- 1. Approximately 2.2 billion years ago, which gas was first added in large amounts to Earth's atmosphere from life-forms that evolved in the oceans?
 - 1) carbon dioxide 2) water vapor
 - 3) oxygen 4) nitrogen
- 2. Base your answers to questions 26 and 27 on the diagram below, which shows specific events in the history of Earth from the beginning of the universe to the present.



Approximately how many billion years after the beginning of the universe did a solid crust form on Earth?

1) 0.7 2) 3.9 3) 9.1 4) 13.7

- 3. The division of Earth's geologic history into units of time called eons, eras, periods, and epochs is based on
 - 1) absolute dating techniques
 - 2) fossil evidence
 - 3) climatic changes
 - 4) seismic data

4. Which graph shows the relative duration of geologic time for the Precambrian, Paleozoic, Mesozoic, and Cenozoic time intervals?



5. Which event occurred earliest in geologic history?

- 1) appearance of the earliest grasses
- 2) appearance of the earliest birds
- 3) the Grenville Orogeny
- 4) the intrusion of the Palisades Sill
- 6. The largest meteorite impact crater in North America formed approximately 1,850 million years ago, which was during the
 - 1) Middle Archean Era
 - 2) Early Proterozoic Era
 - 3) Early Jurassic Period
 - 4) Late Cretaceous Period

7. The diagrams below represent four series of events over the passage of time.



Which series of events took the *least* amount of time to complete?

1) A 2) B 3) C 4) D

8. Which column best represents the relative duration of the major intervals of geologic history?



9. Approximately what percent of geologic time since the estimated origin of the Earth is represented by the Precambrian Era?

1) 37% 2) 50% 3) 67% 4) 87%

10. Base your answer to the following question on the passage and photograph below.

Dinosaur Tracks Revealed After Years of Dry Weather

By April 2005, the surface of Lake Powell, a human-made lake in Utah and Arizona, had fallen 145 feet below its highest level. This revealed many traces of ancient life that had not been observed since this area had been covered with water. Among these traces, discovered in sandstone bedrock, were many dinosaur tracks, ranging in age between 170 and 200 million years old.

Dinosaur Track on Shoreline of Lake Powell



Source: Andre Delgalvis, Arizona Highways, February 2006

Which conditions before April 2005 in the Lake Powell region most likely produced the *decrease* in the water level of Lake Powell?

- 1) Runoff exceeded precipitation.
- 2) Precipitation exceeded runoff.
- 3) Evaporation exceeded precipitation.
- 4) Precipitation exceeded evaporation.

- 11. How much of an 800-gram sample of potassium-40 will remain after 3.9×10^9 years of radioactive decay?
 - 1) 50 grams 2) 100 grams
 - 3) 200 grams 4) 400 grams
- 12. The diagram below represents a sample of rubidium-87 (⁸⁷Rb).



Which diagram represents the correct proportion of ⁸⁷Rb to its decay product, ⁸⁷Sr, after two half-lives?



13. The table below shows information about the radioactive decay of carbon-14.

Half-Life	Mass of Original Carbon-14 Remaining (g)	Number of Years
0	1	0
1	<u>1</u> 2	5700
2	$\frac{1}{4}$	11,400
3	<u>1</u> 8	17,100

What is the amount of carbon-14 remaining after 28,500 years?

1) $\frac{1}{16}$ g 2) $\frac{15}{16}$ g 3) $\frac{1}{32}$ g 4) $\frac{31}{32}$ g

- 14. A whalebone that originally contained 200 grams of radioactive carbon-14 now contains 25 grams of carbon-14. How many carbon-14 half-lives have passed since this whale was alive?
 - 1) 1 2) 2 3) 3 4) 4
- 15. The table below gives information about the radioactive decay of carbon-14. Part of the table has been deliberately left blank for student use.

Half-life	Mass of Original Carbon-14 Remaining (grams)	Number of Years
0	1	0
1	<u>1</u> 2	5,700
2	$\frac{1}{4}$	11,400
3	$\frac{1}{8}$	17,100
4	<u>1</u> 16	
5		
6		
7		

After how many years will $\frac{1}{128}$ gram of the original carbon-14 reamins?

1)	22,800 yr	2)	28,500 yr
3)	34,200 yr	4)	39,900 yr

16. A student filled a graduated cylinder with 1,000 milliliters of water to represent a radioactive substance. After 30 seconds, the student poured out one-half of the water in the cylinder to represent the decay occurring within the first half-life. The student repeated the process every 30 seconds. How much water did the student pour from the cylinder at the 2-minute mark?

1)	12.5 mL	2)	62.5 mL
3)	125.0 mL	4)	250.0 mL

17. Carbon-14, an isotope used to date recent organic remains, would most likely be useful in determining the age of a fossil

) trilobite	2) Coelophysis
-------------	----------------

1

3) armored fish 4) Beluga whale

 Base your answer to the following question on the graph below, which represents the decay of radioactive material X into a stable decay product.



Each of the objects below has different amounts remaining of the original radioactive material *X*. Which object is most likely the oldest?

2)

4)





Rock 10% of the radioactive material remains





Shell 41% of the radioactive material remains

Wood 33% of the radioactive material remains



Bone 52% of the radioactive material remains

19. The diagram below represents the skull of a saber-toothed tiger that died 30,000 years ago.



The age of the skull could be determined most accurately by using

- 1) uranium-238 2) rubidium-87
- 3) potassium-40 4) carbon-14
- 20. If a sample of a radioactive substance is crushed, the half-life of the substance will
 - 1) decrease 2) increase
 - 3) remain the same
- 21. What are the respective decay products of uranium, potassium, and rubidium?
 - 1) lead (Pb), argon (Ar), and strontium (Sr)
 - 2) carbon (C), oxygen (O), and nitrogen (N)
 - 3) hydrogen (H), lithium (Li), and helium (He)
 - 4) silicon (Si), oxygen (O), and aluminum (Al)

22. The diagram below represents a clock used to time the half-life of a particular radioactive substance. The clock was started at 12:00. The shaded portion on the clock represents the number of hours one-half of this radioactive substance took to disintegrate.



Which diagram best represents the clock at the end of the next half-life of this radioactive substance?



- 23. Which group of organisms survived mass extinctions that marked the ends of both the Paleozoic Era and the Mesozoic Era?
 - 1) ammonoids 2) graptolites
 - 3) eurypterids 4) gastropods
- 24. The major source of oxygen in Earth's Early Proterozoic atmosphere is inferred to have been produced by
 - 1) oceanic cyanobacteria
 - 2) outgassing from volcanic eruptions
 - 3) radioactive decay in Earth's inner core
 - 4) evaporation of ocean water

25. A timeline from the origin of Earth until the present is shown below.



At which letter on the timeline did the Ediacaran fauna exist?

	1) A	2) <i>B</i>	3) C	4) D
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- 26. Devonian-age fossils found in New York State bedrock, such as *Manticoceras* and *Mucrospirifer*, provide evidence that parts of New York State were once
 - 1) under a shallow sea containing tropical waters
 - 2) higher in elevation and eroded extensively by glaciers
 - 3) covered by extensive lava flows
 - 4) impacted by comets and asteroids
- 27. The graph below shows the extinction rate of organisms on Earth during the last 600 million years. Letters *A* through *D* represent mass extinctions.



Which letter indicates when dinosaurs became extinct?

1) A 2) B 3) C 4) D

28. Base your answer to the following question on the chart below, which shows the geologic ages of some well-known fossils.



Which New York State fossil is found in rocks of the same period of geologic history as *Meekoceras*?

- 1) Condor
- 3) Eurypterus
- 2) Placoderm fish
- 4) Coelophysis

- 29. Which rock is most likely the oldest?
 - 1) conglomerate containing the tusk of a mastodont
 - 2) shale containing trilobite fossils
 - 3) sandstone containing fossils of flowering plants
 - 4) siltstone containing dinosaur footprints
- 30. Which bedrock drill core contains fossils of the life-form that lived earliest in the Earth's history?



31. The table below shows the fossils found in three layers of sedimentary bedrock.

Rock Layer	Fossil
A	trilobites
В	mastodont tusk
С	dinosaur bones

The relative age of the rock layers from oldest to youngest is

1) $A \rightarrow B \rightarrow C$	2) $A \rightarrow C \rightarrow B$
3) $B \rightarrow A \rightarrow C$	4) $C \rightarrow A \rightarrow B$

- 32. Examination of the fossil record shows a general tendency of organisms to become increasingly more complex through geologic time. This finding supports the theory that living things have undergone
 - 1) metamorphism 2) evolution
 - 3) radioactive decay 4) mass extinctions

- 33. Which gas is inferred to have been absent from Earth's atmosphere during the Early Archean Era?
 - 1) carbon dioxide 2) nitrogen
 - 3) oxygen 4) water vapor
- 34. Which event in Earth's history was dependent on the development of a certain type of life-form?
 - 1) addition of free oxygen to Earth's atmosphere
 - 2) formation of clastic sedimentary rocks
 - 3) movement of tectonic plates
 - 4) filling of the oceans by precipitation
- 35. According to the fossil record, which sequence correctly represents the evolution of life on Earth?
 - 1) fish \rightarrow amphibians \rightarrow mammals \rightarrow soft-bodied organisms
 - 2) fish \rightarrow soft-bodied organisms \rightarrow mammals \rightarrow amphibians
 - 3) soft-bodied organisms \rightarrow amphibians \rightarrow fish \rightarrow mammals
 - 4) soft-bodied organisms \rightarrow fish \rightarrow amphibians \rightarrow mammals
- 36. The gases in Earth's early atmosphere are inferred to have come primarily from
 - 1) meteor showers
 - 2) melting of glacial ice
 - 3) volcanic eruptions
 - 4) evaporation of seawater
- 37. The primitive lobe-finned fish shown below is thought to be an ancestor of early amphibians.



This evolutionary development from fish to amphibian is believed to have occurred during the

- 1) Triassic Period
 - Devonian Period
 Permian Period
- 3) Tertiary Period

- 38. Which event is inferred by most scientists to be responsible for a climate change that has recently led to a *decrease* in the size of most glaciers?
 - 1) a decrease in the rate of divergence of lithospheric plates along a mid-ocean ridge
 - 2) a decrease in the amount of insolation reaching Earth's surface
 - 3) an increase in the amount of greenhouse gases in Earth's atmosphere
 - 4) an increase in the amount of vegetative cover in the tropics
- The accumulation of water vapor, carbon dioxide, and nitrogen in Earth's early atmosphere approximately 4 billion years ago resulted mainly from
 - 1) outgassing from Earth's interior
 - 2) radioactive decay
 - 3) photosynthesis by the earliest land plants
 - 4) convection currents in Earth's outer core

RR#9 - Multiple Choice

Base your answers to questions 40 and 41 on the cross section below and on your knowledge of Earth science. The cross section represents rock units that have *not* been overturned. Lines CC' and GG' represent unconformities. The geologic ages of some of the lettered rock units are shown below the cross section.



40. The diagrams below represent three index fossils found in one of the rock units.



These fossils are most likely found in

1) rock unit I 2) rock unit J 3) rock unit K 4) rock unit M

- 41. Which inference about rock units *D*, *E*, and *H* can best be supported by evidence in the cross section?
 - 1) They contain mostly sand-sized sediment.
 - 2) They contain both land and marine fossils.
 - 3) They were altered by contact metamorphism.
 - 4) They were deposited as horizontal layers and were later tilted.
- 42. The drill-core samples below were taken from two locations 1000 kilometers apart. Rock layers 1 through 8 have been labeled. Some index fossils are shown in the layers.



Which numbered layers most likely formed at the same time?

1) 1 and 6	2)	2 and 8
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3) 3 and 5 4) 4 and 7

43. Base your answer to the following question on the photograph below, which shows a bedrock outcrop. Line *AB* is an unconformity between sandstone *C* and metamorphic rock *D*.



After the metamorphism of rock D, which sequence of events most probably formed unconformity AB?

- 1) flooding \rightarrow deposition \rightarrow erosion \rightarrow uplift
- 2) uplift $\rightarrow erosion \rightarrow flooding \rightarrow deposition$
- 3) deposition \rightarrow flooding \rightarrow uplift \rightarrow erosion
- 4) erosion \rightarrow flooding \rightarrow uplift \rightarrow deposition

44. The cross section below shows the direction of movement of an oceanic plate over a mantle hot spot, resulting in the formation of a chain of volcanoes labeled A, B, C, and D. The geologic age of volcano C is shown.



What are the most likely geologic ages of volcanoes B and D?

- 1) B is 5 million years old and D is 12 million years old.
- 2) B is 2 million years old and D is 6 million years old.
- 3) B is 9 million years old and D is 9 million years old.
- 4) B is 10 million years old and D is 4 million years old.

45. Geologic cross sections *A* through *F* shown below represent different stages in the development of one part of Earth's crust over a long period of geologic time.



What is the correct order of development from the original (oldest) stage to the most recent (youngest) stage?

- 1) B D C F A E
- $2) \quad B F C D E A$
- 3) E A D F C B
- 4) E A F C D B

Base your answers to questions **46** through **48** on the block diagrams below, which represent three widely separated outcrops. All rock layers are sedimentary. No overturning has occurred. Layers labeled with the same letter are the same age.



- 46. Which order of events occurred at the Hiltonia Outcrop between the formation of layer *F* and the beginning of the deposition of layer *H*?
 - 1) uplift \rightarrow erosion \rightarrow faulting \rightarrow deposition
 - 2) folding \rightarrow uplift \rightarrow erosion \rightarrow subsidence
 - 3) subsidence \rightarrow erosion \rightarrow deposition \rightarrow faulting
 - 4) folding \rightarrow erosion \rightarrow faulting
- 47. Layer I is of Permian age. Which fossil could be found in layer H?
 - 1) early flowering plant 2) early human
 - 3) early reptile 4) early dinosaur
- 48. The fault in the Evansburg Outcrop is younger than
 - 1) G, only
 2) J, only

 3) G and J, only
 4) F, G, H, I, and J

49. The geologic cross section below represents a cliff outcrop. Some bedrock layers are labeled as millions of years old (myo). Letters *A* through *E* represent different rock types.



What is a possible age of igneous rock *E*?

- 1) 1.5 million years old
- 2) 12 million years old
- 3) 28 million years old
- 4) 40 million years old

50. Four rock outcrops, labeled 1, 2, 3, and 4, found within the same plateau, are represented below. Index fossils found in some of the rock layers are shown. The rock layers have *not* been overturned.





Which rock layer is the youngest?

- 1) sandstone in outcrop 1
- 3) conglomerate in outcrop 3





- 2) breccia in outcrop 2
- 4) sandstone in outcrop 4

- 51. A volcanic ash layer between sedimentary rock layers is used by geologists to
 - 1) determine Earth's absolute age
 - 2) predict global warming
 - 3) locate an earthquake epicenter
 - 4) correlate widely separated rock formations

Base your answers to questions 52 through 55 on

the geologic cross section below and on your knowledge of Earth science. The cross section represents rock and sediment layers, labeled *A* through *F*. Each layer contains fossil remains, which formed in different depositional environments. Some layers contain index fossils. The layers have *not been overturned*.



(Not drawn to scale)

- 52. Which pair of organisms existed when the unconsolidated sediment in layer A was deposited?
 - 1) birds and trilobites 2) dinosaurs and mastodonts
 - 3) ammonoids and grasses 4) humans and vascular plants
- 53. Which rock layer formed mainly from the compaction of plant remains?
 - 1) *E* 2) *B* 3) *C* 4) *F*

RR#9 - Multiple Choice

- 54. During which geologic epoch was layer *F* deposited?
 - 1) Late Devonian2) Middle Devonian
 - 3) Early Devonian4) Late Silurian
- 55. The depositional environment dming the time these layers and fossils were deposited
 - 1) was consistently marine 2) was consistently terrestrial (land)
 - 3) changed from marine to terrestrial (land) 4) changed from terrestrial (land) to marine

56. Organisms that later became good index fossils lived over a57. The index fossil shown below has been found in New York State sedimentary bedrock.

- 1) wide geographic area and existed for a long geologic time
- 2) wide geographic area and existed for a short geologic time
- 3) limited geographic area and existed for a long geologic time
- 4) limited geographic area and existed for a short geologic time



Which other index fossil could also be found in New York State bedrock of the same age?



58. Base your answer to the following question on the block diagrams of four rock outcrops, *A*, *B*, *C*, and *D*, located within 15 kilometers of each other. The rock layers have not been overturned.



When the rock layers at outcrops *A*, *B*, *C*, and *D* are correlated, which rock layer would be determined to be the oldest?

- 1) quartzite 2) marble 3) gneiss 4) sandstone
- 59. Three extinct organisms are shown in the diagrams below.





Cystiphyllum, a solitary coral

Baragwanathia, a lycopod — an early land plant

Palaeophonus, a scorpion — one of the first land animals

Which other life-form reached its peak development during the same period in geologic history that these three life-forms first appeared on Earth?

- 1) dinosaurs 2) stromatolites
- 3) mastodonts 4) eurypterids

60. The shaded portion of the map below of North America shows areas believed to have been below sea level during the Pennsylvanian Period. Point *A* is a location in the inland sea.



Present-day evidence of the existence of the inland sea during the Pennsylvanian Period is best provided by

- 1) marine fossils at point A
- 2) seawater at point A
- 3) metamorphic rock at point A
- 4) terrestrial rock at point A

61. Base your answer to the following question on the diagrams of fossil trilobites shown below. The geologic period in which each trilobite form existed is given.



The diagrams below show different geologic cross sections of rock layers in the Earth's crust. Which cross section best shows the relative location of these four types of trilobites if overturning of the rock layers has not occurred?



62. The geologic cross section below shows an unconformity in New York State bedrock layers that have not been overturned. Index fossils found throughout some rock layers are shown.



Which New York State index fossil may have been present in a rock layer that is missing due to the





Maclurites

RR#9 - Multiple Choice

Base your answers to questions **63** through **65** on the Earth Science Reference Tables, the core section below, and your knowledge of Earth Science. The core section shows the subsurface bedrock geology for a location north of Buffalo, New York.



- 63. Which statement best explains why more fossils are found in outcrops of Black River rocks than in outcrops of Utica shales?
 - 1) Life-forms lacked hard parts at the time of Black River deposition.
 - 2) Many fossils of the Utica shales were destroyed by metamorphism.
 - 3) The Black River group was deposited in an environment that supported more life-forms.
 - 4) The Utica shales were deposited over a wider geographic area.

64. Which fossils are most likely to be found in the Utica black shale or the Black River limestone?





- 65. What do the unconformities shown near the base of the drill core indicate?
 - 1) The continental plates were separated for a long period of time.
 - 2) Part of the geologic rock record has been destroyed.
 - 3) This area was covered by a warm, shallow sea.
 - 4) Extinction of many kinds of living things was widespread.
- 66. Pleistocene deposits of gravel are found lying directly on Precambrian bedrock. The interface between the gravel and the bedrock indicates
 - 1) a zone of contact metamorphism
 - 2) an area of volcanic activity that resulted in extruded gravels
 - 3) a period of continuous deposition
 - 4) a major time gap in the geologic record

RR#9 - Multiple Choice

Base your answers to questions 67 through 71 on the geologic cross section and graph below, and on your knowledge of Earth science. The cross section represents the intrusive igneous rock of the Palisades sill and surrounding bedrock located on the west side of the Hudson River across from New York City. The graph indicates changes in the percentages of the major minerals found in the sill.



- 67. Which two minerals, *not* shown on the Graph of Changes in Mineral Composition Within the Palisades Sill, are also likely to be found in some other samples of diabase?
 - 1) amphibole and potassium feldspar
 - 3) quartz and biotite

- 2) potassium feldspar and quartz
- 4) biotite and amphibole
- 68. The Palisades sill intruded as North America began the process of separating from Africa and Europe as Pangaea was breaking apart. Approximately when did these events occur?
 - 1) 65 million years ago

- 2) 200 million years ago
- 3) 299 million years ago4) 400 million years ago
- 69. The graph shows that, within the olivine-rich diabase layer near the bottom of the sill, as the percentage of olivine increases, the
 - 1) percentages of both plagioclase and pyroxene decrease
 - 2) percentages of both plagioclase and pyroxene increase
 - 3) percentage of plagioclase decreases and the percentage of pyroxene increases
 - 4) percentage of plagioclase increases and the percentage of pyroxene decreases

RR#9 - Multiple Choice

70. Approximately how far above the bottom of the Palisades sill is the coarse diabase region found?

 1) 50 ft
 2) 400 ft
 3) 800 ft
 4) 950 ft

71. The inclusions shown near the bottom of the Palisades sill are pieces of the Triassic sandstone that

- 1) formed from deposits of minerals within the sill
- 2) crystallized within the sill and were cemented together
- 3) were part of the olivine-rich layer that broke apart
- 4) broke off from the surrounding bedrock during the intrusion
- 72. Which geologic event occurred in New York State at approximately the same time as the extinction of dinosaurs and ammonoids?
 - 1) formation of the Queenston Delta
 - 2) deposition of the sands and clays underlying Long Island
 - 3) initial opening of the Atlantic Ocean
 - 4) advance and retreat of the last continental ice sheet
- 73. Which two locations are found in the same major geographic landscape province?
 - 1) Albany and Old Forge
 - 2) Elmira and Riverhead
 - 3) Jamestown and Slide Mountain
 - 4) Massena and Mount Marcy
- 74. Which type of surface bedrock is commonly found in New York State between Elmira and Ithaca?
 - 1) granite 2) quartzite
 - 3) shale 4) marble
- 75. Which river in New York State flows for several miles over surface bedrock that is more than 542 million years old?
 - 1) Mohawk 2) Susquehanna
 - 3) Genesee 4) Hudson

Base your answers to questions 76 through 78 on the passage below.

Fossils and the History of Earth's Rotation

Data from coral fossils support the hypothesis that Earth's rotation rate has been slowing down by about 2.5 seconds per 100,000 years. Scientists believe this is due to the frictional effects of ocean tides. This slowing rotation rate decreases the number of days in the year.

Scientists have discovered that corals produce a thin layer of shell every day, resulting in growth rings. These daily layers are separated by yearly ridges.

The Devonian coral fossil, *Pleurodictyum*, has approximately 400 growth rings between each yearly ridge, which suggests that there were about 400 days in a year during the Devonian Period.

Supporting this hypothesis, scientists have found coral from the Pennsylvanian Period that have about 390 growth rings per year, while present-day corals have about 365 growth rings per year.

- 76. What inference can be made about the number of growth rings per year for a coral from the Permian Period and Ordovician Period compared to the number of growth rings per year for the Devonian coral, *Pleurodictyum*?
 - 1) Ordovician coral would have fewer, but Permian coral would have more.
 - 2) Ordovician coral would have more, but Permian coral would have fewer.
 - 3) Both Ordovician and Permian coral would have fewer.
 - 4) Both Ordovician and Permian coral would have more.
- 77. Approximately how many fewer Earth days per year are there today than there were during the Devonian Period?
 - 1) 10 2) 25 3) 35 4) 40
- 78. The evidence of the fossil *Pleurodictyum* found in surface bedrock in the Finger Lakes region of New York State suggests that this region was once

1) covered by a glacial ice sheet	2) covered by a warm, shallow sea
3) located in a desert area	4) located in a tropical rain forest

79. The presence of eurypterid fossils in New York State bedrock indicates that	80. What is the geologic age sequence of the surface bedrock from Ithaca, New York, to Watertown, New
 eurypterids lived in land environments eurypterids first appeared on Earth during the Devonian Period most of New York State was once a mountainous region areas of New York State were once covered 	 York? Ordovician, Taconic, Cambrian Ordovician, Tertiary, Pleistocene Devonian, Silurian, Cambrian Devonian, Silurian, Ordovician
with shallow seas	

- 81. Fossils of trilobites, graptolites, and eurypterids are found in the same bedrock layer in New York State. During which geologic time interval could this bedrock layer have formed?
 - 1) Late Ordovician to Early Devonian
 - 2) Late Silurian to Early Cretaceous
 - 3) Early Permian to Late Jurassic
 - 4) Early Cambrian to Middle Ordovician
- 82. Trilobite fossil remains are most likely to be found in bedrock of
 - 1) Precambrian age near Mt. Marcy
 - 2) Cretaceous age on Long Island
 - 3) Triassic age northwest of New York City
 - 4) Ordovician age near Plattsburgh

83. The diagram below shows a cross section of some Devonian-age rocks along the western side of the mid-Hudson River Valley.



Which two mountain-building episodes could have been responsible for deforming these rock layers?

- 1) Grenville and Taconian orogenies
- 2) Taconian and Acadian orogenies
- 3) Acadian and Appalachian orogenies
- 4) Appalachian and Grenville orogenies
- 84. Which New York State landscape region could have surface bedrock containing dinosaur fossils?
 - 1) Adirondack Highlands
 - 2) Erie-Ontario Lowlands
 - 3) St. Lawrence Lowlands
 - 4) Newark Lowlands
- 85. A rock formation in New York State contains fossils of many trilobites but of no fish. In which general area is this rock formation probably located?
 - 1) Long Island
 - 2) south of Lake Ontario
 - 3) southwestern New York State
 - 4) northeastern New York State