1) Trilobite fossils from different time periods show small changes in appearance. These observations suggest that the changes may be the result of

A) the gradual disintegration of radioactive substances  
B) evolutionary development  
C) a variety of geological processes  
D) periods of destruction of the geological record 

2) From the study of fossils, what can be inferred about most species of plants and animals that have lived on Earth?

A) They are unrelated to modern life forms.  
B) They have become extinct.  
C) They are still living today.  
D) They existed during the Cambrian Period. 

3) The changes observed in the fossil record from the Precambrian Era to the Cenozoic Era best provide evidence of

A) planetary motion  
B) evolution  
C) radioactive decay  
D) sublimation 

4) Which two forms of life existed together on the Earth during the same time period? [Refer to the Earth Science Reference Tables.]

A) flowering plants and trilobites  
B) dinosaurs and mastodons  
C) trilobites and birds  
D) mastodons and flowering plants 

5) According to the Earth Science Reference Tables, which event occurred at the time of the Alleghenian Orogeny?

A) the extinction of many kinds of land animals  
B) the development of birds and mammals  
C) the development of primitive aquatic plants  
D) the extinction of many kinds of marine animals 

6) According to the Earth Science Reference Tables, the rocks 50 kilometers east of Buffalo contain many fossils of

A) mammals  
B) birds  
C) fish  
D) reptiles 

7) The diagram below represents a cross section of the Earth's crust showing rock units and a fault. The rock layers are not overturned.

8) Which statement about dinosaurs is supported by information provided in the Earth Science Reference Tables?

A) The number of dinosaurs increased before dinosaurs became extinct.  
B) Dinosaur fossils and trilobite fossils may be found in the same rocks.  
C) Dinosaurs only lived on land.  
D) Dinosaur fossils first appeared in rocks of the Paleozoic Era. 

9) According to the Earth Science Reference Tables, when did armored fishes become extinct?

A) before the appearance of terrestrial plants  
B) after the appearance of reptiles  
C) before the appearance of dinosaurs  
D) after the appearance of birds 

10) According to the Earth Science Reference Tables, rocks containing fossils of earliest terrestrial plants could most likely be found in New York State bedrock near

A) Ithaca  
B) Syracuse  
C) Old Forge  
D) Oswego 

11) According to the Earth Science Reference Tables, studies of the rock record suggest that

A) the period during which humans have existed is very brief compared to geologic time  
B) the earliest humans lived at the same time as the dinosaurs  
C) evidence of the existence of humans is present over much of the geologic past  
D) humans first appeared at the time of the intrusion of the Palisades sill 

12) The fossil record indicates that most of the plants and animals that lived on Earth in the past

A) lived on land  
B) became index fossils  
C) have become extinct  
D) appeared during the Cambrian Period 

13) Earth scientists studied fossils of a certain type of plant. They noted slight differences in the plant throughout geologic time. What inference is best made from this evidence?

A) When uplifting occurred, the fossils of this type of plant were deformed.  
B) When the environment changed, this type of plant also changed, allowing it to survive.  
C) The fossils have changed as a result of weathering and erosion.  
D) The processes which form fossils today differ from those of the past.
14) According to the Earth Science Reference Tables, which event occurred most recently in New York State?
   A) Taconian orogeny  
   B) extinction of dinosaurs  
   C) formation of the ancestral Adirondacks  
   D) intrusion of the Palisades Sill

15) Fossils of two trilobite species from different geologic periods are illustrated below.

   ![Middle Cambrian Trilobite](image1) ![Silurian Trilobite](image2)

   A comparison of these fossils provides evidence that these species may have
   A) undergone metamorphism  
   B) experienced weathering and erosion  
   C) experienced identical lifespans  
   D) undergone evolutionary development

Questions 16 through 18 refer to the following:

The block diagram below shows a section of the Earth's crust. The rock layers have not been overturned. I, II, III, IV, and V are locations on the Earth's surface.
16) Which diagram best represents the rocks crossed when traveling across the surface from location III to location V?

A) III D
B) III C O S D M
C) III C S D M O
D) III M D S O C

17) According to the Earth Science Reference Tables, near which location in New York State would rocks similar in age to those at location III in the diagram be found?

A) 44° N. lat., 75° W. long.
B) 41° N. lat., 72° W. long.
C) 44° N. lat., 74° W. long.
D) 42° N. lat., 79° W. long.

18) According to the Earth Science Reference Tables, fossils of the earliest fishes could be found in the bedrock at location

A) IV
B) III
C) II
D) I

Questions 19 through 22 refer to the following:

The graph below shows the development, growth in population, and extinction of the six major groups of trilobites, labeled A through F.

![Graph of trilobite development, growth in population, and extinction](image)

Key to Symbols:
- Population based on fossil record
- Population presumed: fossil evidence rare
- ----- Assumed evolutionary relationship

19) Which inference is best supported by the graph?

A) Trilobites could exist in present-day marine climates.
B) The trilobite groups became most abundant during the Devonian Period.
C) All trilobites evolved from group A trilobites.
D) Precambrian trilobite fossils are very rare.
20) The diagrams below represent rock outcrops in which the rock layers have not been overturned. Which rock outcrop shows a possible sequence of the trilobite fossils?

A) 

B) 

C) 

D) 

21) During which period did the last of these trilobite groups become extinct? [Refer to the Earth Science Reference Tables.]

A) Cretaceous  
B) Permian  
C) Carboniferous  
D) Triassic

22) Which group of trilobites became the most abundant?

A)  
B)  
C)  
D)  

A) C  
B) B  
C) D  
D) A
23) The diagram below shows a possible sequence of evolutionary development of some vertebrates.

Which statement can best be inferred from the diagram?
A) The pterosaurs and the ichthyosaurs became extinct at the same time.
B) The lizard and the bird are both reptiles.
C) The pterosaurs evolved into modern birds.
D) The thecodont is the ancestor of several different types of animals.