



Class 3

THE ENVIRONMENT AS HOME AND SHAPER OF ECONOMY

Title:

Class 3. The Environment as Home and Shaper of Economy

Topics (CHAPTERS – Video lectures):

Chapter 1 Video. [Climate zones and economy](#)

Chapter 2 Video. [Topography](#)

Chapter 3 Video. [River systems](#)

Chapter 4 Video. [Trade Routes](#)

Chapter 5 Video. [Disease patterns and environment](#)

Subject/Course: Civics, History, Geography, Religion, Ethics, Social Studies

Grade: Secondary School Level

The Ages of Globalization book reference chapters: Chapter 1. Seven Ages of Globalization

Download your free copy [here](#).

Timeline:

<https://docs.google.com/spreadsheets/d/1tW8CGeWqgNLMda6sl99KLaNoI4Xaryz2WbWkaHHsQiU/edit#gid=1088092373>

Please consult the **Lesson Plan Guide** to understand the structure of this and all other lesson plans, and how to best utilize it for your students' learning journey.

Stage 1 – Desired Results



In this section, you will find a detailed framework that outlines the overall learning goals, the enduring understandings, attitudes and values students will develop, essential questions students should be able to formulate and/or to provoke deep thinking and discussion, and specific learning outcomes that emphasize both knowledge and skills.

Established Goals:

Summary/Overarching:

Learners will understand the historic influence of climate and geography in shaping the economy and economic activities around the world.

Enduring Understandings:

Students will...

- ▲ Appreciate the interconnectedness between human activities and environmental well-being.
- ▲ Empathize with nature and place value on the need to take care of the natural environment at local and global scale, including through adoption of green practices and use of green skills.
- ▲ Show concern over access to fresh water and adequate sanitation in their own locality/country and discuss how to encourage people to address these issues with empathy for others and fairly.

Essential Questions:



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- ▶ What are the drivers of globalization?
- ▶ What implications do geographic characteristics have on the prosperity of a region/s?
- ▶ What is the interconnectedness between human activities and environmental well-being?
- ▶ How has interconnectedness through trade shaped the world?

Students will know...

The #s in parenthesis point to [UNESCO's Learning Objectives for the Sustainable Development Goals](#)

- ▶ (9-12, 1.1C) how to investigate the range of temperatures in their country.
- ▶ (9-12, 1.4C) how to identify geographic regions where

the supply of water for households, as well as for agriculture and industry, is plentiful or problematic.

- ▶ How to describe sources of freshwater, and human dependence on its availability and purity.

Students will be able to...

- ▶ Collaborate with youth groups and other organizations to raise awareness of water-related national concerns, such as shortages of fresh/ potable water, sanitation, hazards of flooding and drought, with a special focus on the needs of vulnerable populations, building resilience and addressing issues of climate justice.

Stage 2 – Assessment Evidence



In this section, you'll find key concepts and definitions essential for understanding the course material as well as activities, such as Vocabulary Flashcards, Check-Your-Facts and Fill-in-the-Blank to enhance your students' comprehension and retention. You can adapt these activities to suit various subjects and grade levels.

Concepts & Definitions

Familiarize yourself with the provided terms, such as "Lucky Latitudes," "Silk Roads," and others. Understanding these definitions will help you effectively teach the material and connect it to your lessons.

Vocabulary Activity

Create physical flashcards for each term. This hands-on approach helps reinforce terminology and aids in building a solid foundation of knowledge. Encourage students to use these flashcards for review and practice.

- ▶ **Lucky Latitudes:** Historians have referred to the band of the largely temperate zone in the Eurasian region (stretching over 10,000 kilometers from Europe to China) as the "lucky latitudes" because this region has been distinctively the most prosperous and

technologically dynamic part of the world throughout the long course of history. In fact, we can see that the Lucky Latitude band was already home to the first urban settlements in the world 3,000 years ago. In these regions, agriculture was so productive that a portion of the population could grow enough food to sustain a significant number of people living in non-agricultural settlements, particularly in urban areas. These were the regions of food surplus that could support non-agricultural urban activities.

- ▶ **The Silk Roads** (130 B.C.E. - 1453 C.E.): were long-distance trade routes that linked Europe and East Asia, promoting prosperity and the exchange of knowledge across the vast Eurasian landmass. This network of routes was used by traders for over 1,500 years, starting when the Han dynasty of China opened trade in 130 B.C.E. and continuing until 1453 C.E., when the Ottoman Empire closed off trade with the West (National Geographic).
- ▶ **Weather:** is the mix of events that happen each day in [our atmosphere](#). Even though there's only one atmosphere on Earth, the weather isn't the same all around the world. Weather is different in different parts of the world and changes over minutes, hours, days, and weeks (National Oceanic and Atmospheric Administration).



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- ▶ **Climate:** Whereas weather refers to short-term changes in the atmosphere, climate describes what the weather is like over a long period of time in a specific area (National Oceanic and Atmospheric Administration).
- ▶ **The Köppen-Geiger climate classification system:** is one of the most common climate classification systems in the world. It is used to denote different climate regions on Earth based on local vegetation (National Geographic). According to the Köppen-Geiger climate classification system, the world's climates are categorized into 6 main zones: tropical, dry, temperate, cold, highland and polar.
- ▶ **Temperate climate zone:** In geography, the temperate or tepid climates of Earth occur in the middle latitudes, which span between the tropics and the polar regions of Earth. In most climate classifications, temperate climates refer to the climate zone between 35 and 50 north and south latitudes (between the subarctic and subtropical climates). These zones generally have wider temperature ranges throughout the year and more distinct seasonal changes compared to tropical climates, where such variations are often small. They typically feature four distinct seasons: summer, autumn, winter and spring (Scholarly Community Encyclopedia).
- ▶ **Mediterranean climate zone:** according to the [Köppen classification](#), this [climate type](#) is [characterized](#) by hot, dry summers and cool, wet winters and located between about 30° and 45° latitude north and south of the [Equator](#) and on the western sides of the [continents](#) (Britannica).
- ▶ **Adam Smith** (baptized June 5, 1723, Kirkcaldy, Fife, Scotland—died July 17, 1790, Edinburgh): is a [Scottish](#) social [philosopher](#) and political economist, instrumental in the rise of [classical liberalism](#). Adam Smith is a towering figure in the history of economic thought. Known primarily for a single work – [An Inquiry into the Nature and Causes of the Wealth of Nations](#) (1776), the first [comprehensive](#) system of [political economy](#) – he is more properly regarded as a social philosopher whose economic writings [constitute](#) only the capstone to an overarching view of political and social evolution. If his masterwork is viewed in relation to his earlier lectures on [moral](#) philosophy and government, as well as to [allusions](#) in *The Theory of Moral Sentiments* (1759) to a [work](#) he hoped to write

on “the general principles of [law](#) and government, and of the different revolutions they have undergone in the different ages and periods of society,” then *The Wealth of Nations* may be seen not merely as a [treatise](#) on [economics](#) but also as a partial exposition of a much larger scheme of historical evolution (Britannica).

Check-Your-Facts / Review Questions

Utilize this activity to promote critical thinking by having students verify and analyze information related to the concepts and definitions.

1. **What are the 3 key drivers of globalization?** (1 physical geography, 2) technologies and know-how, and 3) cultural/political institutions).
2. **What is the significance of Lucky Latitudes? And what is the relationship between climate zones and the economy?** (The lucky latitudes, a band of temperate climates, stretching across Eurasia, have historically been prosperous and technologically dynamic. A location's climate and physical features play an important role in shaping its economic structure and prosperity. Factors such as being in a mountain region, along a coast, or near global trade lanes influence a location's economic characteristics).
3. **What is the difference between weather and climate?** (Weather is the short-term changes in the atmosphere while climate is the patterns of weather over a long period of time in a given area).
4. **What are some advantages and disadvantages of a mountainous location?** (Mountain regions are typically regions of mining activity with lots of natural resources and have natural protection from outside attacks, but also it is costly to export out of the region and certain staple crops cannot be grown).
5. **What was the central message of Adam Smith's *Wealth of Nations* (1776)?** (His observation was that global free trade would raise global living standards and that trade between nations should be viewed as a win-win proposition. Enabling trade as a matter of public policy would allow free flow of goods and services across national boundaries, and also enable local ecology, its natural resource base, the tastes



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and the culture of the local population and meet its needs by exporting its goods and importing goods and services from the rest of the world).

6. How does Singapore exemplify geography/ location's bearing on a nation's economic prosperity?

(Singapore lies along a sea trade route along a great shipping lane between Europe and Asia. This opportune positioning along with strong leadership has produced the country's prosperity).

7. What does the spread of malaria teach us about the linkage between physical geography and disease?

(Transmission of disease is only possible in certain physical conditions and depends on temperature, rainfall and availability of breeding sites for mosquitoes. An outside temperature of about 18+ degrees Celsius or around 65+ degrees Fahrenheit or warmer is required for the life cycle transformation of the malaria pathogen to occur rapidly enough for the mosquito to live, transmitting the pathogen to another vulnerable person before the mosquito itself dies in its relatively short lifespan).

Fill-In-The-Blank

Incorporate this activity to assess students' understanding of key concepts and historical periods. Provide a word bank to support their learning and check their grasp of the material.

1. The Köppen climate classification system's main climate zones include: **tropical, dry, temperate, cold**

and polar).

2. Climate shapes **(patterns of agriculture)** and the types of crops, which also affects pastoralism in a given area to be able to breed and raise livestock and animals.
3. The temperate zone is situated roughly from around **(15 - 35 degrees north latitude)**. This is where a lot of the Earth's population has lived and a lot of the great political structures of the world, including the empires of the past and present have developed.
4. In the lucky latitudes, agriculture was so productive that a portion of the population could grow enough food to sustain a significant number of people living in non-agricultural settlements, particularly in urban areas. These were the regions of **(food surplus)** that could support non-agricultural urban activities.
5. The lucky latitudes were also the region of tremendous interchange, **(long distance trade)**, flow of know-how and technologies.
6. Climate, **(topography and geology)** all interact to produce the shape of globalization and the shape of the world economy.
7. The civilizations and developments along the Nile, Ganges, Yangtze, Tigris, Euphrates, and Danube point to the critical role of **(river systems)**.
8. Adam's Smith Wealth of Nations (1776) essentially invented the modern science of **(economics)**.
9. Physical geography also affects the **(disease burden)** facing human populations and animal livestock populations.

Stage 3 – Learning Activities



In this section, you will find the different learning activities associated with this specific Class. We recommend that you begin by watching the lecture videos as a basis for the course and as a primary element for the course content. Interactive reference maps are mentioned in the lectures and activities.

Lecture Videos

- Chapter 1 Video.** [Climate zones and economy](#)
Chapter 2 Video. [Topography](#)
Chapter 3 Video. [River systems](#)
Chapter 4 Video. [Trade Routes](#)
Chapter 5 Video. [Disease patterns and environment](#)



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Reference Maps

<https://sdgstoday-sdsn.hub.arcgis.com/pages/ages-of-globalization-data>

- ▶ 1.7 The Köppen climate classification system (AOG book p.23)
- ▶ 3.2 The Lucky Latitudes and the Climate Zones (AOG book p.49)
- ▶ 4.6 Ancient Urban Centers Were Concentrated in the Lucky Latitudes (AOG book p.67)
- ▶ 5.5 Major Eurasian Empire as of 100 CE (AOG book p.82)

- ▶ 4.1 Eurasian Steppe Region (AOG book p.54)
- ▶ 5.6 The Silk Road, First Century CE (AOB book p.85)
- ▶ 4.2 Teste-Infested Areas of Africa (AOG book p.56)

Download your free copy of the AOG book [here](#).

Summary



Video Lectures

Class 3 Chapter 1 Video Summary

- ▶ Globalization is influenced by three key drivers: physical geography, technologies and know-how, and cultural/political institutions.
- ▶ Physical geography, specifically climate, shapes societies and economies.
- ▶ Climate is the average of weather patterns in a given place, and it significantly impacts economic structures and wealth distribution.
- ▶ The Köppen-Geiger climate classification system is used for climate classification, categorizing regions based on climate zones.
- ▶ Tropical climates, near the equator, are warm year-round and include rainforests like the Amazon and Congo Basin.
- ▶ Temperate zones, with four seasons, are suitable for staple crops and are known for wine-growing in Mediterranean climates.
- ▶ Colder climates, especially near the poles, are less favorable for farming and supporting large populations.
- ▶ Dry regions, labeled as arid zones, include deserts and grasslands, influencing pastoralism and horse breeding.

- ▶ The lucky latitudes, a band of temperate climates, stretching across Eurasia, have historically been prosperous and technologically dynamic.
- ▶ This region facilitated long-distance trade, knowledge diffusion, and the development of classical empires.
- ▶ The steppe regions, known for grasslands and horses, served as a historical East-West connector, facilitating trade and cultural exchange.
- ▶ Climate holds a critical role in shaping societies and economies and concludes by highlighting the significance of understanding climate's deep role in the ages of globalization.

Class 3 Chapter 2 Video Summary

- ▶ A location's climate and physical features play an important role in shaping its economic structure and prosperity. Factors such as being in a mountain region, along a coast, or near global trade lanes influence a location's economic characteristics.
- ▶ Mountain regions are typically associated with mining activity and protection of communities but can be isolated and have high transport costs.
- ▶ Plains regions, if suitable for agriculture, are highly productive for crop agriculture, supporting high population densities.
- ▶ Coasts are advantageous for trade, as sea-based



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- trade is generally less expensive than overland trade.
- ▶ Rivers are vital transport networks, especially when combined with coastlines, facilitating navigation into continental regions.
 - ▶ Examples like New York City, Rotterdam, and Shanghai illustrate the economic benefits of being at the estuary of a river and a coastal city.
 - ▶ Economies are shaped by physical topography, with plains connecting people, mountains tending to separate people, and coastlines bringing economies into contact with the rest of the world through low-cost ocean-based trade.
 - ▶ Climate, physical topography, and geology interact to shape globalization and the world economy.
 - ▶ Class 3 Chapter 3 Video Summary
 - ▶ Topography, location, physical geography, and climate collectively shape economic and social life globally.
 - ▶ Rivers serve as vital interconnectors for commerce into continental interiors, contributing to the emergence of settlements, city-states, and empires.
 - ▶ Major rivers globally, including the Nile, Ganges, Danube, and various Chinese rivers, have historically influenced culture, religion, and political structures.
 - ▶ China's unification for over 2000 years is attributed to the interconnection of its great rivers through man made canals.
 - ▶ The Hudson River facilitated the prosperity and unification of the northeastern U.S. and the center of the country, connecting the Great Lakes system to the Atlantic Ocean.
 - ▶ Great cities worldwide are often associated with significant river systems, providing resources and serving as highways for goods, services, and troops.
 - ▶ Major rivers across continents, such as the Rhine, Danube, Nile, Niger, Amazon, Parana, Tigris, Euphrates, Brahmaputra, Ganges, Yangtze, Yellow, and Pearl, play decisive roles in shaping civilizations and economies.
 - ▶ Rivers are highlighted as central to the story of the ages of globalization, influencing the world economy and societies for thousands of years.
 - ▶ Class 3 Chapter 4 Video Summary
 - ▶ The essence of globalization is interconnection, such as through trade, involving the exchange of goods and services across long distances. Since ancient times, precious commodities have moved across hundreds or thousands of kilometers through trade.
 - ▶ Modern economies cannot function in isolation, and high standards of living depend on international trade.
 - ▶ Adam Smith's 1776 work, "The Wealth of Nations," emphasized that global free trade raises living standards worldwide.
 - ▶ International trade is crucial for prosperity, allowing regions to specialize in economic activities based on their local conditions.
 - ▶ Major historical trade routes include the Silk Road, connecting East and West Eurasia for over two millennia.
 - ▶ The Silk Road's significance diminished with the discovery of sea routes, but it was revived in the 21st century through initiatives like China's One Belt, One Road.
 - ▶ Singapore's prosperity is attributed to its strategic location along a natural sea route connecting Europe and China.
 - ▶ 21st-century technologies, such as fast rail, fiber connectivity, and modern ports, play a key role in the Belt and Road Initiative.
 - ▶ Changes in Earth's climate, particularly the decrease of sea ice in the Arctic, are reshaping sea-based trade routes.
 - ▶ The Arctic region is becoming a focal point for trade, potentially shifting major sea routes connecting Asia and Europe.
 - ▶ Global climate change will impact the patterns of globalization, influencing the world economy, power dynamics, and the diffusion of ideas.
- ### Class 3 Chapter 5 Video Summary
- ▶ Physical geography significantly influences economic and social life. Climate, topography, geology, river systems, and ocean locations shape economic patterns.
 - ▶ Disease burden from physical geography plays a crucial role in shaping globalization patterns.



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- ▶ Malaria, a vector-borne disease, is influenced by climate and transmitted by mosquitoes.
- ▶ Warm temperatures are necessary for the rapid life cycle transformation of the malaria pathogen. Malaria transmission is most intense in tropical zones near the equator.
- ▶ Sub-Saharan Africa has a high malaria burden due to specific mosquito species, warm temperatures, and suitable breeding sites.
- ▶ Genetic makeup in African populations reflects a long history of malaria and evolutionary adaptations. Malaria has been a historic burden affecting survival, morbidity, and economic development in sub-Saharan Africa.
- ▶ In the 21st century, improved technologies offer ways to prevent, treat, and cure malaria.
- ▶ Vector-borne diseases, shaped by physical geography, impact both humans and animals.
- ▶ African trypanosomiasis (African sleeping sickness) is a vector-borne disease affecting humans and domesticated animals.
- ▶ The tsetse fly transmits trypanosomes in the tropical equatorial regions of Africa, affecting cattle and horses.
- ▶ Warm climates, particularly in the tropics, are associated with heavy burdens of vector-borne diseases. Africa, within tropical regions, has the highest disease burden, impacting economic development.
- ▶ Neglected tropical diseases, including malaria and trypanosomiasis, are receiving more attention in the 21st century. Scientific breakthroughs and new technologies provide hope for addressing neglected tropical diseases and overcoming geographical burdens.

Activities



In this section, you can find a range of interactive activities involving maps, community engagement and a capstone project, designed to engage students in exploring geographic, historical, and environmental concepts. These activities foster critical thinking and help students connect personal and community experiences with larger global patterns, encouraging them to take positive action in their schools and communities. You can use these activities in their entirety or select certain sub-sections, use them as in-class activities or assign them as homework or both, providing you with additional materials to help students showcase their understanding of the desired learning outcomes. For the maps, you can work with ArcGIS to develop these maps or you can use your own maps.

Graphics Activities (Map, Data, Diagrams)

Activity #1: "What is it like in my locale/home?" (40 minutes)

In this activity, students will explore the geographical characteristics of their town (considering the location, climate, topography, elevation, etc.).

Introduction (5 minutes)

- ▶ Set the stage by asking the students the following warm-up question:
 - What are the geographical characteristics of your town? (considering the location, climate, topography, elevation, etc.)

Map creation (25min)

- ▶ Now use [ArcGIS](#) to map your town or use other maps available to you of your town (if possible, using various map layers that show the location as well as the topography, highlighting nearby river systems, mountains, temperature color codes, etc.). Then, using a sketch layer, create a point on the map to mark your town and use a polygon layer to draw its boundaries.
- ▶ NOTE: You can find some guidance on ArcGIS, amongst other, on how to make a sketch layer [here](#) and how to add pop-ups [here](#).

Map analysis (10min)

- ▶ Ask your students the following question and assign them a journal entry for this class as homework



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building on the map(s):

- ▶ Do you think the physical characteristics of your town have shaped the way of life in your town? Please consider economic activities, modes of travel/transport, access by visitors, local culture, etc.
- ▶ NOTE: You can ask students to interview parents, family members, community members and elders for more information.

Activity #2: “Local Climate Patterns” (40min)

In Class 3, we learned how economies are shaped by the environment. The resources available, the geographic links between regions, and cultures shape local and global economies. In this map activity, we will explore the climate regions on Earth to investigate their impacts on economies.

NOTE: The relevant map to use for this activity can be found via the [AOG data hub](#) and is labeled “Climate Zones”.

Activity Procedure:

Introduction (10 minutes)

- ▶ Access the map “Climate Zones” via the [AOG data hub](#), click the “Explore” button, at the bottom of the left-hand panel click “I want to use this”, select “Create a map with this data”, click “ArcGIS Map Viewer” to open the data in your own map and then use this map with your students to explore climate zone data.
- ▶ Show the map at the front of the room, either on the board or using a projector and take the students through the following prompts, using the map (10 minutes):
 - Who produced this data?
 - How was the data collected? (satellite, sediment samples, census data, etc)
 - What type of data is this?
 - What were the qualifications for a region to be urban? Rural? Do you agree with this characterization?
 - Note: The data sources for each map are located on the individual map layers. You can click the

“Explore” button on the individual layers and the source(s) will be listed under the description.

Map Analysis (20 minutes)

- ▶ Inspect the map together with your students to familiarize yourself with the data, how it is presented spatially, and the options available for navigating the map on ArcGIS.
- ▶ Identify two or more regions for each of the following environments: plains, mountains, steppes, tropical, and temperate.
- ▶ How does climate change with latitude? Identify regions that are exceptions to the general spatial pattern. Why might these regions have climates that differ from those around them?
- ▶ Identify three major rivers and/or deltas. What are the climates in these areas?
- ▶ In your home area, identify the topographic and hydrological features that impact the climate.
- ▶ Find another area on the globe with similar features. Are the climates the same?
- ▶ NOTE: You can find some guidance on ArcGIS, amongst other, on how to make a sketch layer [here](#) and how to add pop-ups [here](#).

Reflection (10 minutes)

- ▶ Invite your students to reflect and share key insights on the following questions:
- ▶ How have you experienced climate change in your hometown or country?
- ▶ How does this activity relate to the trade routes you have learned about?
- ▶ How can spatial analysis help us understand the spread of disease?

Journal Prompt

Speak to your parents, family members, or elders in your community as you respond to these questions. Write down:

- ▶ What are the geographical/physical characteristics of your town?
- ▶ Has it changed over time? activities, modes of travel/



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transport, access by visitors, local culture, etc.)

London: J. M. Dent , 1910.

<https://hdl.handle.net/2027/coo.31924018860332>

#21 - 30 (p.1-11)

Community Engagement & Student Action Considerations & Capstone Project

Community Engagement & Student Action Considerations

Now that you have learned the essential role the river system, local waterways, and local physical environment plays in the well-being of any location, you may want to focus on the environmental issues in your town.

- a. With peers, investigate the range of temperatures in your town/country (using whichever data that is available to you).
- b. Notice the changes over time. Has it changed? If so, how?
- c. Consider what may affect the temperature changes.
- d. Now, think of the environmental issues that are prominent in your town. What are they? How are they exacerbated? Are there any efforts to improve it?
- e. Engage community members to share your findings about the issue in your town, highlighting the critical role the physical environment plays in the well-being of your town.

Capstone Project

In this lesson, we learned how geography shaped the development of the major civilizations in human history.

- a. How has geography shaped your community?
Consider where your community is, why people settled there, and how geography and climate continue to impact where you live.
- b. Connection: How does your community's geography connect with how the 7 ages of globalization are reflected in your community?

Readings

Smith, Adam, 1723-1790. The Wealth of Nations.