Part A. Complete the following chart.

<table>
<thead>
<tr>
<th>ERA</th>
<th>YEARS AGO</th>
<th>IMPORTANT EVENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesozoic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paleozoic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precambrian</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part B. Answer the following reasoning questions.

1. A geologist finds fossils in each of the undisturbed rock layers represented in the diagram below. The fossils are all structurally similar. Which is the most likely conclusion that the geologist would make.

   (1) All the fossils are of the same age.
   (2) The relative ages of the fossils cannot be determined.
   (3) The fossils in rock layer D are older than those in layer A.
   (4) The fossils in rock layer B are older than those in layer C.

2. From the information given in the chart below, which two organisms are most closely related?

<table>
<thead>
<tr>
<th>ENZYME TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4</td>
</tr>
<tr>
<td>A X X</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C X X X</td>
</tr>
<tr>
<td>D X X</td>
</tr>
</tbody>
</table>

   X = Enzyme present in organism

   (1) A and B
   (2) B and C
   (3) C and D
   (4) D and B
Part C. Complete the following crossword puzzle.

Crossword Puzzle

ACROSS
1. Humans live in the _____ of Mammals.
6. The longest era.
7. The age of rocks is determined by ______active dating.
10. The oldest rock ________ is at the bottom.
11. Fossils are found in this kind of rock.
15. Structure that shows common ancestry.
16. Type of evolution that studies living things.

DOWN
2. Gradual change through time.
3. Smallest geologic time unit.
4. Remains or traces of organisms
5. Largest geologic time unit.
8. Animal example of evolution.
9. Structure no longer used.
12. Humans no longer use these muscles.
17. Type of fossil.
A. FILL-IN QUESTIONS

DIRECTIONS: Complete each of the following statements by writing the correct word or phrase in the space provided.

1. Fossils are found mostly in rocks known as ___________________________ rocks.
2. Man appeared during the ___________________________ era.
3. An example of a vestigial organ in man is ___________________________
4. In petrifaction, the tissues of organisms are slowly replaced by ___________________________
5. By the process of ___________________________, scientists determine the age of the earth's rocks and its fossils.
6. Organs or structural parts that seem to have a common evolutionary origin are called ___________________________ structures.
7. ___________________________ is the process of gradual change through time.
8. An indentation in rock that is shaped like an organism is called a/an ___________________________
9. Geologic time is divided in to four smaller units called ___________________________
10. A imprint of a prehistoric living thing is called a/an ___________________________
11. Comparisons of early stages of embryonic development show the possibility of ___________________________ ancestry.
12. A structure useless in man, but similar to one useful in lower animals, is called a/an ___________________________
13. ___________________________ evolution is the study of the changes in living things.
14. A yellowish-brown sap secreted by pine trees is called ___________________________
15. Paleontologists study ___________________________
16. The earliest known ancestor of the modern horse is named ___________________________
17. Gill slits are common in vertebrate ___________________________
18. The study of the changes that have occurred to the earth itself is called ___________________________ evolution.
19. In undisturbed rock layers, the ___________________________ is at the bottom.
20. The oldest time period was the ___________________________ era.

B. MULTIPLE-CHOICE QUESTIONS

DIRECTIONS: Circle the number of the expression that best completes each of the following statements.

1. Which is a vestigial structure found in humans?
   (1) toe (2) tooth (3) fingernail (4) appendix

2. An evidence that suggest the dog and cat had a common evolutionary origin is a comparison of their
   (1) sizes (2) colors (3) diets (4) skeletons

3. Two animals would probably show a close evolutionary relationship if they
   (1) have a similar embryonic development (2) live in the same habitat (3) eat the same food (4) show the same behavior
Directions (4-6): For each statement in questions 4 through 6, select the term, chosen from the list below, which is most closely related to that statement. Then record its number on the line provided.

Evolutionary Terms
(1) Fossil evidence
(2) Evidence from embryology
(3) Evidence from anatomy
(4) Vestigial organs

4. The wing of a bat is similar to the flipper of a whale _______

5. Early stages of the development of fish and amphibians show some similarities. _______

6. Insects have been found in amber. _______

7. According to the theory of evolution, with the passage of time, organisms have
   (1) not changed
   (2) changed
   (3) changed for the better, only
   (4) changed for the worse, only

8. In undisturbed rock layers, the oldest rocks are located
   (1) in the top layer
   (2) in the middle layer
   (3) in the bottom layer
   (4) between the top and bottom layers

9. Digestive enzymes are similar in mammals. This evidence, which supports evolution, resulted from comparing
   (1) types of skeletons
   (2) types of cells
   (3) development of embryos
   (4) chemicals in living things

10. A structure that an animal or plant no longer used is known as a
    (1) mutation
    (2) fossil
    (3) vestigial structure
    (4) petrified structure

C. Essay Question
Directions: Use complete sentences to answer the question in this part.
1. How would you account for the fact that fossils of fish are not present in the older layers of rock?

________________________________________
________________________________________
________________________________________
________________________________________
________________________________________
________________________________________

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