



## **Geographic Perspective CONTENT GUIDE FOR EDUCATORS**

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A National Geographic-led campaign



**Education &  
Children's Programs**

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## Overview

**T**he **geographic perspective** is a lens one may use to analyze virtually any topic that has a spatial distribution, that is, anything that can be mapped. **Geography** offers a unique way to understand anything that is distributed across space, including the ever-changing relationship between humans and the environment, and thus make predictions and even propose solutions to current problems. Since the Earth is a large interrelated system, humans and the environment have an interactive relationship, each influencing the other in complex ways. Technology enables people to drastically alter the flow of energy and matter through the **Earth system** and culturally modify the environment. Since the industrial revolution, therefore, these spatial impacts on the landscape have increased rapidly, as have population growth and environmental problems. Geographers employ both a **spatial perspective** and an **ecological perspective** that enable them to ask questions about how humans interact with their physical surroundings.

The geographic perspective is an interdisciplinary one that allows us to examine complex issues, including those arising from the interaction of people and their environment, using *all* available information in order to avoid making short-sighted decisions.



Annapolis, Maryland (1991)

First, geographers observe **spatial distributions** in order to map them. *Anything* that exists in Earth space can be mapped. The geographer assesses spatial distributions by asking “*Who or what* is being observed?” “*When* is it being observed?” “*Where* is it located?” Once one knows *how* something is distributed over Earth space, he or she can try to understand *why* it is distributed that way. Thus, the geographer’s next task is to analyze the underlying **spatial processes** that are responsible for the observable distributions by asking “*Why* does the spatial distribution exist?” and “*How* did it come to be?” Only then, after the distributions and processes are understood, can the geographer use the geographical perspective to ask “*How can* the spatial distribution be maintained or changed?” and “*What if . . . ?*” in order to make predictions and decisions that may positively impact the future.

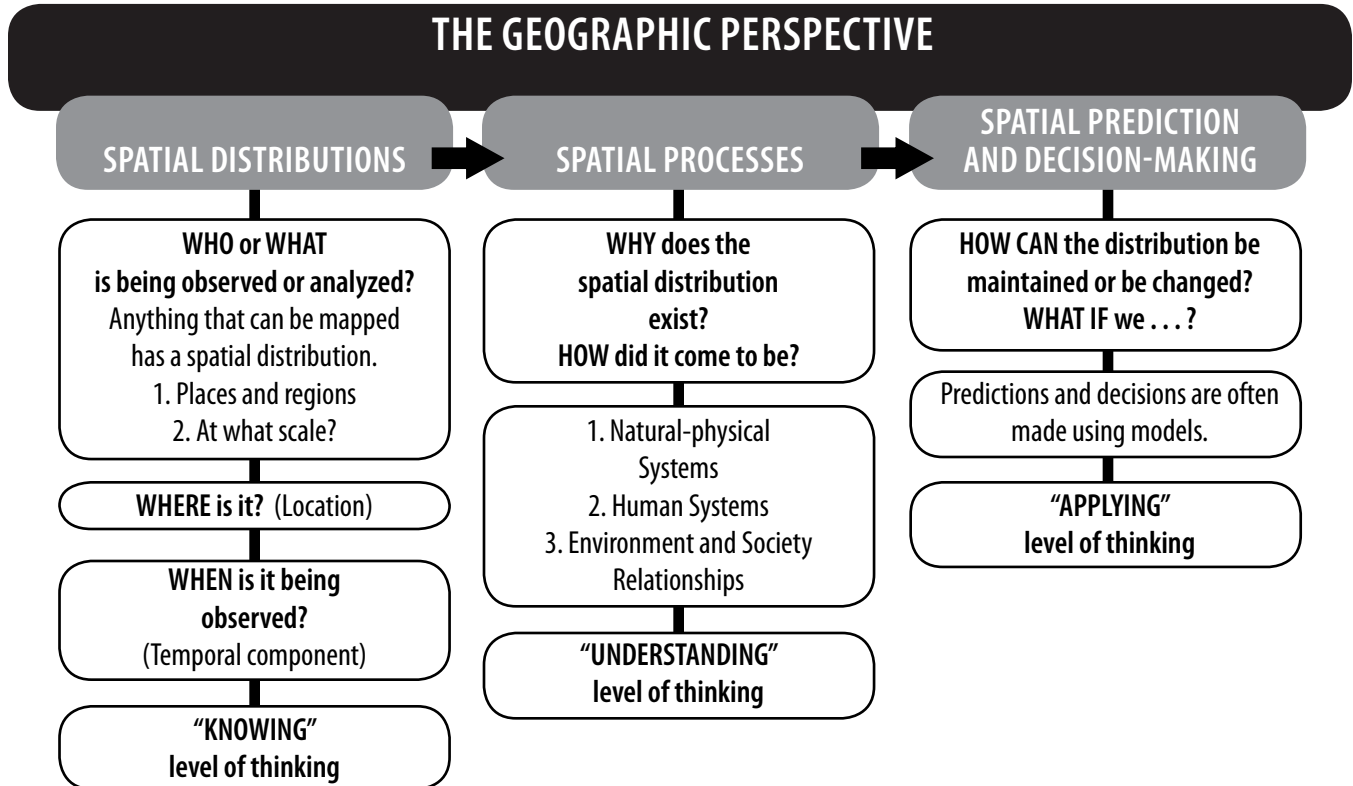
This perspective is unique in that it is not limited to a particular subject matter. Rather, geography uses an *interdisciplinary* and generic spatial perspective that may be broadly applied to anything distributed across Earth space. The geographer is therefore free to examine *all* relevant information in order to make an informed prediction or decision.

Geography is a broadly applicable, **interdisciplinary perspective** that allows for the observation and analysis of anything that is distributed across Earth space.

First, geographers document **spatial distributions**, asking *who* or *what* is being observed, *when* is it being observed, and *where* is it located? This is the “knowing” level of thinking.

Next, geographers investigate the underlying spatial processes that are responsible for the observed spatial distribution by asking “*How* did the spatial distribution come to be? *Why* is it the way it is?” This is the “understanding” level of thinking.

Finally, if geographers can understand why the observations exist, they can make spatial predictions and decisions to either maintain the distribution or change it by asking “*How can* . . . or *What if* . . .?” This is the “applying level” of thinking.



## Key Terms in this Guide

**Absolute location** – defined by precise points on a geographic grid using coordinates such as latitude and longitude

**Ecological perspective** – the view one has when he or she explores the relationships between the physical and human environments

**Geographic perspective** – the perspective used by geographers when they use all available data and tools to first assess spatial distributions, then investigate the underlying spatial processes responsible for the observable spatial distributions, and finally make spatial predictions and decisions about how best to preserve or change the distributions

**Geography** – an interdisciplinary perspective that provides a broadly applicable method of observing and analyzing anything that is distributed across Earth space so that predictions and decisions can be made about how best to understand or impact spatial distributions and processes; in Greek the word “geography” literally means “to describe Earth;” in describing Earth, geography bridges the social and physical sciences

**Hypothesis** – a generalization, usually based upon multiple observations, that results in a statement of the relationship of influencing factors or variables, which can ultimately be investigated; links the asking and answering stages of geographic inquiry and guides the search for information

**Region** – a human construct that attempts to generalize complex physical and cultural spatial distributions so that they can be understood

**Relative location** – indicates a position in reference to something else

**Spatial distribution** – the distribution in Earth space of anything that exists and can be observed and mapped; not random but due to spatial processes

- Can be natural/physical, such as precipitation, temperature, or soil
- Can be cultural, such as language, religion, or gender equality
- Can also be the result of humans interacting with the environment, for example, soil erosion, deforestation, or habitat loss due to urban sprawl

**Spatial perspective** – the view one has when he or she explores spatial distributions and underlying spatial processes

**Spatial process** – an underlying process responsible for the way something is distributed over Earth space

- Spatial distributions in the natural/physical environment are due to spatial processes; energy and matter working in the Earth's physical system
- Cultural patterns are not random, either, but due to spatial processes, primarily innovation/invention or more likely spatial diffusion

**Key Terms in this Guide con't.**

**Systems approach** – Geographers study the natural environment from a systems approach. The Earth is considered to be an open energy system; that is, energy enters, flows through, and exits the Earth system. All change that occurs on Earth is due to energy inputs, movements and transfers, and outputs. The Earth is considered to be a closed matter system, which means that the planet gains or loses very little matter—it is just moved around and changed.

**Thematic maps** – maps that depict one topic or theme; for example, population distribution, language, annual income, climate type, vegetation type, ocean currents. Thematic maps may display qualitative or quantitative data. **Qualitative thematic maps** show the distribution of the data without any numbers; for example, vegetation types by name, such as a pine forest. **Quantitative thematic maps** show the distribution of the data with numbers or values; for example, number of pine trees in a given area.

**Variable** – a characteristic of a person, place, or thing that can be observed or measured

- **Manipulated or independent variable** – the variable thought to influence the observed characteristic or value of another variable, the respondent variable; it is the manipulated variable that changes or is deliberately altered during experiments
- **Respondent or dependent variable** – the variable whose observed values or characteristics are being investigated; it is the topic of concern about which an answer is sought; the observations or values of this variable are a result of the changes in the manipulated variable
- **Controlled variables** – any factors that might influence values or characteristics observed and which the researcher does not want to consider in the investigation; controlling these variables enables one to have more confidence in stating the answer to the original question

## Geographic Skills

Much like any social or physical scientist, the geographer's goal is to ask and answer questions in order to gain knowledge. Upon asking a question, the geographer will develop a hypothesis and measure variables in order to confirm or deny the hypothesis, just as any scientist would. The geographer is not limited, however, to any one discipline, type of data, or set of tools. He or she is free to use any available information or tools in order to understand how and why things appear as they do in Earth space. That being said, geographers do use a method that requires they have certain skills. These are the skills your students must learn in order to "do geography."

**The National Geography Standards** identify five skills that will guide a geographic inquiry. These five skills enable geographers to (1) ask geographic questions about spatial distributions and processes, (2) acquire geographic information about distribution, (3) organize geographic information, (4) analyze geographic data, and (5) answer geographic questions. For a discussion of these skills see *Geography for Life: The National Geography Standards—1994*, pages 42–56. An overview of the 18 National Geography Standards is available online at the National Geographic Xpeditions Web site at <http://www.nationalgeographic.com/xpeditions/standards>.

### 1. Ask geographic questions

Students should be able to ask why things are where they are and how they got there as well as why such distributions are important. Geographers begin by asking where, what, why, and so what?

Geographic questions lead students to consider the following:

- Spatial Distributions: who or what is being examined or investigated
- Place: the spatial context of who or what is being investigated: the physical and human characteristics that give meaning to locations; the ways in which places are defined and grouped into regions; the development and significance of the sense of place; the mental maps humans construct of places
- Location: where the "who or what" being investigated is located; the absolute and relative position; the way in which things are distributed in space; the significance of location and/or distribution
- Scale and Perspective: the relative size of things; how the scale of the issue that is being examined affects the degree of generalization that can be made
- Patterns: the regularity or distinctive arrangement of things across space; the lack of patterns in the distribution; the significance of patterns
- Spatial Processes: why things are situated where they are; the processes that affect location and patterns of distribution; the role of change over time in a place and/or across space; the underlying natural/physical and cultural/human processes that are responsible for the observed spatial distribution

**Geographic Skills con't.**

- Relationships and Connections: the interaction of elements in a physical or cultural system; ways in which systems are connected; how environment and human activity are related, including the consequences

Examples: *Where is the continent of study located? What is the distribution pattern of the continent's population? Why are the continent's climates distributed the way they are? Is the distribution pattern of mineral resources significant to the economic development of populations and, if so, in what way? Why is the standard of living what it is?*

**2. Acquire geographic information**

Students should learn to use a variety of tools and sources to gather geographic data. The skills involved include locating and collecting data, observing and systematically recording information, reading and interpreting maps and other graphic representations of spaces and places, interviewing, and using statistical methods.

Examples: *primary and secondary sources, photographs, interviews, surveys, fieldwork, reference material, observation, videos, maps, satellite images*

**3. Organize geographic information**

Students should learn a variety of methods for systematically organizing and presenting geographic data as well as how to recognize different types of data and select the best method for representing the data they have collected.

Examples: *choropleth (area), isoline (line), and dot (point) maps; pie, bar, and line graphs; diagrams, tables, charts; oral or written summaries*

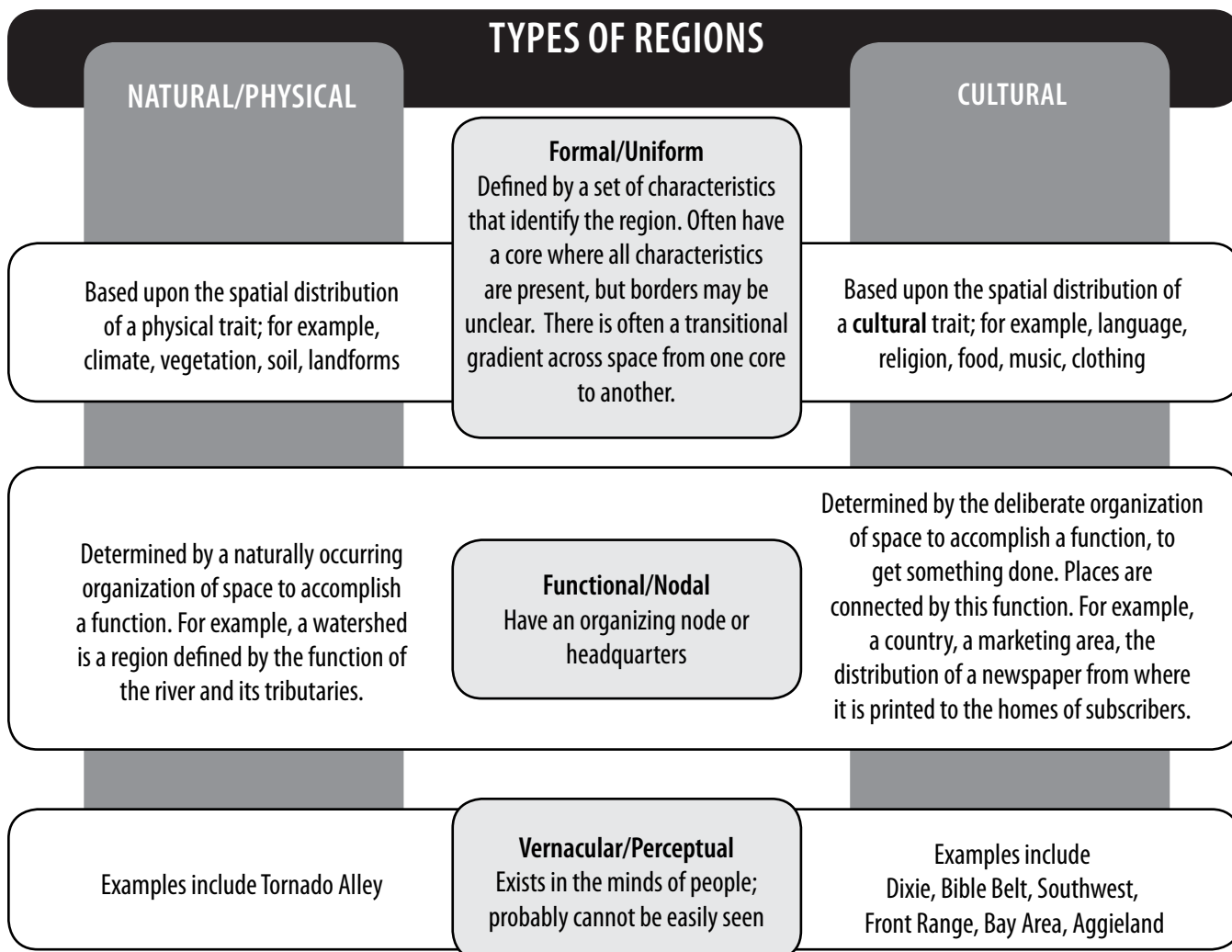
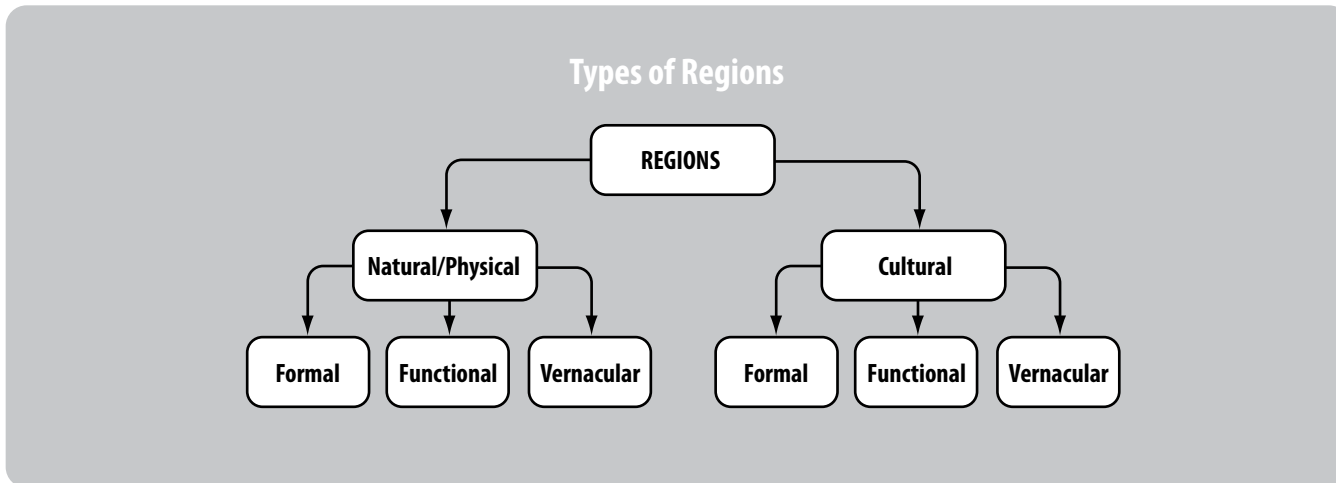
**4. Analyze geographic information**

Students should be able to identify, understand, explain, and analyze information presented in maps, tables, charts, and graphs. Through such scrutiny, students should seek patterns, learn to infer relationships, make predictions, make inferences, evaluate bias, and synthesize information using maps, tables, charts, and graphs. They should be able to use statistics in order to describe data, identifying trends, sequences, correlations, and relationships.

Because spatial distributions can be very complex, even too complex for us to fully comprehend, geographers create **regions** in order to simplify and generalize spatial data so that it can be understood.

**5. Answer geographic questions**

Students should be able to present geographic information in oral and written reports and on maps. They should learn to make generalizations and apply these generalizations in order to solve real-world problems. They should be able to use geographic information to assess the feasibility of proposed solutions. Students should develop conclusions based on the data collected, organized, and analyzed. Skills associated with answering geographic questions include the ability to make inferences, based on information organized in graphic form (maps, tables, graphs) and in oral and written narratives.



## **GEOGRAPHIC INVESTIGATION: An Example**

**Problem:** Temperatures over Earth's surface are unevenly distributed, with higher average temperatures being found in equatorial zones. As sun angle is a contributing factor to the receipt of energy, does latitude influence sun angle and thus contribute to the global pattern of temperature distribution?

### **Ask Geographic Questions**

**Question:** What is the effect of latitude on the angle at which the sun's rays strike Earth's surface?

**Hypothesis:** The angle at which the sun's rays strike Earth's surface will vary with latitude.

### **Acquire and Organize Geographic Information**

**Manipulated Variable:** Latitude, as measured by degrees, minutes, and seconds north or south of the Equator

**Respondent Variable:** Angle at which the sun's rays strike Earth's surface, as measured by the angle of the noon sun above the horizon

**Controlled Variables:** Day of year, time of day, instrument used to measure angle

### **Analyze Geographic Information**

Seek patterns, relationships, and connections; synthesize observations into coherent explanations. Students should note associations and similarities between areas, recognize patterns, and draw inferences from maps, graphs, diagrams, tables, and other sources.

Using simple statistics, students can identify trends, relationships, and sequences.

### **Answer Geographic Questions**

Successful geographic inquiry culminates in the development of generalizations and conclusions based on the data collected, organized, and analyzed. Skills associated with answering geographic questions include the ability to make inferences, based on information organized in graphic form (maps, tables, graphs) and in oral and written narratives.

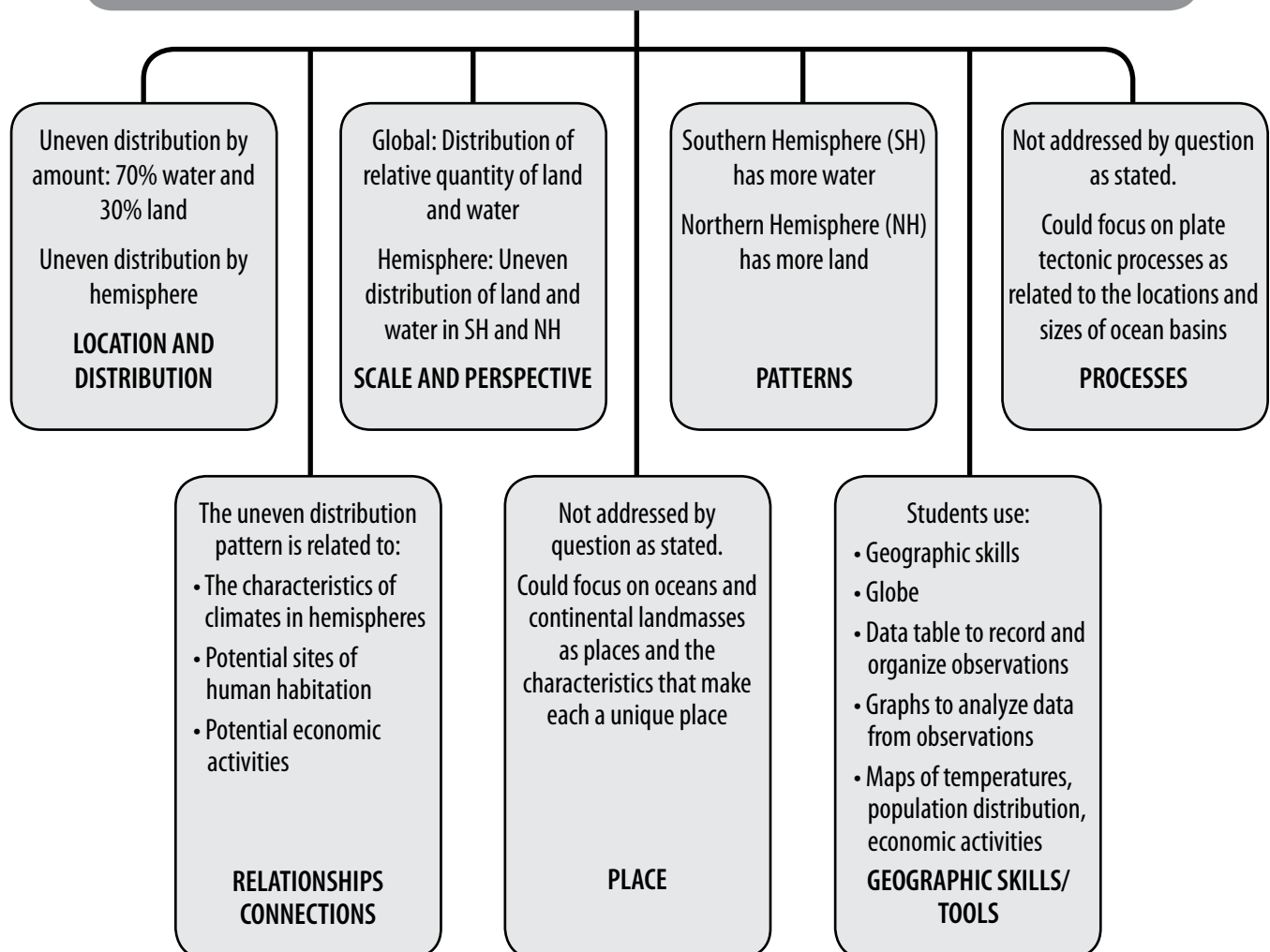
## Activity: Is it Geography?

A commonly used lesson for students to learn that Earth's surface is primarily water is the "globe toss." Toss a globe (beach-ball style works well) to students. When they catch the globe, students indicate whether their thumb is on water or on land. Track results on the data table on the following page (table can be used as a student handout, or you can create a data table on the blackboard). The stated objective is for students to learn that their thumbs touch water more frequently than land surfaces. Using this planning tool, rephrase the objective as a geographic question. Note that the question, as phrased, does not address each component.

### IS IT GEOGRAPHY?

What is the pattern and significance of the distribution of land and water over Earth's surface?

#### THE QUESTION LEADS STUDENTS TO CONSIDER . . .





## Activity: Finding and Analyzing Maps with Spatial Correlation

Materials: Student atlas with thematic maps

Explain to students that **thematic** maps depict one topic or theme; for example, population distribution, language, annual income, climate type, vegetation type, and ocean currents. A student atlas is likely to provide spatial distributions (maps) of physical patterns, human patterns, demographic patterns, economic patterns, patterns of environmental disturbance, and political patterns.

You will ask students to compare maps that show spatial correlation. For example, students could compare:

- Map of world religions with map of world languages
- Map of world climate regions with map of vegetation types
- Map of population growth rates with map of gross national income per capita

For each set of maps, ask students to list possible causes for the spatial correlation. Ask questions such as these:

- Who or what is being examined?
- Why are things where they are?
- How did they get there?
- Is there a pattern (or a lack of pattern) to the distribution?
- Is there any significance to the distribution?
- Can students make any generalizations based on the information in the maps?

As a class, discuss their findings. As you discuss, remind students that spatial correlation does not imply cause and effect in all cases.

## Online Resources

### Geographic Perspective: Content Guide: Online Resources

#### RELATED LINKS:

#### **Brock Brown's Geographical Summary of Earth as a Natural/Physical Environmental System and Humans Interacting with the System (PDF)**

<http://www.nationalgeographic.com/xpeditions/guides/geogsummary.pdf>

This thought-provoking essay explores the Earth's dynamic energy/matter system and how humans impact that system through the use of technology. Dr. Brown is an Associate Professor of Geography at Texas State University—San Marcos.

#### **My Wonderful World**

<http://www.mywonderfulworld.org>

Give kids the power of global knowledge with resources from this National Geographic-led campaign—backed by a coalition of major partners—to expand geographic learning in school, in the home, and in the community.

#### **National Geographic: EdNet**

<http://ngsednet.org>

The National Geographic free online site for educators—a one-stop shop for education news, resources, discussion, and more

#### **National Geographic Online**

<http://www.nationalgeographic.com>

Photos, videos, daily news, interactive features, maps, world music, and more, as well as resources for educators and kids

#### **National Geographic Xpeditions: Geography Standards**

<http://nationalgeographic.com/xpeditions/standards>

Overview of the 18 U.S. National Geography Standards

**GEOGRAPHIC PERSPECTIVE RELATED LESSON PLANS AND ACTIVITIES:**

*Note: All of the National Geographic Xpedition resources are designed to use a geographic perspective. The following skill-based lessons teach your students the skills they need to use this perspective.*

**National Geographic: Xpeditions Lesson—Welcome to Your New School! Using a Geographic Perspective (Grades K–2)**

<http://www.nationalgeographic.com/xpeditions/lessons/01/gk2/gpafrika1.html>

Students will begin to learn how to use the geographic perspective, even though they may not call it by its name. They will do this by asking where and what as they explore the concepts of location and place, as those terms apply to the students' classroom or school. Then students will expand on what they know by exploring how those things affect them and other students.

**National Geographic: Xpeditions Lesson—Where in the World? Using a Geographic Perspective to Identify Destinations for a Class Trip (Grades 3–5)**

<http://www.nationalgeographic.com/xpeditions/lessons/01/g35/gpafrika2.html>

Students will use a geographic perspective in identifying and comparing features of physical and political maps of the world. They will use information from these map sources, as well as other National Geographic resources, to make decisions about the best place to go on a class trip, and finally relay their findings in a presentation designed to convince the principal that it's an ideal place for a class trip.

**National Geographic: Xpeditions Lesson—Regions of the United States: A Geographic Perspective (Grades 6–8)**

<http://www.nationalgeographic.com/xpeditions/lessons/05/g68/gpafrika3.html>

Students will explore regions of the United States using a geographic perspective. They will select a specific regional feature and apply a geographic perspective to learn about it within a variety of contexts. Finally, students will predict how these features may change over time, what factors may precipitate the changes, and the possible effects the changes may cause.

**National Geographic: Xpeditions Lesson—A Geographic Perspective on Africa (Grades 9–12)**

<http://www.nationalgeographic.com/xpeditions/lessons/18/g912/gpafrika4.html>

Introduces students to the geographic perspective and gives them the opportunity to practice using this perspective by analyzing current issues facing Africa

**National Geographic: Xpeditions—Mapmaking Guide: Grades 3–5 (PDF)**

<http://www.nationalgeographic.com/xpeditions/lessons/09/g35/cartographyguidestudent.pdf>

Introduction to map elements

**National Geographic: Xpeditions—Mapmaking Guide: Grades 6–8 (PDF)**

<http://www.nationalgeographic.com/xpeditions/lessons/09/g68/cartographyguidestudent.pdf>

Reference about common map elements, design issues, and map types

*Note: This guide is one in a series that National Geographic developed for Geography Action! 2006: Africa. Each guide offers background on and real-world examples of the geographic perspective and how it can be applied across the curriculum.*

**Geographic Perspective: Content Guide for Educators (PDF)** (this guide)

<http://www.nationalgeographic.com/xpeditions/guides/geogpguide.pdf>

**Africa: Physical Geography Content Guide for Educators (PDF)**

<http://www.nationalgeographic.com/xpeditions/guides/physicalafricaguide.pdf>

**Africa: Human Geography Content Guide for Educators (PDF)**

<http://www.nationalgeographic.com/xpeditions/guides/humanafricaguide.pdf>

**Africa: Contemporary Issues Content Guide for Educators (PDF)**

<http://www.nationalgeographic.com/xpeditions/guides/contempafricaguide.pdf>

**Africa Multidisciplinary Educator Guide (PDF)**

<http://www.nationalgeographic.com/xpeditions/guides/multidafricaguide.pdf>

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