

Unit 1: Thinking Geographically

Topic 1.1 – Introduction to Maps

1. What is the difference between reference maps and thematic maps? Reference maps emphasize the location of places without using data. Thematic maps not only display locations, but also have a main topic or theme that uses data from the location.

2. Describe how the following concepts are represented on a map.

Absolute & Relative Distance	Absolute distance is when you look at how far a distance is in quantitative terms: miles, kilometers, etc. Relative distance is when you describe the distance between locations using qualitative terms: the location is 30 minutes south.
Direction	You can look at the Compass Rose to see North, South, West, East.
Clustering	This is when items are close together and concentrated in one area.
Dispersal	This is when items are spread over a geographic space.
Elevation	Elevation is best seen on a topographic map that shows the shape of the Earth's surface, normally shown with contour lines or through different colors.

3. Identify the map projection below and explain how distortion impacts the map.

Type of Projection	Distortion/ Characteristics
Mercator	Shows true direction between places, distorts the shape and size of land masses. Originally used for maritime travel.
Goode Homolosine	Excels at maintaining accurate land mass size, and minimizes distortion across the map due to being an interrupted map. Hard to accurately view the entire world.
Fuller	Does not use cardinal directions, which can be confusing to the reader. Does a great job at showing land masses without interruption, and maintains accurate size and shape.
Robinson	Spreads distortion evenly out across shape, size, and direction making it less noticeable.
Winkel Tripel	This map is rounder in shape and has minimal distortion in the size of land masses, distance and direction. However, there is distortion near the north and south poles.

Topic 1.2- Geographic Data	Topic 1.3- The Power of Geographic Data																
<p>1. What is the difference between qualitative and quantitative research? Qualitative research is often written in text form and is information that is observed, witnessed, described, and is not measurable. Quantitative is objective data that is collected, and often takes the form of numbers.</p> <p>2. What might you look at when using qualitative research? Surveys, observations, interviews, polls, or focus groups.</p> <p>3. What are two examples of quantitative research? The census, marketing data, or research that can be replicated.</p> <p>4. Complete the table below.</p> <table border="1" data-bbox="147 716 784 1014"> <thead> <tr> <th data-bbox="147 716 334 779">Organization</th> <th data-bbox="334 716 784 779">Example of data collection</th> </tr> </thead> <tbody> <tr> <td data-bbox="147 779 334 846">Government</td> <td data-bbox="334 779 784 846">Census</td> </tr> <tr> <td data-bbox="147 846 334 947">Business</td> <td data-bbox="334 846 784 947">Surveys, focus groups, research studies, or polls</td> </tr> <tr> <td data-bbox="147 947 334 1014">Individual</td> <td data-bbox="334 947 784 1014">Surveys or polls</td> </tr> </tbody> </table> <p>5. What is a geographic information system (GIS)? Software that manages, analyzes, and displays data that is collected in a geographic area. Often uses information collected from GPS satellites to create layered maps.</p>	Organization	Example of data collection	Government	Census	Business	Surveys, focus groups, research studies, or polls	Individual	Surveys or polls	<p>1. Provide an example of how geographical data can be used for each of the following scales.</p> <table border="1" data-bbox="841 359 1474 1335"> <tbody> <tr> <td data-bbox="841 359 1040 531">Personal</td> <td data-bbox="1040 359 1474 531">To make educated decisions on where you wish to live, better understand the direction of a community or city.</td> </tr> <tr> <td data-bbox="841 531 1040 779">Business</td> <td data-bbox="1040 531 1474 779">To identify locations for new stores, market to consumers, create new products that are needed for an area, and to understand the communities they operate in.</td> </tr> <tr> <td data-bbox="841 779 1040 1020">Organizations</td> <td data-bbox="1040 779 1474 1020">To understand where financial need is, identify different community needs, and work with business and government to provide accurate assistance to communities.</td> </tr> <tr> <td data-bbox="841 1020 1040 1335">Governments</td> <td data-bbox="1040 1020 1474 1335">To identify locations for new schools, provide federal and state aid to communities that need it, understand the citizens of the country, understand demographic changes in the country, and to inform the direction of the country.</td> </tr> </tbody> </table> <p>2. Describe the census. An official count of individuals in a population and a collection of demographic data, in the United States of America it happens once every 10 years.</p>	Personal	To make educated decisions on where you wish to live, better understand the direction of a community or city.	Business	To identify locations for new stores, market to consumers, create new products that are needed for an area, and to understand the communities they operate in.	Organizations	To understand where financial need is, identify different community needs, and work with business and government to provide accurate assistance to communities.	Governments	To identify locations for new schools, provide federal and state aid to communities that need it, understand the citizens of the country, understand demographic changes in the country, and to inform the direction of the country.
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Topic 1.4- Spatial Concepts

1. What is the difference between absolute and relative location? **Absolute location is describing a location using the exact spot of an object by using longitude and latitude. Relative location is when we describe where something is in relation to another object or place.**
2. How do geographers define place? **A specific geographic location on Earth defined by physical characteristics and human characteristics.**
3. Explain Tobler's first law of geography. **This is the idea that people are less likely to interact with places, stores, and people that are farther away and are more likely to interact with places, stores, and people that are closer. This is due to distance decay and friction of distance.**
4. What is time-space compression and how is it countering Tobler's first law? **This is the idea that the world feels smaller than it used to, due to the advancements made in technology, communication, and transportation. This has reduced the amount of distance decay and friction of distance allowing people to interact more with things that are farther away.**
5. Define the following concepts.

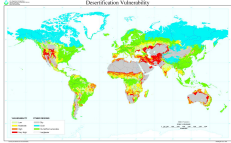
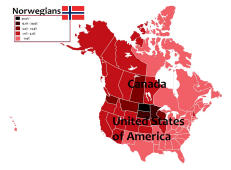
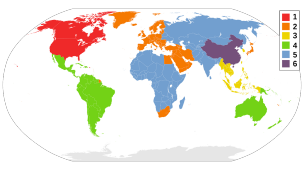

Pattern	The geometric arrangement of objects in a space.
Space	The physical gap between objects.
Flow	The movement of people, ideas, goods, or services from one place to another.

Topic 1.5- Human-Environmental Interaction

1. Define sustainability. **The use of Earth's renewable and non-renewable resources in a manner that does not deplete either resource. Sustainable efforts strive to find an equilibrium with the environment and society, by making sure that the current generation does not hinder future generations.**
2. What is environmental determinism? **The belief that the physical environment dictates the success of a society. Environment is the key reason for a society to thrive or struggle, people have no real impact.**
3. What is environmental possibilism? **The belief that the physical environment plays a role in the success of a society, however, it is not the only factor because culture also plays a role. The environment is important, but equally important is the people within a society.**
4. How can we see nature in society? **Society is impacted by the environment it is part of. For example, in the areas with tornados you will find houses with basements, in areas with warm climates you will find roofs that are flat. Society changes the cultural landscape to reflect environmental factors that impact it. We can also see the impact of nature when looking at the natural resources available to a society. This will change the economic opportunities of a society, the amount of wealth a society has, and the culture itself.**

Topic 1.6- Scale Analysis

1. Explain what geographers are looking for when they talk about scale of analysis. Geographers observe data at global, national, regional, and local scales. Data is grouped in a variety of ways which allows geographers to see trends and themes based on how the data is grouped.
2. What is the difference between a scale of inquiry and scale of analysis? Scale of inquiry is asking what is the best scale of analysis to use for a topic. Scale of analysis is the scale that the map is chunking data.
3. Identify the scale of analysis below.

	Global
	National
	Regional
	Local

1. How does the way we process data change as scale changes? Maps that show data on the Global, or National scale of analysis risk generalizing data due to being small scale maps. Maps that show data on the local scale of analysis are large scale can show more precise data and reduce generalizations.
2. What is the difference between a large scale map and small scale map? Large scale maps are zoomed in, they show less of the earth's surface but allow for more details to be illustrated. (Ex. City Map) Small scale maps are zoomed out, they show more of the earth's surface but allow for less detail to be illustrated. (Ex. World Map)

Topic 1.7- Regional Analysis

1. Define region. A geographic area that is grouped together due to measurable or perceived common features.
2. Complete the table below.

	Description	Example
Formal (Uniform)	A geographic area in which everyone shares common characteristics. This could take the shape of culture, language, geographic, economic, or political characteristics.	A state or the winter wheat belt/spring wheat belt in the United States.
Functional (Nodal)	A geographic area that is organized around a center point, or a node. Often tied to transportation, communication, or by an economic center.	Disney World or the area of a TV station.
Vernacular (Perceptual)	This is a region that only exists because people believe it exists. This region will change based on who you are, it is based on common qualitative characteristics.	The Middle East or regions that use cardinal directions.

1. What problems arise when talking about regional boundaries? Oftentimes they will overlap which causes confusion. They also may be different depending on who you are talking with.
2. How does regional analysis change at the local, national, and global scale? As we change our scale to a smaller scale we have less precise data and start to use more generalities. Regional analysis at the local level will provide more details and a larger scale, while global uses small scale.