

***Geosystems: An Introduction to Physical Geography, 10e (Christopherson)***  
**Chapter 1 Essentials of Geography**

1) \_\_\_\_\_ is the practice of using public participation for scientific data collection and monitoring.

- A) Citizen science
- B) Public engagement
- C) Amateur analysis
- D) Participatory observations
- E) Micronetting

Answer: A

Diff: 1

Chapter/Section: 1.1 The Science of Geography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.1 Define geography and physical geography, and describe spatial analysis.

2) The term "geography" (*geo graphein*) literally means

- A) place names.
- B) the study of rocks.
- C) map making.
- D) to write (about) Earth.
- E) spatial reasoning and cognition.

Answer: D

Diff: 1

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3) The main methodology governing geographic inquiry

- A) is behavioral analysis.
- B) involves spatial analysis.
- C) uses chronological organization.
- D) is field work based.
- E) utilizes ecological concepts.

Answer: B

Diff: 1

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4) The word "spatial" refers to

- A) the nature and character of physical space and the distribution of things within it.
- B) the organization of human societies in relationship to the physical environment.
- C) the point at which a system can no longer maintain its character and lurches into a new operational level.
- D) the chronological organization of Earth's major geological events.
- E) system operations, such as feedback loops, that influence its own operations.

Answer: A

Diff: 1

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LO: 1.1 Define geography and physical geography, and describe spatial analysis.

5) Relative to the five themes of geography, communication and diffusion refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) region.

Answer: D

Diff: 1

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LO: 1.1 Define geography and physical geography, and describe spatial analysis.

6) Relative to the five themes of geographic science, resource management and sustainable growth refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) region.

Answer: C

Diff: 1

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Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.1 Define geography and physical geography, and describe spatial analysis.

7) Relative to the five themes of geographic science, latitude and longitude refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) region.

Answer: A

Diff: 1

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LO: 1.1 Define geography and physical geography, and describe spatial analysis.

8) Relative to the five themes of geographic science, areas that display uniform human or physical characteristics refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) region.

Answer: E

Diff: 1

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Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.1 Define geography and physical geography, and describe spatial analysis.

9) Relative to the five themes of geographic science, characteristics of a location refers to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) region.

Answer: B

Diff: 1

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LO: 1.1 Define geography and physical geography, and describe spatial analysis.

- 10) Which of the following most accurately characterizes the goal of geography?
- A) the production of paper and digital maps using remote sensing, GPS, and GIS
  - B) memorization of place names and region on a world map
  - C) understanding the imports and exports of major countries in the world
  - D) study of the nature and character of physical space and the distribution of things within it
  - E) socioeconomic analysis of regions to determine similarities and differences across the planet

Answer: D

Diff: 1

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LO: 1.1 Define geography and physical geography, and describe spatial analysis.

- 11) Which is *not* true of geographers?
- A) Geographers may utilize Earth systems science.
  - B) Geographers are primarily concerned with place names.
  - C) Geographers are concerned with spatial and temporal relationships.
  - D) Geographers utilize various technologies, such as GIS, remote sensing, and GPS.
  - E) Geographers often analyze the overlap between human-Earth connections.

Answer: B

Diff: 1

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- 12) Which of the following comprise the fundamental duality in the field of geography?
- A) physical versus human
  - B) physical versus economic
  - C) economic versus political
  - D) political versus environmental
  - E) environmental versus social

Answer: A

Diff: 1

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- 13) A physical geographer would likely *not* study
- A) the impact of a hurricane's landfall to coastal areas.
  - B) vulnerability of human populations to landslides.
  - C) effects of drought and changing climate on regional water supplies.
  - D) the diffusion of various religions from the so-called Middle East.
  - E) human influences on native ecosystems.

Answer: D

Diff: 1

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LO: 1.1 Define geography and physical geography, and describe spatial analysis.

- 14) Scale in the context of examining physical geographic patterns and processes is best described as the

- A) distance or area on a map relative to actual distance or area in the "real world."
- B) direct measurements of spatial distributions natural phenomena.
- C) relative spatial and/or temporal size or extent of some attribute.
- D) simple, organized steps leading to concrete, objective decisions.
- E) communication of the findings of scientific research in peer reviewed forums.

Answer: C

Diff: 1

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- 15) The scientific method is described by which of the following?

- A) A single, definitive method for doing science.
- B) The acceptance of supernatural explanations for phenomena until science proves otherwise.
- C) Organized processes and procedures for analyzing phenomena and acquiring new knowledge.
- D) Irreproducible results accepted as theory.
- E) Conjecture of how phenomena operate based on cursory observations.

Answer: C

Diff: 1

Chapter/Section: 1.1 The Science of Geography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G9 Apply the scientific method in lab experiences to interpret information and draw conclusions.

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.

16) The key idea behind the scientific method is

- A) the use of intuition in testing hypotheses.
- B) an appeal to supernatural explanations when natural explanations have not yet been found for a phenomenon.
- C) the testing of ideas through controlled observations and experiments.
- D) unbridled speculation about the world.
- E) an acceptance of other scientists explanations based on their expert knowledge.

Answer: C

Diff: 1

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17) A hypothesis is best describe as

- A) a tentative explanation for an observed phenomenon.
- B) an explanation of the natural world based on extensive testing.
- C) the experimental phase of the scientific process.
- D) observations of particular phenomena.
- E) the peer review stage of the scientific process.

Answer: A

Diff: 1

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18) Which of the following is the most strongly supported by extensive experimental and observational evidence?

- A) speculation
- B) hypothesis
- C) educated guess
- D) theory
- E) conjecture

Answer: D

Diff: 1

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19) Which of the following is *not* true of scientific theories?

- A) They are based on repeated testing of a hypothesis without being rejected.
- B) They are broad in scope because they unify several known facts about the world.
- C) They have undergone rigorous peer review by other members in the scientific community.
- D) They are absolute truths and can never be proven wrong.
- E) They stimulate continued observation, testing, understanding, and pursuit of knowledge with scientific fields.

Answer: D

Diff: 1

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20) The majority of the world's human population lives primarily

- A) in less-developed countries (LDCs).
- B) in more-developed countries (MDCs).
- C) in rural areas.
- D) in the United States.
- E) in Europe.

Answer: A

Diff: 1

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Bloom's Taxonomy: Remembering/Understanding

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Global Sci. LO: G14 How human actions modify the physical environment

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.

21) Human population growth rates are expected to

- A) continue to increase into the foreseeable future in both LDCs and MDCs.
- B) increase in MDCs, but decrease in LDCs.
- C) decrease with virtually all new population growth in LDCs.
- D) increase rapidly until about 2040, then stabilize with moderate growth in MDCs.
- E) universally decrease in both LDCs and MDCs due to famine and war.

Answer: C

Diff: 1

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Global Sci. LO: G14 How human actions modify the physical environment

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.

22) Sustainable development seeks to

- A) meet a growing populations needs now without consideration of the future.
- B) severely limit human development to protect the environment.
- C) restrict economic activity in MDCs to foster more economic activity in LDCs.
- D) enforce mandates to strongly curtail economic activities that are environmentally detrimental.
- E) advance the condition of human society while maintaining functioning Earth systems.

Answer: E

Diff: 1

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Global Sci. LO: G14 How human actions modify the physical environment

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.



23) The name given to the most recent geological epoch to reflect the human influence on climate and ecosystems is the

- A) Holocene.
- B) Anthropocene.
- C) Pleistocene.
- D) Pliocene.
- E) Miocene.

Answer: B

Diff: 1

Chapter/Section: 1.1 The Science of Geography

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Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G14 How human actions modify the physical environment

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.

24) A system is best described as

- A) the capacity to change the motion of, or to do work on, matter.
- B) mass that assumes a physical shape and occupies space.
- C) the point at which characteristics can no longer be maintained and a new state is adopted.
- D) any set of ordered, interrelated components working as a unified whole.
- E) a form of energy that is transferred between two substances at different temperatures.

Answer: D

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

25) The capacity to change the motion of, or to do work on, matter is the definition of

- A) energy.
- B) plasma.
- C) thermodynamics.
- D) acceleration.
- E) system.

Answer: A

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

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26) Which of the following is incorrect?

- A) Earth represents a vast integrated system.
- B) Earth represents an open system in terms of energy.
- C) Earth represents a closed system in terms of matter.
- D) New resources and matter are being added to Earth's systems all the time.
- E) Systems in nature are generally not self-contained.

Answer: D

Diff: 2

Chapter/Section: 1.2 Earth Systems Concepts

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27) Systems encountered in nature at Earth's surface, such as a forest, are

- A) open systems in terms of energy.
- B) closed systems in terms of energy.
- C) open systems in terms of matter.
- D) both open systems in terms of energy and open systems in terms of matter.
- E) both closed systems in terms of energy and open systems in terms of matter.

Answer: D

Diff: 1

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28) Which of the following is an example of a closed system?

- A) a forest
- B) a river drainage basin
- C) an automobile
- D) the Earth (in terms of matter)
- E) the Earth (in terms of energy)

Answer: D

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

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- 29) With respect to air, water, and material resources, which of the following is true?
- A) A forest is a closed system.
  - B) A forest is an open system.
  - C) A forest is an open system in terms of air, but closed in terms of material resources.
  - D) A forest is an open system in terms of water, but closed in terms of energy resources.
  - E) A forest cannot be considered either an open or closed system.

Answer: B

Diff: 2

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Applying/Analyzing

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LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

- 30) What type of feedback maintains stability in a system; i.e., what type of feedback keeps a system functioning properly?

- A) positive
- B) negative
- C) neutral
- D) open
- E) closed

Answer: B

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

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LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

- 31) If a system responds to a change in input by moving further away from its equilibrium condition, what type of feedback has occurred?

- A) positive
- B) negative
- C) neutral
- D) open
- E) closed

Answer: A

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

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32) If Earth warmed up, and more snow fell because of more water vapor in the atmosphere, and that snow then reduced Earth's temperature, which increased snow cover, then the initial increase in snow fall would be \_\_\_\_\_ feedback, while the continued increase in snow fall would be \_\_\_\_\_ feedback.

- A) positive; positive
- B) positive; negative
- C) negative; positive
- D) negative; negative
- E) open; closed

Answer: C

Diff: 2

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Applying/Analyzing

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33) As arctic temperatures rise, summer sea ice and glacial melt accelerates; lighter color surfaces are thereby replaced with darker-colored surfaces leading to more absorption and surface heating. This is an example of a(n) \_\_\_\_\_ feedback.

- A) negative
- B) positive
- C) reverse
- D) dynamic
- E) closed

Answer: B

Diff: 2

Chapter/Section: 1.2 Earth Systems Concepts

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34) Predator/prey relationships are an example of

A) positive feedback, because more predation leads to higher prey populations as they increase reproduction to insure survival.

B) positive feedback, as more prey discourages further predation allowing prey populations to flourish.

C) negative feedback, because prey populations tend to achieve a balance with the number of predators.

D) negative feedback, because more predators equal fewer prey and people tend to like prey more than predators.

E) positive feedback, because top predators are rare and have been hunted to near extinction allowing prey populations to proliferate.

Answer: C

Diff: 2

Chapter/Section: 1.2 Earth Systems Concepts

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35) If increased levels of carbon dioxide lead to further increases in temperature by promoting the release of even more carbon dioxide from the oceans, this means a \_\_\_\_\_ feedback has occurred and that the planet is \_\_\_\_\_.

A) positive; in equilibrium

B) positive; out of equilibrium

C) negative; in equilibrium

D) negative; out of equilibrium

E) closed; open

Answer: B

Diff: 2

Chapter/Section: 1.2 Earth Systems Concepts

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36) The carbon dioxide absorbed by plants is an example of a(n) \_\_\_\_\_ to a forest and an \_\_\_\_\_ from the atmosphere.

- A) input; input
- B) input; output
- C) output; output
- D) output; input
- E) feedback; equilibrium

Answer: B

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

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LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

37) Which of the following best describes the condition of steady-state equilibrium?

- A) System inputs always exactly balance outputs so the system never changes.
- B) System inputs and outputs fluctuate around a stable average.
- C) System inputs produce large, random fluctuations in output, forcing the system into a new state of equilibrium.
- D) Systems slowly adjust to long-term changes in input and output.
- E) Systems lurch to new operational levels when they can no longer maintain their character.

Answer: B

Diff: 1

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38) A large flood in a river may cause abrupt shifts leading to the carving of a new channel. The point at which this change occurs is a(n)

- A) type of dynamic equilibrium condition.
- B) type of metastable equilibrium.
- C) threshold.
- D) input.
- E) output.

Answer: C

Diff: 1

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39) Which of the following is correctly matched?

- A) threshold — balance of inputs and outputs
- B) steady state equilibrium — small fluctuations about an average condition
- C) dynamic equilibrium — large fluctuations that changes abruptly over time
- D) tipping point — same as steady state equilibrium
- E) negative feedback — encourages change in a system

Answer: B

Diff: 1

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40) As we burn fossil fuels and release carbon dioxide, the temperature of our planet and the oceans will increase. When the oceans warm they will release more carbon dioxide, further warming the planet and oceans. This is an example of a \_\_\_\_\_ feedback loop and may result in the crossing of a(n) \_\_\_\_\_.

- A) positive; equilibrium
- B) positive; disequilibrium
- C) negative; equilibrium
- D) positive; threshold
- E) negative; threshold

Answer: D

Diff: 2

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LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

41) Which of the following is true of models?

- A) They complicate our understanding of Earth system science.
- B) They perfectly replicate the real world, but at a different scale.
- C) They are simplified, idealized representations of the real world.
- D) They are never used in physical geography because of their inherent limitations.
- E) Since the advent of geospatial technologies like GIS and GPS, models are no longer used in physical geography.

Answer: C

Diff: 1

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42) The three inorganic Earth "spheres" around which *Geosystems* is designed are the

- A) hydrosphere, lithosphere, and atmosphere.
- B) thermosphere, lithosphere, heterosphere.
- C) atmosphere, geoid, and homosphere.
- D) stratosphere, magnetosphere, and troposphere.
- E) atmosphere, magnetosphere, and heterosphere

Answer: A

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

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LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

43) Living systems are considered

- A) biotic.
- B) inorganic.
- C) lithospheric.
- D) abiotic.
- E) anaerobic.

Answer: A

Diff: 1

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44) Which of the following is true of the biosphere?

- A) It includes Earth's crust and a portion of the upper mantle.
- B) It exists on other planets in the solar system.
- C) It is not connected to the overlapping inorganic spheres.
- D) It extends from the floor of the oceans to 8 km (5 mi.) into the atmosphere.
- E) It encompasses all of Earth's water, including that in the atmosphere and subsurface.

Answer: D

Diff: 1

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

45) The realization that Earth was a sphere

- A) did not occur in Europe until the first voyages of Columbus.
- B) had to wait until the modern era (1800s).
- C) was first made by Pythagoras, 580-500 B.C.
- D) was made by Isaac Newton.
- E) was ascertained after the launch of Sputnik.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

46) The science that specifically attempts to determine Earth's shape and size by surveys and mathematical means is called

- A) geography.
- B) geology.
- C) cartography.
- D) astronomy.
- E) geodesy.

Answer: E

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 47) Isaac Newton reasoned that Earth was not perfectly spherical because of
- A) centrifugal force created by Earth's more rapid rotation at the equator.
  - B) centrifugal force created by Earth's more rapid rotation at the poles.
  - C) gravitational force created by Earth's more rapid rotation at the equator.
  - D) gravitational force created by Earth's more rapid rotation at the poles.
  - E) both gravitational force and centrifugal force created by Earth's more rapid rotation at the poles.

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 48) Which of the following statements about Earth's shape is correct?
- A) Earth is perfectly spherical.
  - B) The polar diameter is 42 km (26 mi.) greater than the equatorial diameter.
  - C) The equatorial diameter is 42 km (26 mi.) greater than the polar diameter.
  - D) Earth is a prolate spheroid.
  - E) The polar diameter is 10 km (6 mi.) greater than the equatorial diameter.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 49) The oblateness of Earth occurs at the
- A) poles.
  - B) equator.
  - C) subtropics.
  - D) prime meridian.
  - E) International Date Line.

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

50) The diameter of Earth is largest when measured around the

- A) poles.
- B) equator.
- C) subtropics.
- D) prime meridian.
- E) International Date Line.

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

51) Who made a significant, early contribution to cartography by dividing the circumference of Earth into 360° with each degree comprising 60 minutes, and each minute comprising 60 seconds?

- A) Pythagoras—in the sixth century B.C.
- B) Sir Isaac Newton—in the seventeenth century A.D.
- C) Magellan—in the sixteenth century A.D.
- D) Ptolemy—in the second century A.D.
- E) Mercator—in the sixteenth century A.D.

Answer: D

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

52) An angular distance measured north or south of the equator from the center of Earth is termed

- A) longitude.
- B) latitude.
- C) zenith.
- D) Greenwich distance.
- E) azimuth.

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

53) A parallel of latitude

- A) is used to measure distances east and west of the equator.
- B) measures longitude.
- C) is called a meridian.
- D) is used to measure distances north or south of the equator.
- E) is a line which passes through both poles.

Answer: D

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

54) How far north you live from the equator is measured as your \_\_\_\_\_, whereas an imaginary line marking all those places at that same distance north of the equator is called a \_\_\_\_\_.

- A) longitude; meridian
- B) meridian; longitude
- C) latitude; parallel
- D) parallel; latitude
- E) location; place

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

55) If you were standing at 20° North you would be within which latitudinal geographic zone?

- A) Tropical
- B) Midlatitude
- C) Equatorial
- D) Subarctic
- E) Subtropical

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

56) If you were standing at 60° North you would be within which latitudinal geographic zone?

- A) Subantarctic
- B) Midlatitude
- C) Arctic
- D) Subarctic
- E) Subtropical

Answer: D

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

57) If you were standing at 33° South you would be within which latitudinal geographic zone?

- A) Subantarctic
- B) Midlatitude
- C) Antarctic
- D) Subarctic
- E) Subtropical

Answer: E

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

58) An angular distance measured east or west of a prime meridian from the center of Earth is termed

- A) longitude.
- B) latitude.
- C) zenith.
- D) Greenwich distance.
- E) azimuth.

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

59) How far west you live from the prime meridian is measured as your \_\_\_\_\_, whereas an imaginary line marking all those places at that same distance west of the prime meridian is called a \_\_\_\_\_.

- A) longitude; meridian
- B) meridian; longitude
- C) latitude; parallel
- D) parallel; latitude
- E) location; place

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 60) The actual distance on the ground spanned by a degree of longitude is greatest at the
- A) equator.
  - B) prime meridian.
  - C) International Date Line.
  - D) poles.
  - E) subtropics.

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 61) Which of the following is true regarding the prime meridian?
- A) The prime meridian passes through the Royal Observatory at Greenwich, England.
  - B) While latitude can be represented as both degrees, minutes and seconds and decimal degrees, longitude is always represented using decimal degrees.
  - C) International agreement regarding the location of the prime meridian was not resolved until the 1980s when a treaty was completed.
  - D) The key to measuring angular distances east and west of the prime meridian was the development of accurate compasses.
  - E) The prime meridian is a small circle.

Answer: A

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.



62) Which of the following is *not* true of meridians?

- A) They cross parallels at right angles.
- B) They are lines that run in an east-west direction.
- C) All meridians are the same length.
- D) They are used to measure east-west angular distances.
- E) Every meridian is one half a great circle.

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

63) A great circle is

- A) any parallel of latitude.
- B) the longest distance between two places on the surface of Earth.
- C) a circle of circumference whose center coincides with the center of Earth.
- D) a correct magnetic compass direction on a flat map.
- E) the same as a rhumb line.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

64) Earth's equator is an example of

- A) a small circle.
- B) a great circle.
- C) a prime meridian.
- D) a line of equal longitude.
- E) a rhumb line.

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 65) The basis for our global time system is
- A) Earth rotates east to west as viewed from Polaris.
  - B) Earth moves through 365.25 days a year in its orbit about the Sun.
  - C) Earth rotates 15° of longitude per hour.
  - D) the oblateness of Earth.
  - E) rotational speed at each parallel.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 66) Standard time zones
- A) have yet to be generally established.
  - B) are 15° wide because Earth rotates through that distance in one hour.
  - C) are only used in the developed countries.
  - D) are spaced at 5° intervals of longitude in North America.
  - E) are spaced at 15° intervals of latitude.

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

- 67) The difference in Sun time between two places located 30° in longitude apart from one another is
- A) 30 seconds.
  - B) 30 minutes.
  - C) one hour.
  - D) two hours.
  - E) three hours.

Answer: D

Diff: 2

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

68) If a clock on a ship indicates that it is 2:00 P.M. in its home port, while another clock on the ship indicates that it is 12:00 noon at the ship's present location, what is the difference in longitude between the ship's position and its home port?

- A) The ship is 2° east of its home port.
- B) The ship is 2° west of its home port.
- C) The ship is 30° east of its home port.
- D) The ship is 30° west of its home port.
- E) The ship is 45° west of its home port.

Answer: D

Diff: 2

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

69) If it is 10:00 PM on July 3rd at 30° west, what date and time is it at 15° east?

- A) July 3rd; 11 P.M.
- B) July 3rd; 9 P.M.
- C) July 3rd; 6 P.M.
- D) July 4th; 1 A.M.
- E) July 4th; 2 A.M.

Answer: D

Diff: 2

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

70) If City A is located 35° west of City B, the time at City A is \_\_\_\_\_ that at City B.

- A) earlier than
- B) later than
- C) the same as
- D) earlier during daylight saving only
- E) earlier in the summer months, later in the winter months.

Answer: A

Diff: 2

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

71) If it is 10:00 A.M. in Miami, Florida (Eastern time zone), what time is it in Los Angeles, California, located 3 time zones to the west in the Pacific Time zone?

- A) 7 A.M.
- B) 8 A.M.
- C) 1 P.M.
- D) 2 P.M.
- E) 12 P.M.

Answer: A

Diff: 2

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

72) The letters A.M. stand for

- A) after midnight.
- B) after morning.
- C) ante majolica.
- D) ante meridiem.
- E) after meridian.

Answer: D

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

73) The letters P.M. stand for

- A) prior majolica.
- B) previous morning.
- C) post meridiem.
- D) possible meridian.
- E) past midnight.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

74) UTC refers to

- A) the International Date Line.
- B) Universal Time Conference.
- C) Coordinated Universal Time.
- D) Universal Time Circles.
- E) Greenwich Mean Time.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

75) Coordinated Universal Time (UTC)

- A) is the same as Greenwich Mean Time (GMT).
- B) established 24 standard meridians around the globe at equal intervals from the prime meridian.
- C) replaced Greenwich Mean Time (GMT) and became the legal reference for official time in all countries.
- D) is two hours ahead of Zulu time, indicating the single moment when all locations on the planet are on the same calendar day.
- E) is determined using astronomical clocks that rely on Earth's rotation.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

76) UTC is based on

- A) very precise pendulum motion in Greenwich, U.K.
- B) Big Ben.
- C) average time calculations from atomic clocks collected worldwide.
- D) the pulse rate of pulsar stars.
- E) average local times calculated at 300 different locations around the globe.

Answer: C

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

77) The meridian opposite of Earth's prime meridian ( $0^\circ$  longitude) is called

- A) secondary meridian.
- B) the anti-meridian.
- C) the equator.
- D) the International Date Line.
- E) subsolar point.

Answer: D

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

78) If you began a trip at  $60^\circ$  west,  $20^\circ$  north and traveled  $120^\circ$  farther west and  $50^\circ$  south, your new position would be

- A) the International Dateline at  $70^\circ$  north.
- B) the International Dateline at  $30^\circ$  south.
- C) the Greenwich meridian at  $70^\circ$  north.
- D) the Greenwich meridian at  $30^\circ$  south.
- E)  $30^\circ$  north,  $120^\circ$  west.

Answer: B

Diff: 2

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

79) Travelers flying west from Los Angeles (118° W) to Tokyo (139°) will cross the \_\_\_\_\_ and, as a result, they will \_\_\_\_\_ when crossing this meridian.

- A) International Dateline; gain a day (Example: Sunday becomes Saturday.)
- B) International Dateline; lose a day (Example: Saturday becomes Sunday.)
- C) prime meridian; gain a day (Example: Sunday becomes Saturday.)
- D) prime meridian; lose a day (Example: Saturday becomes Sunday.)
- E) Equator; lose a day (Example: Saturday becomes Sunday.)

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

80) The practice of setting time ahead or behind during the year, out of coordination with the Sun, is termed

- A) Coordinated Universal Time.
- B) Daylight Saving Time.
- C) Standard time.
- D) Greenwich Mean Time.
- E) Zulu Time.

Answer: B

Diff: 1

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N7 The physical processes that shape the patterns of Earth's surface.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

81) The part of geography that embodies map making is known as

- A) theodesy.
- B) geodesy.
- C) cartography.
- D) calligraphy.
- E) GIS.

Answer: C

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.



82)



(a) Relatively small scale map of Miami area shows less detail.

(b) Relatively large scale map of the same area shows a higher level of detail.

**Map scale.** Examples of maps at different scales, with three common expressions of map scale—representative fraction, written scale, and graphic scale. Both maps are enlarged, so only the graphic scale is accurate. [USGS. Courtesy of University of Texas Libraries, University of Texas at Austin.]

The larger the scale of a map, the \_\_\_\_\_ the area covered by the map and the \_\_\_\_\_ detail it can provide.

- A) larger; more
- B) larger; less
- C) smaller; more
- D) smaller; less
- E) larger; the same

Answer: C

Diff: 2

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G3 Read and Interpret Graphs and Data.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

83) If you wanted a map with a lot of detail of a small area, you would want

- A) a large scale map.
- B) a small scale map.
- C) an intermediate scale.
- D) a world globe.
- E) Mercator.

Answer: A

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

84) A scale of 1:24,000 is regarded as

- A) a large scale.
- B) a small scale.
- C) an intermediate scale.
- D) a scale appropriate for a world globe.
- E) a scale appropriate for continental mapping.

Answer: A

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

85) A scale of 1:900,000 is \_\_\_\_\_ a scale of 1:24,000.

- A) larger than
- B) equal to
- C) three times as much as
- D) twice as much as
- E) smaller than

Answer: E

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

- 86) A map scale of 1:63,360 is equivalent to
- A) one inch on the map equals 2,000 feet on the ground.
  - B) one inch on a map equals 1 mile on the ground.
  - C) one inch on a map equals 5 miles on the ground.
  - D) one inch on the map equals 24,000 inches on the ground.
  - E) one centimeter on a map equals 1 kilometer on the ground.

Answer: B

Diff: 2

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

- 87) A scale of 1 inch = 8 miles is an example of a
- A) representative fraction.
  - B) graphic scale.
  - C) written scale.
  - D) relative scale.
  - E) temporal scale.

Answer: C

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

- 88) A scale given as "one centimeter to one kilometer" is an example of a
- A) representative fraction.
  - B) graphic scale.
  - C) written scale.
  - D) relative scale.
  - E) temporal scale.

Answer: B

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

89) Which type of map scale would be appropriate to use if the map were to be enlarged by photocopying?

- A) written
- B) graphic
- C) representative fraction
- D) relative
- E) temporal

Answer: B

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

90) The transformation of a spherical globe to a 2D surface is a

- A) diagram.
- B) cone.
- C) map projection.
- D) globe.
- E) 0 scale.

Answer: C

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

91) Which of the following describes the property of equal area on a map?

- A) equivalence
- B) conformality
- C) proximity
- D) equidistance
- E) angular

Answer: A

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

92) Which map projection preserves the property of true shape?

- A) equivalent
- B) conformal
- C) proximal
- D) equidistant
- E) pseudocylindrical

Answer: B

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

93) Which of the following possesses all of Earth's properties of area, shape, direction, proximity, and distance, correctly?

- A) Mercator projection
- B) Albers equal-area conic projection
- C) Robinson projection
- D) Winkel-Tripel
- E) a world globe

Answer: E

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

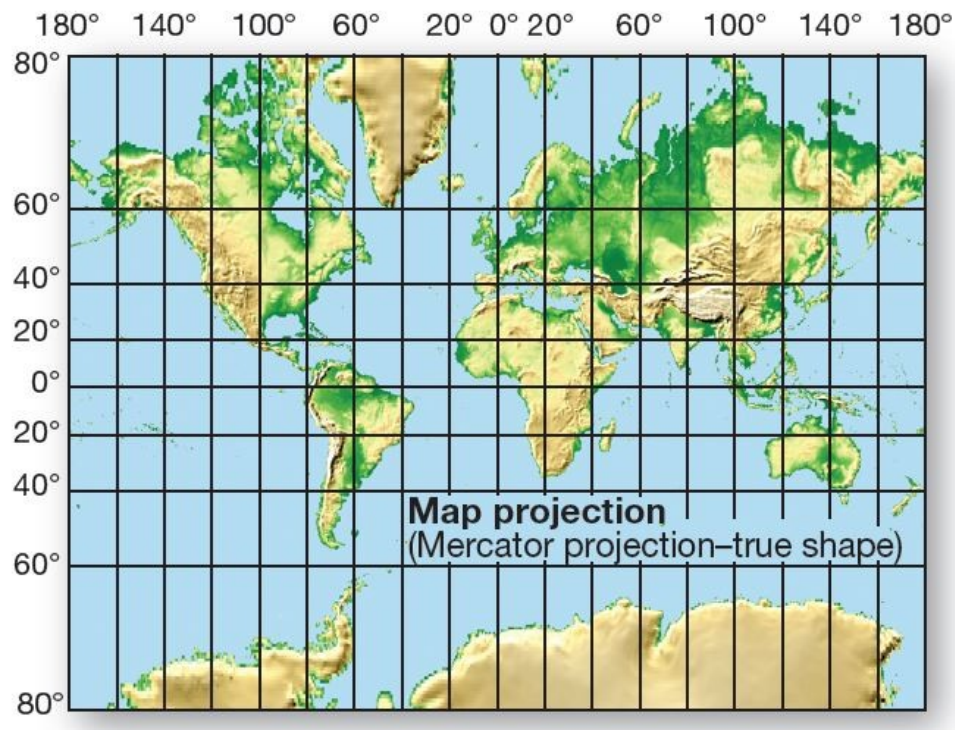
Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

94)



**From globe to flat map.** Conversion of the globe to a flat map projection requires a decision about which properties to preserve and the amount of distortion that is acceptable.  
[NASA/NOAA/ GSFC/Suomi NPP/VIIRS/Norman Kuring.]

Where does the greatest distortion in a Mercator projection occur?

- A) the equator
- B) towards the poles
- C) midlatitudes
- D) It varies.
- E) There is no distortion in a Mercator projection.

Answer: B

Diff: 2

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Applying/Analyzing

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G3 Read and Interpret Graphs and Data.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

- 95) A line of tangency (also called a standard line) is a line
- A) that always corresponds to a great circle.
  - B) along which shearing occurs.
  - C) along which no distortion occurs.
  - D) that divides Earth into two equal halves.
  - E) that shows the prime meridian and International Date Line.

Answer: C

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

- 96) On which one of the following projections do great circle routes appear as straight lines?

- A) Mercator projection
- B) Goode's homolosine projection
- C) any conic projection
- D) a gnomonic projection
- E) Winkel-Tripel

Answer: D

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

- 97) Which map projection is best at reducing distortion?

- A) All map projections distort.
- B) Mercator projection
- C) Robinson projection
- D) Albers equal-area projection
- E) Winkel-Tripel

Answer: A

Diff: 1

Chapter/Section: 1.4 Maps and Cartography

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.5 Define cartography and mapping basics: map scale and map projections.

98) The Global Positioning System (GPS)

- A) accurately allows determination of longitude and latitude.
- B) is a metric version of longitude and latitude.
- C) is 1/60<sup>th</sup> of a Greenwich Precision Second.
- D) is not available to the public; they are only available to the military.
- E) is a type of database management system.

Answer: A

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

99) Which of the following is true about Global Positioning System (GPS)?

- A) GPS uses radio signals to accurately determine location.
- B) GPS is the same as remote sensing.
- C) GPS is used solely by the military, who share information with physical geographers.
- D) GPS has no scientific uses, but is great for recreational purposes.
- E) GPS is another term used for geographic information systems.

Answer: A

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.



100) Remote sensing is

- A) a subjective determination of temperature.
- B) the monitoring of a distant object without physical contact.
- C) an earthbound technique not used in modern satellites.
- D) based on the principle that surfaces must be physically handled and directly measured for study.
- E) a locational service for determining longitude and latitude.

Answer: B

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

101) A satellite imaging system that records wavelengths of energy radiated from features is a(n) \_\_\_\_\_ system.

- A) active
- B) passive
- C) photographic
- D) holographic
- E) Direct

Answer: B

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

102) Which of the following satellite remote sensing platforms was launched in 2013?

- A) Goes-12
- B) Landsat 8
- C) Radarsat-1
- D) Topex Poseidon
- E) Spot-3

Answer: B

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

103) A satellite imaging system that beams electromagnetic energy at the surface and then records the energy that is reflected is classified as a(n) \_\_\_\_\_ system.

- A) active
- B) passive
- C) photographic
- D) holographic
- E) Direct

Answer: A

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

104) Which of the following is an example of an active remote sensing device?

- A) film
- B) infrared sensor
- C) video camera
- D) LiDAR
- E) Landsat

Answer: D

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

105) Which of the following best describes Geographic Information Systems?

- A) A constellation of satellites for accurately determining location anywhere near the Earth's surface.
- B) Deriving accurate measurements from photographs.
- C) Acquiring information about objects without having physical contact with them.
- D) A set of techniques for adjusting geospatial datasets in real time.
- E) Computer-based tool for management and analysis of geographic information.

Answer: E

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

106) Which of the following best describes geographic information science (GISci)?

- A) A set of techniques for adjusting geospatial datasets in real time.
- B) Deriving accurate measurements from photographs.
- C) Field that develops the capabilities of GIS for use within geography and other disciplines.
- D) Computer-based tool for management and analysis of geographic information.
- E) Acquiring information about objects without having physical contact with them.

Answer: C

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

107) The techniques of adjusting geospatial datasets in real time to make changes to maps and other visual models is called

- A) remote sensing.
- B) geographic information systems.
- C) geovisualization.
- D) GPS.
- E) cartography.

Answer: C

Diff: 1

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Remembering/Understanding

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G7 Demonstrate the ability to make connections across Geography.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

108) Why is the term "spatial" so important in geography?

Answer: Geography is inherently spatial and that physical geography uses an integrative spatial approach to study entire Earth systems. More specifically, spatial refers to the nature and character of physical space and the distribution of things within it. The unifying method of geography is spatial analysis, i.e. the view of phenomena occurring across space.

Diff: 3

Chapter/Section: 1.1 The Science of Geography

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.1 Define geography and physical geography, and describe spatial analysis.

109) Describe what distinguishes physical geography from human geography.

Answer: While a continuum, human geography comprises specialty areas that draw largely on the social and cultural sciences, whereas physical geography draws largely on the physical and life sciences. Nonetheless, the increasing complexity of human-Earth connections has resulted in an overlap between the two subdisciplines.

Diff: 3

Chapter/Section: 1.1 The Science of Geography

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.1 Define geography and physical geography, and describe spatial analysis.

110) Outline the scientific method from the initial perception of phenomena to a general theory about the phenomena.

Answer: The scientific method, the traditional recipe for scientific investigation, is an organized series of steps leading toward concrete, objective conclusions. While there is no single, definitive method of scientific inquiry, the general steps are: observe real world phenomena; formulate hypotheses; conduct experiments to test the hypotheses; if the results support the hypotheses, subject the results to peer review; if the hypotheses are rejected, repeat the initial steps; and, if the hypotheses survive repeated testing without being rejected, develop a scientific theory.

Diff: 3

Chapter/Section: 1.1 The Science of Geography

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.

111) What is a hypothesis? How does it differ from a theory?

Answer: A hypothesis is a tentative (or proposed) explanation of an observed phenomenon. A scientific theory is a well-substantiated explanation of a phenomenon, repeatedly confirmed through observation and experimentation.

Diff: 3

Chapter/Section: 1.1 The Science of Geography

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.2 Summarize the scientific process and discuss human population growth as it relates to geographic science.

112) Use examples to distinguish an open system from a closed system.

Answer: An open system is one in which energy and matter flow in and out of the system. A forest is an example of an open system. A closed system is closed off from surroundings systems and is self-contained. In terms of matter, the Earth is essentially a closed system. Otherwise, closed systems are generally rare in nature.

Diff: 3

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

113) How can feedback affect a system? Use examples to distinguish positive and negative feedback loops.

Answer: A feedback loop is an output from a system that influences its own operations. A negative feedback loop discourages change in the system, i.e. it can lead to steady-state conditions. An example is predator/prey relationships in which predators keep prey population in check. A positive feedback loop encourages change in the system. An example is warming temperatures that cause reduction in ice and snow cover and, thereby, decrease albedo and increase absorption, leading to more warming.

Diff: 3

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

114) List and briefly describe Earth's four "spheres."

Answer: There are three abiotic spheres, the atmosphere, hydrosphere, and lithosphere, and one biotic sphere, the biosphere. The atmosphere is the thin, gaseous veil surrounding Earth and held to the planet by the force of gravity; the hydrosphere encompasses all of Earth's waters; the lithosphere includes Earth's crust and portion of upper mantle; and the biosphere includes all areas on Earth where life is sustainable.

Diff: 3

Chapter/Section: 1.2 Earth Systems Concepts

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N18 How to apply geography to interpret the present and plan for the future.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.3 Describe open and closed systems, feedback, and equilibrium concepts as they relate to Earth systems.

115) Define latitude and longitude, listing the primary latitudinal zones and principle meridians.  
Answer: Latitude is an angular measurement north or south of the equator. Latitude increases from the equator northward to the North Pole at 90° and southward to the South Pole at 90°. A line connect all points along the same latitudinal angle is called a parallel. The latitudinal geographic zones are Equatorial and Tropical: 23.5°N to 23.5° S; subtropical 23.5° N/S to 35° N/S; midlatitude: 35°N/S to 55° N/S; subarctic: 55° N/S to 66.5° N/S; and Arctic or Antarctic 66.5° N/S to the Poles.

Longitude is an angular measurement east or west of the prime meridian. Longitude ranges from 180° E to 180° W. A meridian is a line connecting all points along the same longitude. Meridians run at right angles to all parallels. The prime meridian (0°) runs through the observatory at Greenwich, England. The International Date Line is 180°. All meridians are half of a great circle.

Diff: 3

Chapter/Section: 1.3 Location and Time on Earth

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.4 Explain Earth's shape and reference grid: latitude, longitude, latitudinal geographic zones, and time zones.

116) What is GPS? Give several examples of its utility in physical geography.

Answer: Global Position Systems refers to the constellation of Earth orbiting satellites, the associated ground stations, and the user segment used to derive precise location and elevation information at or near the Earth's surface. There are multiple GPS uses within physical geography, such as measuring ground deformation associated with earthquake activity; recording fault movement to centimeter level; tracking species; data collection for integration into a GIS; and much more.

Diff: 3

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

117) Distinguish between active and passive remote sensing, and describe the applications of each.

Answer: Active remote sensing systems provide their own energy source, emitting radiation towards a target and measuring the reflected radiation from the target. An example would be LIDAR. Passive sensors measure the energy emitted from objects under investigation. The Landsat family of satellites is an example of passive remote sensing. Satellite remote sensing has transformed Earth observations during the past 50 years and have many applications in physical geography.

Diff: 3

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.

118) What is a geographic information system? What are some potential GIS applications?

Answer: GIS is a computer-based data processing system for gathering, storing, manipulating, and analyzing geographic information. There are many GIS uses within physical geography. GIS is widely used for the creation of maps, spatial analysis, and more.

Diff: 3

Chapter/Section: 1.5 Modern Tools for Geoscience

Bloom's Taxonomy: Evaluating/Creating

Geo Standard: N1 How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.

Global Sci. LO: G8 Communicate effectively in writing.

LO: 1.6 Describe three geoscience tools-the Global Positioning System (GPS), remote sensing, and geographic information systems (GIS)-and explain how these tools are used in geographic analysis.