

Summary and Review

KEY ISSUE 1

How Do Geographers Describe Where Things Are?

Geography is most fundamentally a spatial science. Geographers use maps to display the location of objects and to extract information about places. Early geographers drew maps of Earth's surface based on exploration and observation. Today contemporary tools, such as remote sensing, GPS, and GIS, assist geographers in understanding reasons for observed regularities across Earth.

LEARNING OUTCOME 1.1.1: Explain differences between early maps and contemporary maps.

- Some of the earliest maps were used for navigation. Maps have had many other uses as tools of reference and communication.

LEARNING OUTCOME 1.1.2: Describe the role of map scale and projections in making maps.

- Contemporary maps indicate scale in three ways. Four types of distortion can occur in the transfer of Earth's round surface to a flat map.

LEARNING OUTCOME 1.1.3: Explain how latitude and longitude are used to locate points on Earth's surface.

- Latitude indicates position north or south of the equator, and longitude indicates position east or west of the prime meridian.

LEARNING OUTCOME 1.1.4: Identify contemporary analytic tools, including remote sensing, GPS, and GIS.

- Geographers today use the tools of Geographic Information Science (GIScience). Data gathered by remote sensing and GPS to measure changes over time and the characteristics of places can be combined and analyzed using geographic information systems (GIS).

THINKING GEOGRAPHICALLY 1.1: Mapping is partially a science, but it also involves a lot of human judgment. Provide examples of human judgment in mapping, such as in the creation of the geographic grid and in contemporary tools.

GOOGLE EARTH 1.1: What are the precise latitude and longitude of the U.S. Capitol building?



KEY ISSUE 2

Why Is Each Point on Earth Unique?

Every place on Earth is in some respects unique. Geographers also identify unique regions as areas distinguished by distinctive combinations of cultural as well as economic and environmental features. The distribution of features helps to explain why every place and every region is unique.

LEARNING OUTCOME 1.2.1: Identify geographic characteristics of places, including toponym, site, and situation.

- Location is the position something occupies on Earth. Geographers identify a place's location using place names, site, and situation.

LEARNING OUTCOME 1.2.2: Identify the three types of regions.

- A formal region is an area within which everyone shares distinctive characteristics. A functional region is an area organized around a node. A vernacular region is an area that people believe exists.

LEARNING OUTCOME 1.2.3: Describe two geographic definitions of culture.

- Culture can refer to cultural values such as language and religion, or to material culture such as food, clothing, and shelter.

THINKING GEOGRAPHICALLY 1.2: Describe the site and situation of your hometown.

GOOGLE EARTH 1.2: What characteristics of site and situation are visible in an aerial view of New Orleans?



Key Terms

Abiotic (p. 32) Composed of nonliving or inorganic matter.

Atmosphere (p. 32) The thin layer of gases surrounding Earth.

Biosphere (p. 32) All living organisms on Earth, including plants and animals, as well as microorganisms.

Biotic (p. 32) Composed of living organisms.

Cartography (p. 5) The science of making maps.

Climate (p. 32) The long-term average weather condition at a particular location.

Concentration (p. 22) The spread of something over a given area.

Connection (p. 26) Relationships among people and objects across the barrier of space.

Conservation (p. 30) The sustainable management of a natural resource.

Contagious diffusion (p. 26) The rapid, widespread diffusion of a feature or trend throughout a population.

Cultural ecology (p. 34) A geographic approach that emphasizes human–environment relationships.

Cultural landscape (p. 16) The fashioning of a natural landscape by a cultural group.

Culture (p. 18) The body of customary beliefs, social forms, and material traits that together constitute a group's distinct tradition.

Density (p. 22) The frequency with which something exists within a given unit of area.

KEY ISSUE 3

Why Are Different Places Similar?

Geographers work at all scales, from local to global. The global scale is increasingly important because few places in the contemporary world are totally isolated. Because places are connected to each other, they display similarities. Geographers study the interactions of groups of people and human activities across space, and they identify processes by which people and ideas diffuse from one location to another over time.

LEARNING OUTCOME 1.3.1: Give examples of changes in economy and culture occurring at global and local scales.

- Globalization means that the scale of the world is shrinking in terms of economy and culture.

LEARNING OUTCOME 1.3.2: Identify the three properties of distribution across space.

- Density is the frequency with which something occurs, concentration is the extent of spread, and pattern is the geometric arrangement.

LEARNING OUTCOME 1.3.3:

Describe different ways in which geographers approach aspects of cultural identity such as gender, ethnicity, and sexuality.

- Males and females, whites and minorities, heterosexuals and homosexuals occupy different places and move across space differently.
- Critical geographers have developed different approaches to studying how different cultural groups perceive, experience, organize, and move through space.

LEARNING OUTCOME 1.3.4: Describe how characteristics can spread across space over time through diffusion.

- Something originates at a hearth and diffuses through either relocation diffusion (physical movement) or expansion diffusion (additive processes).

LEARNING OUTCOME 1.3.5: Explain how places are connected through networks and how inequality can hinder connections.

- Electronic communications have removed many physical barriers to interaction for those with access to them.

THINKING GEOGRAPHY 1.3: Imagine that a transportation device (perhaps like *Harry Potter's* floo powder) would enable all humans to travel instantaneously to any location on Earth. What might be the impact on the distribution of people and activities across Earth?

GOOGLE EARTH 1.3: How have the properties of distribution of Spring Valley, Nevada, changed over time?



Diffusion (p. 26) The process of spread of a feature or trend from one place to another over time.

Distance decay (p. 28) The diminishing in importance and eventual disappearance of a phenomenon with increasing distance from its origin.

Distribution (p. 22) The arrangement of something across Earth's surface.

Ecology (p. 34) The scientific study of ecosystems.

Ecosystem (p. 34) A group of living organisms and the abiotic spheres with which they interact.

Environmental determinism (p. 34) A nineteenth- and early twentieth-century approach to the study of geography which argued

that the general laws sought by human geographers could be found in the physical sciences. Geography was therefore the study of how the physical environment caused human activities.

Expansion diffusion (p. 26) The spread of a feature or trend among people from one area to another in an additive process.

Formal region (or uniform or homogeneous region) (p. 16) An area in which everyone shares in common one or more distinctive characteristics.

Functional region (or nodal region) (p. 17) An area organized around a node or focal point.

Geographic information science (GIScience) (p. 12) The development and analysis of data about Earth acquired through satellite and other electronic information technologies.

KEY ISSUE 4

Why Are Some Human Actions Not Sustainable?

LEARNING OUTCOME 1.4.1: Describe the three pillars of sustainability.

- Sustainability is the use of Earth's natural resources in ways that ensure availability in the future. This is accomplished through a combination of environmental, economic, and social action.

LEARNING OUTCOME 1.4.2: Describe the three abiotic physical systems.

- Earth comprises four physical systems: the atmosphere, hydrosphere, lithosphere, and biosphere.

LEARNING OUTCOME 1.4.3: Explain how the biosphere interacts with Earth's abiotic systems.

- An ecosystem comprises a group of living organisms in the biosphere and their interaction with the atmosphere, lithosphere, and biosphere.

LEARNING OUTCOME 1.4.4: Compare ecosystems in the Netherlands and southern Louisiana.

- The Dutch have modified the ecosystem of their land in a more sustainable manner than has been the case in southern Louisiana.

THINKING GEOGRAPHICALLY 1.4: What activities in your community appear to be promoting sustainability?

GOOGLE EARTH 1.4: How many dams do you see along the southwestern coast of the Netherlands, in the vicinity of the town of Stellendam?



Geographic information system (GIS) (p. 12) A computer system that stores, organizes, analyzes, and displays geographic data.

Global Positioning System (GPS) (p. 12) A system that determines the precise position of something on Earth through a series of satellites, tracking stations, and receivers.

Globalization (p. 20) Actions or processes that involve the entire world and result in making something worldwide in scope.

Greenwich Mean Time (GMT) (p. 11) The time in the zone encompassing the prime meridian, or 0° longitude.

Hearth (p. 26) The region from which innovative ideas originate.

Hierarchical diffusion (p. 26) The spread of a feature or trend from one key person or node of authority or power to other persons or places.

Housing bubble (p. 20) A rapid increase in the value of houses followed by a sharp decline in their value.

Hydrosphere (p. 32) All of the water on and near Earth's surface.

International Date Line (p. 11) An arc that for the most part follows 180° longitude, although it deviates in several places to avoid dividing land areas. When you cross the International Date Line heading east (toward America), the clock moves back 24 hours, or one entire day. When you go west (toward Asia), the calendar moves ahead one day.

Latitude (p. 10) The numbering system used to indicate the location of parallels drawn on a globe and measuring distance north and south of the equator (0°).

Lithosphere (p. 32) Earth's crust and a portion of upper mantle directly below the crust.

Location (p. 14) The position of anything on Earth's surface.

Longitude (p. 10) The numbering system used to indicate the location of meridians drawn on a globe and measuring distance east and west of the prime meridian (0°).

Map (p. 5) A two-dimensional, or flat, representation of Earth's surface or a portion of it.

Map scale (p. 8) The relationship between the size of an object on a map and the size of the actual feature on Earth's surface.

Mental map (p. 17) A representation of a portion of Earth's surface based on what an individual knows about a place, containing personal impressions of what is in the place and where the place is located.

Meridian (p. 10) An arc drawn on a map between the North and South poles.

Network (p. 28) A chain of communication that connects places.

Nonrenewable resource (p. 30) Something produced in nature more slowly than it is consumed by humans.

Parallel (p. 10) A circle drawn around the globe parallel to the equator and at right angles to the meridians.

Pattern (p. 23) The geometric or regular arrangement of something in a study area.

Place (p. 14) A specific point on Earth distinguished by a particular characteristic.

Polder (p. 36) Land created by the Dutch by draining water from an area.

Possibilism (p. 35) The theory that the physical environment may set limits on human actions, but people have the ability to adjust to the physical environment and choose a course of action from many alternatives.

Preservation (p. 30) The maintenance of resources in their present condition, with as little human impact as possible.

Prime meridian (p. 10) The meridian, designated as 0° longitude, that passes through the Royal Observatory at Greenwich, England.

Projection (p. 9) A system used to transfer locations from Earth's surface to a flat map.



Region (p. 16) An area distinguished by a unique combination of trends or features.

Regional (or cultural landscape) studies (p. 16) An approach to geography that emphasizes the relationships among social and physical phenomena in a particular study area.

Relocation diffusion (p. 26) The spread of a feature or trend through bodily movement of people from one place to another.

Remote sensing (p. 12) The acquisition of data about Earth's surface from a satellite orbiting the planet or from other long-distance methods.

Renewable resource (p. 30) Something produced in nature more rapidly than it is consumed by humans.

Resource (p. 30) A substance in the environment that is useful to people, is economically and technologically feasible to access, and is socially acceptable to use.

Scale (p. 20) Generally, the relationship between the portion of Earth being studied and Earth as a whole.

Site (p. 14) The physical character of a place.

Situation (p. 15) The location of a place relative to another place.

Space (p. 22) The physical gap or interval between two objects.

Space-time compression (p. 28) The reduction in the time it takes to diffuse something to a distant place as a result of improved communications and transportation systems.

Stimulus diffusion (p. 27) The spread of an underlying principle even though a specific characteristic is rejected.

Sustainability (p. 30) The use of Earth's renewable and nonrenewable natural resources in ways that do not constrain resource use in the future.

Toponym (p. 14) The name given to a portion of Earth's surface.

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Transnational corporation (p. 20) A company that conducts research, operates factories, and sells products in many countries, not just where its headquarters or shareholders are located.

Uneven development (p. 29) The increasing gap in economic conditions between core and peripheral regions as a result of the globalization of the economy.

Vernacular region (or perceptual region) (p. 17) An area that people believe exists as part of their cultural identity.