

**Domain-Based Unit Overview**

**Title of Domain: World Lakes**  
**Learning Time: 7 days**

**Big Idea**

*Maps and globes are used to show location and other aspects of human and physical geography. Lakes are an important part of Earth's physical geography, providing water and other resources that help people live.*

**What Students Need to Learn**

1. Review using longitude and latitude, coordinates, degrees, time zones, prime meridian (0° longitude, Greenwich, England), and the international date line (180° longitude) on maps or globes
2. Tropic of Cancer and Tropic of Capricorn: relation to seasons and temperature
3. Climate zones: arctic, tropical, temperate
4. Imaginary lines and boundaries: Arctic Circle and Antarctic Circle
5. From a round globe to a flat map: Map projections contain distortions.
6. Major lakes by continent (Eurasia: Caspian Sea; Asia: Lake Baikal, Aral Sea; Africa: Victoria, Tanganyika, Chad; North America: Superior, Huron, Michigan, Erie, Ontario; South America: Maracaibo, Titicaca)

**MN Academic Standards**

- 5.3.1.1.1
- 5.3.2.3.1
- 5.3.4.10.1

**Pre-Assessment**

- 1) Locate the 5 oceans and 7 continents
- 2) Locate the Northern American countries
- 3) Measure distances using map scales
- 4) Locate major mountain ranges by continent (South America: Andes; North America: Rockies and Appalachians; Asia: Himalayas and Urals; Africa: Atlas Mountains; Europe: Alps and Caucasus)

<b>Domain Lesson 1</b>	World Geography: World Map & Imaginary Lines
<b>MN Academic Standards</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Students should recognize the grid pattern that parallels of latitude and meridians of longitude create on a map and globe.</li> </ul>

	<ul style="list-style-type: none"> <li>• The land between the Tropic of Cancer and the Tropic of Capricorn (the tropics, in general) has hot weather and little or no change in seasons.</li> <li>• The polar climate zone, which includes the Arctic and the Antarctic, is typically, cold with little precipitation; the tropical zone is typically hot with a great deal of precipitation; and the temperate zone has more variation in temperature and amount of precipitation.</li> <li>• The international date line, at 180° longitude, marks the shift in days between east and west.</li> </ul>
<b>Vocabulary</b>	equator, Arctic Circle, Tropic of Capricorn, North Pole, Antarctic Circle, prime meridian, South Pole, Tropic of Cancer, international date line, latitude, longitude
<b>Procedure</b>	<ul style="list-style-type: none"> <li>• Hand out AP 1.1 &amp; 1.2 to students.</li> <li>• Display the World Map. Review the locations and names of the oceans and continents.</li> <li>• Review the following terms and definitions             <ul style="list-style-type: none"> <li>○ latitude – the distance between the equator and a place north or south of the equator; measured in degrees</li> <li>○ longitude – the distance east or west of an imaginary line on the globe that goes from the North Pole to the South Pole and passes through Greenwich, England; measured in degrees</li> <li>○ coordinates – a pair of numbers on a globe or map that shows where something is located</li> <li>○ degree – unit used to measure the distance between parallels and meridians</li> </ul> </li> <li>• Use the Globe and World Map to point out the following examples:             <ul style="list-style-type: none"> <li>○ Latitude                 <ul style="list-style-type: none"> <li>▪ Equator</li> <li>▪ North Pole</li> <li>▪ South Pole</li> <li>▪ Tropic of Cancer</li> <li>▪ Tropic of Capricorn</li> <li>▪ Arctic Circle</li> <li>▪ Antarctic Circle</li> </ul> </li> <li>○ Longitude                 <ul style="list-style-type: none"> <li>▪ Prime Meridian</li> <li>▪ International Date Line</li> </ul> </li> </ul> </li> <li>• Use coordinates and degrees to identify the following locations:             <ul style="list-style-type: none"> <li>○ Greenwich, England</li> <li>○ Lake Victoria (Africa)</li> <li>○ Washington, D.C.</li> </ul> </li> <li>• Point to the approximate location of your town on the map or globe. Guide students to estimate the latitude and longitude coordinates of the town.</li> </ul>

	<ul style="list-style-type: none"> <li>Have students complete AP 1.2</li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction/Non Fiction</b>	<i>World Lakes Reader</i>
<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>

<b>Domain Lesson 2</b>	World Geography: “Latitude as Climate Indicator” and “Three Different Map Projections”
<b>MN Academic Standards</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>Explain that climate is the typical weather pattern in a region. Earth can be divided into different climate categories and zones. There are three general climate categories: arctic (or polar), tropical, and temperate. Zones can often be identified by latitude.</li> <li>Identify the Tropic of Cancer and Tropic of Capricorn, describing the climate and lack of change in seasons.</li> <li>Describe the three climate zones: arctic, tropical, and temperate.</li> <li>Identify the Arctic Circle and Antarctic Circle as imaginary lines on a map and the relative locations of the North and South Poles.</li> <li>Understand that maps created to represent Earth contain distortions.</li> </ul>
<b>Vocabulary</b>	Temperate Zone, Tropical Zone, Polar, Tropic of Cancer, equator, Tropic of Capricorn, Prime Meridian
<b>Procedure</b>	<ul style="list-style-type: none"> <li>Hand out AP 1.3 &amp; 1.4 to students.</li> <li>Explain that climate is the typical weather pattern in a region. Earth can be divided into different climate categories and zones. There are three general climate categories: arctic (or polar), tropical, and temperate. Zones can often be identified by latitude</li> <li>Display the World Map. Point out each climate zone as you describe the climate category. <ul style="list-style-type: none"> <li>Arctic</li> <li>Tropical</li> <li>Temperate</li> </ul> </li> <li>Distribute the Latitude as Climate Indicator activity page (AP 1.3) and have students complete it. Identify the Polar, Temperate Zone, and Tropical Zone on a map – color each one accordingly</li> <li>With the World Map still on display, hold up the globe, and ask students which one is a more accurate model of Earth. Students should recognize that round globes are more accurate than flat maps. Explain that one advantage to maps is that they are more portable. However, there are problems with converting a spherical Earth onto a flat sheet of paper.</li> </ul>

	<ul style="list-style-type: none"> <li>• Display the Three Different Map Projections activity page. Explain that each of these images shows a different type of projection used by mapmakers to represent a round Earth on a flat sheet of paper. Have students examine the projections and answer the following questions (aloud or in writing):</li> <li>• How are the continents’ sizes different in the various projections? Which ones are the most different from the globe? Which ones are the most similar to the globe?</li> <li>• How are the continents’ shapes different in the various projections? Which ones are the most different from the globe? Which ones are the most similar to the globe?</li> <li>• How are the longitude and latitude lines different in the various projections? Which ones are the most different from the globe? Which ones are the most similar to the globe?</li> <li>• Ask: Why would a 2-dimensional map be more useful than a globe?</li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction/Non Fiction</b>	<i>World Lakes Reader</i>
<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>

<b>Domain Lesson 3</b>	Chapter 1: Lakes of Africa
<b>MN Academic Standards</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Define the term lake and understand how lakes differ from other bodies of water.</li> <li>• Describe Lake Tanganyika, Lake Victoria, and Lake Chad, including the continent on which they are</li> <li>• located and characteristics unique to each lake.</li> <li>• Understand the meaning of the following domain-specific vocabulary: lake, rift valley, resource, dock, source, game reserve, and papyrus; and of the phrase “transportation route.”</li> </ul>
<b>Vocabulary</b>	lake, rift valley, resource, “transportation route”, dock, source, game reserve, papyrus
<b>Procedure</b>	<ul style="list-style-type: none"> <li>• Distribute copies of the World Lakes Student Reader, and suggest students take a few minutes to look at the cover and flip through the Table of Contents and images in the book. Ask students to brainstorm individual words or simple phrases describing what they notice in the Table of Contents and various images; record this information in a list on the board or chart paper. Students will likely mention water, fish or fishing, boats or ships, and the continents of Africa, South America, North America, and so on.</li> <li>• Introduce Core Vocabulary</li> </ul>

	<ul style="list-style-type: none"> <li>• Tell students that they will be reading about lakes found in Africa in this chapter. Introduce the Big Question. Ask what resources and benefits each of the three African lakes provide to people.</li> <li>• Class reads aloud chapter 1 “Lakes of Africa” from <i>World Lakes Student Reader</i></li> <li>• Ask students to write a short answer to the Big Question, “What resources and benefits does each of the three African lakes provide to people?”</li> <li>• Complete “Cool Facts About World Lakes” <ul style="list-style-type: none"> <li>○ Fill out the African lakes - will be used for all 4 chapters</li> </ul> </li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction/Non Fiction</b>	<i>World Lakes Reader</i>
<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>

<b>Domain Lesson 4</b>	Chapter 2: Lakes of South America
<b>MN Academic Standards</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Describe Lake Titicaca and Lake Maracaibo, including the continent on which they are located and particular characteristics unique to each lake.</li> <li>• Identify the resources provided by Lake Titicaca and Lake Maracaibo.</li> <li>• Understand the meaning of the following domain-specific vocabulary: natural resource, plateau, gulf, petroleum, derrick, and industry; and of the phrase “trading hub.”</li> </ul>
<b>Vocabulary</b>	natural resource, plateau, gulf, petroleum, derrick, industry, “trading hub”
<b>Procedure</b>	<ul style="list-style-type: none"> <li>• Display a copy of the World Map (AP 1.1), pointing out and naming each continent.</li> <li>• Remind students that in the previous chapter, they read about lakes located in Africa. Ask students to name the lakes (Tanganyika, Victoria, and Chad) and to name one interesting fact about each lake. Tell students that today, they will read about lakes located in South America.</li> <li>• Introduce core vocabulary</li> <li>• Tell students that they will be reading about lakes found in South America in this chapter. Introduce the Big Question. Ask: In what ways are these South American lakes important natural resources.</li> <li>• Class reads aloud chapter 2 “Lakes of South America” from <i>World Lakes Student Reader</i> <ul style="list-style-type: none"> <li>○ Distribute copies of AP 1.1</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Complete Timeline</li> <li>● Ask students to write a short answer to the Big Question, “What resources and benefits does each of the three African lakes provide to people?” <ul style="list-style-type: none"> <li>○ Complete “Cool Facts About World Lakes”</li> <li>○ Fill out the South American lakes</li> </ul> </li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction/Non Fiction</b>	<i>World Lakes Reader</i>
<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>

<b>Domain Lesson 5</b>	Chapter 3: The Great Lakes of North America
<b>MN Academic Standards</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>● Describe the Great Lakes, including the continent on which they are located, characteristics unique to each lake, and why they are important.</li> <li>● Describe how ships travel from lake to lake.</li> <li>● Understand the meaning of the following domain-specific vocabulary: mineral, cargo ship, canal, lock, strait, and smokestack.</li> </ul>
<b>Vocabulary</b>	mineral, cargo ship, canal, lock, strait, smokestack
<b>Procedure</b>	<ul style="list-style-type: none"> <li>● Display a copy of the World Map (AP 1.1), pointing out and naming each continent.</li> <li>● Remind students that in the previous chapter, they read about lakes located in South America. Ask students to name the lakes (Titicaca and Maracaibo) and to name one interesting fact about each lake. Tell students that today, they will read about lakes located in North America.</li> <li>● Read the title of the chapter. Point out the word great, and ask students what it means. Briefly discuss the question, “What could make a lake ‘great’?”</li> <li>● Explain that one reason the Great Lakes are called “great” is because of their size. They are so big that when you stand on one shore, you can’t see across to the other side of the lake.</li> <li>● Introduce core vocabulary</li> <li>● Tell students that they will be reading about lakes found in North America in this chapter. Introduce the Big Question. Ask: Why are the Great Lakes of North America such important transportation routes?</li> <li>● Class reads aloud chapter 3 “Lakes of North America” from <i>World Lakes Student Reader</i></li> <li>● Ask students to write a short answer to the Big Question, “Why are the Great Lakes of North America such important transportation routes?”</li> </ul>

	<ul style="list-style-type: none"> <li>○ Complete “Cool Facts About World Lakes”</li> <li>○ Fill out the North American lakes</li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction/Non Fiction</b>	<i>World Lakes Reader</i>
<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>

<b>Domain Chapter 6</b>	Chapter 4: Lakes of Eurasia
<b>MN Academic Standards</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Describe Lake Baikal, the Caspian Sea, and the Aral Sea, including their locations in relation to the European and Asian continents, characteristics unique to each, and why they are important.</li> <li>• Explain the differences between a freshwater lake and a saltwater lake.</li> <li>• Understand the meaning of the following domain-specific vocabulary: optical illusion, evaporate, outlet, volume, and divert.</li> </ul>
<b>Vocabulary</b>	optical illusion, evaporate, outlet, volume, divert
<b>Procedure</b>	<ul style="list-style-type: none"> <li>• Display a copy of the World Map (AP 1.1), pointing out and naming each continent.</li> <li>• Remind students that in the previous chapter, they read about the Great Lakes, located in North America. Ask students to name each of the lakes and to name one interesting fact about each lake. Tell students that today, they will read about lakes located on the continents of Europe and Asia.</li> <li>• Now call students’ attention to the title of this chapter, “Lakes of Eurasia,” and explain that Eurasia is a term used to refer to the combined area of both Europe and Asia. These are the only continents that share a land mass. Be sure that students understand that Eurasia is not a new or separate continent; it is an abbreviated way of referring to this region, rather than saying “Europe and Asia.”</li> <li>• Introduce core vocabulary</li> <li>• Tell students that they will be reading about lakes found in North America in this chapter. Introduce the Big Question. Ask: Why do some lakes contain fresh water and some salt water?</li> <li>• Class reads aloud chapter 4 “Lakes of Eurasia” from World Lakes Student Reader</li> <li>• Ask students to write a short answer to the Big Question, “Why do some lakes contain fresh water and some salt water?” <ul style="list-style-type: none"> <li>○ Complete “Cool Facts About World Lakes”</li> <li>○ Fill out the Eurasia lakes</li> </ul> </li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction/Non Fiction</b>	<i>World Lakes Reader</i>

<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>

<b>Domain Lesson 7</b>	Domain Assessment
<b>MN Academic Standards</b>	
<b>Objectives</b>	
<b>Vocabulary</b>	
<b>Procedure</b>	<ul style="list-style-type: none"> <li>• Complete Assessment: <i>World Lakes</i></li> </ul>
<b>Poetry</b>	<i>If Applicable</i>
<b>Fiction</b>	<i>World Lakes Reader</i>
<b>Saying and Phrases</b>	<i>If Applicable</i>
<b>Writing</b>	<i>If Applicable</i>