

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

**A TEAM OF UP TO:** 2

**APPROXIMATE TIME:** 50 Minutes

2. **EVENT PARAMETERS:**

Each team may bring one magnifying glass and one three-ring binder of any size containing information in any form and from any source **attached using the available rings; which may be removed during the event.**

3. **THE COMPETITION:**

- 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.
- 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.
- Identification will be limited to specimens appearing on the Official Science Olympiad Rock and Mineral List (see [www.soinc.org](http://www.soinc.org)), but other rocks or minerals may be used to illustrate key concepts.
- 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:**

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

**Rocks:**

- Identification
- Rock cycle
- Classification: sedimentary, igneous and metamorphic
- Environments of formation
- Texture and composition
- Bowen's reaction series
- Grade of metamorphism

5. **SAMPLE ACTIVITIES:**

- 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.
- Match each metamorphic rock with the parent rock from which it may have been formed.

6. **SCORING:** High score wins. Selected questions will be used to break ties.

**Recommended Resources:** The Science Olympiad Store ([store.soinc.org](http://store.soinc.org)) carries the Rocks and Minerals CD, Bio/Earth Science CD and Audubon Field Guide to Rocks and Minerals; other resources are on the event page at [soinc.org](http://soinc.org). A Rocks and Minerals kit, excluding silver, gold, and diamond, may be ordered from Ward's Science Olympiad Kits ([wardsci.com](http://wardsci.com)).