

RESOURCE LIBRARY
LESSON

More Physical Geography and Borders

Students research four additional examples of physical geography and borders. They explore how mountains, oceans, and islands create physical barriers that affect the country borders in Europe.

GRADES

6 - 8

SUBJECTS*English Language Arts, Geography, Physical Geography***CONTENTS**

3 Activities

ACTIVITY 1: OCEAN AND SEA BORDERS | 1 HR

DIRECTIONS

1. Have a whole-class discussion about the guiding question for this activity.

Remind students that, in addition to providing transportation routes, oceans and seas contain valuable natural resources, such as oil trapped below the sea floor and fish. Ask:

- *Who has the rights to these resources?*
- *How do we define the borders of country rights?*
- *Who ensures that resources are not being exploited beyond sustainability?*

Write students' ideas on the board.

2. Introduce the activity.

Divide students into small groups. Explain to students that their tasks will be to define the rules, in any way that they see fit, for dividing the resources of the North Sea and to create a map defining those borders. Make sure students understand that the borders they draw within the North Sea will allocate resources to individual countries. The only rules are that a country must have a coastline that borders the North Sea. Students do not necessarily need to give every country a share of the North Sea.

3. Have students label their maps.

Distribute a copy of the map Borders Within the North Sea to each group. Display the MapMaker 1-Page Map of Europe on the board. Invite volunteers to investigate which countries border the North Sea, and therefore have a potential claim to resources within the North Sea, and have all groups add country labels to their North Sea maps. Then invite volunteers to use the MapMaker 1-Page tool to navigate to the map for each of those countries and have groups add any other features from these maps to the Borders Within the North Sea map that might help in their decision-making. Prompt students with questions such as: *Are there large port cities in any of these countries? How might this affect how a country wants to use the North Sea waterways?*

4. Have students define the rules for creating the borders and draw borders.

Ask groups to discuss the ways in which they wish to define the rules for creating the borders. Then have them map the borders between countries that will divide the resources of the North Sea among the individual countries. Encourage students to consider how those rules would change if ocean or sea borders moved due to climate change and sea level rise.

5. Have groups present their borders and rules to the whole class.

Regroup as a whole class and have each small group present their borders and the thinking behind their decision-making. Allow other groups to ask questions after each group presents.

Informal Assessment

Evaluate groups' completed maps and presentations based on their geographic reasoning, or ability to reason about the characteristics of the location of the North Sea and its connections to the various countries with a coastline bordering the North Sea. Ask students to work independently to write a short essay on the importance of the ocean as a natural border.

Extending the Learning

Have students use the [OSPAR Commission](#) website to compare their own border scheme with existing international agreements.

OBJECTIVES

Subjects & Disciplines

Geography

- [Physical Geography](#)

Learning Objectives

Students will:

- define the rules for dividing natural resources of an ocean or sea
- create a map defining those borders

Teaching Approach

- Learning-for-use

Teaching Methods

- Discussions
- Hands-on learning
- Writing

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Learning and Innovation Skills
 - Communication and Collaboration
 - Critical Thinking and Problem Solving
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Understanding
- Geographic Skills
 - Analyzing Geographic Information
 - Asking Geographic Questions
 - Organizing Geographic Information

National Standards, Principles, and Practices

NATIONAL COUNCIL FOR SOCIAL STUDIES CURRICULUM STANDARDS

- Theme 3:

People, Places, and Environments

NATIONAL GEOGRAPHY STANDARDS

- Standard 1:

How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

- Standard 13:

How the forces of cooperation and conflict among people influence the division and control of Earth's surface

- Standard 14:

How human actions modify the physical environment

- Standard 16:

The changes that occur in the meaning, use, distribution, and importance of resources

ISTE STANDARDS FOR STUDENTS (ISTE STANDARDS*S)

- **Standard 4:**

Critical Thinking, Problem Solving, and Decision Making

Preparation

BACKGROUND & VOCABULARY

Background Information

Oceans cover approximately 71% of Earth's surface and contain 97% of the total water resources of the planet. The oceans are considered a common property resource; that is, no one country owns the world's oceans or controls the resources found in them. As a result, oceans are often subject to the tragedy of the commons—the idea that if a resource is held in common for use by all, then ultimately that resource will be destroyed. Individuals, countries, or corporations often have little incentive to preserve or protect the ocean's resources.

However, countries with ocean or sea borders do have some control over a limited area extending into the ocean from their coastal borders. The United Nations Convention on the Law of the Sea was signed on December 10, 1982. According to it, each coastal country's sovereign territorial waters extend to a maximum of 22 kilometers (12 nautical miles) beyond its coast. Beyond these territorial waters, every coastal country can establish an exclusive economic zone (EEZ) extending 370 kilometers (200 nautical miles) from shore. Within the EEZ, a coastal country has the right to exploit and regulate fisheries, construct artificial islands and installations, use the zone for other economic purposes, and regulate scientific research by foreign vessels. Every coastal country has exclusive rights to the oil, gas, and other natural resources in the seabed up to 200 nautical miles from shore.

Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
border	noun	natural or artificial line separating two pieces of land.
city	noun	large settlement with a high population density.
climate change	noun	gradual changes in all the interconnected weather elements on our planet.
coast	noun	edge of land along the sea or other large body of water.
country	noun	geographic territory with a distinct name, flag, population, boundaries, and government.
exploit	verb	to use or take advantage of for profit.
natural resource	noun	a material that humans take from the natural environment to survive, to satisfy their needs, or to trade with others.
ocean	noun	large body of salt water that covers most of the Earth.
port	noun	place on a body of water where ships can tie up or dock and load and unload cargo.
sea	noun	large part of the ocean enclosed or partly enclosed by land.
sea level rise	noun	increase in the average reach of the ocean. The current sea level rise is 1.8 millimeters (.07 inch) per year.
sustainability	noun	use of resources in such a manner that they will never be exhausted.
transportation	noun	movement of people or goods from one place to another.

Before Moving on to the Next Activity

Make sure you have groups' completed maps from Lesson 1, Activity 1 in the Beyond Borders unit.

ACTIVITY 2: RESEARCH EXAMPLES OF PHYSICAL GEOGRAPHY | 50 MINS

DIRECTIONS

1. Build background about how countries share geographical features such as oceans.

Remind students about their decision-making in [Lesson 5, Activity 1](#) regarding ocean and sea borders. Ask: *How do you think countries actually divide and share ocean resources?* Explain to students that each country abides by an international agreement establishing an exclusive economic zone (EEZ), an area extending 200 nautical miles off a country's coast. According to this agreement, each country has the right to explore and exploit the living and nonliving

things in its EEZ. Ask: *How might sharing a geographical feature, like an ocean, or a natural resource within it create problems between the countries that share them?* Students may mention disagreements surrounding environmental preservation, distribution of resources, commercial activity, residential and military occupation, and travel and tourism.

2. Have students compare and contrast possible conflicts around specific physical features.

Ask students to keep in mind their ideas about how countries may disagree about sharing ocean resources. Then remind students of what they explored in Lesson 4: Conflict on the Danube. Two countries had to share the Danube River, leading to some conflict. Ask: *Do you think the same issues could cause conflict around an ocean? A mountain range? Another physical feature? How are each of these scenarios similar or different?* Capture students' ideas on the board.

3. Have students research case studies of countries' disputes over physical geography.

Distribute a copy of the worksheet Physical Geography Research Project to each student. Then divide the class into small groups of four. Assign each group one of the four examples to research, using the provided websites. Give groups maps according to the examples they are assigned:

- Example 1: The North Sea—Map: Major Bodies of Water in Europe
- Example 2: Scandinavia—Map: Physical Map of Scandinavia
- Example 3: Strait of Gibraltar—Map: Major Bodies of Water in Europe
- Example 4: The Netherlands—Map: The Netherlands: Reclaimed Land

Tell students they will become experts on their assigned case study, and will need to be prepared to share their expertise with classmates in Lesson 5, Activity 3 of this unit. Have them turn in their completed worksheets, or publish them in the classroom so students can see or read their classmates' work.

Modification

If you have limited computers and/or computer availability: Instead of having students research their own project, select one example for the class to explore in depth. Or, select two examples to research as a class and create a chart comparing and contrasting them.

Modification

In Step 3, have students complete the North Sea (Example 1) research as a whole-class exercise. Then have the class continue with the three remaining case studies, supporting students as needed. Or, have students independently research one of the other three case studies.

Informal Assessment

Evaluate students' completed Physical Geography Research Project worksheets.

Extending the Learning

Encourage students to find a new example that is not listed, and research and report on it.

OBJECTIVES

Subjects & Disciplines

- English Language Arts
 - **Geography**
 - Physical Geography

Learning Objectives

Students will:

- research examples of physical features in Europe that intersect with country borders in interesting ways

Teaching Approach

- Learning-for-use

Teaching Methods

- Cooperative learning
- Discussions

- Reading
- Research

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information, Communications, and Technology Literacy
 - Learning and Innovation Skills
 - Communication and Collaboration
- Critical Thinking Skills
 - Analyzing
 - Remembering
 - Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information

National Standards, Principles, and Practices

NATIONAL COUNCIL FOR SOCIAL STUDIES CURRICULUM STANDARDS

- **Theme 3:**

People, Places, and Environments

- **Theme 8:**

Science, Technology, and Society

NATIONAL GEOGRAPHY STANDARDS

- **Standard 1:**

How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

- **Standard 13:**

How the forces of cooperation and conflict among people influence the division and control of Earth's surface

- **Standard 14:**

How human actions modify the physical environment

- **Standard 16:**

The changes that occur in the meaning, use, distribution, and importance of resources

ISTE STANDARDS FOR STUDENTS (ISTE STANDARDS*S)

- **Standard 2:**

Communication and Collaboration

- **Standard 3:**

Research and Information Fluency

Preparation

BACKGROUND & VOCABULARY

Background Information

Countries with ocean or sea borders have some control over a limited area extending into the ocean from their coastal borders. The United Nations Convention on the Law of the Sea was signed on December 10, 1982. According to it, every coastal country can establish an exclusive economic zone (EEZ) extending 370 kilometers (200 nautical miles) from shore. Within the EEZ, a coastal country has exclusive rights to the oil, gas, and other natural resources in the seabed up to 200 nautical miles from shore. Oil was discovered in the North Sea in the 1960s. Oil is one of the most valuable resources taken from the ocean today. The claim had to be divided among the many countries that border the North Sea—the United Kingdom, France, Belgium, the Netherlands, Germany, Denmark, and Norway.

A peninsula is a piece of land jutting out into a lake or into the ocean. Because they are surrounded on three sides by water, peninsulas usually have long coastlines. "Peninsula" comes from two Latin words, which together mean "almost an island." The Scandinavian Peninsula in northern Europe is one physical feature where there are three countries: Finland, Norway, and Sweden.

A strait is a narrow passage of water that connects two larger bodies of water. One of the best known is the Strait of Gibraltar, which links the Mediterranean Sea and the Atlantic Ocean. Historically, straits have had great strategic importance. Whoever controls a strait is likely to control the sea routes of an entire region. The countries controlling the Strait of Gibraltar control the flow of traffic into and out of the Mediterranean Sea.

The edge of land that borders the ocean along a continent or an island is called the coast, or seacoast. Most people think of coasts as fixed, enduring boundaries that mark the land's end. Yet all coasts are constantly changing in an endless battle with the ocean. In some areas of Europe, countries struggle with their water borders. They have had to erect barriers against the ocean to prevent coastal flooding caused by high winds and tides or by seismic sea waves called tsunamis. For 800 years, the Netherlands has been successfully fighting against the North Sea to keep its coastline. Sixty-five percent of the Netherlands would be underwater today if it were not for the dikes constructed by humans.

Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
border	<i>noun</i>	natural or artificial line separating two pieces of land.
coast	<i>noun</i>	edge of land along the sea or other large body of water.
conflict	<i>noun</i>	a disagreement or fight, usually over ideas or procedures.
country	<i>noun</i>	geographic territory with a distinct name, flag, population, boundaries, and government.
exclusive economic zone (EEZ)	<i>noun</i>	zone extending 200 nautical miles off a country's coast. A country has the right to explore and exploit the living and nonliving things in its EEZ.

Term	Part of Speech	Definition
mountain range	<i>noun</i>	series or chain of mountains that are close together.
natural resource	<i>noun</i>	a material that humans take from the natural environment to survive, to satisfy their needs, or to trade with others.
ocean	<i>noun</i>	large body of salt water that covers most of the Earth.
physical features	<i>noun</i>	naturally occurring geographic characteristics.

ACTIVITY 3: PRESENT RESEARCH ON PHYSICAL GEOGRAPHY | 50 MINS

DIRECTIONS

1. Have students use the jigsaw cooperative learning strategy to discuss their case studies.

Have students regroup in their small groups from Lesson 5, Activity 2 and make sure they have their completed worksheets from that activity. Remind students they are in their "expert" groups. They have studied one case study in depth. Regroup students so that each new group of four has at least one member from each expert group. Have each expert in a group report on their case study. Other students learn from the experts and complete their worksheets.

2. Have groups present their findings.

Have each group present their case study to the class by reading aloud the scenario and explaining the answers they arrived at while conducting their research.

3. Make generalizations about the impacts of physical features on country borders.

Hold a class discussion about physical features and their impact on country borders using the questions below as prompts. Encourage students to cite their research projects or other specific examples to support their answers.

- How are mountain ranges important in defining borders? How would the answer be similar or different for rivers?
- When a country borders an ocean, how might that impact the borders of that country? Consider uses of oceans, and also changes in the oceans over time in your answer.
- How are our relationships with physical features changing with increased technology? Are mountains, rivers, and oceans important barriers to movement, trade, and culture anymore? How is this different from 100 or 1,000 years ago?

Modification

The case studies can be presented orally or in writing.

Informal Assessment

Check for student understanding by observing their presentations and jigsaw and whole-class discussion contributions. Evaluate how well students are able to integrate small-group research findings into the whole-class discussion.

Extending the Learning

Have students research additional physical features in their own region or state and present their findings. Provide students with the following questions to research: What physical features are important in your area? How do physical features impact state, city, and other borders? Have there ever been conflicts around those borders?

OBJECTIVES

Subjects & Disciplines

Geography

- Physical Geography

Learning Objectives

Students will:

- develop generalizations about physical features and their impacts on country borders

Teaching Approach

- Learning-for-use

Teaching Methods

- Cooperative learning
- Discussions
- Jigsaw

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Learning and Innovation Skills
 - Communication and Collaboration
- Critical Thinking Skills
 - Analyzing
 - Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information
 - Answering Geographic Questions

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- **Standard 14:**

How human actions modify the physical environment

- **Standard 16:**

The changes that occur in the meaning, use, distribution, and importance of resources

- **Standard 17:**

How to apply geography to interpret the past

Preparation

BACKGROUND & VOCABULARY

Background Information

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Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
border	<i>noun</i>	natural or artificial line separating two pieces of land.
country	<i>noun</i>	geographic territory with a distinct name, flag, population, boundaries, and government.
culture	<i>noun</i>	learned behavior of people, including their languages, belief systems, social structures, institutions, and material goods.
mountain range	<i>noun</i>	series or chain of mountains that are close together.
ocean	<i>noun</i>	large body of salt water that covers most of the Earth.

Term	Part of Speech	Definition
physical features	<i>noun</i>	naturally occurring geographic characteristics.
river	<i>noun</i>	large stream of flowing fresh water.
trade	<i>noun</i>	buying, selling, or exchanging of goods and services.



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