

# Promoting Geographic & Spatial Thinking in History Courses through Questioning & Writing



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# Objectives

- Explain what spatial thinking is and why it is important
- Brainstorm lesson topics that lend themselves best to spatial thinking
- Identify spatial terms and concepts
- Incorporate spatial terms into new writing prompts
- Share our newly created writing prompts

# What is Spatial Thinking?

- “think like a geographer”
- Thinking in terms of place
- Understanding:
  - How one place influences another
  - How places are similar or different from each other
  - How conditions change over time and from one place to another
  - Phenomena at multiple scales
- Examining how places change over time and SPACE
- Not merely “where?” but “Why there?”



# Why is Spatial Thinking Important?

- To develop an understanding of the nature of the distribution and interaction of phenomena all over the Earth
- To make connections between people, the environment, culture, resources, etc... across space
- To understand interrelationships and interdependence between different places around the world
- *Research suggests integration of geography skills and concepts throughout the curriculum is most effective because it allows students to make connections among the topics being taught and apply a spatial perspective to understand other content*

**Odds are you already teach  
spatial thinking**

**Can you think of an example?**

# Examples of Lesson Topics for Spatial Thinking

Analogy - border crossings in different parts of the world (US and Europe)

Association - malaria and mosquitoes, faults and earthquakes

Aura (Influence) - range of missiles from North Korea (Soviet Union)

Connection - oil pipelines near the Caspian Sea, railroads

Comparison - a newly introduced country with a familiar state

Diffusion - spread of the plague through Europe, Arab conquests

# **Spatial Thinking Terms and Concepts**



**Table 2.** Five-level scope and sequence of geospatial concepts

Concept levels				
I Primitive	II Simple	III Difficult	IV Complicated	V Complex
Identity location	Arrangement	Adjacency	Buffer	Activity space
Magnitude	Class/group	Angle	Connectivity	Central place
Space-time	Direction	Area	Corridor	Distortion
	Distribution	Center	Gradient	Enclave
	Edge	Change	Profile	Great circle
	Order/sequence	Cluster	Representation	Interpolation
	Proximity	Grid	Scale	Projection
	Relative distance	Growth	Surface	Social area
	Shape	Isolated		Subjective space
		Linked		
		Polygon		
		Reference frame		
		Spread		

*Note:* Sample concepts are arranged alphabetically in each column.

**Complex-Spatial**

- Distribution
- Pattern
- Dispersion & Clustering
- Density
- Diffusion
- Dominance
- Hierarchy & Network
- Spatial Association
- Overlay
- Layer
- Gradient
- Profile
- Relief
- Scale
- Map Projection
- Buffer

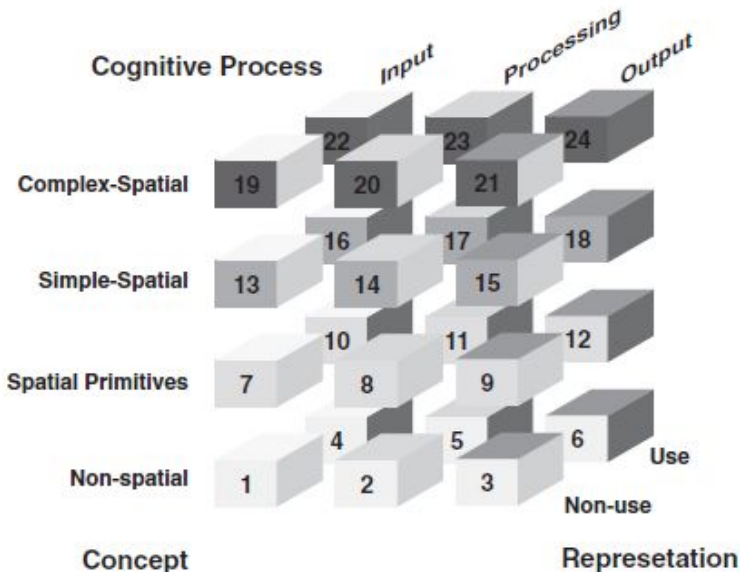
**Simple-Spatial**

- Distance
- Direction
- Connection & Linkage
- Movement
- Transition
- Boundary
- Region
- Shape
- Reference Frame
- Arrangement
- Adjacency
- Enclosure

**Primitives**

- Place-specific Identity
- Location
- Magnitude

**Non-spatial**



**Input**

- Name
- Define
- List
- Identify
- Recognize
- Recite
- Recall
- Observe
- Describe
- Select
- Complete
- Count
- Match

**Processing**

- Explain
- Analyze
- State causality
- Compare
- Contrast
- Distinguish
- Classify
- Categorize
- Organize
- Summarize
- Synthesize
- Infer
- Make analogies
- Exemplify
- Experiment
- Sequence

**Output**

- Evaluate
- Judge
- Predict
- Forecast
- Hypothesize
- Speculate
- Plan
- Create
- Design
- Invent
- Imagine
- Generalize
- Build a model
- Apply a principle

**Use**

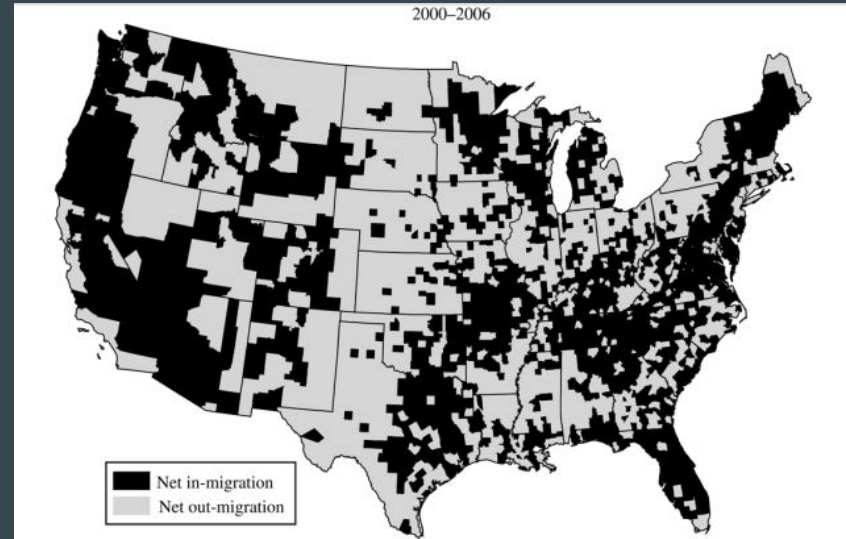
- Map
- Diagram
- Chart
- Graph
- Photo

**Non-use**

# Taxonomy of Spatial Thinking

# Examples of Writing Prompts that Encourage Spatial Thinking

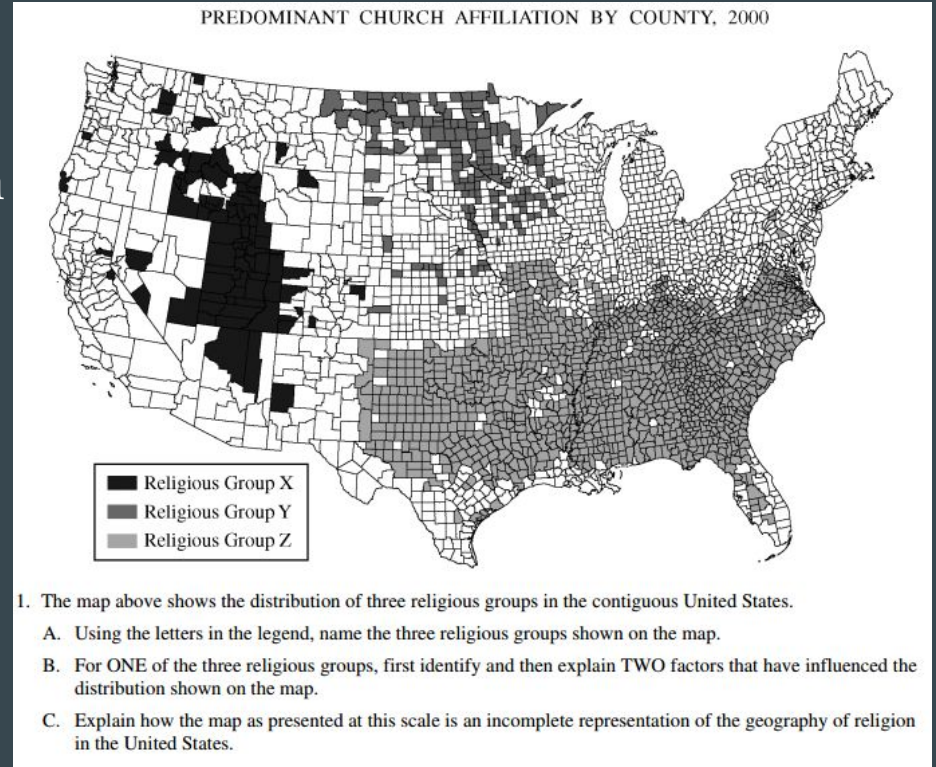
- Uses a **MAP**
- Moves from “Identify” in part A to “**EXPLAIN**” in part C of the question
- Students are asked to explain the reasons for the **PATTERN**



2. Regional migration patterns within the contiguous United States are the result of several factors. The map above shows net migration at the county level, but these data support generalizations about migration patterns at the regional scale.
- Identify two specific regions that have experienced net in-migration.
  - Identify two specific regions that have experienced net out-migration.
  - Explain the processes that contribute to the general patterns of migration within the United States shown on the map in terms of each of the following:
    - Economic structure
    - Friction of distance
    - Age structure of the population

# Examples of Writing Prompts that Encourage Spatial Thinking

- Uses a **MAP**
- Moves from “Identify” in part A to “**EXPLAIN**” in part C of the question
- Students are asked to explain the reasons for the **DISTRIBUTION**



**Use the lists of spatial thinking terms to design some questions or writing prompts that will meet your course standards**

**What did you come up with?**

**Did you find any maps or visuals to share?**

# Sources

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# Questions?

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