

Teachers, coaches, students and supervisors: For information on how to purchase fossils similar to those used in the exam or if you wish to compare your student scores to those actually achieved by B and C Division participants, refer to the information at the bottom of this Answer Key.

STATION A

1. Bryozoan
2. Filter-feeding
3. Colonial
4. *Served as homes for the small Bryozoan creatures.
5. The small pits on the surface of this specimen are more randomly distributed than they are on the Rhombopora.

STATION B

1. Impression
2. They possess only soft parts, i.e. have no hard parts. (Important phrase – soft parts)
3. *Hexagonara* or Specimen # 2
4. Horn Coral or Specimen # 3
5. *Favosites* or Specimen # 4
6. *Permian

STATION C

1. The weight of the shale in which they became embedded gradually compressed their bodies, resulting in their flattened appearance.
2. This action encased its soft ventral body within its hard-surfaced exoskeleton thereby providing protection against predators.
3. Calcite
4. Their exoskeleton
5. Barnacles or Specimen # 4

STATION D

1. Permian – Triassic (requires both)
2. Paleozoic
3. No
4. Devonian

STATION E

1. Bivalvia
2. *Pecten*
3. Scallop
4. *Gryphaea*
5. Devil's toe-nail
6. Valves
7. *By counting its annual, or seasonal, growth rings (emphasis on “growth rings”)
8. > 25 (or >)

STATION F

1. Either “guard” or “rostrum”
2. Rear
3. Hooks
4. Gastropods
5. Belemnites or Specimen # 5
6. Cephalopods
7. Sutures or suture lines

STATION G

1. Starfish or Specimen # 2
2. Spiny skinned
3. Index fossil
4. Specimen # 3 (Crown or calyx) and Specimen # 6 (Crinoid stem)
5. *All
6. *Pentremites* or Specimen # 5
7. Those of the sand dollar were very short and formed an almost felt-like covering.

STATION H

1. *Dunkleosteus*
2. Placoderms
3. They most likely preyed upon fish of their own kind.
4. Jawless
5. Chondrichyans
6. Teeth
7. Osteichthyans
8. All are Osteichthyans or bony fish.

STATION I

1. Vertebrate
2. Their bodies had significantly increased in size.
3. One of many to form a paddle bone to assist the ichthyosaur in swimming
4. Hollow bones & large wing span
5. Pterosaur claw
6. Enabled mosasaurs to swallow huge prey
7. *Prey would be held firmly by these teeth to prevent their escape.
8. a. Its two differently-shaped teeth

STATION J

1. *Stegosaurus* or Specimen # 6
2. *Iguanodon* or Specimen # 1
3. *Triceratops* or Specimen # 5
4. *Plateosaurus* or Specimen # 3
5. *Parasaurolophus* or Specimen # 4
6. *Allosaurus* or Specimen # 2
7. *Parasaurolophus* or Specimen # 4

STATION K

1. Mammoth (or Mastodon)
2. Vertebrae, hair and tusk
3. *Equus*
4. Phalanges (or toe) and tooth
5. Mammoth (or Mastodon)
6. The smaller, downy-like hairs were closer to the body and served to keep the mammal warm; the long, stiff guard hairs permitted moisture to roll down the creature's body thus preventing moisture from working itself closer to the mammal's body.

STATION L

1. *Lepidodendron*
2. Tropics (or near the Equator)
3. Club moss or Scale tree
4. *Annularia*
5. The leaves known as *Annularia*, Specimen # 2, are the foliage of the giant rush plant, *Calamites*, Specimen # 3.
6. *Calamites* or Specimen # 3
7. *Acer*
8. *Maple

STATION M

1. **Ginkgo* or Specimen # 2
2. Gymnosperms
3. Gondwana or Gondwanaland
4. *Glossopteris* or Specimen # 1
5. Australia, Africa, South America and Antarctica (To receive credit, all four continents must be correctly listed.)
6. *Metasequoia*
7. It's deciduous or drops its needles in the fall.

STATION N

1. Entombed, encased, or unaltered parts
2. Oxygen
3. Permineralization or petrification
4. *Stromatolites or Specimen # 3
5. Oxygen
6. Specimen # 2 has embedded animal parts (part of a fish) and Specimen # 4 shows no evidence of animal parts

INFORMATION TO COACHES AND EVENT SUPERVISORS:

If you wish to purchase fossils similar to those used in this exam, visit <http://www.otherworlds-edu.com> or send an email to lwothworld@aol.com and request a current fossils sales list.

If you wish to compare your score with those of the actual competitors at the Southern Colorado Regional Event, the scores are recorded below.

Top 3 B-Division Scores: 59.5 / 46 / 44

Top 3 C-Division Scores: 57 / 55 / 52