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A Sense of Place: The Geography of Global Change
Sample Lesson

Unit 1, Lesson 1

What Does a Geographer Do?

Context

What does a geographer do? Many people think geography is just about maps and shapes of countries and knowing the names of all of the world's capital cities, but it is actually so much more. In fact, geography is about understanding the complex nature of humanity through the study of the relationship of human cultures to their environment.

Maps are important, but they are just one tool of the science. Ultimately, the point of studying geography is to add to our understanding of how our world came to be the way it is and how humanity might move into the future. For example, Jared Diamond, a renowned professor of geography at the University of California in Los Angeles, is known for revolutionizing our understanding of the European colonization of the Americas. He wrote a book called Guns, Germs, and Steel that demonstrates the exciting nature of geography in action.

You have one week to complete this lesson.

Watch

Watch this film, which is part one of a three-part documentary on Diamond's book:

Guns, Germs, and Steel: Out of Eden

The film contains powerful ideas to think about, perhaps especially during your next trip to the grocery store, or the next time you eat bread. Feel free to watch the other parts of the series if you are motivated; you will be significantly rewarded in knowledge.

Reflect

Before moving on, let's consider some important questions. The first has to do with you and your own unique curiosity. The other questions focus on important factors that you should have in your consciousness. We all benefit from all the human beings who lived before us, and by

studying their struggles and successes, we can learn how to manage our own struggles to achieve greater success.

1. What scene from this film stuck with you, or intrigued you? Describe the scene and explain what it was that you found important or interesting.
2. What key factors seem to explain why some civilizations advanced towards successful farming and place-based civilizations?
3. What was the one fundamental weakness of the Fertile Crescent that ultimately caused a thriving civilization to disappear?
4. Describe one recent event where extensive damage resulted from the same problem faced by civilizations in the Fertile Crescent. You may remember something from the recent news or you may not be aware of anything like it. That's okay! A main goal of this course is to help you become more aware of how current events are influenced, either directly or indirectly, by Earth's resources, landforms, and natural forces. Do some research and write a brief description of what happened, when, where, and how extensive the damage was to the physical environment and the community. Be sure to include your reference sources.

Context

As you can see from this video, the work of a geographer is dynamic and integrated with the work of other fields of study. In fact, there are many branches of geography which work closely with different disciplines to research specific issues.

The two main types of geography are human geography and physical geography. Human geography has to do with how human behavior and culture is influenced by the land, and physical geography explores issues related to natural resources and the forces that shape the natural world.

Read

To understand the full range of how geography can be broken into unique research areas check this out:

Branches of Geography

Context

While there are many intriguing facets to the study of world geography, in this course we'll focus on what it means to do geography—which is really about asking important questions that relate to our own modern civilizations.

Let's begin by putting what you just watched into a context that relates to you, who you are, and how you live.

Reflect

Think about how your own life is related to the actions of people who came before you, and think about how you, your family, and your community relate to the land you live on. Can you answer simple questions about how you came to live where you do? Do you know why the town or city in which you live resides where it does in the landscape? Have you ever considered where your daily resources (like water) come from, or who or what might have lived on the land before it was a city or town? What about the size of your town or city? What about the people who live near you? Who are they, and where did they come from? Have you considered the ways in which where you live has changed over time? For example, do the same trees grow there now as did 100 years ago? What about wildlife and plants: are these the same or different? And ask yourself, "Why does this matter?"

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Geographers grapple with these kinds of questions and they do so with the purpose of trying to understand not only how things came to be the way they are (especially before recorded history) but also to better understand how to plan for the future. We will, in this course, explore a great deal more about what it means to be a geographer and to DO geography, including the various skills and knowledge one must acquire.

Respond to the last question ("Why does this matter?") in a brief reflection (write about a half-page). This is your opinion of why it all matters, based on what you know right now, at the beginning of the course.

Share Your Work

When you have completed this lesson, share with your Oak Meadow teacher the following work (all your work can be added to your Google course doc):

- Responses to the four reflection questions about the film documentary, Guns, Germs, and Steel.
- Your half-page reflection on "Why does this matter?"

Unit II, Lesson 4

Human/Environment Interaction

Context

Now that you have a better sense for what our world looks like and where things are located, let's turn our attention to the unique relationship between humans and their environment. You will have two weeks to complete this lesson.

People often have a profound impact on the environments in which they live. Think about how people modify the land. We cut down forests, build dams and divert entire rivers, pour concrete and seal off the land from the air, build massive cities, clear land for farms, and plant and harvest fields repeatedly, often depleting the soil in the process. Indeed, there are very few landscapes in the world today unaltered by human hands. Even in the depths of the Amazon rainforest, tribes of hunter-gatherer humans interact with and change the landscape.

Just as we have a profound impact on the environment, it is also true that the environment has a profound impact on us, on how we live. We must alter our daily ways of being in relation to the season, temperature, extreme weather, the presence (or absence) of animal and plant species, and the availability of important resources. When it is mosquito season, we put on bug repellent; when it is bear season, we avoid quiet walks in the woods; when it rains, we find our raincoats;

when it is hot and sunny, we put on hats and sunscreen. Increasingly, we are also profoundly impacted by pollution in the air, on the land, and in our water.

Reflect

Consider how your life is influenced by where you live. Write a paragraph describing ways you adapt to changes in the seasons. Think beyond seasonal changes in wardrobe; discuss how your local environment and climate helps to shape what you do throughout the year.

(Photo credit: Ivanhoe65)

Watch

Watch these two films to better understand the vital relationships between people and their environment. The first film is one and a half hours, and the second is about 30 minutes, so please plan enough time this week for viewing these films.

Happy People: A Year in the Taiga

To watch Happy People please rent the video from iTunes or from Amazon at: https://www.amazon.com/Happy-People-Taiga-Werner-Herzog/dp/B00CHIM6M8, you can also watch it on Netflix for free if you have a Netflix account.

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Toxic Linfen (Part 1) and Toxic Linfen (Part 2)

Write

Write a 2–4 page response paper that expresses your reaction to the human/environment interaction portrayed in each film. The following questions can help shape the direction of your paper:

- How would you characterize the relationship between people and the land?
- What environmental factors influence how people live?
- What cultural practices, beliefs, and values do the people in these films have that are derived from their relationship to the land?
- What role does government play in the lives of the people in these two films?
- What do you think the future will be like for the people in the locations in these films?
- If you moved to this environment, how would you have to adjust your lifestyle in order to survive and thrive? What would you have to give up? What would you need to buy?
- If you were a member of the community, what changes would you like to make to increase sustainability and/or longevity of both the people and the land?

Your response paper should not just be a list of answers to these questions. It should primarily be composed of your own reaction to the two films. Feel free to add any other relevant comments or ideas.

This paper is your first substantial writing exercise in this course. Take the time to organize your main ideas and supporting details, and then expand your ideas into paragraphs and place them in a logical order. Read your rough draft and make changes to add clarity and depth, and to correct grammar, punctuation, and spelling. Proofread your final draft to make sure it is your best work.

Context

As the film about the town of Linfen, China shows, there are some very serious social and environmental challenges facing people around the globe. More than ever, geography and other sciences will be needed to understand these phenomenon and plan for our shared future. To continue helping you to gain the skills, perspectives, and analytic thinking needed in the study of geography, let's look at how geographers collect and interpret data to help them solve problems and answer questions.

When facing a complex issue, the ability to find reliable, relevant data, and then compare contrasting data, is an essential skill. In order to make a sound, thoughtful decision, we must be able to understand a situation from several different vantage points. For example, imagine a new ice cream store opens up in your community. Before spending your money in the store, you might want to gather some data on how good the ice cream is as compared to the other ice cream places in town. You might wait outside the store and ask customers what they think of the ice

cream. How much data will you need for a reliable sample? You would feel more well-informed about the quality of the ice cream if you asked twenty customers than if you just asked one or two. Gathering a large sample of data (asking more people) will give you a better understanding of the ice cream.

But it's not enough to just get a lot of data; the questions you ask have to specifically relate to what you are studying. For example, if you asked, "What did you think of this new ice cream store?" you might get answers ranging from the ice cream to the service to the décor. However, if you ask, "How does this ice cream compare to the other ice cream shops in town?" you will get a much more useful answer. By asking a specific, relevant question, you will get a considered analysis that will directly address your inquiry. What you ask is as important as how many people you ask.

Gathering data about a real-world situation requires asking well thought-out questions aimed at collecting information that will help you make decisions. And once you have good data, you need to be able to interpret what it means. Data do not speak for themselves; they always need to be placed into context.

To build on your ability to make real-world comparisons using actual data, we'll use resource maps developed by the World Resources Institute (WRI), a global research organization that works in more than 50 countries to document how humans are using the Earth's resources. The work focuses on six critical issues at the intersection of environment and development: climate, energy, food, forests, water, and cities. This organization creates the kind of relevant, authentic data that is invaluable for policy decisions on a national and global level, decisions that actually shape your life.

Interpret Data

Let's start by looking at a graph that was created to represent global human protein consumption, divided by plant-based and animal-based protein. The data is part of a larger exploration related to the connection between climate change and animal agriculture. (Large amounts of land and water are needed to raise animals intended as food, and the animals release large amounts of gases into the atmosphere.)

WRI Data Chart: Protein Consumption

Study this graph and answer the questions below.

1. What is the main theme this graph is intending to communicate?
2. What do the data points in the graph indicate? (What is being measured, who is the data about, what are the units of measure, etc.?)
3. According to the graph, what global region consumes the most animal protein?
4. What global region consumes the least animal protein?

5. What global region consumes the most vegetable protein?
6. What global region consumes the least total protein?
7. What global region consumes the most total protein?
8. Given what you know about the world's economy, and using the data on the graph, what can you infer about the global region that consumes the most protein and the one that consumes the least?

Now let's try a more complicated graphic that connects protein consumption to greenhouse gas emissions.

Take a look at this:

WRI Graphic: Diet Shifts

This graphic might be confusing at first. Start by reading the title and the key that shows what each color represents. Then focus on the top line of circle/pie graphs. Look at the title of each column and compare how the colors (the data) changes with each scenario. Remember, these are projections of the effects of different diets, not actual behaviors that have been measured.

Once you have a basic understanding of the top line of the graphic, look at the second line. First figure out what each little square represents, and then—keeping in mind what the colors mean—compare how the land use would change with each different diet. Finally, study the last two lines, making sure you first understand what the graphic is depicting.

Now answer the following questions:

1. Write down the title to this graphic and then explain in simpler language what you think the graph is trying to communicate.
2. What does “per capita” mean? (If you don’t know, look it up.)
3. What are GHG emissions?
4. Look at the column on the far left labeled “U.S. (Reference)” and the column on the far right labeled “World (Reference).” Why are these columns included? What do they show?
5. Using the two reference columns, explain what the data indicates about the following:
    a. Agricultural land use in the U.S. versus the world for dairy
    b. Agricultural land use in the U.S. versus the world for beef
    c. Greenhouse gas emissions in the U.S. versus the world related to dairy agriculture
    d. Greenhouse gas emissions in the U.S. versus the world related to beef agriculture
    e. Greenhouse gas emissions in the U.S. versus the world related to agriculture for other animal-based foods and for plant-based foods

6. Which diet does the data suggest would be the most effective in limiting greenhouse gas emissions? Explain your response, referring to the data to support your answer.

Share Your Work

Add the following to your course doc:

- 2–4 page response paper expressing your reaction to the two films
- Interpretation of data on the protein graph
- Interpretation of data on diet change graph