

*McKnight's Physical Geography, 12e (Hess)*  
**Chapter 2 Portraying Earth**

1) A disadvantage of globes compared to maps is that globes are NOT \_\_\_\_\_.

- A) conformal
- B) accurate
- C) suitable for use in class
- D) equivalent
- E) able to show as much detail

Answer: E

Diff: 1

Topic/Section: 2.1 Maps and Globes

Learning Outcome: 2.1 Explain why no map of the world can be as accurate as a globe.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

2) A map made to show the distribution of one or more phenomenon is a(n) \_\_\_\_\_ map.

- A) conic
- B) isoline
- C) equivalent
- D) compromise
- E) thematic

Answer: E

Diff: 1

Topic/Section: 2.1 Maps and Globes

Learning Outcome: 2.1 Explain why no map of the world can be as accurate as a globe.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

3) Compared to the number of globes in use, the number of maps is \_\_\_\_\_.

- A) much less
- B) about the same
- C) a little more
- D) twice as many
- E) millions of times more

Answer: E

Diff: 1

Topic/Section: 2.1 Maps and Globes

Learning Outcome: 2.1 Explain why no map of the world can be as accurate as a globe.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

4) The scale of "an inch on the map represents two miles on the surface of the Earth" would be CLOSEST to which representative fraction?

- A) 1:120,000
- B) 1:200,000
- C) 1:1,000,000
- D) 1:60,000
- E) 1:12

Answer: A

Diff: 1

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.7 Define verbal scale of a map.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

5) The smallest scale of the following is \_\_\_\_\_.

- A) 1:100,000
- B) 1:200,000
- C) 1:500,000
- D) 1:750,000
- E) 1:900,000

Answer: E

Diff: 1

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.1 Explain why no map of the world can be as accurate as a globe.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

6) The relationship between the map distance and the corresponding distance on the ground is known as the \_\_\_\_\_.

- A) vector
- B) azimuth
- C) map quotient
- D) loxodrome
- E) scale

Answer: E

Diff: 1

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.1 Explain why no map of the world can be as accurate as a globe.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

7) The scale of 1:63,360 is the same as one inch equals \_\_\_\_\_.

- A) one foot
- B) one mile
- C) one furlong
- D) one meter
- E) one yard

Answer: B

Diff: 2

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.6 Identify examples of fractional scales from a map; 2.7 Define verbal scale of a map.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

8) "Scale" relates \_\_\_\_\_ to \_\_\_\_\_.

- A) Earth distance, Earth distance
- B) map distance, map distance
- C) map distance, Earth distance
- D) Earth distance, map distortion
- E) map distortion, map distance

Answer: C

Diff: 1

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.2 Define map scale.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

9) The largest scale among the following representative fractions is \_\_\_\_\_.

- A) 1:100,000
- B) 1:1,000,000
- C) 1:24,000
- D) 1:10,000
- E) 1:50,000

Answer: D

Diff: 2

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.5 Define fractional scale of a map.

Natl. Geog Stds: GS3

Global Sci Stds: G4

Bloom's Taxonomy: Evaluating/Creating

10) A scale of one inch equals one mile is \_\_\_\_\_ in a representative fraction.

- A) 1:10,000
- B) 1:63,360
- C) 1:100,000
- D) 1:1,000,000
- E) 1:250,000

Answer: B

Diff: 2

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.5 Define fractional scale of a map.

Natl. Geog Stds: GS1

Global Sci Stds: G4

Bloom's Taxonomy: Evaluating/Creating

11) A(n) \_\_\_\_\_ scale remains correct even if the map is enlarged or reduced when reproduced.

- A) isogonic
- B) large
- C) graphic
- D) representative fraction
- E) color

Answer: C

Diff: 1

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.3 Define graphic scale of a map.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

12) The characteristic of projections that portray accurate sizes but distort the shapes of landmasses is called \_\_\_\_\_.

- A) conformality
- B) sinusoidal
- C) equivalence
- D) azimuthality
- E) polyconic

Answer: C

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.11 Explain when an equivalent map projection is most suited for use in geographic studies.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

13) On large-scale maps, equivalence and conformity can be \_\_\_\_\_.

- A) simultaneously present
- B) simultaneously approximated for small areas
- C) disregarded if the map is of high latitudes
- D) considered to be the same map property

Answer: B

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.11 Explain when an equivalent map projection is most suited for use in geographic studies.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

14) The property of equivalence portrays accurate size although it \_\_\_\_\_.

- A) bends parallels
- B) renders the poles as lines
- C) stretches the circle of tangency
- D) distorts shapes

Answer: D

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.10 Describe equivalent map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

15) One difference between any two different map projections must always be \_\_\_\_\_.

- A) scale
- B) how the geographic grid is arranged
- C) the number of degrees from the equator to the North Pole
- D) how accurately shapes are portrayed
- E) how accurately relative sizes are portrayed

Answer: B

Diff: 1

Topic/Section: 2.1 Maps and Globes

Learning Outcome: 2.9 Define map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

16) Planar projections \_\_\_\_\_.

- A) all have their meridians at right angles to each other
- B) are projected from the globe to a plane
- C) usually show both hemispheres
- D) is tangent to the globe at one point
- E) do not have any distortions

Answer: B

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.1 Explain why no map of the world can be as accurate as a globe.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

17) Conformal maps greatly distort \_\_\_\_\_ of continents in higher latitudes.

- A) shapes
- B) sizes
- C) the number
- D) the latitude
- E) the longitude

Answer: B

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.12 Describe conformal map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

18) Central meridians are essential features on a(n) \_\_\_\_\_ projection.

- A) perfectly conformal
- B) large-scale
- C) small-scale
- D) interrupted
- E) Mercator

Answer: D

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.14 Describe compromise map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

19) Misuse of the Mercator projection is a result of \_\_\_\_\_.

- A) an inaccurate projection of latitude and longitude
- B) the Cold War
- C) the fact that it is so old
- D) the curved loxodromes
- E) latitudinal differences in scale

Answer: E

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.13 Explain when a conformal map is most suited for use in geographic studies.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

20) \_\_\_\_\_ is the major dilemma of mapmaking.

- A) Conformality versus scale
- B) Scale versus equivalence
- C) Equivalence versus conformality
- D) Conic versus azimuthal projections
- E) The inclusion of too much information on a map

Answer: C

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.13 Explain when a conformal map is most suited for use in geographic studies.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

21) Which map-making method would be used to minimize distortion of continents on a world map?

- A) A perfectly equivalent projection
- B) A large scale
- C) A conic projection
- D) An interrupted projection
- E) A Mercator projection

Answer: D

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.9 Define map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

22) All map projections have this in common.

- A) Small scale
- B) Some distortion
- C) Equivalence
- D) Conformality
- E) Perfect portrayal of the globe

Answer: B

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.9 Define map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

23) You wish to navigate your yacht from Europe to the United States. Which type of map projection would be most useful?

- A) Informal
- B) Mercator
- C) Interrupted
- D) Equivalent
- E) Topographic

Answer: B

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.11 Explain when an equivalent map projection is most suited for use in geographic studies.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

24) Most worldwide maps are \_\_\_\_\_ projections and are an optimal portrayal of worldwide distributions.

- A) equivalent
- B) conformal
- C) conic
- D) azimuthal
- E) gnomonic

Answer: B

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.11 Explain when an equivalent map projection is most suited for use in geographic studies.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing



25) If one wished to produce a map that focused on the continents and showed little of the world's oceans, then she/he should use a(n) \_\_\_\_\_ projection.

- A) large-scale
- B) equal-area
- C) interrupted
- D) conical
- E) azimuthal

Answer: C

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

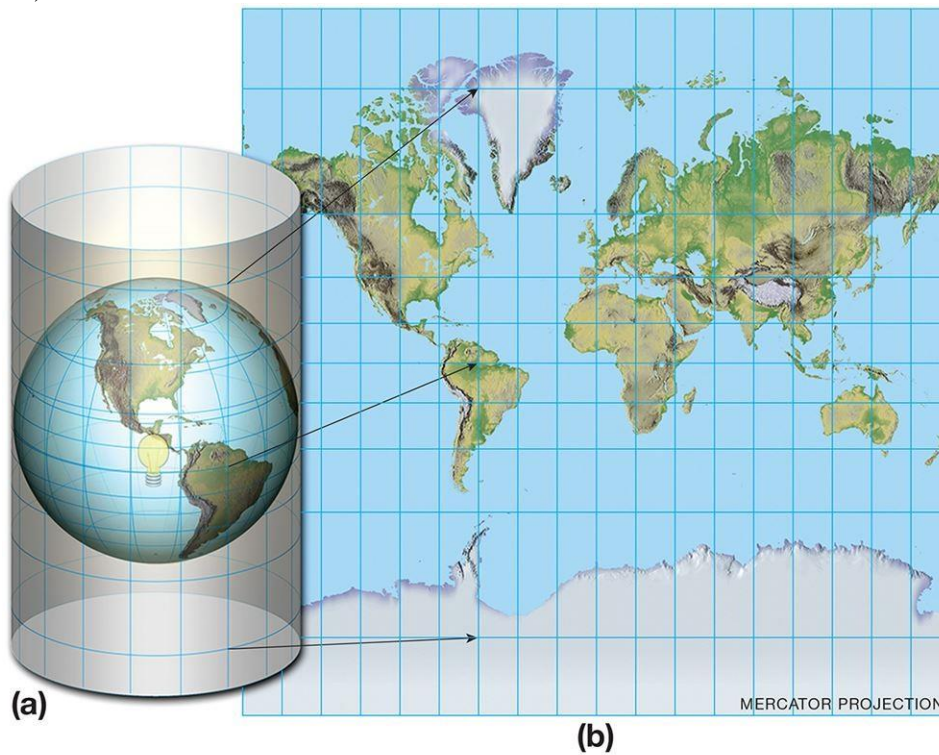
Learning Outcome: 2.11 Explain when an equivalent map projection is most suited for use in geographic studies.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

26)



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This is a Mercator projection but not a(n) \_\_\_\_\_ projection.

- A) equivalent
- B) optical
- C) small-scale
- D) conformal
- E) useful

Answer: A

Diff: 2

Topic/Section: 2.1 Maps and Globes

Learning Outcome: 2.13 Explain when a conformal map is most suited for use in geographic studies.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

27) On small-scale maps, it is difficult to achieve \_\_\_\_\_.

- A) a circle of tangency
- B) proper scale
- C) equivalency
- D) pole-centered perspective
- E) conformality

Answer: C

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

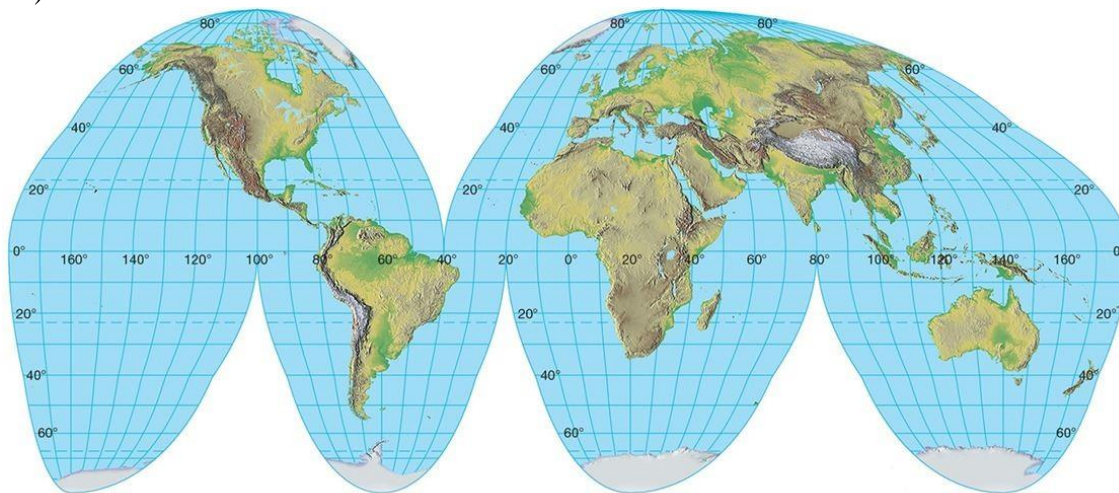
Learning Outcome: 2.10 Describe equivalent map projection.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

28)



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This figure is an example of a(n) \_\_\_\_\_ projection.

- A) interrupted
- B) distorted
- C) cylindrical
- D) maximal
- E) useless

Answer: A

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.14 Describe compromise map projection.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

29) Which of the following map projections is impossible to construct?

- A) Mercator
- B) Conic
- C) Cylindrical
- D) Equivalent
- E) A projection without distortion

Answer: E

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.14 Describe compromise map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

30) Map projections are mainly derived \_\_\_\_\_.

- A) mathematically
- B) from interpolation
- C) from aerial reconnaissance
- D) by analogy
- E) by osmosis

Answer: A

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.19 Describe planar projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

31) A line of constant compass direction is a \_\_\_\_\_.

- A) rhumb line
- B) x-ray
- C) gnomon
- D) thermal scanner
- E) meridian

Answer: A

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.17 Describe some of the best uses for maps with a cylindrical projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

32) \_\_\_\_\_ projection is the most famous map projection.

- A) The Mercator
- B) Goode's
- C) 3D
- D) Laser
- E) The Stadler

Answer: A

Diff: 1

Topic/Section: 2.3 Map Projections and Properties

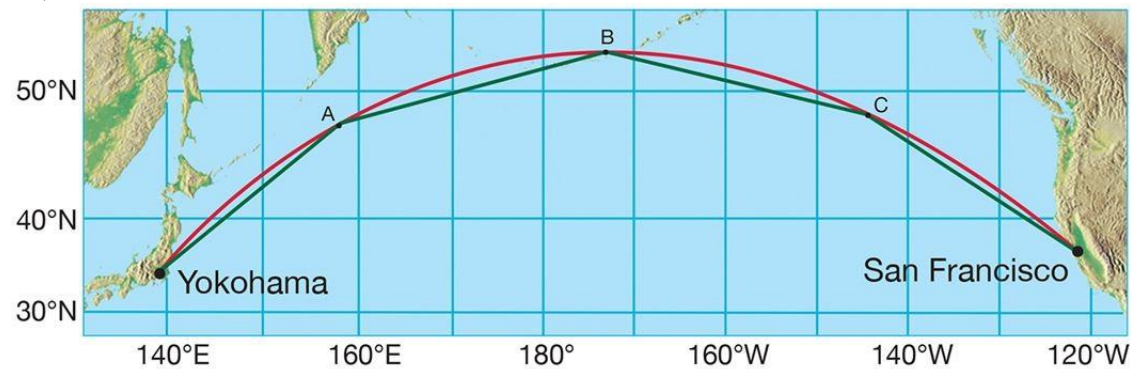
Learning Outcome: 2.12 Describe conformal map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

33)



**(c) Mercator Projection**

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This map shows a series of \_\_\_\_\_, which serve as approximations of the great-circle route.

- A) meridians
- B) parallels
- C) loxodromes
- D) gnomons
- E) axes

Answer: C

Diff: 2

Topic/Section: 2.4 Families of Map Projections

Learning Outcome: 2.13 Explain when a conformal map is most suited for use in geographic studies.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

34) A Mercator map is constructed by projecting the grid of the globe onto a(n) \_\_\_\_\_.

- A) flat surface
- B) cone
- C) cylinder
- D) interrupted surface
- E) circle

Answer: C

Diff: 1

Topic/Section: 2.4 Families of Map Projections

Learning Outcome: 2.16 Describe cylindrical projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

35) A pseudocylindrical projection \_\_\_\_\_.

- A) is an oval projection
- B) cannot be used with interrupted projections
- C) is the kind of projection used in most of your textbook's maps
- D) does not have central meridians and parallels
- E) is not a type of projection explained in your textbook

Answer: A

Diff: 2

Topic/Section: 2.4 Families of Map Projections

Learning Outcome: 2.17 Describe some of the best uses for maps with a cylindrical projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

36) Which of the following should contain a brief summary of the map's content or purpose?

- A) The title
- B) The legend
- C) The scale
- D) The area within the map's boundaries
- E) The data source

Answer: A

Diff: 1

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.26 Explain how isolines are used to convey information on a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

37) A(n) \_\_\_\_\_ is a line joining the points of equal magnetic declination.

- A) contour line
- B) isohyet
- C) isotherm
- D) isomag
- E) isogonic line

Answer: E

Diff: 2

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.26 Explain how isolines are used to convey information on a map.

Natl. Geog Stds: GS1

Global Sci Stds: G2

Bloom's Taxonomy: Remembering/Understanding

38) Title, date, and legend are three \_\_\_\_\_.

- A) suggested map components
- B) map essentials
- C) components that are never all together on a map
- D) informative features usually appearing on the back of a map
- E) things that can be left off of a map

Answer: B

Diff: 1

Topic/Section: 2.5 Conveying Information on Maps

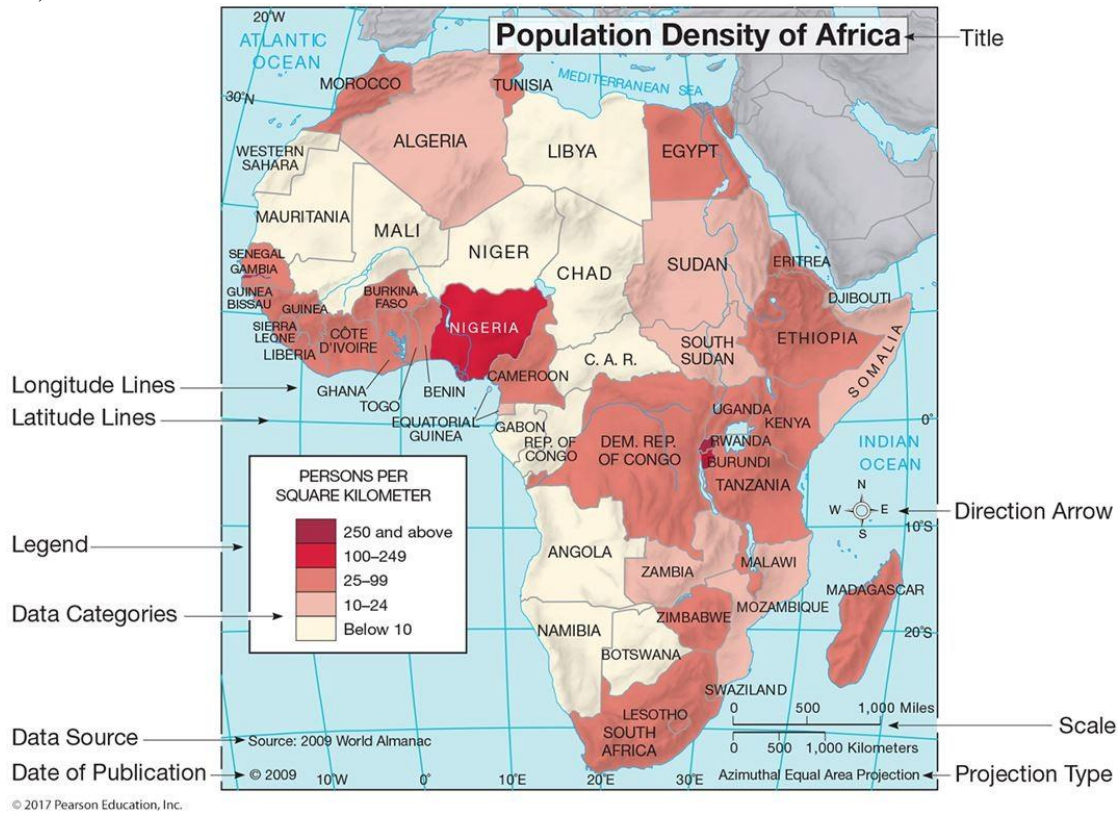
Learning Outcome: 2.25 Identify the basic components of a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

39)



This figure is an example of a(n) \_\_\_\_\_.

- A) map projection that can be used for all purposes
- B) isogonic map
- C) contour map
- D) thematic map
- E) large-scale map

Answer: D

Diff: 2

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.25 Identify the basic components of a map.

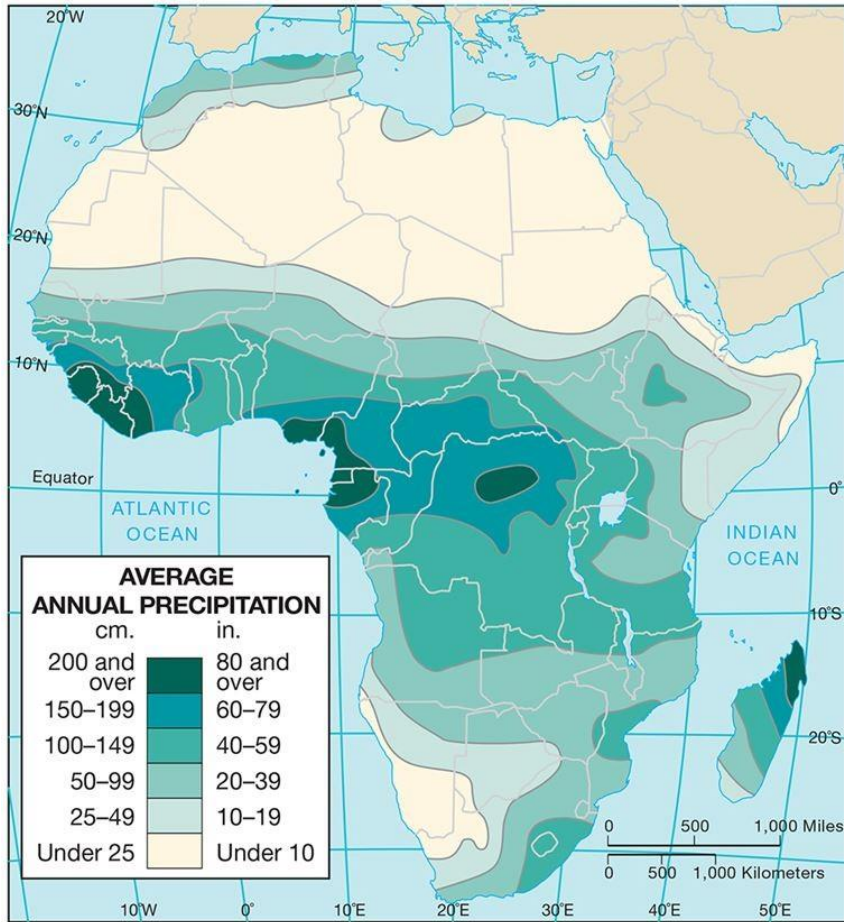
Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing



40)



This figure is an isoline map of yearly rainfall over Africa. These specific type of isolines are \_\_\_\_\_.

- A) elevation contours
- B) isotherms
- C) isohyets
- D) isogonic lines
- E) intervals

Answer: C

Diff: 1

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.26 Explain how isolines are used to convey information on a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

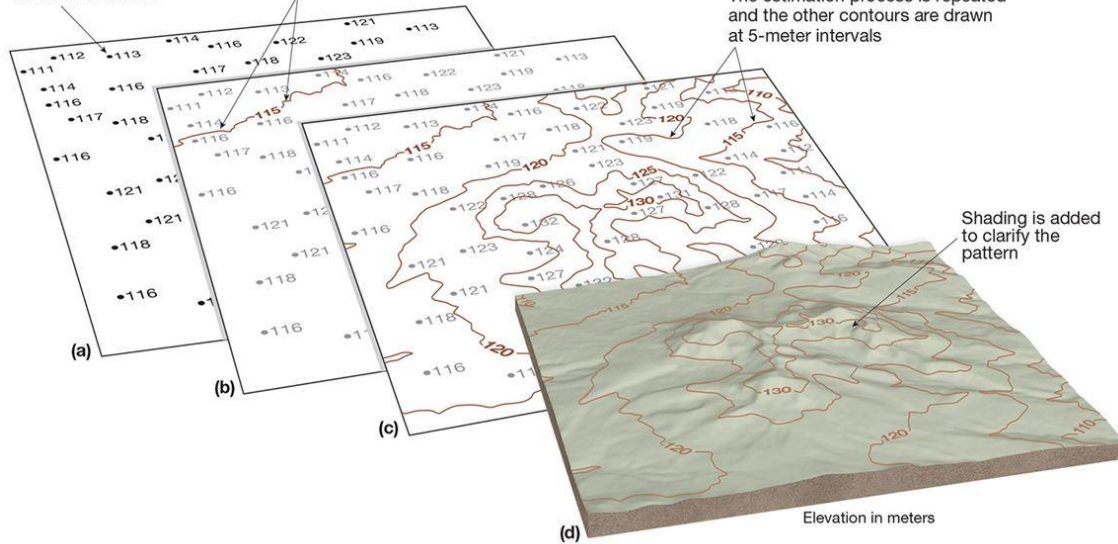
41)

Each dot shows the location of a data point with its elevation in meters

The 115-meter contour line passes between 114 and 116, and between 113 and 116

The estimation process is repeated and the other contours are drawn at 5-meter intervals

Shading is added to clarify the pattern



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This figure shows height contours that \_\_\_\_\_.

- A) usually confuse map readers
- B) are useful in conveying the shape of the landscape
- C) incorrectly represent the point data from which they are drawn
- D) are probably suspect because we only see five contour elevations
- E) would be better if they were shown in feet

Answer: B

Diff: 2

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.26 Explain how isolines are used to convey information on a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

42) Of the following, which is NOT considered a map essential?

- A) Title
- B) Date
- C) Color
- D) Legend
- E) Scale

Answer: C

Diff: 2

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.25 Identify the basic components of a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

- 43) Geopositioning technology \_\_\_\_\_.
- A) typically uses receivers larger than filing cabinets
  - B) is widely used for making maps
  - C) has never been commercially successful
  - D) began in the 1920s
  - E) is another term for the drawing of isolines

Answer: B

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.28 Define GNSS.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

- 44) For the geographer, new mapping tools like remote sensing, GPS, and GIS are best viewed as \_\_\_\_\_.

- A) replacements for traditional geographic description
- B) in the test mode and too expensive for most geographers to use
- C) adjuncts to field study
- D) aids in the study of small areas
- E) too difficult for geographers to use

Answer: C

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.28 Define GNSS.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

- 45) Which of the following is TRUE concerning GPS technology?

- A) It appears useful but receivers are very expensive.
- B) It usually cannot pinpoint locations with an accuracy greater than 1 km.
- C) The GPS satellites are owned by a private corporation.
- D) The technology is freely available to the public.
- E) The GPS technology allows "perfect" maps to be drawn.

Answer: D

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.30 Describe some common uses of GPS.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

46) Which of the following is essential in order for GPS to function?

- A) Highly accurate clocks
- B) A nearby base station on Earth's surface
- C) A small, radar unit
- D) A GIS unit in a receiver
- E) Locations on land instead of the ocean

Answer: A

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.29 Describe how a GPS unit determines its location.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

47) Which of the following is the acronym for the system of U.S. Department of Defense satellites, which are used to establish exact locations on Earth?

- A) GIS
- B) Landsat
- C) GPS
- D) EOS
- E) Color infrared

Answer: C

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

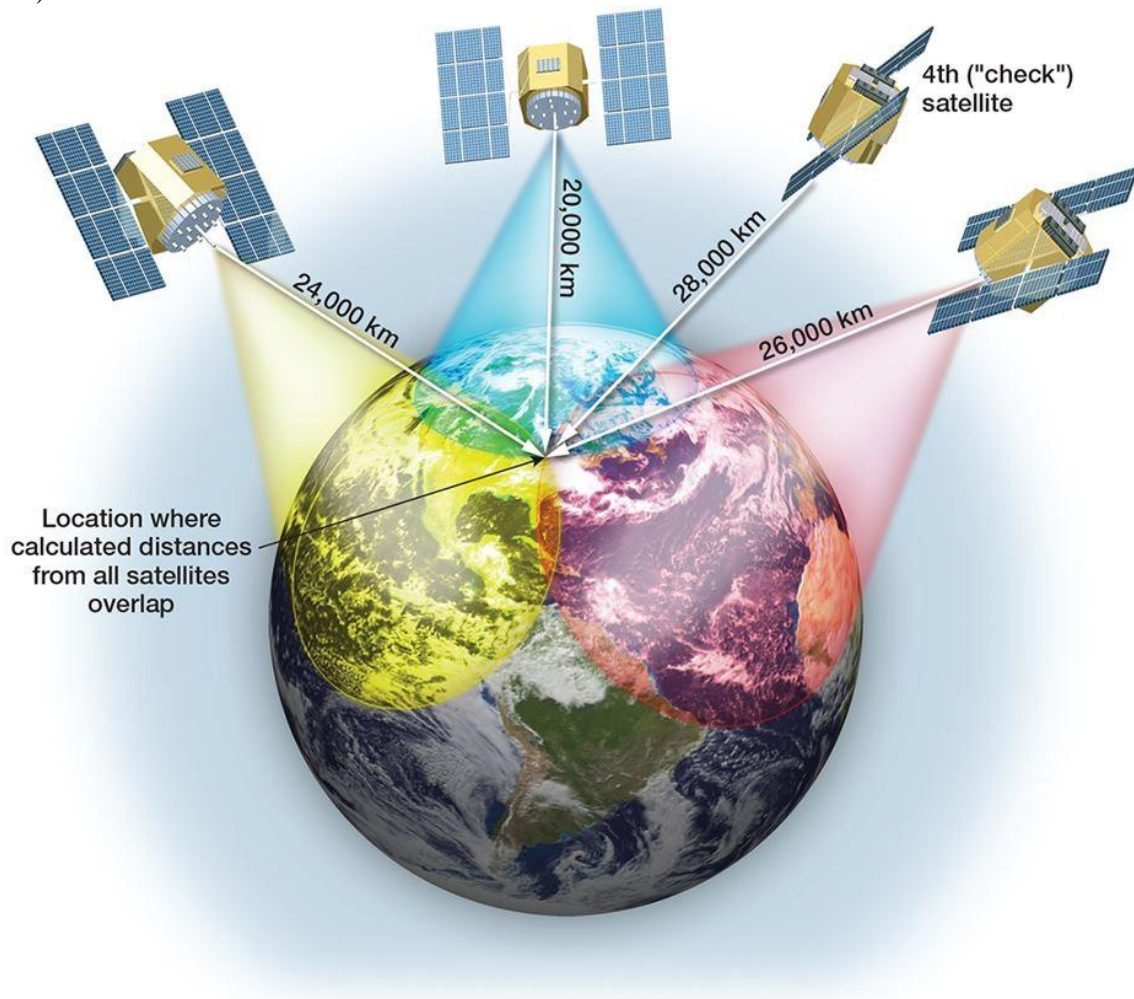
Learning Outcome: 2.30 Describe some common uses of GPS.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

48)



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The WORLD system of locational satellites, orbited by several countries, is most properly called

- A) CORS
- B) NAVSTAR
- C) WAAS
- D) NEXRAD
- E) GNSS

Answer: E

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.28 Define GNSS.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

49) The U.S. version of GNSS is dependent on a network of \_\_\_\_\_ satellites

- A) 2
- B) 3
- C) 5
- D) 24
- E) 108

Answer: D

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.29 Describe how a GPS unit determines its location.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

50) The global positioning system (GPS) is based on \_\_\_\_\_.

- A) aerial photography
- B) infrared light sources
- C) data from satellites
- D) large, expensive receivers
- E) gravity waves from the Sun and Moon

Answer: C

Diff: 1

Topic/Section: 2.6 Global Navigational Satellite System

Learning Outcome: 2.29 Describe how a GPS unit determines its location.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

51) Which of the following would you not expect to be accomplished using geopositioning technology?

- A) Ocean floor mapping
- B) Earthquake prediction
- C) Natural disaster damage assessment
- D) Volcano monitoring
- E) Counting a city's population

Answer: E

Diff: 2

Topic/Section: 2.6 Global Navigational Satellite System

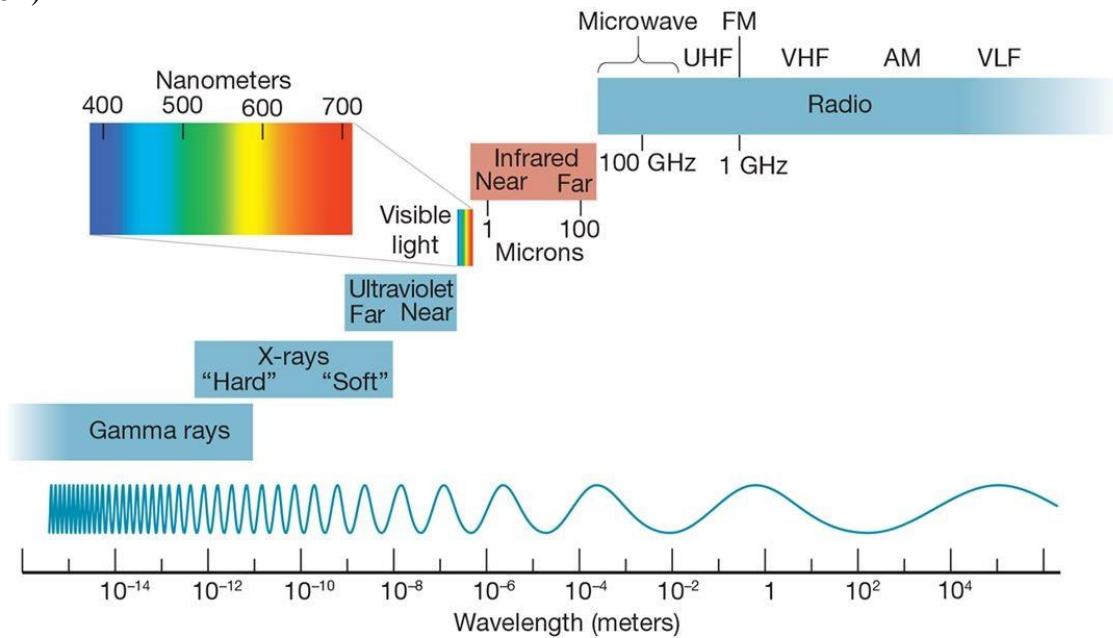
Learning Outcome: 2.29 Describe how a GPS unit determines its location.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

52)



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This figure shows the various wavelengths of electromagnetic energy used in remote sensing. False color imagery uses wavelengths on the order of \_\_\_\_\_ meter(s)

- A) 1
- B)  $10^{-2}$
- C)  $10^{-4}$
- D)  $10^{-6}$
- E) 10

Answer: D

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

53) Lidar is based on actively sending \_\_\_\_\_ from a device in order to precisely measure the Earth's surface.

- A) radar
- B) ultrasound
- C) infrared energy
- D) ultraviolet energy
- E) light

Answer: E

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

54) Which of the following is NOT a commercial satellite system?

- A) SPOT
- B) GeoEye-1
- C) QuickBird
- D) Worldview
- E) Landsat

Answer: E

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing



55)



(a) Dubai, 2000

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(b) Dubai, 2011

This figure shows Dubai before and after the appearance of the Palm Islands. Satellite imagery is quite useful here because it can monitor \_\_\_\_\_.

- A) ship positions
- B) environmental change
- C) large farms
- D) mountain runoff
- E) the emergence of the volcano

Answer: B

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

56)



(a) Las Vegas, 1984



(b) Las Vegas, 2011

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This figure gives the big picture of the dramatic growth of Las Vegas. To which of the following is this type of satellite imagery NOT well suited?

- A) Forecasting thunderstorms
- B) Monitoring environmental change
- C) Tracking the size of the urban area
- D) Placing it in a GIS for urban planning
- E) Studying the amount of concrete surfaces generating high runoff

Answer: A

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

57) Which of the following is most closely identified with multispectral remote sensing?

- A) Radar imaging
- B) Color infrared photography
- C) Landsat
- D) Microwave imaging
- E) Thermal infrared scanning

Answer: C

Diff: 3

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

58) Landsat has a resolution of \_\_\_\_\_ meters in the visible portion of the electromagnetic spectrum.

- A) 0.3
- B) 3
- C) 30
- D) 300
- E) 3,000

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

59) Which of the following is NOT associated with Landsat images?

- A) Thematic mapper
- B) Multispectral scanning system
- C) A series of several satellites over many years
- D) The ultraviolet portion of the spectrum
- E) Millions of pieces of data (pixels) per image

Answer: D

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

60) \_\_\_\_\_ is the science of obtaining reliable measurements from photographs.

- A) Sonar
- B) Orthophoto mapping
- C) Remote sensing
- D) Photogrammetry
- E) Satellite imaging

Answer: D

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS4

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

61) The first airborne platform for aerial photography was a(n)\_\_\_\_\_.

- A) balloon
- B) airplane
- C) satellite
- D) bird
- E) kite

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS4

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

62) \_\_\_\_\_ is the science of taking reliable measurements from aerial photographs.

- A) Cartography
- B) Photogrammetry
- C) Map projection
- D) Multispectral scanning
- E) Symap

Answer: B

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

63) In \_\_\_\_\_ film photography, the photographic film is sensitive to wavelengths longer than visible light.

- A) color infrared
- B) passive microwave
- C) true color
- D) thermal infrared
- E) Landsat

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

64) The type of remote sensing that penetrates clouds at night for accurate terrain representation is \_\_\_\_\_.

- A) radar
- B) sonar
- C) passive microwave
- D) thermal infrared
- E) Landsat

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

65) Which of the following is NOT a form of remote sensing?

- A) Aerial photography
- B) Color infrared photography
- C) Radar
- D) Thermal infrared imaging
- E) Measurement by thermometer

Answer: E

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

66) On an orthophoto map, one might expect to find \_\_\_\_\_.

- A) distortion-free photographs
- B) many problems with map distortion
- C) sketches rather than true projections
- D) cultural but not physical features
- E) symbols that are difficult to read

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

67) Which of the below is an active remote sensing system?

- A) Color infrared photography
- B) Landsat
- C) Radar
- D) Thermal infrared imagery
- E) Black and white aerial photography

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

68) Aside from normal photographic film, \_\_\_\_\_ film has proven very valuable for interpretation of Earth's resources from airborne cameras.

- A) color infrared
- B) ultraviolet
- C) thermal infrared
- D) x-ray
- E) gamma ray

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

69) On which type of aerial imagery would a football field of artificial grass be discernible from natural grass?

- A) Color photography
- B) Black and white photography
- C) Color infrared photography
- D) Radar imagery
- E) Microwave imagery

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

70) Which of the following refers to an active remote sensing system?

- A) Radar
- B) Color infrared photography
- C) GPS
- D) Thermal infrared imagery
- E) Black and white photography

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

71) Unlike aerial photography, Landsat imagery is interpreted through \_\_\_\_\_.

- A) remote sensing
- B) numerical processing
- C) stereoscopic
- D) film
- E) visual analysis

Answer: B

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.33 Describe the remote sensing method that most satellites use today.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

72) Which of the following bands are NOT used by the Earth-sensing satellites mentioned in the text?

- A) X-rays
- B) Color infrared
- C) Panchromatic
- D) Thermal infrared
- E) Visible red

Answer: A

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.33 Describe the remote sensing method that most satellites use today.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

73) A satellite that remains over the same spot over all the time is \_\_\_\_\_.

- A) geosynchronous
- B) photogrammetric
- C) a "low orbiter"
- D) a Landsat mission
- E) an impossibility

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.33 Describe the remote sensing method that most satellites use today.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

74) Which of the below wavelengths have been most useful in sensing the health and amount of vegetation in the landscape?

- A) Ultraviolet
- B) X-rays
- C) Near infrared
- D) Radio wavelengths
- E) Gamma wavelengths

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding



75) Which remote sensing systems sense the longest wavelengths?

- A) Landsat
- B) Color photography
- C) Thermal infrared imaging
- D) Radar
- E) Black and white photography

Answer: D

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.34 Distinguish passive remote sensing systems from active remote sensing systems.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

76) The multispectral MODIS instrument is associated with which satellite series?

- A) Landsat
- B) GOES
- C) Space Shuttle
- D) NIMBUS
- E) EOS

Answer: E

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.33 Describe the remote sensing method that most satellites use today.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

77) Which of the following is an advantage of radar over all other remote sensing techniques?

- A) It can operate at high altitude.
- B) It can operate at night.
- C) It can operate in clear weather.
- D) It can operate at wavelengths shorter than 1 micrometer.
- E) It can operate without using an electrical source.

Answer: B

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.34 Distinguish passive remote sensing systems from active remote sensing systems.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

78) In terms of remote sensing, geographers \_\_\_\_\_.

- A) should not stop using maps and field study
- B) have shown very little interest
- C) will someday identify one remote sensing type that is best for all purposes
- D) have never used remote sensing
- E) should never use remote sensing

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

79) The first aerial photographs were taken \_\_\_\_\_.

- A) in the middle 1800s
- B) during World War II
- C) during the Vietnam War
- D) during the Korean War
- E) in the middle 1600s

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

80) A geometrically corrected map consisting of aerial photographs is known as a(n) \_\_\_\_\_ map.

- A) projected
- B) Mercator
- C) orthophoto
- D) color infrared
- E) large-scale

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

81) The false color imagery of some aerial photographs uses \_\_\_\_\_ wavelengths.

- A) x-ray
- B) microwave
- C) near infrared
- D) sonar
- E) radar

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

82) By far, the greatest use of IR scanning systems has been \_\_\_\_\_.

- A) to penetrate clouds
- B) onboard meteorological satellites
- C) in surface weather thermometer shelters
- D) in making orthophoto quadrangles
- E) to sense underwater features

Answer: B

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

83) The most important Earth resources satellite series was started in the 1970s and is known as \_\_\_\_\_.

- A) Landsat
- B) Sputnik
- C) TIROS
- D) Seasat
- E) GOES

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

84) Satellite data are analyzed in individual pieces representing several to many meters on the Earth's surface. These pieces are known as \_\_\_\_\_.

- A) pixels
- B) RBVs
- C) false color images
- D) scan lines
- E) computer maps

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.33 Describe the remote sensing method that most satellites use today.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

85) Radar senses energy in wavelengths longer than 1 \_\_\_\_\_.

- A) angstrom
- B) micrometer
- C) millimeter
- D) meter
- E) kilometer

Answer: C

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

86) Which of the following forms of remote sensing is based on sound?

- A) Sonar
- B) Microwave sensing
- C) Radar
- D) Thermal infrared imaging
- E) Color infrared photography

Answer: A

Diff: 1

Topic/Section: 2.7 Remote Sensing

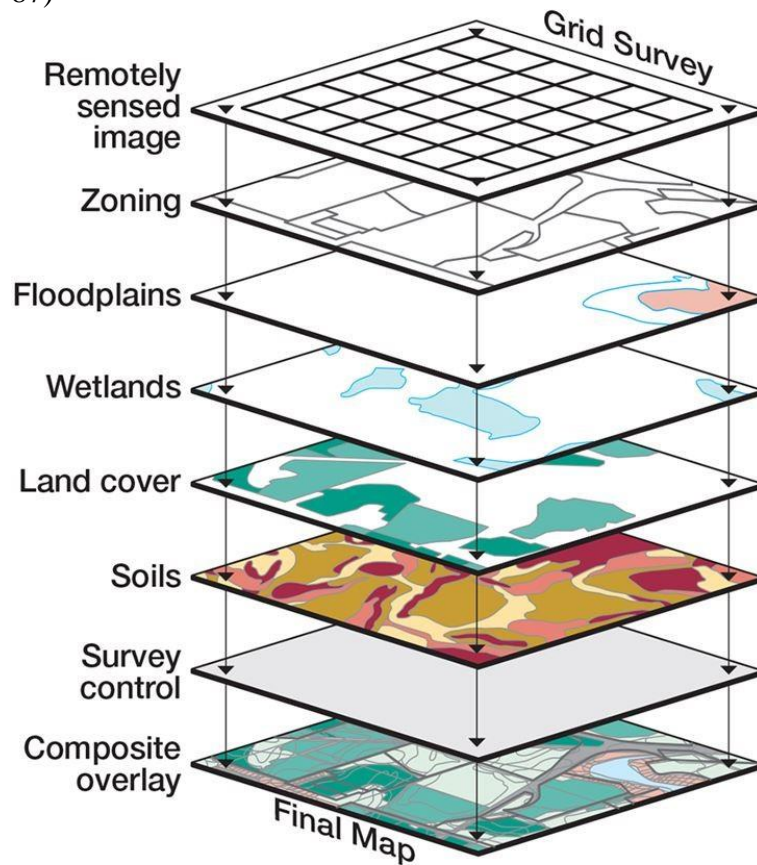
Learning Outcome: 2.33 Describe the remote sensing method that most satellites use today.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

87)



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This figure shows an overlay electronic analysis frequently employed by geographers. This type of analysis is known as \_\_\_\_\_.

- A) cartography
- B) Landsat
- C) color infrared analysis
- D) GPS
- E) GIS

Answer: E

Diff: 2

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

88) Probably the largest concern with the geographer's use of maps and imagery is \_\_\_\_\_.

- A) choosing the most effective maps and imagery
- B) making sure it is available on the Internet
- C) to always use GIS
- D) to make sure the property of equivalence is always preserved
- E) to use images instead of maps when possible

Answer: A

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.36 Explain how GIS helps in the analysis of geographic data.

Natl. Geog Stds: GS3

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

89) \_\_\_\_\_ analysis takes place when two or more layers of spatial data are superimposed or integrated.

- A) GPS
- B) Overlay
- C) Stochastic
- D) Remote sensing
- E) Cloud

Answer: B

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

90) A GIS is a library of information based on \_\_\_\_\_.

- A) satellites
- B) stereoscopic image viewing
- C) many land survey records stored on microfilm
- D) manual cartography
- E) maps

Answer: E

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

91) A geographic information system allows a link between data and \_\_\_\_\_.

- A) scientific theory
- B) a map
- C) a computer
- D) a color
- E) orthophoto mapping

Answer: B

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

92) Which of the following would be used for an overlay map analysis, where two or more map layers are superimposed or integrated?

- A) GIS
- B) Landsat
- C) GPS
- D) EOS
- E) Color infrared

Answer: A

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

93) Geographic information system technology is a direct result of advances in all EXCEPT

- \_\_\_\_\_.
- A) surveying
  - B) computer cartography
  - C) spatial statistics
  - D) remote sensing
  - E) cartographic theory

Answer: E

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

94) Which of the following would be a type of application in which a geographic information system would NOT be used?

- A) Integrating topographic information with vegetation information
- B) Environment site assessment
- C) Resource management
- D) Environmental monitoring
- E) Monitoring of weather data at a single weather station

Answer: E

Diff: 2

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.36 Explain how GIS helps in the analysis of geographic data.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

95) Which of the following choices represents a technology into which the other choices can be used as inputs?

- A) GPS
- B) GIS
- C) Landsat imagery
- D) Field data
- E) Aerial photography

Answer: B

Diff: 1

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.35 Describe overlay analysis.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

96) Explain how the properties of conformality and equivalence always pose a dilemma to the mapmaker.

Answer: This is the classic problem for the mapmaker. A map cannot preserve both shape and relative size. A cartographer must choose one or the other, or neither. Many times there must be a compromise between the two properties.

Diff: 2

Topic/Section: 2.3 Map Projections and Properties

Learning Outcome: 2.11 Explain when an equivalent map projection is most suited for use in geographic studies; 2.13 Explain when a conformal map is most suited for use in geographic studies; 2.14 Describe compromise map projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing



97) Name four of the map essentials and the purpose of each one.

Answer: Title, date, legend, scale, direction, and location. Include a definition of each.

Diff: 1

Topic/Section: 2.5 Conveying Information on Maps

Learning Outcome: 2.29 Describe how a GPS unit determines its location.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

98) Explain how the global positioning system operates to locate your position within a few meters.

Answer: GPS trilaterates your position by using the distance and direction to several polar orbiting satellites. The orbits are well known and a satellite is located via radio transmissions from the satellite.

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.29 Describe how a GPS unit determines its location.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Remembering/Understanding

99) Compare and contrast the purposes of Landsat and commercial high-resolution satellites.

Answer: Landsat is in the public domain for studying Earth's resources. Commercial satellites also study Earth's resources but at a higher resolution, and the user is charged considerable money to do so.

Diff: 3

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Evaluating/Creating

100) Suppose a geographer was hired to help assess the health/vigor of a winter wheat crop (to be harvested in the late spring) in an agricultural county of a Great Plains state; the object would be to predict the winter wheat yield two months in advance. What sort of remote sensing techniques might be used and why?

Answer: Answers will vary. The student should mention some form of remote sensing (photography or satellite imaging) that uses the near infrared portion of the spectrum sensitive to plant greenness.

Diff: 3

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Evaluating/Creating

101) Explain how the use of multispectral scanning is an advantage over the use of a single band when identifying Earth's features via remote sensing.

Answer: Various bands are best for various features—give example(s). The point is that a combination of bands should be superior.

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

102) Describe the features of a type of conic versus a type of planar projection and identify a proper use for each.

Answer: A conic projection is a transfer from a globe tangent to Earth; the cone is then "unrolled" to make a map. A planar projection is a transfer from a globe to a plane. A conic projection is proper for a map that emphasizes middle latitude areas with great east-west extents (e.g. North America), while a planar projection can be used to view one side of Earth at once, centered on an area of interest (e.g., the North Pole).

Diff: 3

Topic/Section: 2.4 Families of Map Projections

Learning Outcome: 2.20 Describe some of the best uses for maps with a planar projection; 2.22 Describe some of the best uses for maps with a conic projection.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Evaluating/Creating

103) The near infrared is the Landsat spectral band used for identification of \_\_\_\_\_.

Answer: wetlands, organic soils, water bodies, or crop health

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G2

Bloom's Taxonomy: Applying/Analyzing

104) Define remote sensing.

Answer: The measurement or acquisition of information by a recording device that is not in physical contact with the object under study.

Diff: 1

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G2

Bloom's Taxonomy: Remembering/Understanding

105) GIS is, perhaps, the most important tool for the modern geographer. Explain why it is so important and why this has only been true in the recent past.

Answer: GIS can integrate many forms of measurement (satellite imagery, surveys, censuses, etc.) to provide a research tool in which the user can assess the spatial impact of many factors separately or jointly in social or environmental analysis. It is only important now because electronic data sets and powerful computing have become available to virtually everyone.

Diff: 3

Topic/Section: 2.8 Geographic Information Systems

Learning Outcome: 2.36 Explain how GIS helps in the analysis of geographic data.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Evaluating/Creating

106) Remotely sensed \_\_\_\_\_ images are the most useful way of detecting the health of vegetation.

Answer: Near infrared or color infrared

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.32 Discuss the kinds of information that can be gathered by remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G4

Bloom's Taxonomy: Applying/Analyzing

107) A map with a \_\_\_\_\_ scale generally shows a large portion of a continent.

Answer: small

Diff: 2

Topic/Section: 2.2 Map Scale

Learning Outcome: 2.4 Identify examples of graphic scales from a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

108) Maps are inherently inaccurate because \_\_\_\_\_.

Answer: they must depict the curved Earth on a flat surface

Diff: 2

Topic/Section: 2.1 Maps and Globes

Learning Outcome: 2.4 Identify examples of graphic scales from a map.

Natl. Geog Stds: GS1

Global Sci Stds: G3

Bloom's Taxonomy: Applying/Analyzing

109) \_\_\_\_\_ micrometers is a wavelength of visible light. (ANY of the wavelengths will do.)

Answer: Any wavelength between 0.36 and 0.72 micrometers is acceptable.

Diff: 2

Topic/Section: 2.7 Remote Sensing

Learning Outcome: 2.31 Define remote sensing.

Natl. Geog Stds: GS1

Global Sci Stds: G2

Bloom's Taxonomy: Applying/Analyzing