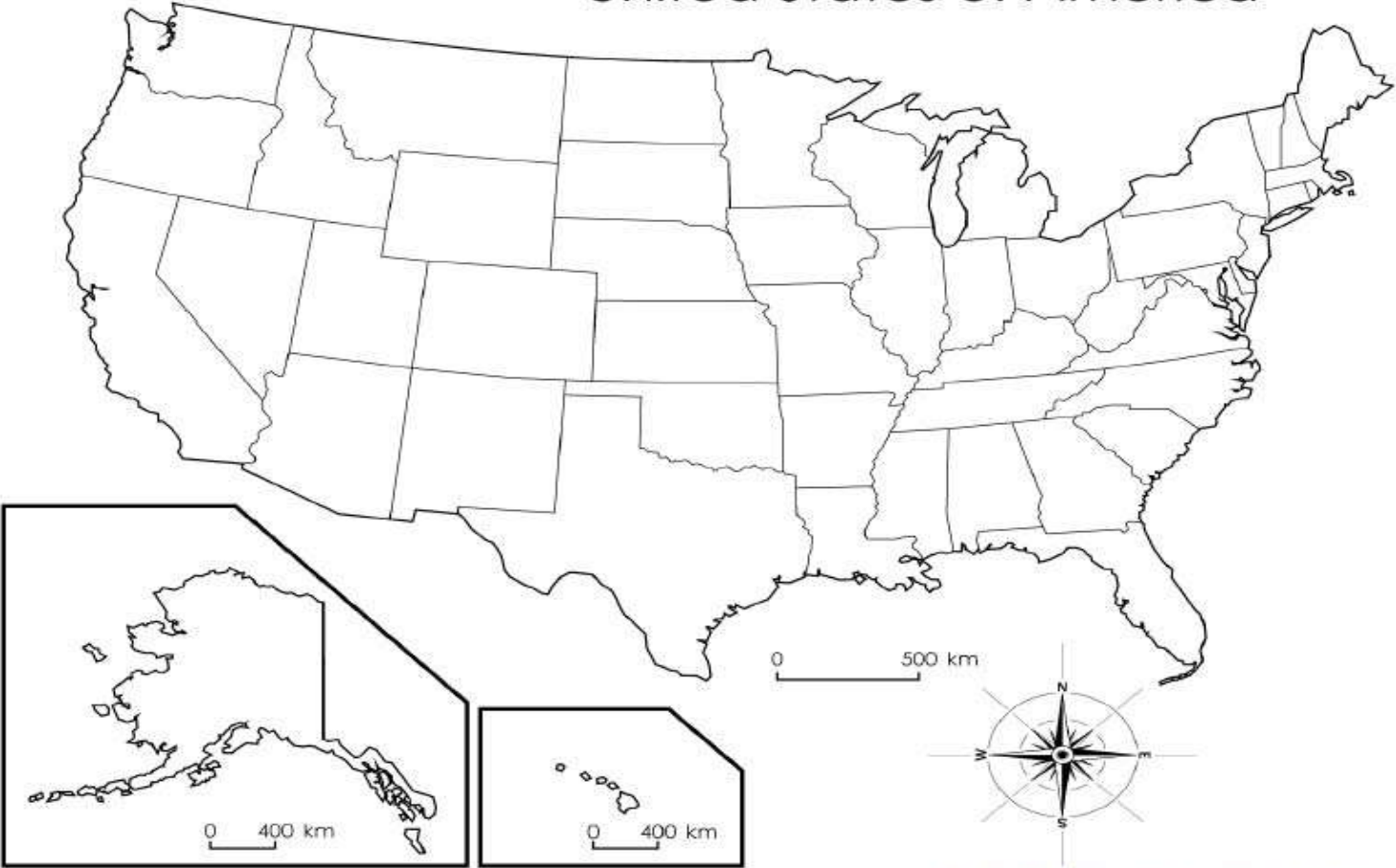
Will you be leaving the state of Delaware?

What type of transportation will you use and why?

What will you pass along the way?

Appendix F

United States of America



Appendix G

The following items **MUST** be included in your poster and/or oral presentation. You **MAY** include other items of interest. Include color and illustrations.

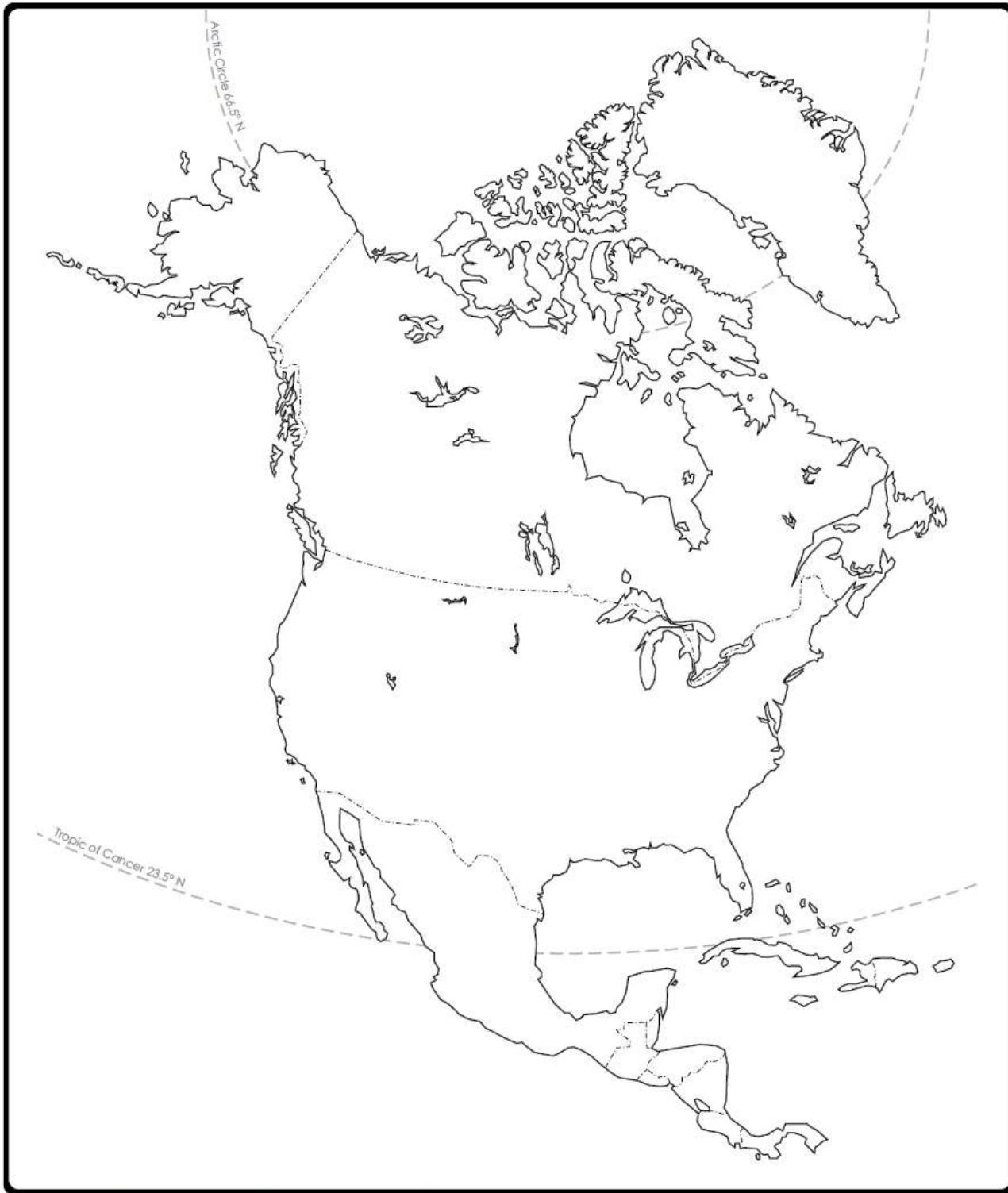
- ✓ Name of your region
- ✓ A list of the states in your region
- ✓ A list of the major cities in your region
- ✓ US map with the states in your region shaded
- ✓ Major physical features that are found in your region
- ✓ Products that come from your region
- ✓ An advertisement for a tourist attraction in your region
- ✓ A weather report from a city in your region

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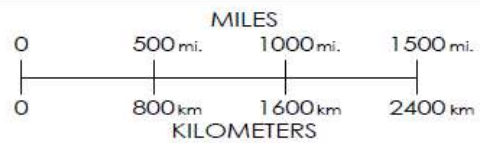
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The Continent of NORTH AMERICA



Appendix J

ALABAMA

ALASKA

ARIZONA

ARKANSAS

CALIFORNIA

COLORADO

CONNECTICUT

DELAWARE

FLORIDA

GEORGIA

HAWAII

IDAHO

ILLINOIS

INDIANA

IOWA

KANSAS

KENTUCKY

LOUISIANA

MAINE

MARYLAND

MASSACHUSETTS

MICHIGAN

MINNESOTA

MISSISSIPPI

MISSOURI

MONTANA

NEBRASKA

NEVADA

NEW HAMPSHIRE

NEW JERSEY

Appendix J (cont'd)

NEW MEXICO

NEW YORK

NORTH CAROLINA

NORTH DAKOTA

OHIO

OKLAHOMA

OREGON

PENNSYLVANIA

RHODE ISLAND

SOUTH CAROLINA

SOUTH DAKOTA

TENNESSEE

TEXAS

UTAH

VERMONT

VIRGINIA

WASHINGTON

WEST VIRGINIA

WISCONSIN

WYOMING