



ROCKS & MINERALS

See General Rules, Eye Protection & other Policies on www.soinc.org as they apply to every event.

1. **DESCRIPTION:** Teams will demonstrate their knowledge of rocks and minerals.

A TEAM OF UP TO: 2

APPROXIMATE TIME: 40-50 Minutes

2. **EVENT PARAMETERS:** Each **team** may bring one magnifying glass and one 3-ring binder (any size) containing pages of information in any form from any source.

3. **THE COMPETITION:**

- a. Emphasis will be placed upon task-oriented activities. Participants will move from station to station, with the length of time at each station predetermined and announced by the event supervisor. Participants may not return to stations, but may change or add information to their original responses while at other stations.
- b. Written descriptions as to how a specimen might react were it to be tested with HCl may be provided. HCl will not be used or provided.
- c. Identification will be **limited to specimens** appearing on the **Official Science Olympiad Rock and Mineral List** (see www.soinc.org), but other rocks or minerals may be used to illustrate key concepts.
- d. Tournament Directors may include up to five additional specimens important to their own state. If additional specimens are to be included, all teams must be notified **no later than three weeks prior to the competition**.

4. **REPRESENTATIVE TOPICS (may include, but are not limited to):**

Minerals:

- a. Identification
- b. Properties: hardness, luster, streak, cleavage/fracture, density, etc.
- c. Classification: see list
- d. Chemical composition
- e. Mineral habit (e.g., botryoidal, hexagonal, prismatic, bladed)
- f. Methods & environments of formation
- g. Economic importance (e.g., ores, industrial uses, jewelry)

Rocks:

- h. Identification
- i. Rock cycle
- j. Classification: sedimentary, igneous and metamorphic
- k. Environments of formation
- l. Texture and composition
- m. Bowen's reaction series
- n. Grade of metamorphism

5. **REPRESENTATIVE STATION ACTIVITIES:**

- a. Using the materials provided, fingernails included, determine the relative hardness of each of these six minerals. List the specimens, by name and number, in order of increasing hardness.
- b. Match each metamorphic rock with the parent rock from which it may have been formed.

6. **SCORING:** Total scores will determine rankings in this event. Ties will be broken by the accuracy or quality of responses to preselected questions.

Recommended Resources: All reference and training resources including the **Rock & Mineral Teaching Guide (RMCD)**, the **Bio/Earth CD (BECD)** and the **National Audubon Society Field Guide to North American Rocks and Minerals** are available on the Official Science Olympiad Store or Website at www.soinc.org, and the **Rocks and Minerals kits** (*excluding only silver, gold, and diamond) may be ordered from Ward's Science Olympiad Kits.