

SCIENCE OLYMPIAD  
REGIONAL TOURNAMENT AT LANGLEY HIGH SCHOOL  
2/28/09 FOSSILS EVENT

Name(s): \_\_\_\_\_

Team Number: \_\_\_\_\_

Your School Name: \_\_\_\_\_

STATION 1:

1. What is a fossil?

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2. Circle "True" if the following statement is true OR circle "False" if the following statement is false:

The vast majority of fossils are found in fresh-water or marine sediments, where oxygen-deprived silt or clay has buried the organism soon after death.

True                  False

STATION 2:

3. Write the best answer (from the word bank) that matches each process description:

Permineralization          Replacement          Recrystallization  
Carbonization                  Desiccation

a. This process is the "driving off" of water from animal tissue:

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b. The fine-grained original material of the hard parts of organisms is just reorganized into larger crystals of the same material. No new material is either added or taken away and therefore there is no

alteration in the external form of the hardened parts:

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- c. The original porous hard components such as bone are preserved, but some secondary intercellular mineral matter is added over time. This includes most vertebrate bones and invertebrate shells:
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- d. Secondary mineral matter gradually seeps into the organism from the surrounding matrix and then replaces the original organic tissue in an almost atom for atom manner. The result is a near-perfect replica of the organism.
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- e. Leaves in some cases can be preserved as carbon films on the surface of rock after the organic components of the leaf containing oxygen, carbon, and hydrogen have burned off during the process of decay. A more stable form of carbon remains leaving an exact shape of the leaf:
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### STATION 3:

4. Write the Period (from the word bank) that matches each geological time description:

Triassic Period      Jurassic Period      Cretaceous Period

- a. Considered the golden age of the dinosaurs, this time period was characterized by a mild, warm climate as the North American continent lay further to the south than it does today. In addition to an abundance of dinosaurs, this time period also saw early forms of mammals:
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- b. During this time period, the first dinosaurs appeared. In addition, turtles and lizards originated during this time period:
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- c. This time period saw the end of the dinosaurs. Also, the first flowering plants appeared during this time period:
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STATION 4:

5. What is the name of the major group of invertebrates that can be described as having variable shapes, including horn-like, tube-like, or tree-like shapes?

- a. Sponges                      b. Corals                      c. Arthropods

6. Write the genus name (from the word bank) that matches each description:

- Hydnoceras              Halysites              Septastraea

- a. This colonial coral has its corallites arranged in single series in “panpipe” formation: \_\_\_\_\_
- b. This colonial coral’s colonies form irregular nodular masses, sometimes also branched, with numerous corallites within each branch. The corallites are closely adjoining, usually with shared walls, and have a honeycomb appearance:  
\_\_\_\_\_
- c. This sponge is thin-walled and shaped like a vase:  
\_\_\_\_\_

STATION 5:

7. Draw a line from each genus name to its informal name:

- |          |                 |
|----------|-----------------|
| Pecten   | Devil’s Toenail |
| Gryphaea | Oyster          |
| Exogyra  | Scallop         |

8. What is the Pecten's habitat?

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9. What is the Gryphaea's habitat?

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STATION 6:

10. Circle "True" if the following statement is true OR circle "False" if the following statement is false:

Nautiloids are primitive, marine cephalopods that possess a shell.

True

False

11. Fill in the proper genus names in the blanks:

- a. The shell of the \_\_\_\_\_ is shaped like a slowly tapering cylindrical cone and is made up of closely spaced concavo-convex chambers, joined together by a centrally-placed tube called the siphuncle.
- b. The shell form of the \_\_\_\_\_ is evolute or loosely coiled and has many whorls or complete turns (of the shell) visible.

STATION 7:

12. Circle "True" if the following statement is true OR circle "False" if the following statement is false:

The Asterozoa, which include many of the species popularly called jellyfish, are common marine animals.

True

False

13. Circle "True" if the following statement is true OR circle "False" if the following statement is false:

The Blastoids are a well-defined group of echinoderms that, in life, were attached to the substrate by a thin stem, and in which the compact theca is shaped like a rosebud.

True

False

STATION 8:

14. Circle the genus name of the dinosaur in picture #1:

a. Stegosaurus

b. Triceratops

c. Parasaurolophus

15. Draw a line from each genus name to its informal name:

Stegosaurus

Horned dinosaur

Parasaurolophus

Plated dinosaur

Triceratops

Duck-billed dinosaur

STATION 9:

16. Circle the genus name of the mammal that is considered the “dawn horse” or related to the true horses which evolved in North America:

a. Hyracotherium

b. Mammut

c. Equus

d. Mammuthus

17. Circle the genus name of the mammal in picture #2:

a. Mammuthus

b. Basilosaurus

c. Mammut

STATION 10:

18. Circle the informal name of the fish in picture #3:

a. Antiarch

b. Shark

c. Petalodont

19. What is the habitat of the Bothriolepis? \_\_\_\_\_

STATION 11:

20. The following are all Trace Fossils EXCEPT:

- a. Trails
- b. Tracks
- c. Borings
- d. Amber
- e. Burrows