



Chapter 1:

The Space Between

An Introduction

Breathe

*7 Billion hearts just beat.
10 for the first time. 5 for the last time.
2 hearts ended as abortions.*

Breathe

*40 vehicles have just been produced: 30 bicycles, 10 cars.
12,000 barrels of oil have just been pumped. 11,000 tons of CO2
emission was created from gas guzzling freight ships and
automobiles.*

Breathe

*The birth count is now at 140 and rising.
\$1.9 million was just been spent on the military by the US
Government...
\$215,000 was just spent on US education.*

Breathe

*76 square acres of forest have just been cut down.
44 square acres have just been replanted.
1 species just went extinct.*

Breathe

*1 Billion users are currently active on the internet.
700 news articles have just been published online.
100,000 shares of stock have been sold in global stock markets.*

Breathe

*3,182 pounds of food have just been consumed. An extra 1,500
pounds of food was thrown away.
2 people were just diagnosed with obesity caused Type 2 Diabetes.
2 people just died of starvation.*

Breathe

*7 billion people just traveled 520 miles through the Milky Way, at
a speed of 1670 miles per hour.*

All of this has happened since starting this reading.

The world is constantly changing. Every moment, pregnant with opportunity. Every second of every day, 7 billion independently operating human bodies are existing in a near constant state of interconnected motion.

Eating. Sleeping. Working. Talking. Texting. Building. Destroying. Birthing. Breathing. Living. Dying.

Human Geography (HuG) is a study of these 7 billion people and their complex web of interaction. It is a course based in inquiry, or questioning, about these interactions. HuG is also a course built upon application: using theories and models to understand the “how” and the “why,” seeking to provide a greater depth of understanding of this global web of modern life.

Skill Builder: Timed Reading.

This course is reading & notes intensive. Time how long it takes for you to read & take notes on the first section.

Reminder: Headings, First sentences
PAUSE THEN Read for detail.

A. Understanding Space

What is space? Understanding the concept of space is essential to the Human Geography curriculum. The problem is that the geographic concept of “space” is abstract and conflicts with students’ previous definitions of the term. Space in Human Geography does not deal with stars, planets, orbits, rocket ships, telescopes, black holes, or Yoda with a light saber (actually... Human Geography deals with a light saber wielding Yoda, but that will be for a later chapter). In Human Geography, the term space is closely tied to the concept of area. Space is the surface area of Earth. There are 197 million square miles of space on planet Earth, 57 million square miles of which are dry land.

To further complicate matters, this space is not empty, nor are its objects motionless. Earth’s surface is full of physical features such as mountains, rivers, valleys, deserts, and plains. In, on, and around these physical features are living creatures and their habitats. For humans, this takes the form of homes, businesses, infrastructure, transportation, utilities, hospitals, etc. Each of these objects on Earth has a location, or unique point on Earth’s space, that it occupies. Spatial distribution is the arrangement of the Earth’s creatures and objects across this space. In addition, the Earth’s people, animals, and objects are in a constant state of motion creating a chaotic web of relationships and interconnections.

Human Geography seeks to understand these spatial distributions and spatial relationships across the space of Earth. A spatial analysis is performed by looking at landscapes, maps, and images. A human geographer looks for patterns, relationships, interconnections, and flows by trying to understand which processes caused the phenomena to happen, and to determine potential effects.

STANDARD: Analyze relationships among & between places to reveal important spatial patterns



About Applications.

It is not enough just to read about a topic. You must learn to apply it. Applications & activities should be completed in your notebook.

Application #1

The graphic to the left displays a small amount of the Earth’s space. Perform a spatial analysis by explaining the following in your notebook:

1. Describe the spatial distribution of houses and roads.
2. Explain what may caused the people to use the land this way.
3. Is this place isolated or connected?
4. List potential effects of these humans’ choices.

Space as Location

Most often, students use the term “space” when discussing where a place is located. For example, where on Earth’s space is the object located? Where is the Eiffel Tower? Where is human trafficking taking place? Where did the hurricane make landfall? There are two ways geographers answer these “where” questions.

First, because the definition of space (in HuG) is too general a concept to be used to specify a certain location, geographers instead use the term *absolute location* to identify the exact space an object consumes. Sometimes using latitude and longitude coordinates. Lines of latitude are imaginary lines encircling Earth from east to west. The Equator is a latitudinal line. Lines of longitude are imaginary lines that circle the Earth from north to south and cross through both the North and South Poles; the Prime Meridian is an example. Where a line of latitude and a line of longitude meet creates a coordinate. Every inch of Earth has a unique latitude and longitude coordinate. If a person moves 5 feet in any direction, their locational coordinate changes. Another method of demarcating absolute location is by using a mailing address. Since no two places have an identical address, a letter can be sent from anywhere in the world (with a postal system) to 1600 Pennsylvania Avenue, Washington DC, USA 20003 and it will arrive at the same, unique space on the planet.

A second method for answering “where” questions is relative location. *Relative location* describes the location of one object based on its RELATIONSHIP to another object. For example, Russia is *north* of China. Saudi Arabia is *west* of India. The Volga River is in the *center* of Russia. The bank is *east* of the farmer’s market. Turn *right* at the fountain; the lake is on the *left*. The industrial complexes were built to the *south* of the city center.

Space as Distance

In contrast to determining “where” events and phenomena occur, the questions of *how far?* and *how big?* are answered using distance. To answer both questions, human civilizations developed two forms of standardized measurement: the Metric system (meters) and the Imperial system (miles). Modern society takes for granted the use of standardized measurement; where a kilometer in America measures the same distance or amount of space as a kilometer in China. However, the practice of standardized measurement only came into existence in 1792 when two scientists set about to create a standard method to measure the city Paris. The length of the tool used became the meter which is now the international standard for measuring distance - except in the United Kingdom and USA.



Empirical distance measurements have many practical uses within Human Geography. Distance can be used to measure the *amount* of space where the phenomena is found. For example: The area of Metropolitan New York City measures 13,000 square miles or 80% of human homes exist within 250 miles of an ocean coast. Distance can be used to describe the distribution of a phenomenon, describing the proximity of items to one another. For example: A McDonalds, Burger King, and Chick-Fil-A can all be located within 500 meters of each other on the same street corner, followed by 50 kilometers of highway without a single restaurant.



B. Human-Environment Interaction

Space as Physical Landscape

Physical Landscapes are formed from the natural objects that make up the Earth such as: mountains, rivers, deserts, plateaus, and forests. Physical features are the backdrop for the human experience, strongly influencing a location's sense of place and its unique visual imagery. The Sahara Desert's sand-scape is unique and distinct from the towering heights of the ice-capped Himalayan Mountains. Physical landscape also contains the natural resources living organisms use to survive: trees, water, mineral, ores, habitats, water, oils, etc.

In coordination with physical landscape is the concept of site. Site, from the perspective of a human geographer, describes the aspects of a natural environment needed to support human life and larger human settlements. Site features include ample fresh water supply for consumption and travel, a (hopefully) hospitable climate, trees for buildings and fuel, and fertile soil for providing and growing food. If any of these site features is absent, humans probably cannot live easily in that space.

Space as Cultural Landscape

When a group of humans settles in a location with suitable site features, they begin to develop a cultural landscape. The cultural landscape is the group of features that exist on Earth because of human activity.

Everything that humans construct, build, or change is a part of a place's unique cultural landscape. Cultural landscape is driven by possibilism, the idea that humans can modify the earth to meet their needs to live in otherwise inhospitable places. For example, as humans use the land to dwell in a space, they change the physical landscape to accommodate the basic functions of human life. People build homes, gardens, parks, shops, restaurants, factories, roads, ports, religious buildings, and cemeteries.

Residents reflect their cultural values in how they paint buildings with certain colors, decorate with art, hang business signs in their language, plant trees and flowers in certain patterns. The cultural landscape is the tangible set of features reflecting HOW people live in a space. The uniqueness of a place's sights, sounds, tastes, and emotions is captured by the phrase *sense of place*. If a tourist from rural Kansas visited Shanghai, China - they would quickly sense that the "place" they were in differed greatly from home. The sounds, sights, and smells of the cultural landscape would instantly confirm... they were not in Kansas anymore.

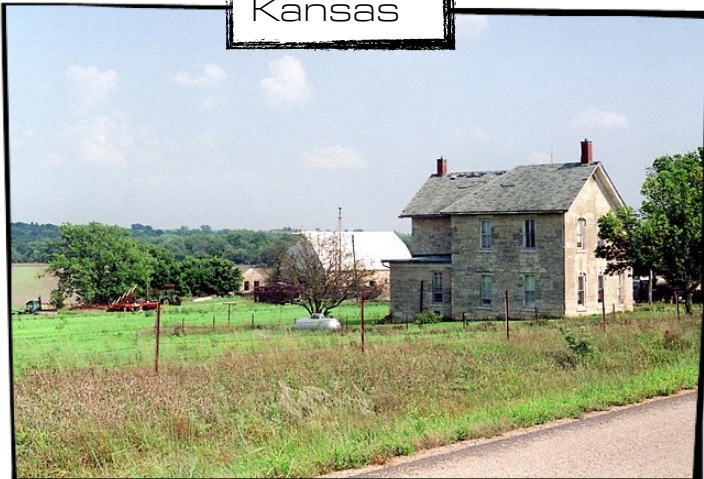
Application #2

Which of the following locations has the best Site features? Why?



By Bertramz CC BY-SA 3.0 from Wikimedia Commons

Kansas



Not Kansas



Application #3

Examine the two pictures above. In your notebook, brainstorm how geographers would describe the physical landscape, cultural landscape, and sense of place (buildings, sounds, smells, emotions, touch, etc) of each space.



Human-Environmental Interaction

Human-environmental interaction analyzes the complex relationship humans have with the planet. Each side of the relationship has both helpful and detrimental impacts on the other. For example, the earth provides the foundation for all human life. The availability of natural resources helps determine everything possible for human life. All human food, housing, clothing, energy, and products have their origin in the earth's natural resources. Conversely, natural disasters such as hurricanes, earthquakes, and tornados are extremely destructive to human settlements. Changes in climate can drastically alter a location's ability to grow food or its ability to provide habitat for plant and animal species which human's feed on.

As much as weather, human land use has a drastic effect the environment. On the positive side, humans are capable of working with the environment to plant trees and flowers and they can take action to support species that are going extinct. On the negative side, human land use and settlements use large quantities of natural resources which can lead to the extinction of plants/ animals, deforestation, and the expansion of deserts. Human waste from production (especially industrialization) degrades the environment, contaminating/breaking down both the soil and the water. Humans burn wood and fossil fuels, releasing pollutants into the air. The emission of carbon and other harmful gasses is causing climate change, resulting in the drastic and rapid degradation of suitable human habitats the planet.

Brainstorm. In your notebook, create two columns. In the first column, list all the ways the environment affects your daily life. In the second column, list all the ways you impact/affect the environment.



Humanity must decide as a species upon better ways of promoting sustainability. Humans have the power to change their relationship with the environment, and we must learn methods of living that promote sustainability of the earth and its resources. Reducing consumption habits, using fewer products, innovation in creating sources of energy, reducing waste, and recycling are all strategies humans can use to better reduce their impact on the earth while thriving as a species.

C. Scales of Analysis

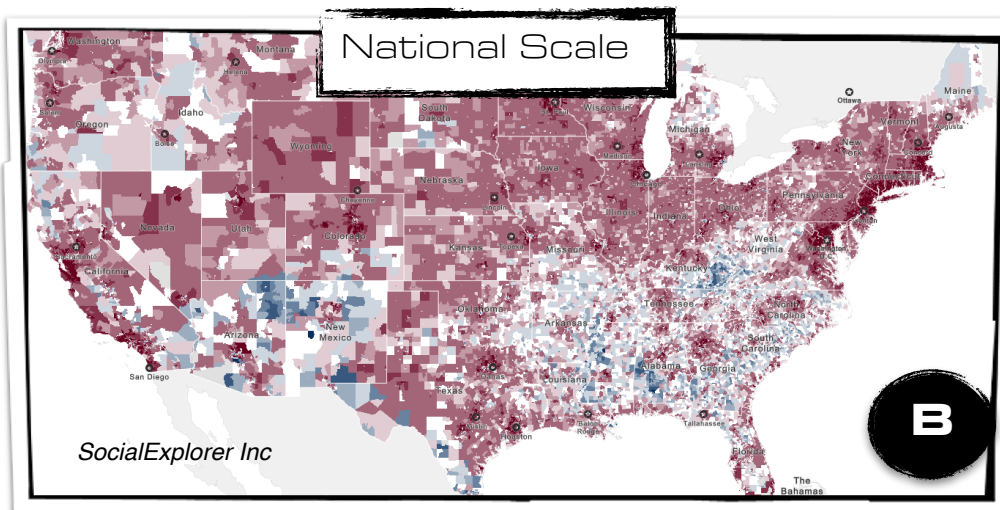
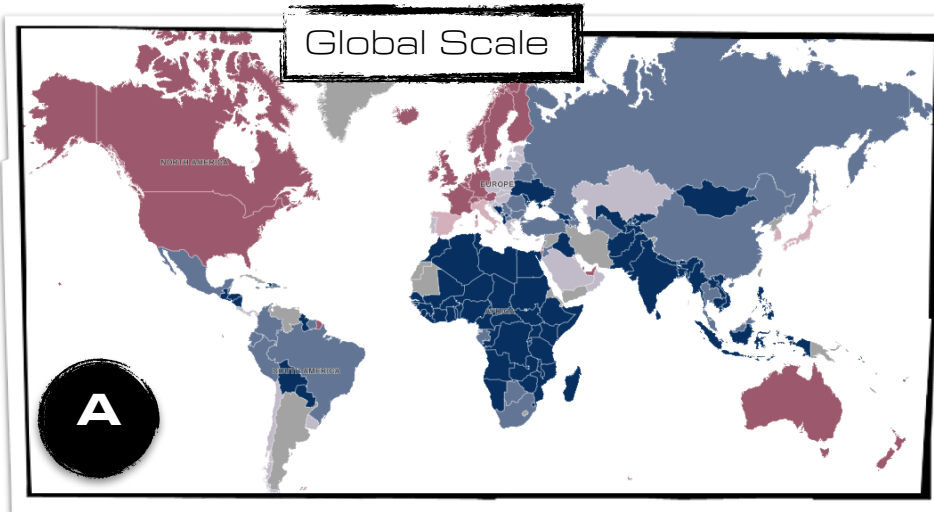
The concept of scale is critically important when analyzing the spatial distribution and spatial relationships of objects across space. Scale is the amount of space being observed and studied at a particular moment in time. There are four main scales used in HuG to analyze human phenomena: *global*, *regional*, *local*, and *personal*.

STANDARD: Define Scales of Analysis. Explain what different scales reveal.

Global

Global scale shows all space available on Earth and is beneficial for studying trends and patterns across the entire planet. At the global scale, it is possible to see the relationships and interconnectedness between trends and phenomena across the world. One problem to be aware of while using global scale is that the data becomes extremely generalized due to all 7 billion human beings being observed at once. As a result, maps and charts only display the mean average, causing any uniquenesses or exceptions to be lost in the immensity of the data.

Map A to the right displays wealth per person at the global scale. It is simple to distinguish the spaces in the world that possess large amounts of wealth per person. The USA, Western Europe, Japan, and Australia are doing very well (in Red). Brazil, China, Mexico, and South Africa (in Blue) are in the middle. Indonesia, Subsaharan Africa, and South Asia are struggling with poverty. In one global map, a geographer can gain a general understanding of wealth distribution around the world.



Regional/National

The regional/national scale is a view of space that is “zoomed” in, showing a continent or large area spanning multiple countries. The national scale shows (primarily) one country. These scales are beneficial because they show more complex details within a trend. Map B to the left displays wealth per person only within the USA. The national scale still allows for data to be displayed across a moderately large area, but one that is significantly reduced from the global scale. The national scale shows more data than the global scale, allowing users to see greater

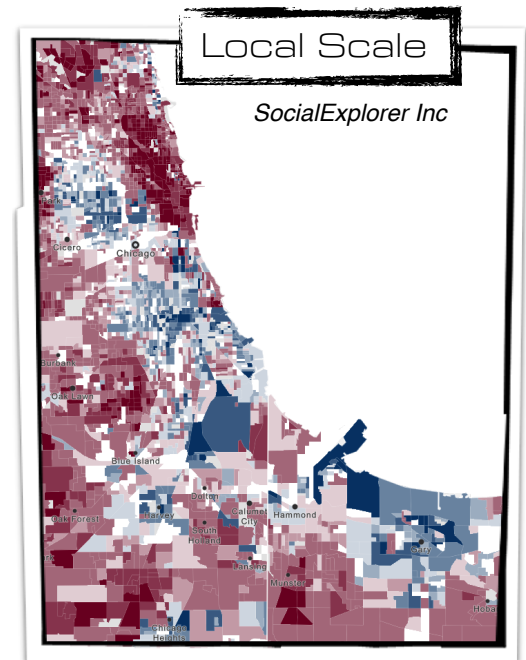
specificity and details. At the global scale, the USA is shown as being one of the richest countries in the world. However, when examined at the regional scale, it becomes visible that the wealth is not distributed evenly. The regions in blue average \$20,000 or less a year. The regions in red average \$40,000 or more a year. At the regional scale, it becomes apparent that the Southeastern USA and areas in New Mexico have weaker income levels, while the states on the East and West coasts have greater wealth. With that said, the regional scale still suffers from the problem of generalization. On the regional scale, it is still impossible to see the detail of individuals or households.

Local

The local scale examines space at a city level where the details of a trend are on full display, including streets, houses, parks, and specific business buildings. The local scale reveals the specificity and uniqueness of a place. The map to the right shows the income of residents in the Chicago Metropolitan Statistical Area (MSA). On the global and regional scales, Chicago as a whole was represented as being a space of high wealth. However, at the local scale it becomes apparent that there is an uneven distribution of wealth - with certain city residents earning large incomes, while their neighbors live in poverty. While this detail is sometimes beneficial, using local scale may cause the geographer to lose sight of larger, regional, trends and patterns.

Scale Summary

Knowing the scale of the area being analyzed is crucial. The broader and more global the scale, the more generalized the information being displayed. The more localized the scale, the more detail that is displayed. A trend of pattern that is true at one scale of analysis may not be true when the scale of analysis changes.



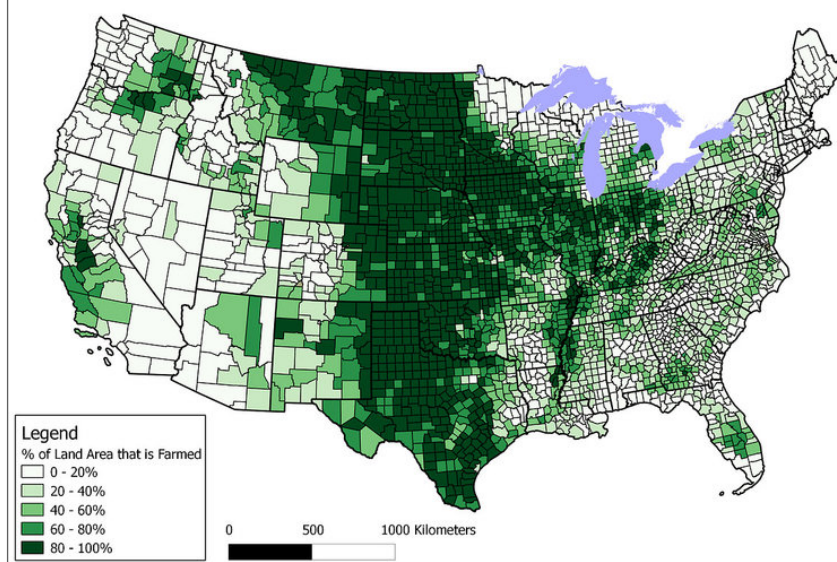
D. Thinking like a Geographer: The Why of Where

Defining Geography

Geography is a difficult concept to define and one that is often misunderstood. As previously stated, geography relates to the process of studying space and the items that inhabit it. Geography is referred to as the *"Why of Where"*: attempting to provide an explanation of the spatial pattern of objects on the earth. Charles Gritner of South Dakota State University summarizes the field of geography in three key questions:

1. **What is Where?** First, *what* is being studied must be defined; which objects, actions, and phenomena. Next, *where* looks for their location, *where does this exist on the earth?* For example: Agriculture is the growing of crops/plants primarily for food (what). Agriculture takes place in the Great Plains of the USA (where).
2. **Why is it there?** Next, the causes of the object/actions/phenomenons are examined. Who were the "agents" that caused it to happen? What processes (series of actions) and interrelationships (interactions between two or more people/groups) caused this to happen? For example: Agriculture developed in the Great Plains *as a result of* American migrants expanding westward. As a part of "Manifest Destiny," homesteaders - many of Irish and German origins - forcibly removed native populations and claimed the land. As the homesteaders migrated, they brought their farming techniques and tools with them, establishing farms across the plains.
3. **Why care?** Finally, the importance of the object/action/phenomenon is studied - often focusing on the effects of what is being geographically studied. These effects can be both positive and negative, having impacts that span across all four scales of analysis. For example: (Positive) the Great Plains are now one of the most productive agricultural regions in the world, creating a food surplus in the USA, while also helping large populations in China and India. (Negative) Millions of First Nations were forcibly killed or removed to reservations which currently support 3 million natives while being amongst the poorest and most underdeveloped economic regions in the USA to this day.

% of Land Area Devoted to Farming by U.S. County (2003)



Understanding Spatial Analysis

It is critical as a student of HuG to understand the fundamental process of how to complete a spatial analysis. A spatial analysis seeks to: organize information, identify patterns, and understand connections between the objects. Spatial analysis is done through examining the data, inquiry (asking of questions), and application. Once geographers have analyzed the objects in a space, they seek to explain the cause-effect relationships that created the current phenomenon. They also use current trends and patterns to predict future behaviors or outcomes.

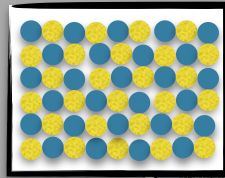
When conducting a spatial analysis, it is critical to become skilled in using the specific vocabulary of patterns. Patterns are the way objects/phenomena are distributed in space. While patterns can be described in basic shapes like circles or lines, rarely are objects so neatly arranged. It is crucial for your success in this course to become fluent in using the terms *density*, *concentration*, and *relationships* during analysis.

Density

Density is the specific number of objects or events in a specific amount of space. To determine density, take the total number of objects and divide by the total space or area. High density has a large number of objects in a given space. Low density has a smaller number.

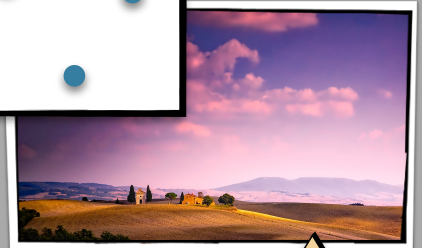
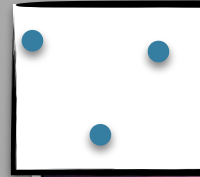
For example: 10,000 people per mile is higher density than 10 people per mile.

High Density Housing



Uniform

Low Density Housing

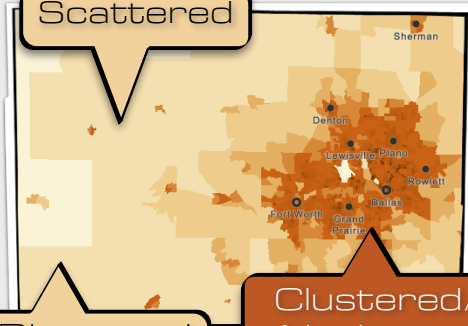


Random

Concentration

Concentration describes HOW a phenomenon is distributed over space. When objects are grouped in a high density concentration, it can be referred to as clustered or centralized. The action or activity of organizing into concentrated groupings is called agglomeration. For example, migrants from China agglomerated on the western side of San Francisco in the 1900s. Dispersed describes objects/events that are further apart. For example: In Dallas-Fort Worth, Texas, there is one large population clustered into one urban center, while the remaining population is dispersed across the rural countryside.

Scattered

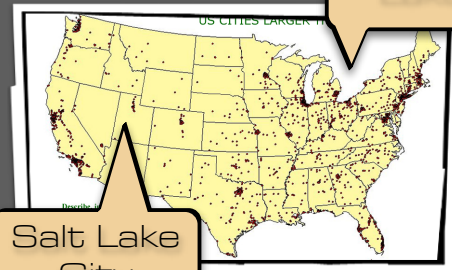


Dispersed

Clustered/
Nucleated

Relationships

Relationships are the cause-effect connections between objects or phenomena, or determining why one object or phenomenon is there as the result of another object/phenomenon. For example, there is a direct relationship between large cities and large, fresh water supplies or oceans for trade. Cities can only exist BECAUSE of the availability of those water features. If the fresh water is contaminated or disappears, the city will disappear. Detroit, Chicago, and Cleveland are all developed along the Great Lakes. Anomalies or outliers are objects/phenomenon that break the pattern or do not follow the traditional rules of certain relationships. For example, Salt Lake City, Utah is an anomaly because it developed around a salt-lake, with no access to the ocean. It is an outlier, because it differs from the relationship pattern previously stated.



Salt Lake
City

Great
Lakes

4 Level Analysis

Map and data analysis are critical in the study of Human Geography. Understanding maps, charts, and graphs requires the utilization of the **4 Level Analysis**: a four step process to examine trends and patterns while making deeper connections to outside information. (*TIP: Print the chart below and tape/glue it into your notebook for future reference*).

STEP 1	STEP 2	STEP 3	STEP 4
Master the Obvious	ID Patterns & Networks	Explain	Application
The first step to a successful analysis is to identify all the objects and details displayed on the map, chart, or image. No detail is too small to acknowledge.	Second, look for rhythms or shapes in the arrangements of the objects. Pay attention to networks: areas interconnected areas by transportation and communication.	Third, look for causes and effects of the patterns/ networks. What describes the cause for the phenomena? What effect or impact will this have on...?	Fourth, look for new applications of the information. This is find other connections/ examples, and to make future predictions
Key Questions	Key Questions	Key Questions	Key Questions
<ul style="list-style-type: none">• What Scale? (Global, Regional, Local, Personal)• Who? What? Where? When?• Whose perspective/ bias?	<ul style="list-style-type: none">• What density?• Describe the concentration.• What pattern/ shapes?• Anything breaking the pattern?	<ul style="list-style-type: none">• What causes?• Why there & not elsewhere?• What effect did it have...	<ul style="list-style-type: none">• Why does it matter?• What if ____ changed?• Impacts of __ on other places?• Other examples?

Key Term: Explain

The term *explain* deals with cause and effect. You are either given the cause and must explain the effect OR you are given the effect and must explain the cause.

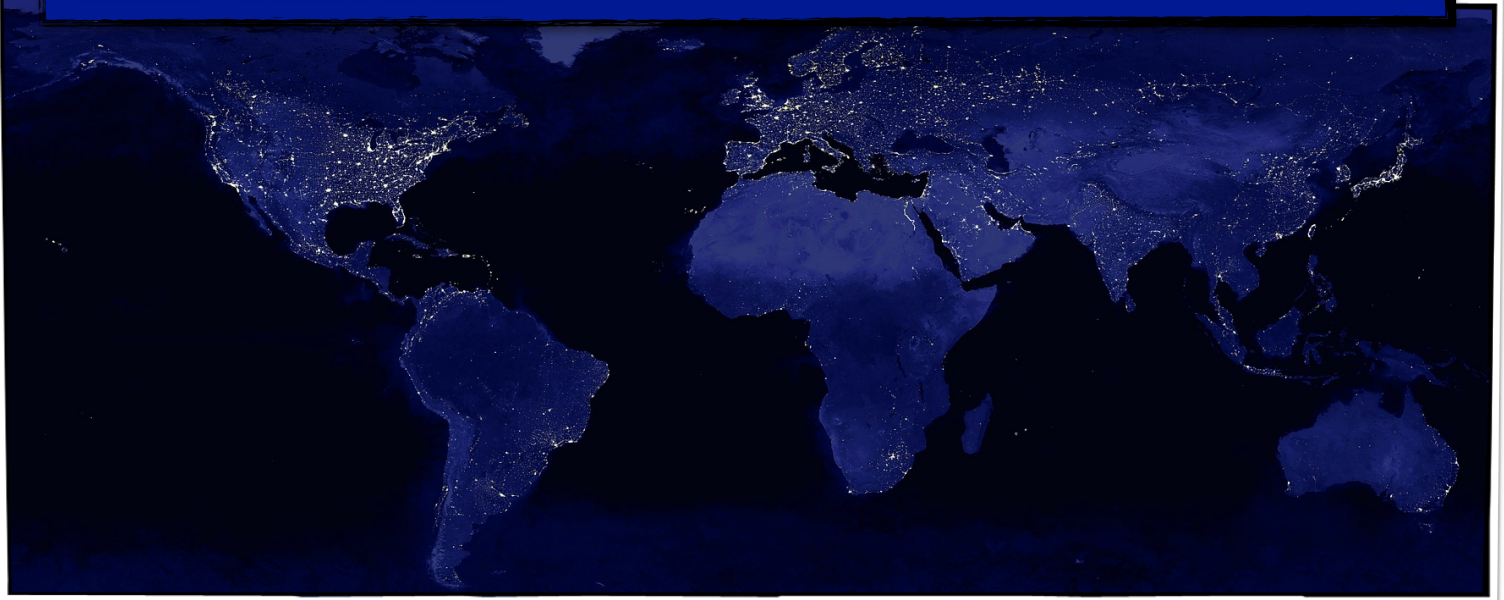
When explaining, (a) state the summary of your answer, (b) Provide a "This is because..." to elaborate on why or how, and (c) finally, finish with an elaborated example that connects back to the key point.

Example Question: Explain the increase in women's voting rights.

Example Answer: More women began to vote due to laws that were passed by the Federal government. This happened BECAUSE women began to protest, march, and petition against the laws prohibiting their voting rights. For EXAMPLE, Susan B. Anthony organized protests that led to the passage of the 19th Amendment, granting American women voting rights.

Application #4

Conduct the first 3 Levels of Analysis on the following map. Put your results in your notebook. Remember: No detail is too small.



ESPN Analysis

A second framework for analysis within Human Geography is **ESPN: Economic, Social, Political, and Natural**. This framework is critical to analyze a picture, movie, story, or news article. When analyzing a document, informally brainstorm (i.e., do not use complete sentences) each of these factors in your notebook. It could be a simple table, columns, or whatever allows you to quickly produce and take down your thoughts. (*TIP: Print the chart below and tape/glue it into your notebook for future reference*).

E

Economic/Development: topics are interested in wealth and quality of life including businesses, jobs, globalization, trade, industry, tourism, standard of living, etc.

S

Social/Cultural: topics are related to the interactions between people, as well as human expression, including culture, language, religion, art, music, migration, ethnic relations, social structure, and gender roles.

P

Political: government and the exercising of power including elections, legislation, voting, human rights, war, migration, multinational organizations, riots/revolutions, etc.

N

Natural/Environmental: interaction between humans and the environment including pollution/climate change, energy creation, disease, natural disasters, agriculture, & resource management.



Application #5

Conduct an ESPN analysis of these pictures in your notebook.

Do not just settle for the first thought to come to mind. Take the time to process through each “lens” and allow your brain to think deeply. No detail is too small.

Note: You will not have an even balance of information across each of the four categories. One picture may have a large amount of environmental information, while another may barely have anything about nature. The important thing is learning to see and analyze events through different perspectives.



SUMMARY

In finishing this section, you should be able to answer the following questions :

- Describe space, spatial relationships, and spatial analysis.
- Define Scale. Describe why scale matters in a map or image.
- Compare Physical Landscape to Cultural Landscape.
- Describe the process of using the 4 Level analysis.
- Describe the process of using the ESPN analysis.

Task Verbs

In all AP Classes, College Board uses Task Verbs in the questions they create - especially when writing. The purpose of task verbs are to inform students how they are to think about the content and guide the type of answers students provide. The following are a list of the Task Verbs you will use daily in AP Human Geography. Please memorize these task verbs as use them to guide your responses.

Identify

Identify is asking students for a short, quick response, with minimal elaboration. Examples: Identify the color of this box. Identify 1 country on the map. Identify the plants in the picture.

Define

Define questions are short responses, asking the students to provide the meaning of a word, phrase, or concept. For example: Define the word Map. Define the word Space.

Describe

Describe questions ask the students to elaborate, providing characteristics and details. Describe questions require a longer response, with multiple sentences; giving at least 3 characteristics or qualities. For example: Describe the architecture of Paris. Describe how students get to school. Describe the process of making pizza.

Explain

Explain questions ask the students about the cause or effect of a process, focusing on HOW or WHY. Explain questions expect a longer response, using evidence and reason to justify and prove your answer. For example: Explain the increase in China's factory production. Explain the decrease in Kenya's infant mortality rate. Explain one social reason governments ban family planning tools.

Explain the Limitations

A cousin to "explain questions" is Explain the Limitations. With these questions, students are provided with an image, map, table, graph, or chart to analyze. These questions ask students to think in the negative - what CAN'T this ____ tell us. What CAN'T ____ be used for? For example: China has 1 Billion citizens. Explain the limitation of this data in understanding China's population. (What is missing? What don't you know from the data provided? In this case, we know there are 1 billion humans, but we do NOT know how many males/females. We do not know their ethnicities or ages.)

Explain the Degree to Which

Explain the Degree... questions are about the level of impact or change. Students MUST state whether there was a High, Medium, or No Change/Impact. Then, students must provide their evidence and reasoning WHY, supporting their claim. For example: Explain the degree to which cars impacted people's ability to travel. An answer could be "Cars made a large impact on peoples travel. This is because cars can travel 70-80 mph, which is far faster then people can run. Cars can travel longer..."

Compare

Compare questions ask students to elaborate on similarities or differences between two objects/places/ processes. Students MUST address both objects. For example: Compare two sides of a quarter. Compare the features on Apple and Android phones.