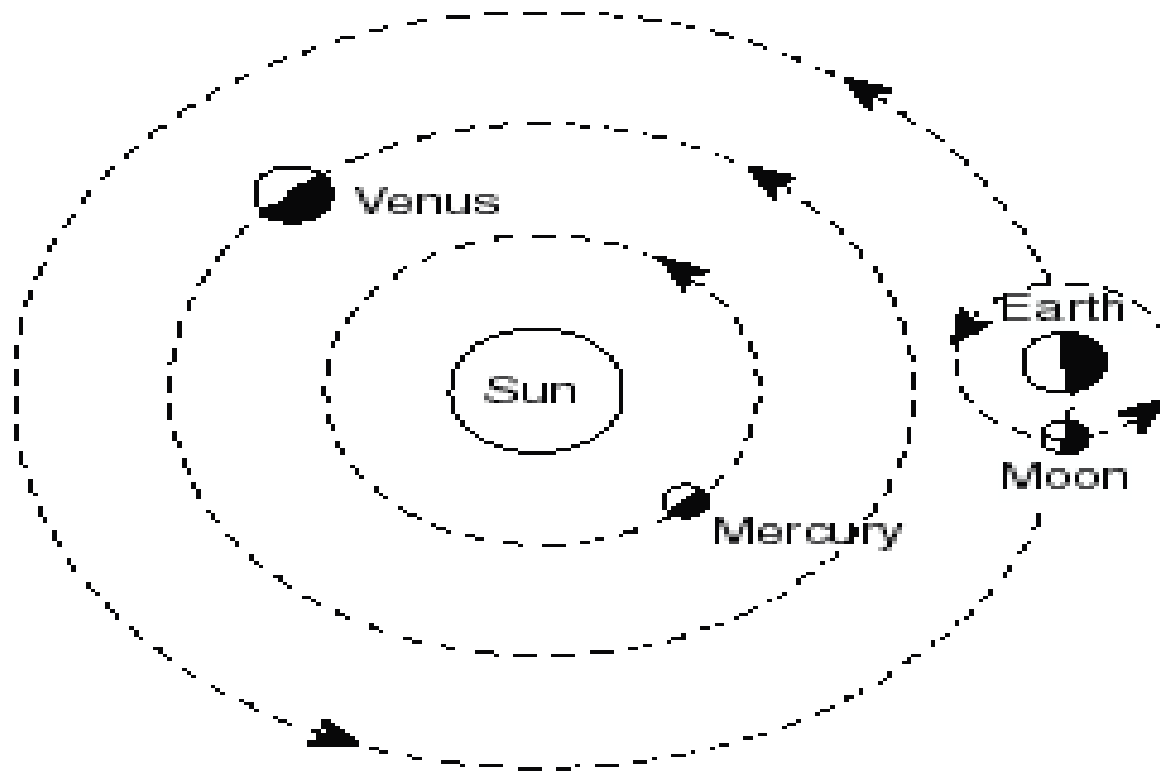


8th Grade

Practice Earth Science

Assessment Test

1. The diagram below shows a portion of the solar system as seen from space.



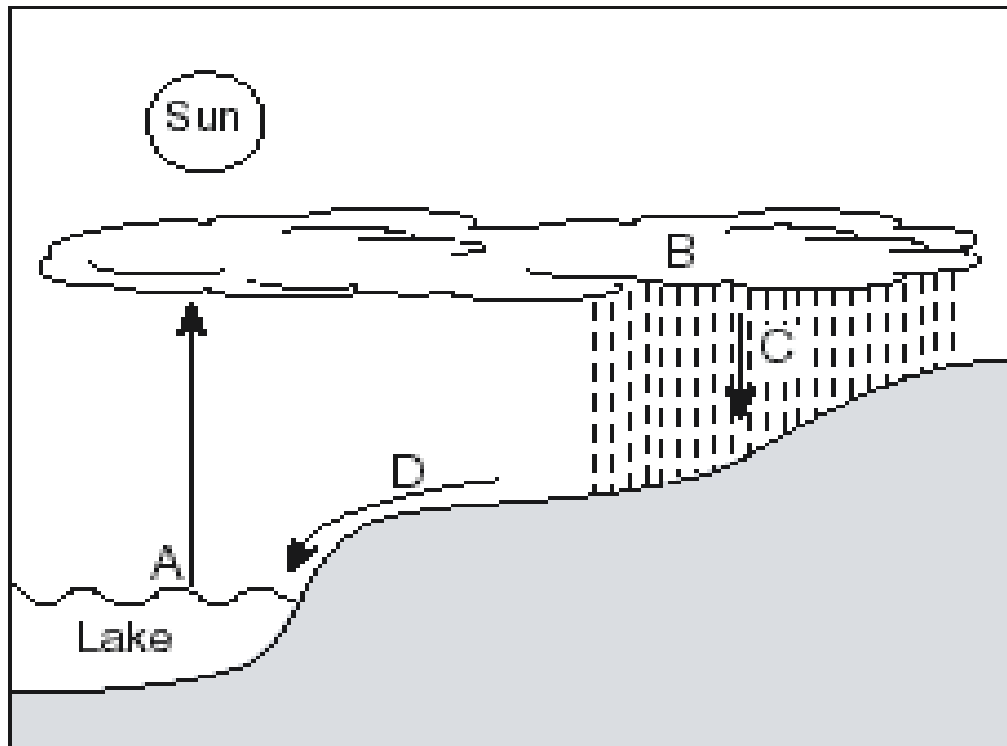
(not drawn to scale)

For which object is the lighted surface shown *incorrectly*?

- (1) Moon
(2) Mercury

- (3) Venus
(4) Earth

2. The diagram below shows the water cycle.



Which letter represents the process of evaporation?



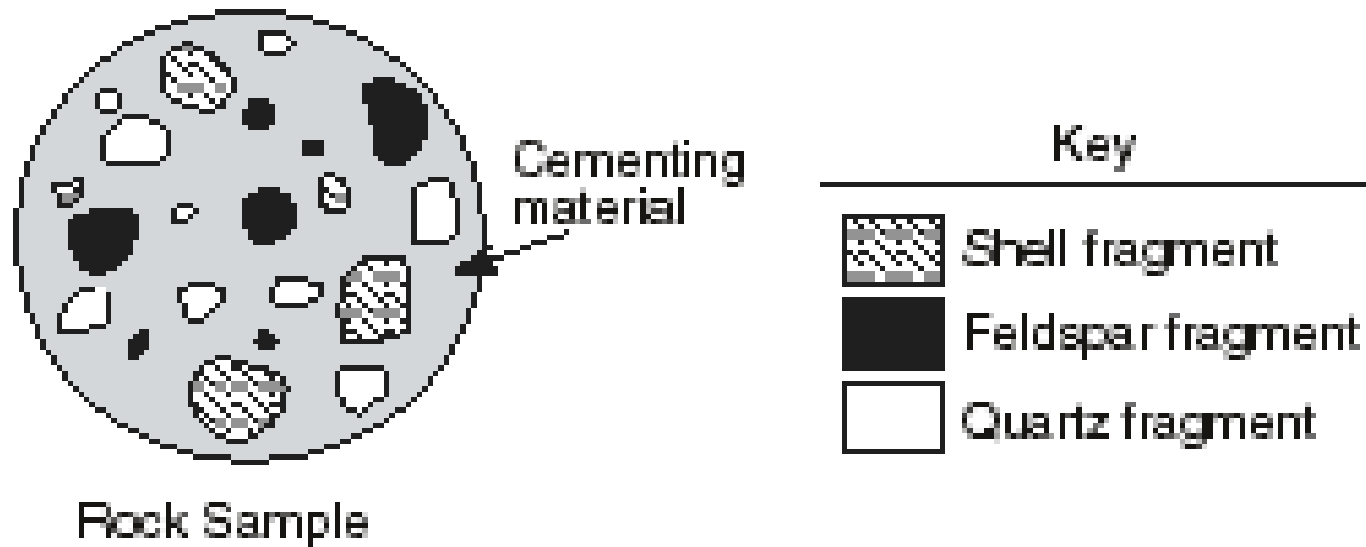
(1) *A*

(2) *B*

(3) *C*

(4) *D*

3. The diagram below shows a rock sample and an identification key.



This rock sample would best be classified as

- | | |
|---|-----------------|
| (1) volcanic | (3) metamorphic |
|  (2) sedimentary | (4) igneous |

4. Oceans, glaciers, lakes, and rivers are part of Earth's

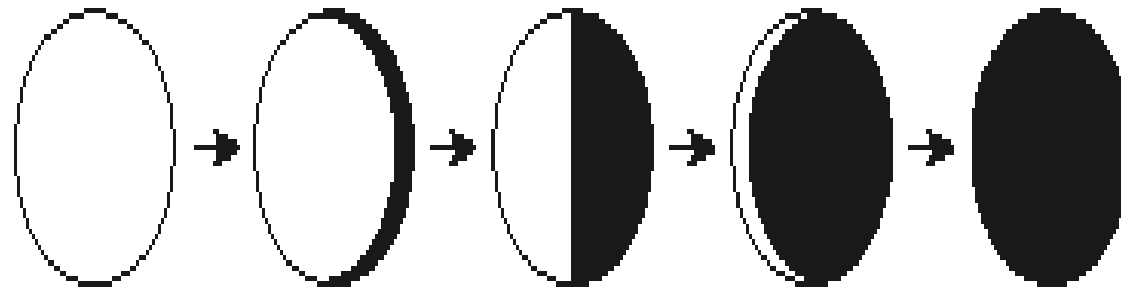
(1) atmosphere

(2) hemisphere

(3) hydrosphere

(4) lithosphere

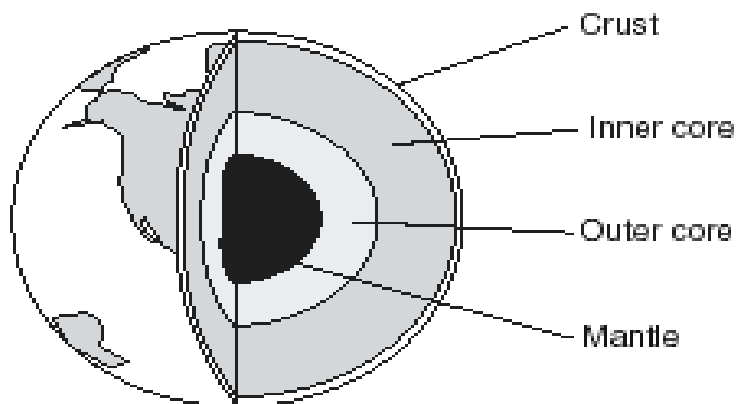
5. A student drew the pictures below to show how the Moon looked from Earth over a two-week period.



The differences shown in the student's drawings are mostly due to the changing

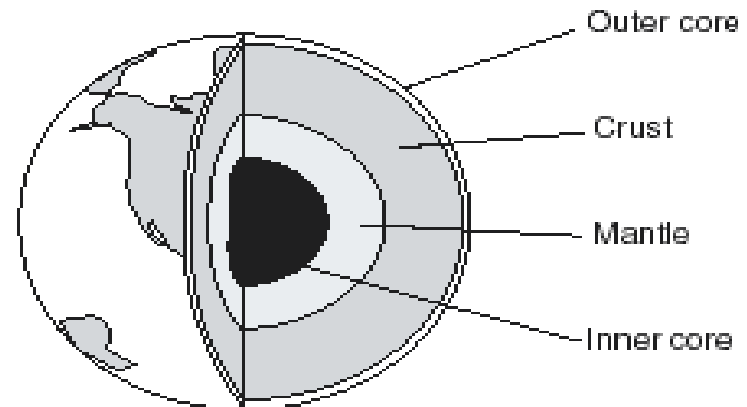
- (1) distance between Earth and the Moon
- (2) speed of the Moon in its orbit
- ☺ (3) position of the Moon in its orbit
- (4) position of the observer on Earth

6. In which diagram are the layers of Earth correctly labeled?



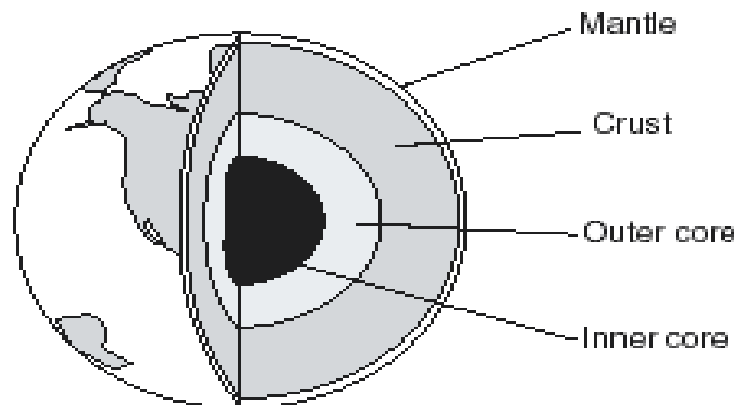
(not drawn to scale)

(1)



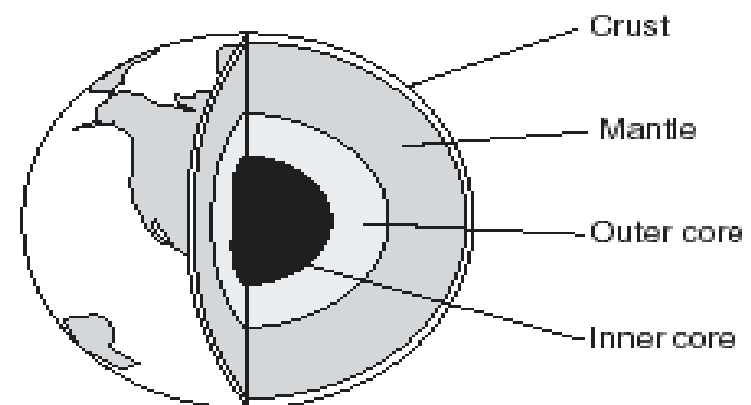
(not drawn to scale)

(3)



(not drawn to scale)

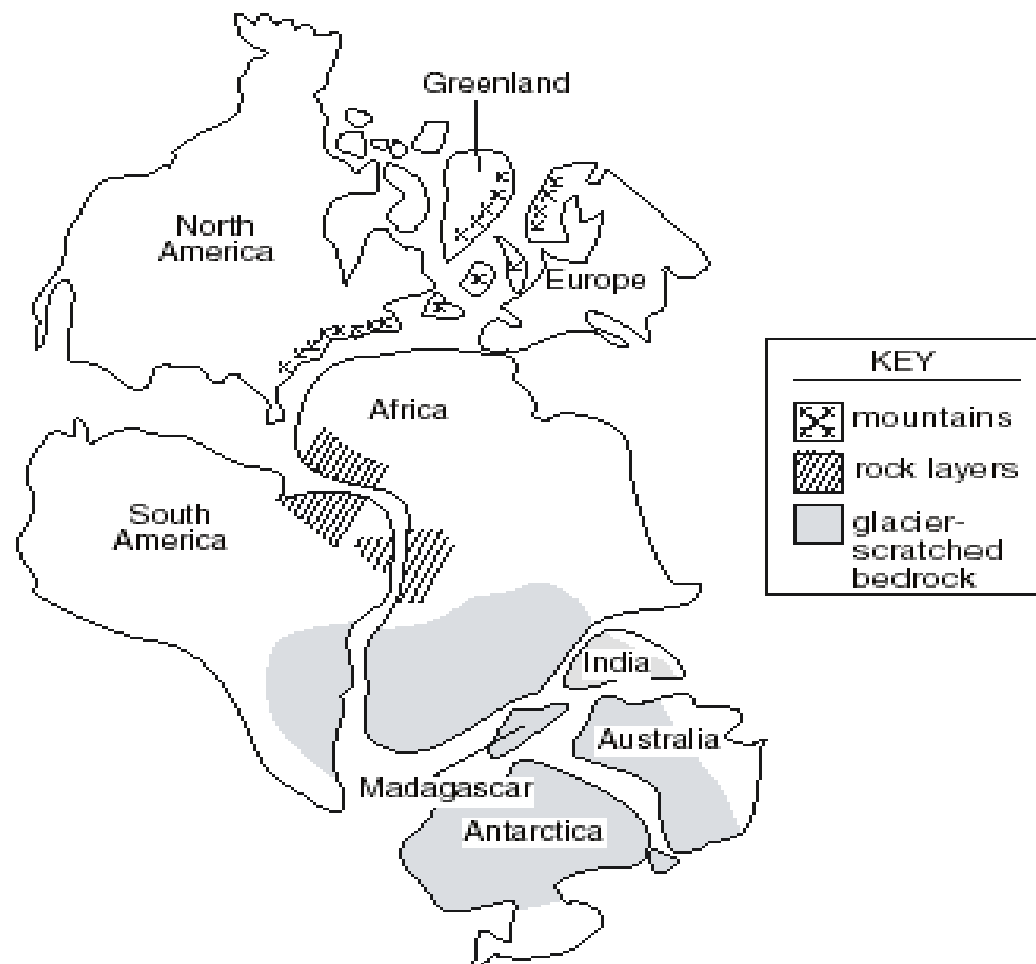
(2)



(not drawn to scale)



7. The map below indicates the possible location of some of Earth's continents in the past.



Which evidence best supports the idea that the landmasses on Earth were once in these positions?


- (1) North America and India have matching mountain chains.
- (2) Madagascar and India have similar shapes.
- ☺ (3) Matching rock layers can be found in Africa and South America.
- (4) Bedrock in Australia and Greenland have glacier scratches.

8. The chart below compares three types of rocks. The first column gives the rock classification. Which heading best describes the information provided in the second column?

Rock Classification	???
Igneous	melting and solidification of magma
Sedimentary	mechanical, chemical, or organic processes
Metamorphic	heat and/or pressure

- (1) Minerals in Rocks
 Method of Rock Formation

- (3) The Value of Rocks
(4) The Time Rocks Take to Form

9. Earth's weather is primarily caused by the
- (1) drifting of Earth's crustal plates
 - (2) gravitational attraction of the Moon
 - (3)  uneven heating of Earth's surface
 - (4) changing distance between Earth and the Sun

10. The diagram below shows Earth as seen from space. Letters *A* through *D* are locations on Earth's surface.

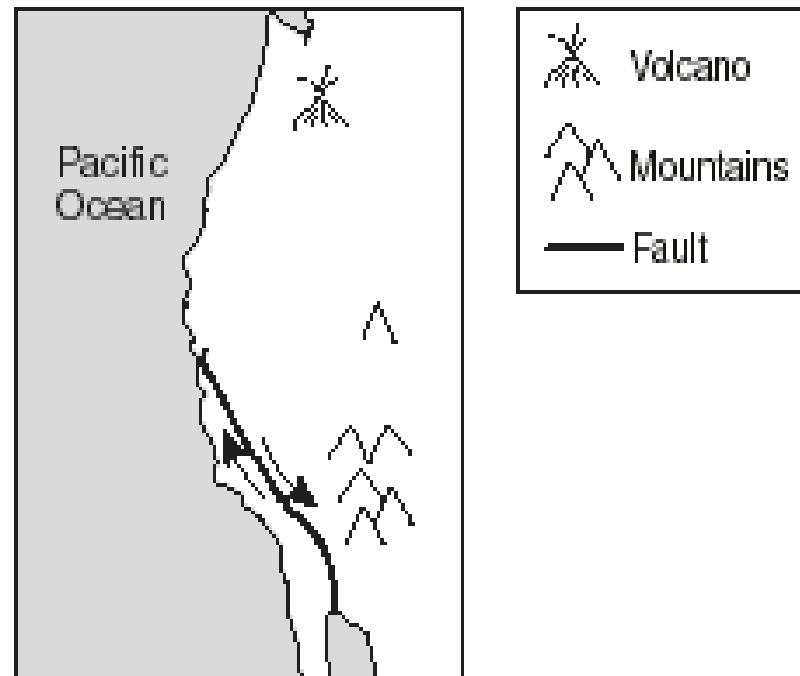


When Earth is in this position, which location would experience the greatest number of daylight hours?

(1) *A*
(2) *B*

(3) *C*
(4) *D*

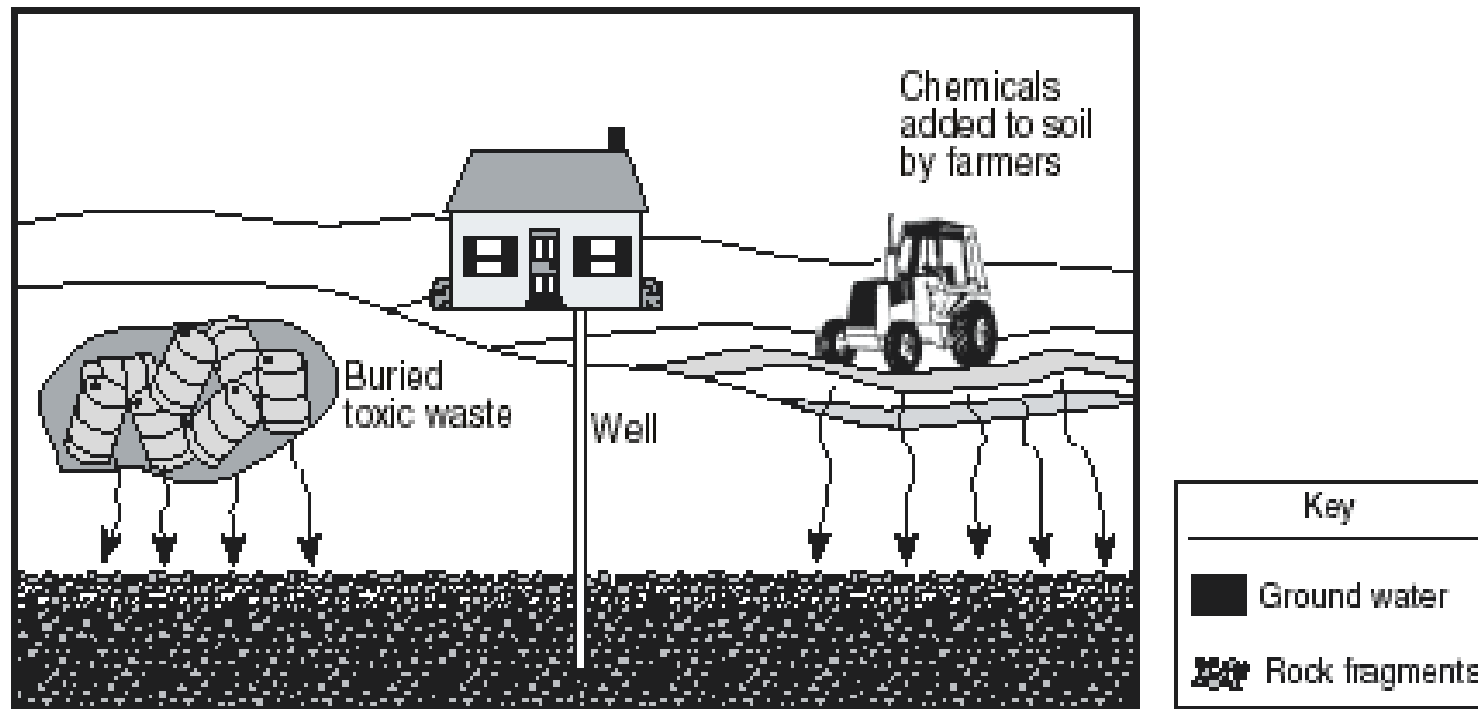
11. The map below shows some geologic features located near the west coast of the United States.



The arrows on either side of the fault represent


- (1) volcanic eruptions
- (2) rock formations
- (3) the relative movement of air masses
- ☺ the relative movement of tectonic plates

12. The diagram below shows some ways in which groundwater can be affected by humans.



(not drawn to scale)


Which statement is best supported by the diagram?

- (1) Chemicals applied by farmers lower the level of pollution in drinking water.
-  (2) Drinking water can become polluted from unsuspected sources.
- (3) Human activities do not affect groundwater.
- (4) Toxic waste is safe if buried below the level of the basements of nearby homes.

Human Population and Carbon Dioxide Levels

Year	Human Population (billions)	Carbon Dioxide (CO ₂) Levels in the Atmosphere (parts per million)
1960	2.50	317
1970	2.75	325
1980	3.00	337
1990	5.00	342

13. How have the size of the human population and the amount of carbon dioxide (CO₂) in the atmosphere changed from 1960 to 1990?

- (1) The human population has increased while the amount of CO₂ has decreased.
- (2) The human population has decreased while the amount of CO₂ has increased.
-  (3) Both the human population and the amount of CO₂ have increased.
- (4) Both the human population and the amount of CO₂ have decreased.

14. Which human activity might explain the change in carbon dioxide levels shown in the graph?

- (1) storing nuclear waste
- (2) collecting solar energy
- (3) using wind energy
-  (4) burning fossil fuels

15. Which statement is true of all rocks?

- (1) Rocks contain organic material.
- (2) Rocks contain fossils.
- (3) Rocks are composed of minerals.
- (4) Rocks are formed in layers.

16. Igneous rocks are formed by

- (1) weathering
- (2) cementation
- (3) volcanic activity
- (4) sedimentation

17. Which body in our solar system is classified as a star?

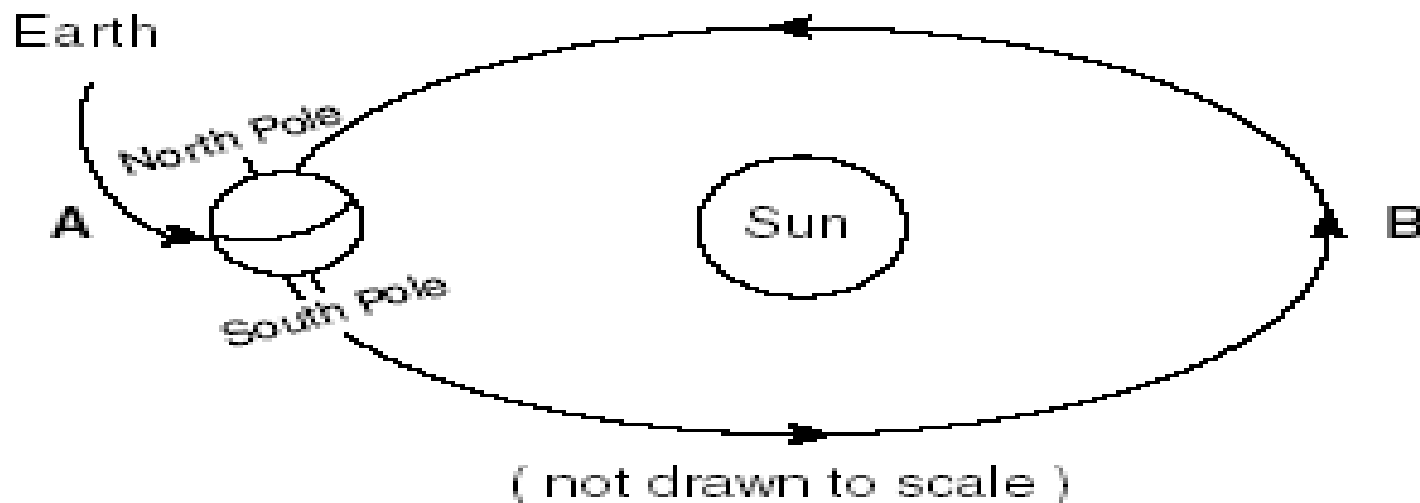
(1) Earth

(3) Venus

(2) Mars

☺ Sun

The diagram below shows Earth, as viewed from space, as it moves around the Sun.



18. Approximately how long does it take Earth to move from position A to position B?

(1) 1 year

(3) 1 day

☺ 6 months

(4) 12 hours

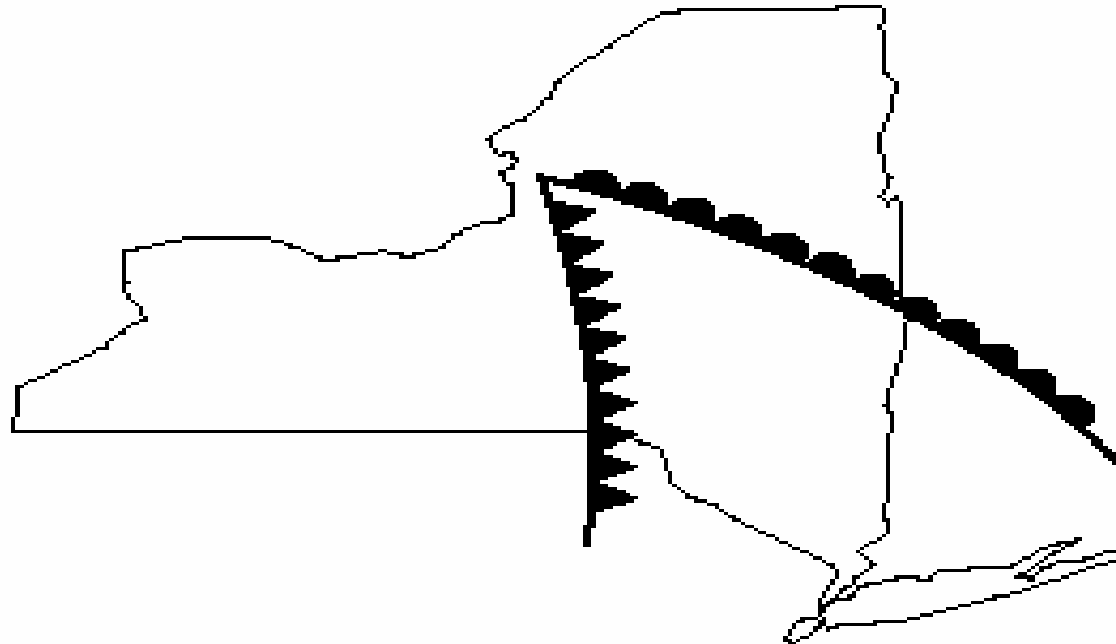
19. The Sun appears to move across the sky during the day. The best explanation for this apparent motion is that Earth is

- (1) rotating on its axis
- (2) revolving around the Sun
- (3) much smaller than the Sun
- (4) tilted on its axis


20. Weathering and erosion of Earth's crust are primarily caused by

- | | |
|--|---|
| <input checked="" type="radio"/> (1) gravity | <input type="radio"/> (3) evaporation |
| <input type="radio"/> (2) volcanic activity | <input type="radio"/> (4) sedimentation |

21. The diagram below shows two symbols commonly found on a weather map.



The symbols  and  on this map represent

- (1) winds
- (2)  fronts
- (3) latitude and longitude
- (4) climatic conditions

22. As altitude increases, air pressure

(1) decreases

(2) increases

(3) remains the same

23. Energy from the Sun reaches Earth mainly by the process of

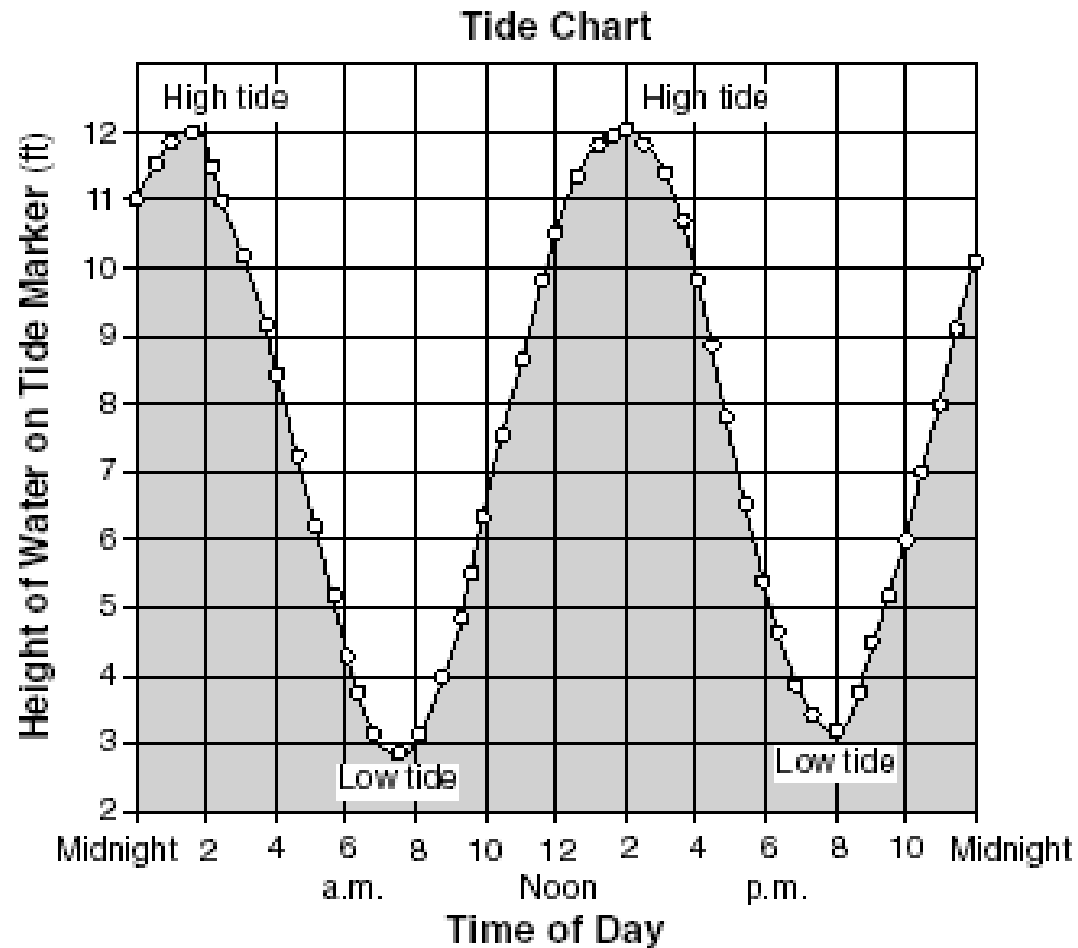
(1) conduction

(2) convection

(3) reflection

(4) radiation

24. The graph below shows the water levels that result from tidal action over a 24-hour period.



What was the approximate height of the water on the tide marker at 6 p.m.?

(1) 4.3 ft



5.4 ft

(3) 8.5 ft

(4) 11.2 ft

25. Approximately how long does it take to cycle from one new Moon to the next new Moon?

(1) a day



a month

(2) a week



(4) a year

26. If shell fragments are found in a rock sample, it is most likely that the rock formed

(1) on a mountain slope

(2) on a glacier

(3) from magma

(4) in shallow water

27. The thin layer of water that covers most of Earth's surface is called the

(1) atmosphere

(3) lithosphere

(2) hemisphere

 hydrosphere

28. Which term refers to the atmospheric conditions that prevail from season to season and year to year at a certain location?

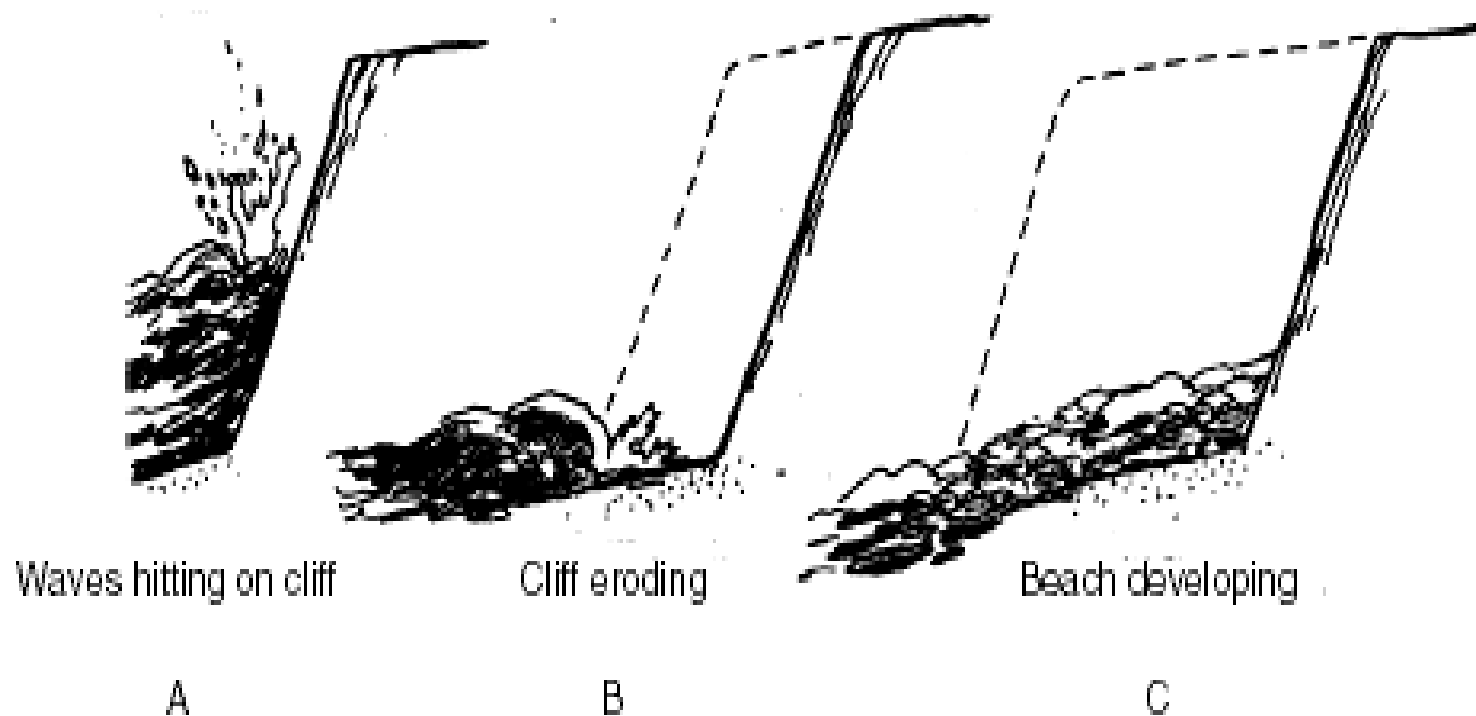
(1) weather

(3) equilibrium

 climate

(4) ecosystem

29. The diagram below shows three stages in the formation of a beach.



Which process is mostly responsible for the breaking down of the rock cliff into sand-sized sediment?


- (1) weathering
- (2) faulting

- (3) folding
- (4) precipitation

30. The map below shows the probable location of some of the continents at one time in the past.



What feature of the continents best suggests that they were once joined?

- (1)  Some continents fit together like puzzle parts.
- (2) Some continents are the same size.
- (3) All continents have mountain ranges.
- (4) All continents contain the same crustal composition.

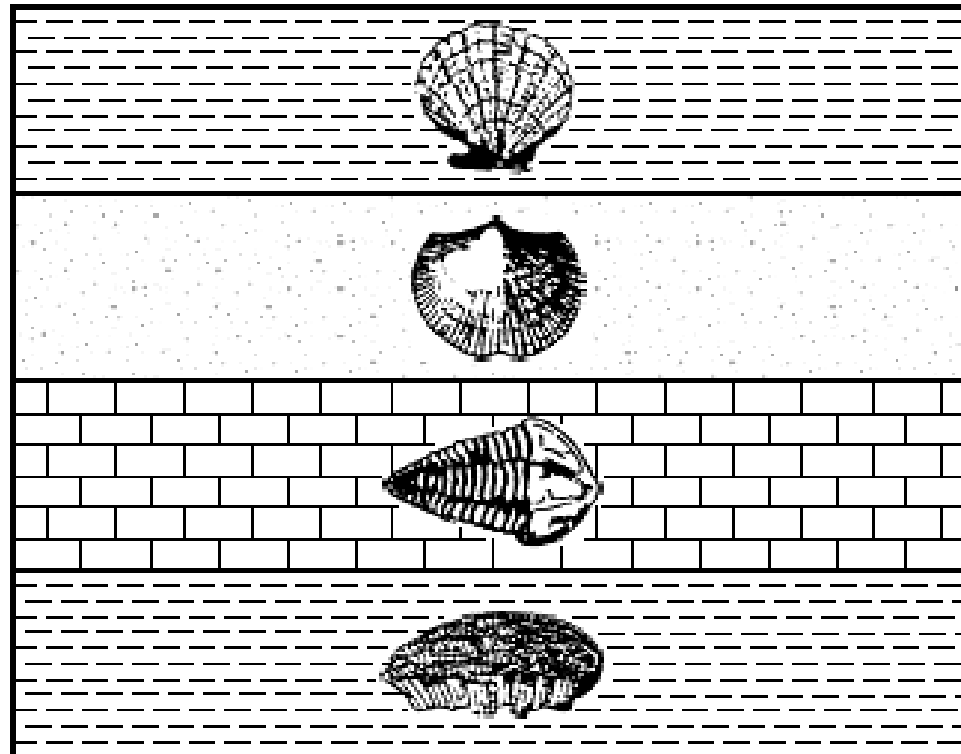
Base your answer to question 31 and 32 on the map below and on your knowledge of science. The Map shows the origin of the maritime tropical air mass. The arrow shows the general track of the air mass. New York State is labeled NY.



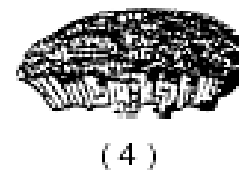
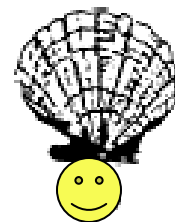
- 31.** Which temperature and moisture conditions are associated with this air mass?
- (1) cold and dry
 - (2) warm and humid
 - (3) cold and humid
 - (4) warm and dry

- 32.** Which factor has the greatest influence on the direction of the air-mass track?
- (1) upper air currents
 - (2) ocean currents
 - (3) sea breezes
 - (4) mountain barriers

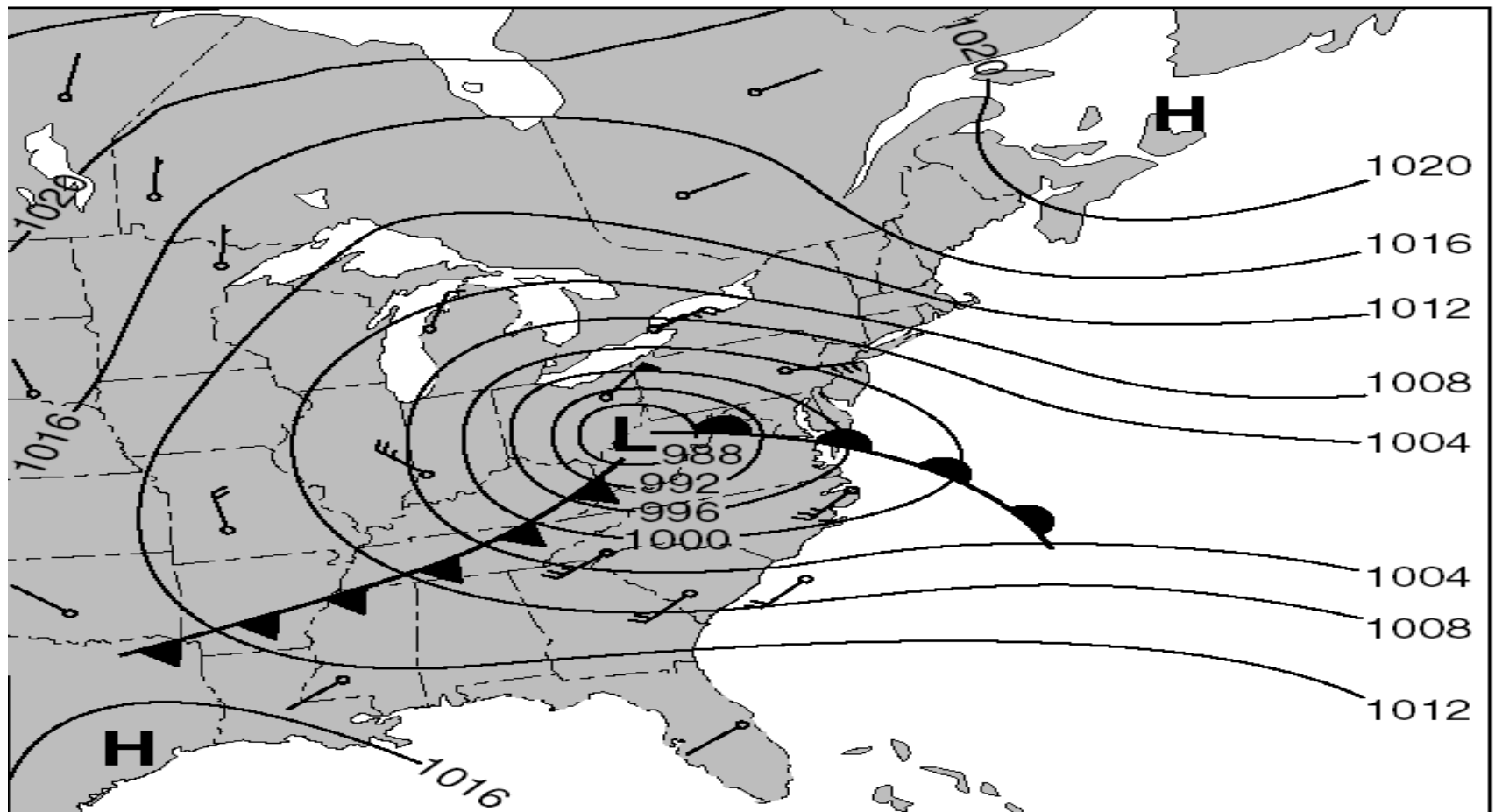
The cross section below shows sedimentary rock layers containing fossils.



33. Assuming that these rock layers have not been overturned, which fossil is in the layer that was formed most recently?



The weather map below shows the locations of a warm and a cold front over part of North America.




34. The numbered lines on the weather map connect locations with the same

- (1) wind direction
- (2) wind speed


- (3) air temperature
- ☺ air pressure

Base your answer to questions 35 through 37 on the chart below, which shows various data collected and predicted for Albany, New York, on March 9, 2001.

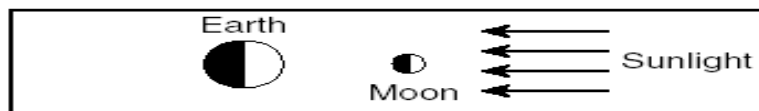
Updated: 05:51 AM EST on March 09, 2001	
Observed at	Albany, New York
Temperature	34°F
Windchill	26°F
Humidity	81%
Dewpoint	28°F
Wind	SE at 7 mph
Pressure	29.88 in
Conditions	Overcast
Visibility	10 miles
Clouds	Overcast (OVC): 1800 ft
Sunrise	6:17 AM (EST)
Sunset	5:51 PM (EST)
Moon Rise	6:02 PM (EST)
Moon Set	6:37 AM (EST)
Moon Phase	 Mar. 09 Mar. 16 Mar. 25

35. The chart shows information about Moon phases, times of sunrise and sunset, and
- (1) climate patterns
 - (2) local weather conditions
 - (3) seasonal changes
 - (4) global warming

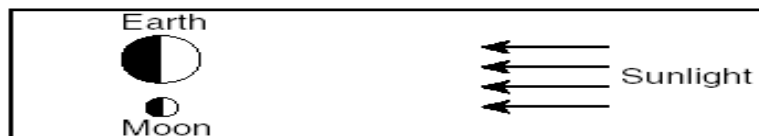
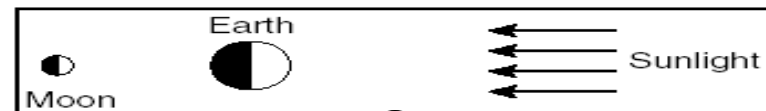
Base your answer to questions 35 through 37 on the chart below, which shows various data collected and predicted for Albany, New York, on March 9, 2001.

Updated: 05:51 AM EST on March 09, 2001	
Observed at	Albany, New York
Temperature	34°F
Windchill	26°F
Humidity	81%
Dewpoint	28°F
Wind	SE at 7 mph
Pressure	29.88 in
Conditions	Overcast
Visibility	10 miles
Clouds	Overcast (OVC): 1800 ft
Sunrise	6:17 AM (EST)
Sunset	5:51 PM (EST)
Moon Rise	6:02 PM (EST)
Moon Set	6:37 AM (EST)
Moon Phase	 Mar. 09 Mar. 16 Mar. 25

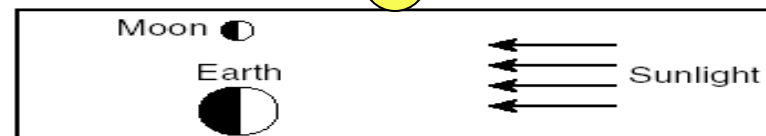
36. Which diagram correctly shows the position of the Moon with respect to Earth on March 9, 2001?



(1)




(2)



(4)

Base your answer to questions 35 through 37 on the chart below, which shows various data collected and predicted for Albany, New York, on March 9, 2001.

Updated: 05:51 AM EST on March 09, 2001	
Observed at	Albany, New York
Temperature	34°F
Windchill	26°F
Humidity	81%
Dewpoint	28°F
Wind	SE at 7 mph
Pressure	29.88 in
Conditions	Overcast
Visibility	10 miles
Clouds	Overcast (OVC): 1800 ft
Sunrise	6:17 AM (EST)
Sunset	5:51 PM (EST)
Moon Rise	6:02 PM (EST)
Moon Set	6:37 AM (EST)
Moon Phase	 Mar. 09 Mar. 16 Mar. 25

37. Which instrument dial shows a correct air-pressure reading for Albany, New York, for this date and time?



(2)

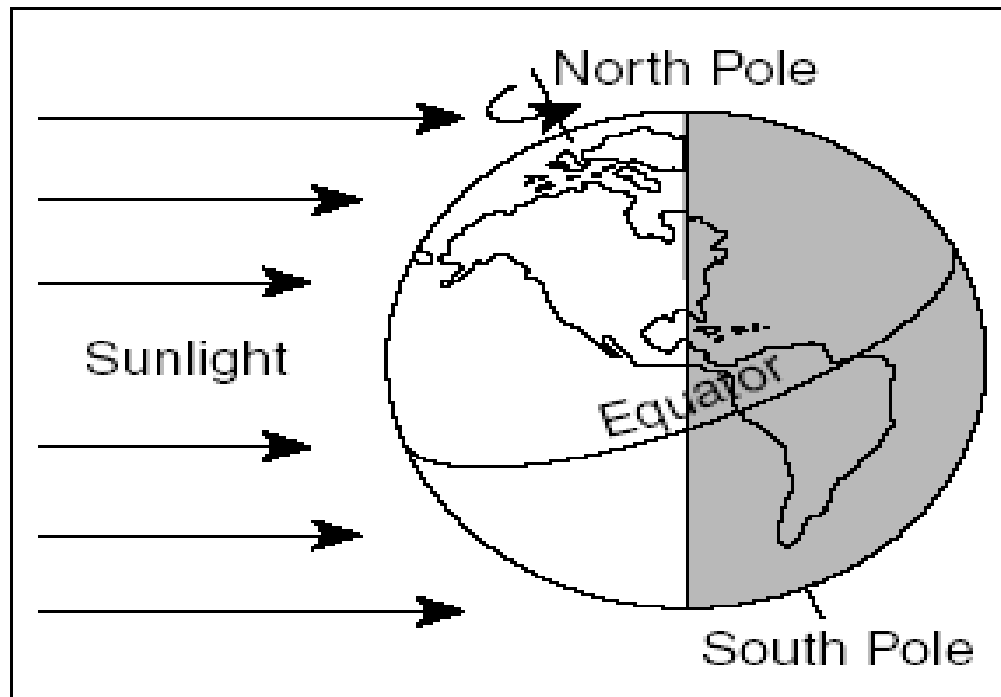


(3)



(4)

The diagram below shows Earth as viewed from space.



38. Which season is occurring in the Northern Hemisphere?



(1) summer

(2) autumn

(3) winter

(4) spring


The bold line on the map below shows the San Andreas Fault.



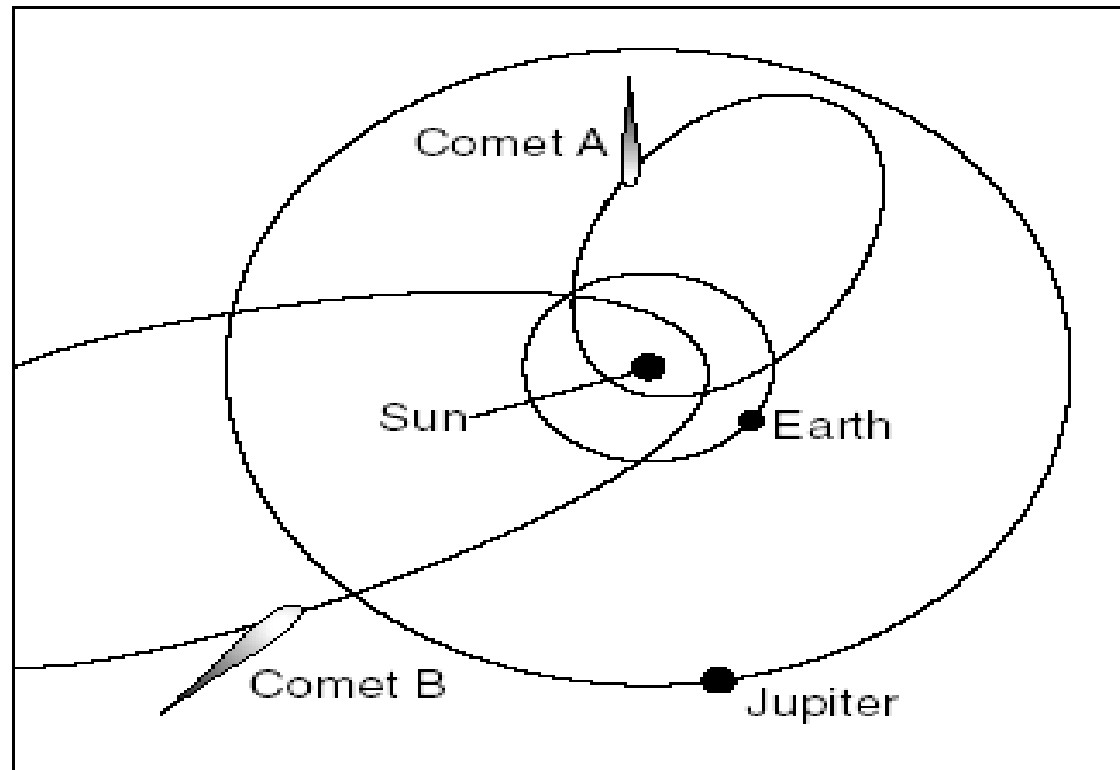
39. The San Andreas Fault is the result of

- (1) overpopulation
- (2) a large glacier
- (3) weathering and erosion
- ☺ crustal plate movement

40. A chemical property of a mineral is evident if the mineral

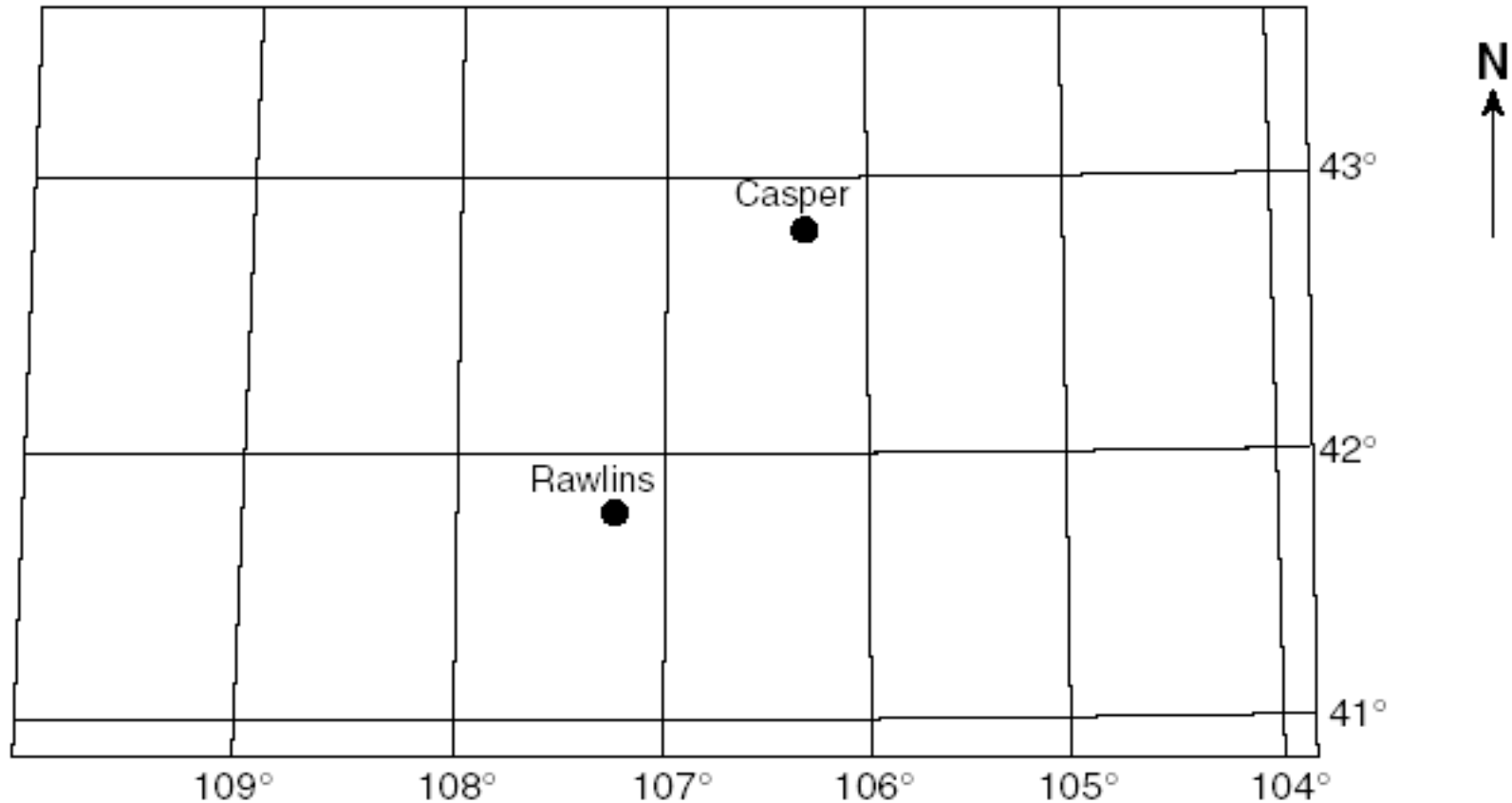
- (1) breaks easily when struck with a hammer
- (2)  bubbles when acid is placed on it
- (3) is easily scratched by a fingernail
- (4) reflects light from its surface

The diagram below shows four objects and their orbits around the Sun, as seen from space.



41. Which statement is true about *all* of the objects shown in the diagram?
- (1) They produce their own light.
 - ☺ (2) They belong to our solar system.
 - (3) They are composed mostly of gases.
 - (4) They are the same distance from the Sun.

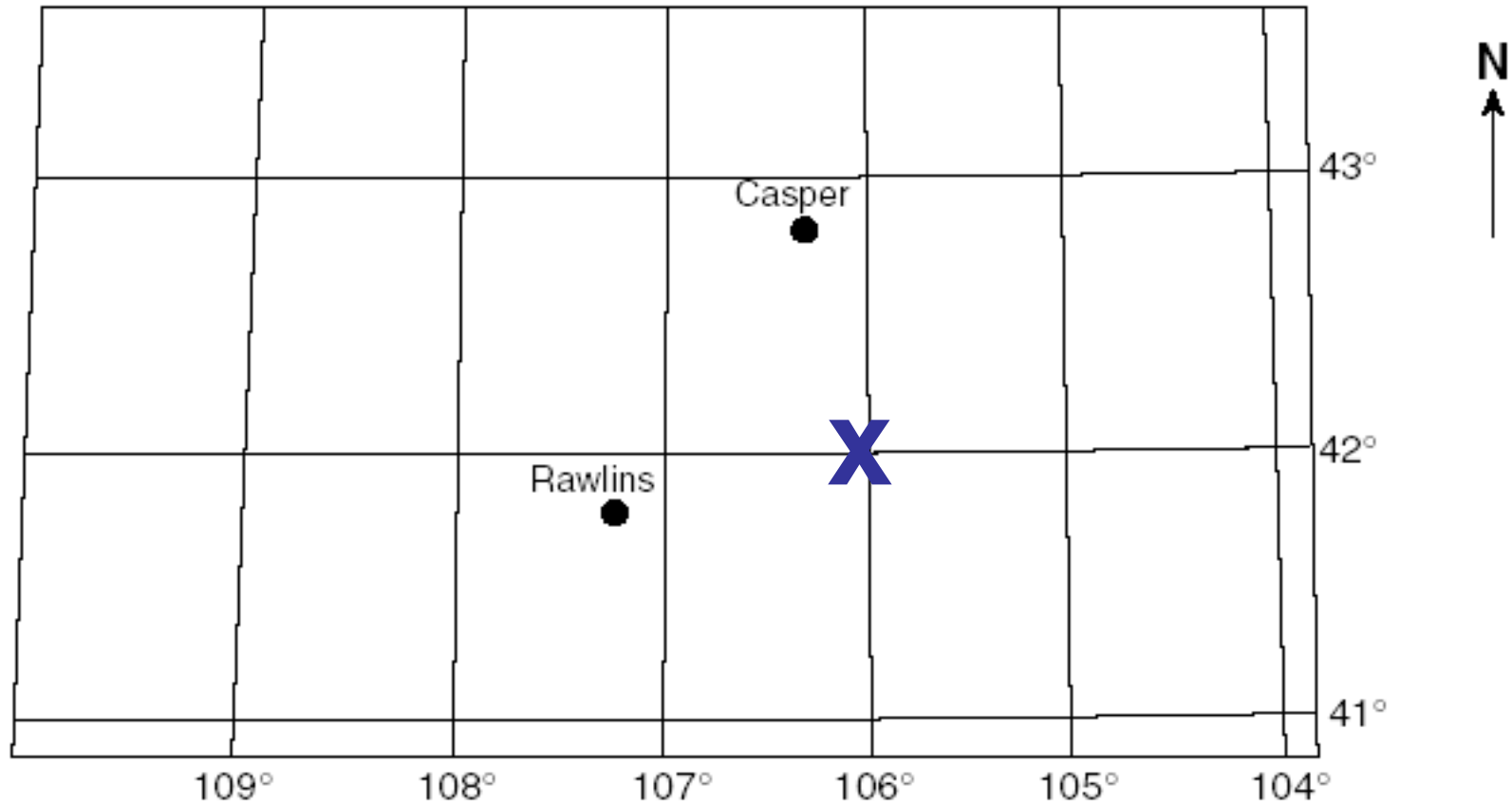
Base your answer to questions 42 through 43 on the partial map of the State of Wyoming below. The location of Casper and Rawlins, Wyoming are shown.



42. Explain why sunrise in Casper, Wyoming, occurs 4 minutes earlier than sunrise in Rawlins, Wyoming. [1]

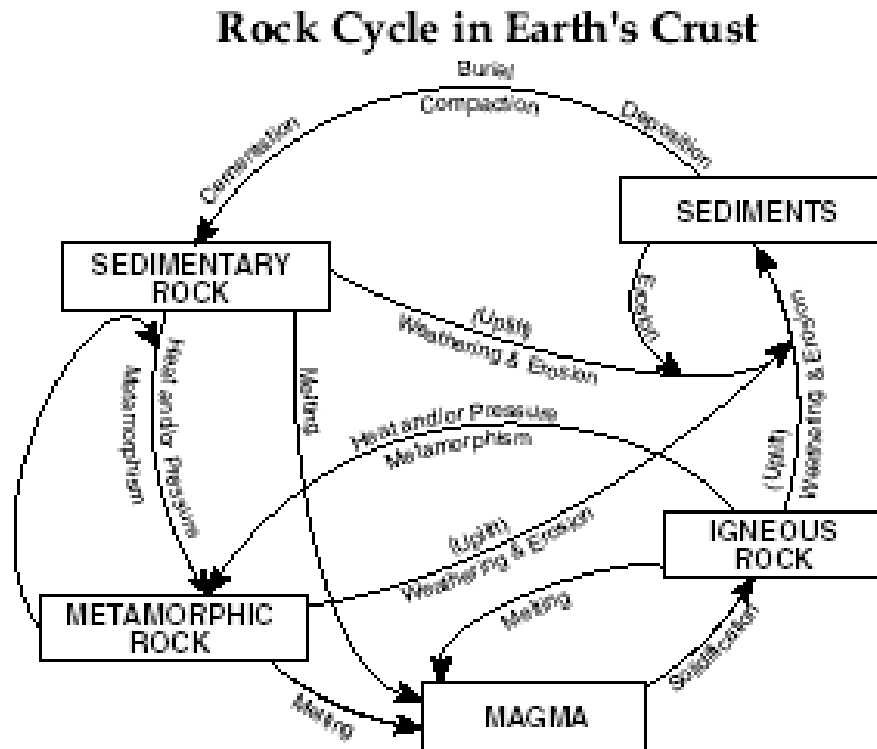
1. Earth rotates west to east/counterclockwise.
2. Casper is located east of Rawlins.
3. Rawlins is west of Casper.
4. Rotation of Earth

Base your answer to questions 42 through 43 on the partial map of the State of Wyoming below. The location of Casper and Rawlins, Wyoming are shown.



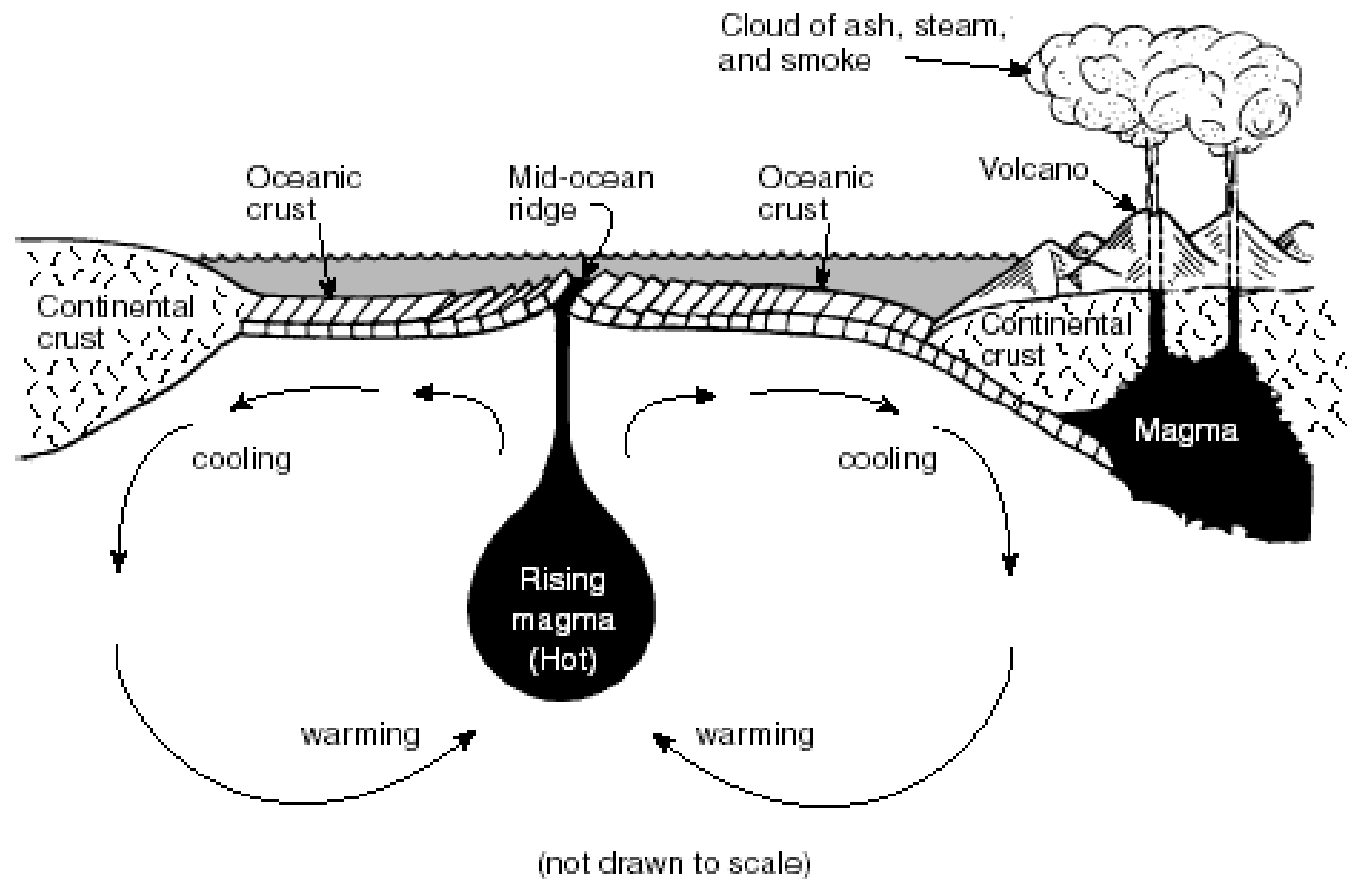
43. On the map above, place an **X** to represent the location of Medicine Bow, Wyoming, (42° N, 106° W). [1]

44. The diagram below shows the rock cycle in Earth's crust. Use this rock cycle diagram to fill in the rock types and method of formation that have been left blank in the chart below. [3]



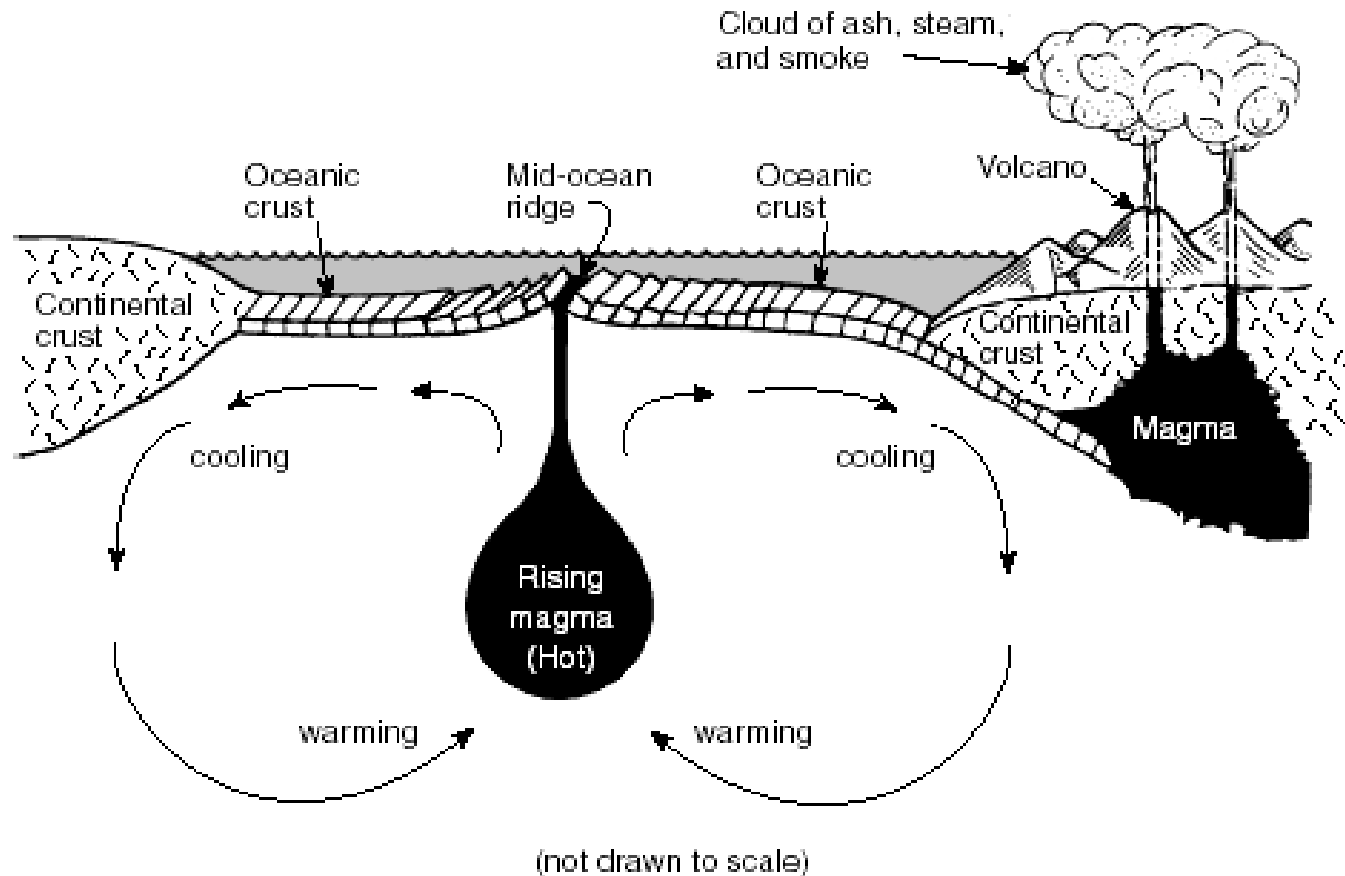
Rock Type	Method of Formation
Igneous	melting and solidification
Sedimentary	deposition, compaction, and cementation
Metamorphic	Heat and Pressure

Base your answers to question 45 on the cross section below and your knowledge of science. The cross section shows the heat flow and movement of some material within the Earth, causing sections of the Earth's crust (plates) to move.



45. How does the temperature of Earth's crust compare to the temperature of Earth's interior? [1]
The **crust is cooler**.
-

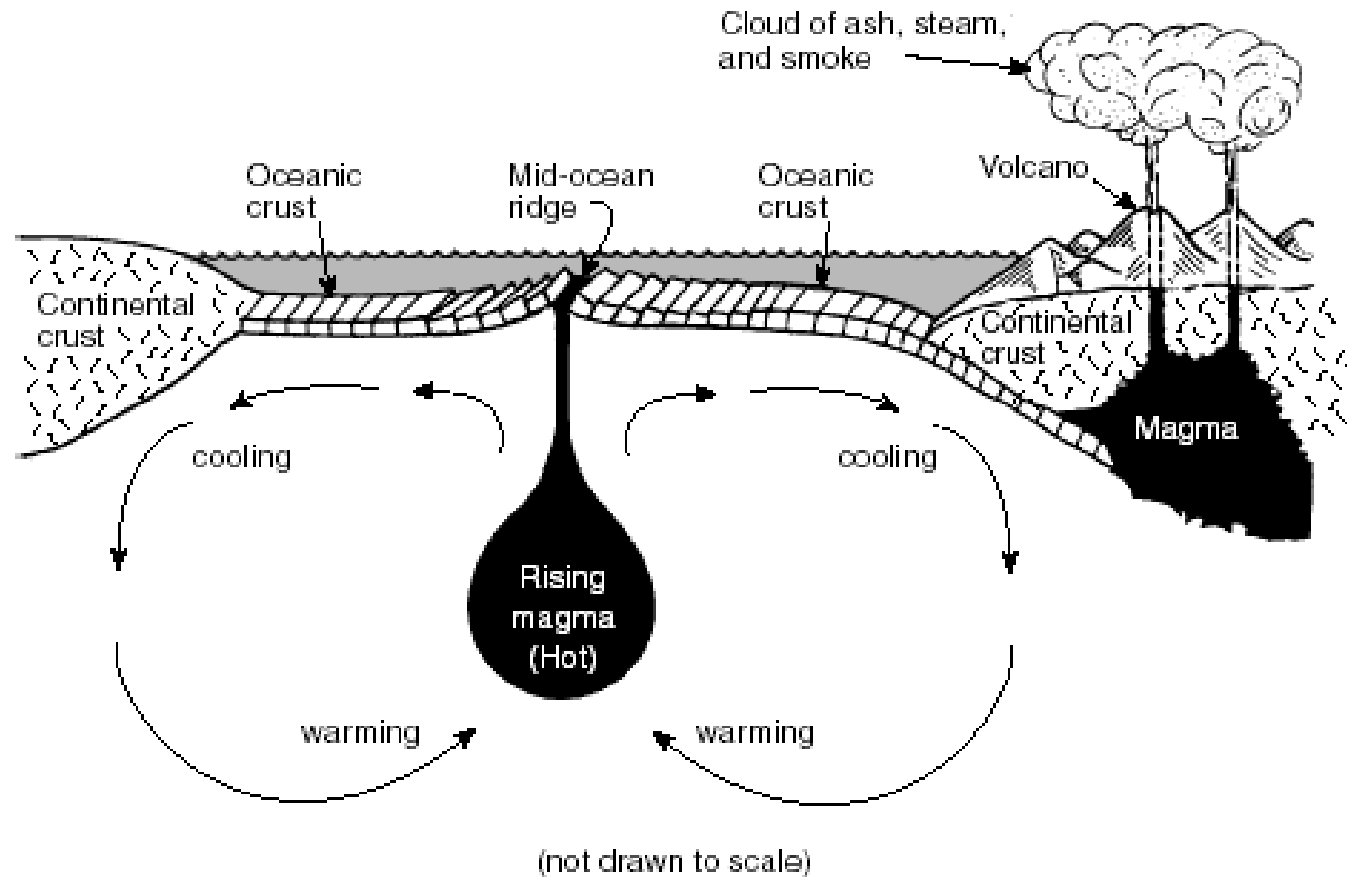
Base your answers to question 46 on the cross section below and your knowledge of science. The cross section shows the heat flow and movement of some material within the Earth, causing sections of the Earth's crust (plates) to move.



46. Name *two* geologic features or events that might result from the movement of crustal plates. [2]

- (1) Earthquakes or New Ocean crust
- (2) Mid-ocean ridges or Volcanoes or Mountain ranges

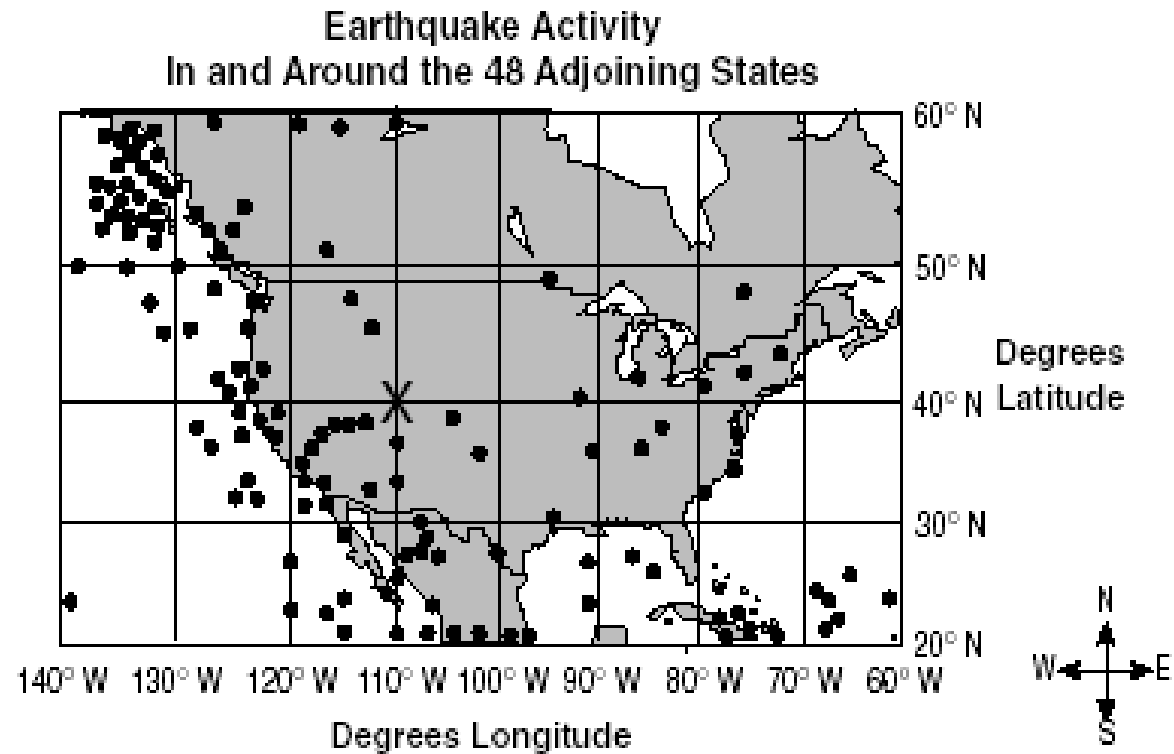
Base your answers to question 47 on the cross section below and your knowledge of science. The cross section shows the heat flow and movement of some material within the Earth, causing sections of the Earth's crust (plates) to move.



47. How does the thickness of Earth's oceanic crust compare to the thickness of the continental crust? [1]

Oceanic crust is thinner

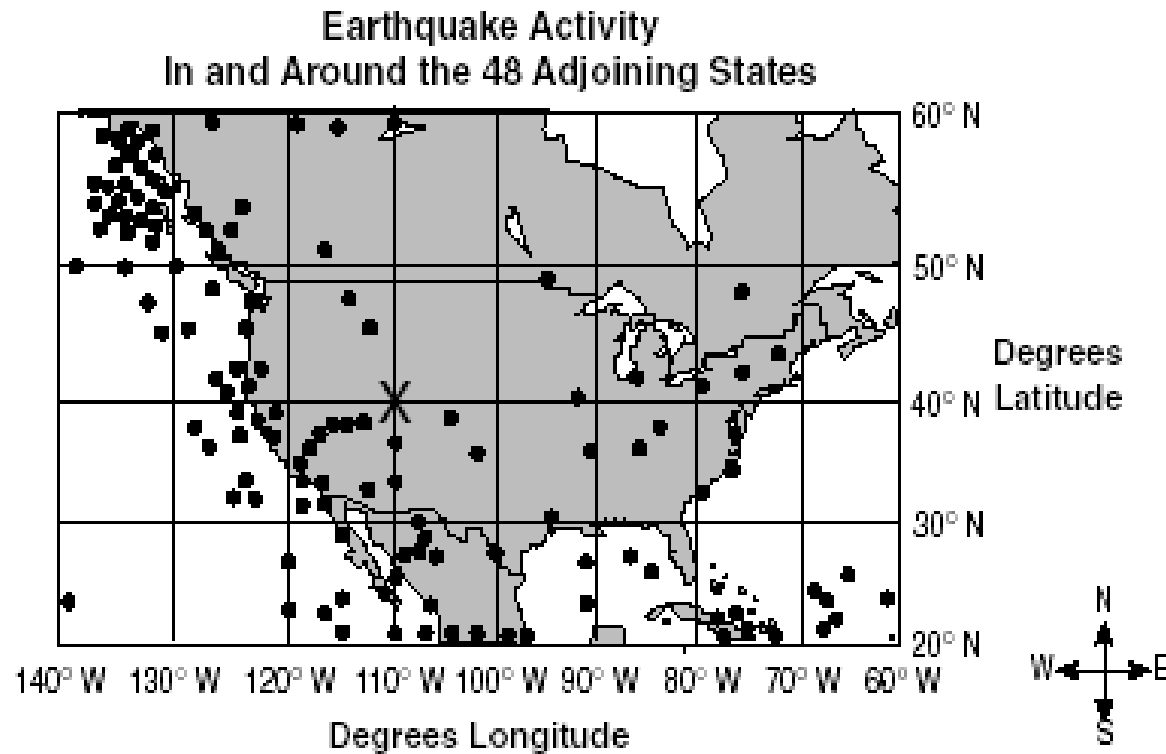
Base your answer to question 48 and 50 on the map below and on your knowledge of science. The Map shows earthquake activity in and around the United States. Earthquake activity is indicated by dots.



48. 51 State *one* reason that there are more earthquakes in the western section of the area shown on the map. [1]

Plate boundaries

Base your answer to question 48 and 50 on the map below and on your knowledge of science. The Map shows earthquake activity in and around the United States. Earthquake activity is indicated by dots.

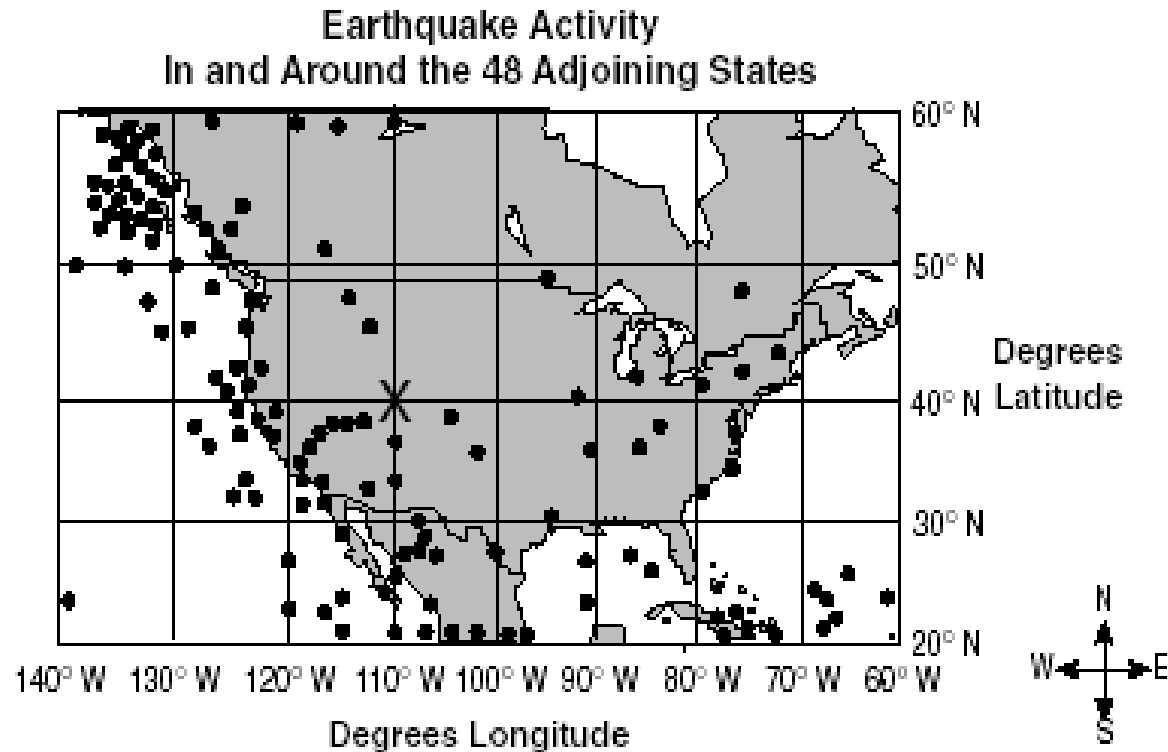


49. According to the map, what is the latitude and longitude of the location at letter X? [Your answer must include a value, unit, and direction for each.] [2]

Latitude: 40 ° North (N)

Longitude: 110 ° West (W)

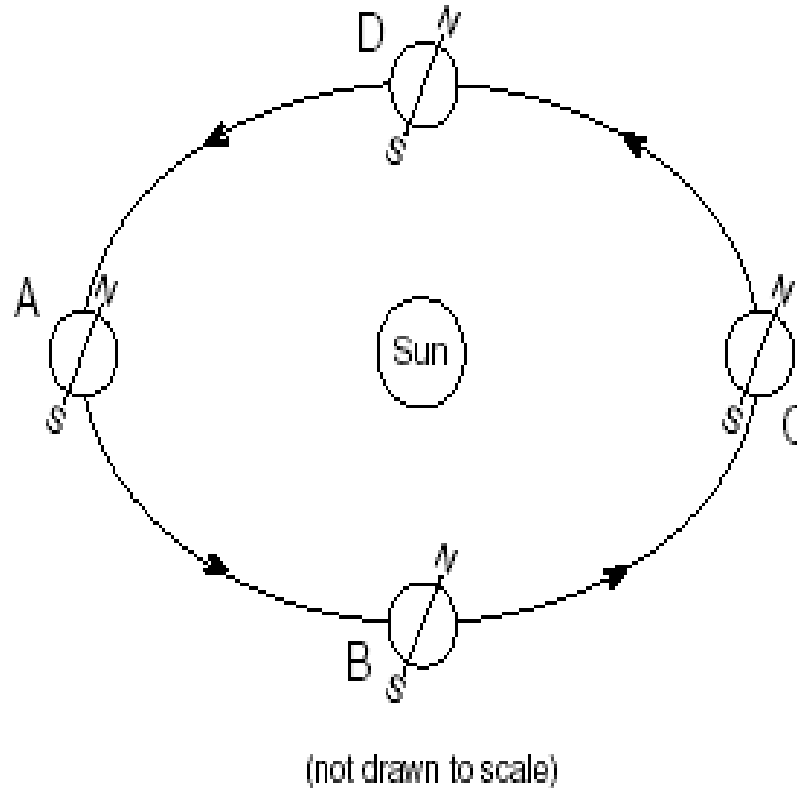
Base your answer to question 48 and 50 on the map below and on your knowledge of science. The Map shows earthquake activity in and around the United States. Earthquake activity is indicated by dots.



50. List *two* actions that residents of the west coast might include in an earthquake emergency preparedness plan. [2]

1. Use earthquake-resistant construction.
 2. Create emergency evacuation plans.
 3. Locate nearby shelters.
 4. Keep emergency supplies on hand.
 5. Develop earthquake education programs.
-

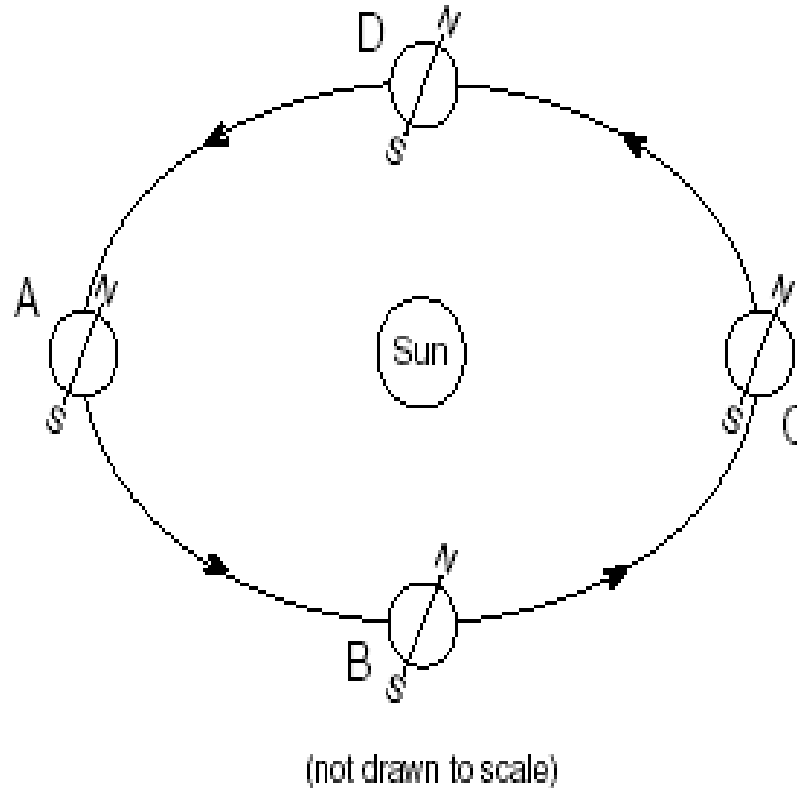
Base your answers to question 51 through 53 on the diagram below. The diagram shows Earth's revolution around the Sun as viewed from space. Positions A, B, C, and D represent the Beginning of each season on Earth.



51. State *one* reason that Earth has seasons. [1]

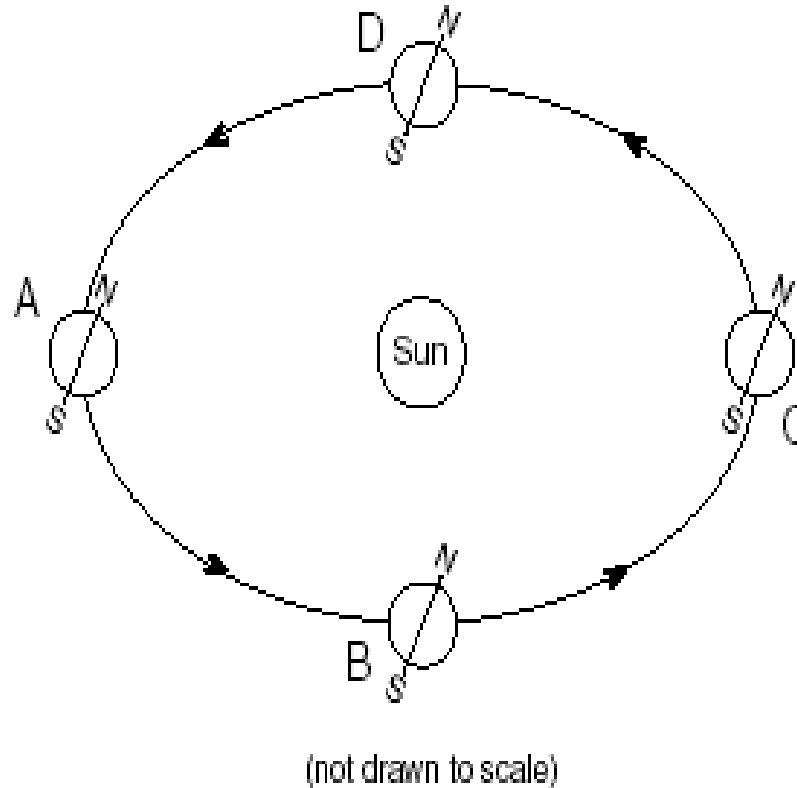
The **tilt of the Earth's Axis** or **Revolution**

Base your answers to question 51 through 53 on the diagram below. The diagram shows Earth's revolution around the Sun as viewed from space. Positions A, B, C, and D represent the Beginning of each season on Earth.



52. If Earth were at position *D*, how much time would it take to return to position *D*? [1]
One year or 365 days or 12 months or 4 seasons
-

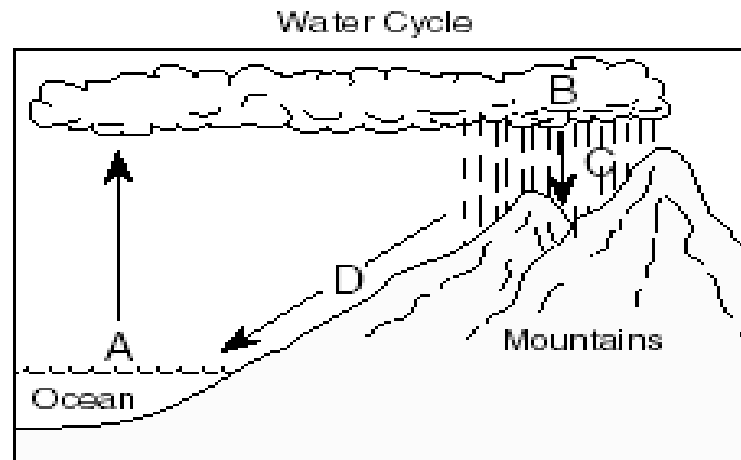
Base your answers to question 51 through 53 on the diagram below. The diagram shows Earth's revolution around the Sun as viewed from space. Positions A, B, C, and D represent the Beginning of each season on Earth.



53. Which season begins in the Northern Hemisphere when Earth is at position A? [1]

Summer

The diagram below uses letters A, B, C, and D to represent processes occurring in a water cycle.

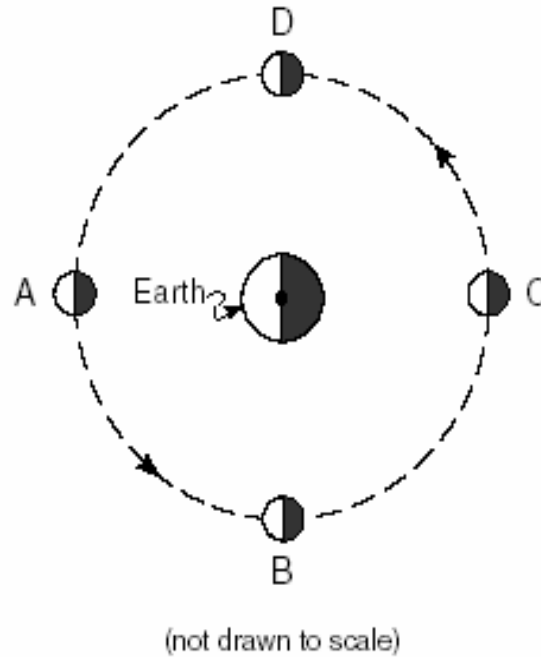


- 54.** In the chart below, identify the process that is occurring at each letter in the diagram. Select the process from the list below. [2]

Processes
condensation
evaporation
precipitation
runoff

Letter	Process That Is Occurring
A	Evaporation
B	Condensation
C	Precipitation
D	Runoff

Base your answer 55 through 57 on the diagram below. The diagram shows the position of Earth and four positions of the Moon during one orbit of Earth.



X

55. On the diagram, draw an X to show where the Sun would need to be located to create the Moon phases shown. [1]

56. Which letter in the diagram shows the position of the Moon when an observer on Earth sees a full Moon?

C

57. What motion is represented by the arrows in the diagram?

The **revolution** of the Earth around the Sun

Your done

Great Job!