

NOTE: See Official Rule Book for Fossil List!

FOSSILS

DESCRIPTION: Participants will identify select fossils representing a limited number of phyla, classes, and genera; infer the environment in which these organisms thrived; determine the geologic period in which the organisms lived; and demonstrate an understanding of how these creatures were adapted to their mode of life.

EVENT PARAMETERS: Print resources, notes and magnifying glasses are permitted.

A TEAM OF UP TO: 2

APPROXIMATE TIME: 50 Minutes

THE COMPETITION:

Participants will move from station to station. The length of time at each station will be determined by the event supervisor based upon the number of teams competing during the testing period. Event supervisors are encouraged to provide task-oriented activities including, but not limited to, specimen identification. Participants will not be permitted to return to a station.

Topics may include, but are not limited to:

- . Geologic time scale
- . Identification of sedimentary rocks in which fossils may be found
- . Conditions necessary for fossilization to occur
- . Differentiating between casts and molds
- . Evidence of life activities including tracks, trails, burrows and coprolites
- . Interpretation of environments: terrestrial, shallow marine, swamp, lake, river, marine
- . Adaptations to their environment
- . Mode of life: filter feeder, predator, scavenger, deposit feeders, swimmer, benthic, pelagic, sessile, vagrant, detritus feeder, primary consumer, etc.
- . Evolutionary trends
- . Index fossils
- . Relative vs. absolute age
- . Sequence events using dating techniques to determine the relative age of rock layers
- . Radiometric dating
- . Dinosaur theories: extinction, warm blooded, feathers, behavior, relations to birds



REPRESENTATIVE ACTIVITIES:

- . Briefly describe the environment at the time these specimens were alive.
- . Identify the dinosaur models at this station and categorize them according to the geological time period in which they thrived.
- . Use the geologic profiles to determine the sequence of events of the geologic layers.

SCORING: Each question will have been assigned a predetermined number of points. The number of points may vary according to the difficulty levels of the questions. Tie breaking questions will be pre-identified. Teams will be ranked from highest to lowest.

National Science Education Standards: Earth and Space Science, Content Standard C: Earth's History (Grades 5-8); Content Standard D: Origin and Evolution of the Earth System (Grades 9-12).