

FAQ – Spatial Thinking

Q: Does it make a difference where things are located?

A: For sure at both a personal scale as well as regional or global scale – this is the essence of the study of geography.

Q: What is Four Level Analysis:

A: Four Level Analysis is a systemic method for students of geography to attack and deconstruct maps, data arrays and graphs. It is rooted in the geographic perspective and is designed to guide students in the process of thinking spatially. The process guides students in starting with simple questions and building up quickly to higher level patterns and processes. Students attempt to pose and answer questions at each of the levels.

Level 1 - What? Where? (distribution + location) When? Who? Students attempt to answer these questions while viewing a chart, graph, map, landscape, community, economic process- location can be answered at numerous scale- personal, household, census tract, zip code, neighborhood, county, city, regions within provinces (western slope vs front range in Colorado) province or state (Ontario- Canada-- Colorado, USA), regions within a State (country) or (Midwest, bible belt, pacific north-west, Bavaria), State level (countries- USA, Brazil, China), global regional (south-east Asia, Latin America), global (world) - these levels of scale can vary based on emphasis on physical or cultural characteristics.

Using a GIS idea- what are the layers shown on the map - this can help students identify correct scale of analysis.- for example- country boundaries, census tracts, zip codes, etc

Data can often be presented spatially- in APHG this is something our students need to be able to process and interpret.

Level 2 - Patterns - Identify patterns at numerous scales - personal, local, regional, national, global - look for patterns, evidence of connections or lack of connections, where things are and where they are not. See handout Word Bank- Descriptors of spatial patterns for potential descriptors.

Level 3 - L3 questions - Why there? How did it get there? What systems and processes created this pattern?

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Site, situation, relative, space- time compression, barriers or encouragers - physical, economic, cultural, political, environmental- diffusion-(types), distance, systems that re-enforced or weaken a process, (systemic processes)- !!!!! Explain how and why the pattern exists and came to be observed. Students should use models and theories of geographic location to explain the why and how where appropriate. (Weber, Von Thunen and central place theory) Use types of regions- functional, perceptual, formal and sphere of influence to help shape causes. Level three questions are often difficult for students to explain, but with practice and a solid basis of geographic principles students will improve in this area.

Level 4 - (prediction / impact) So what? What if?

Essentially what is the future impact or implication of the patterns? Usually forward looking but also can address impacts that the process or system is having on various scales of analysis. Impacts can be very different for different locations and different stakeholders. This level often requires students to see cause effect relationships.

Q: How do I get students to see patterns?

A1: Hint: keep patterns separate and not jump ahead to “level 3 - the why” – we want students to think of them as distinct and separate items. This will help in FRQ writing. It also lets the students describe the pattern without knowing the why. Also post the Word Bank: Patterns in your classroom.

A2: Practice, practice, practice – students need to practice this process throughout the year not just one time.

A3: Have students pair share with each other and explain the patterns to each other.

Q: How do students find the answers to the Why/ How?

A: Research, background, theory, texts, lecture and brainstorm. The answers to the why and how can range from very simple to very complex. Encourage students to start with simple explanation and then build complexity. There texts can be a great resource to finding out what the professional geographers think. This creates an applying theory context for students. For example how does the friction of distance or the gravity model help us to understand migration patterns?

Q: Can Four Level Analysis Process work in other areas besides just maps, charts and graphs?

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A: The process can also work for photo or pieces of art but other variables enter when a source is interpretative verses primary. Art is usually an interpretation of a reality- rule of thirds will help with this process. Four Level Analysis can also be used as a basis for creating field studies of your community. Use the Four levels to field guide to help students see and interpret patterns in your community.

Q: What are some maps that are important for students to know and analyze?

A: There are numerous maps and data arrays in each of the textbooks. Don't limit your students to just your text, use other texts and sources to give your students a wide variety of maps and data.

A2: We have compiled a list of maps that would be good sources to practice spatial analysis process.

Folk map in U.S	TV Per 1,000
Major Religions	GDP
Language Families	Land Line Telephones/Cell Phones
Population Density	Caloric Intake
Birth Rate / Death rate	Physicians per 1,000
Fertility Rate	Female income/education
Life Expectancy	Gender Maps
Adult HIV/ Aids Cases	World Cities
Population Change	Largest Cities
Birth Control	Conflict maps
Young/ Old age Population	Urban Models – US and International
Pyramids	Immigration / migration graphs and maps
Refugee	Agricultural production areas
Gender Ratio	Rice, wheat, corn, coffee
Infant Mortality Rate	Beef, poultry, pork
HDI / GDI	Manufacturing regions
Diffusion of Agriculture	Core / semi periphery / periphery
Industry Types	
# of Persons Per Car	
Environmental Sustainability	
Urbanized Population	
Internet Connections	