

# Sweet 16 Mineral Identification Tournament



Do your students eagerly fill out their “March Madness” tournament brackets? Have some fun and inspire your students with March Madness mineralogy! This activity combines the popularity of “bracketology” with a review of the characteristics of minerals. Knowledge of the physical and chemical properties of minerals will help students determine the winner of the Sweet 16 Mineral Identification Tournament!

## Review of Concepts

- Luster
- Crystal shapes
- Chemical composition
- Hardness

## Tournament Rules

The rules for filling out the tournament bracket are summarized below.

- First round: The mineral with metallic luster advances to the second round.
- Second round: The mineral with iron in its chemical formula wins.
- Semifinals: The mineral with a cubic crystal form advances to the finals.
- Final round: The mineral that can scratch the other in a hardness test is declared the winner!

## NGSS Alignment

This laboratory activity relates to the following Next Generation Science Standards (2013):

### Disciplinary Core Ideas: Middle School

- MS-PS1 Matter and Its Interactions
  - PS1.A: Structure and Properties of Matter
- ES-ESS2 Earth’s Systems
  - ESS2.A: Earth’s Materials and Systems

### Disciplinary Core Ideas: High School

- HS-PS1 Matter and Its Interactions
  - PS1.A: Structure and Properties of Matter
- ES-ESS2 Earth’s Systems
  - ESS2.A: Earth’s Materials and Systems

### Science and Engineering Practices

- Asking questions and defining problems
- Constructing explanations and designing solution

### Crosscutting Concepts

- Patterns
- Structure and function

## Tips

- On the Mohs hardness scale, pyrite is listed as 6–6.5 and chromite has a hardness of 5.5.
- The crystal system of bornite is tetragonal and hematite forms hexagonal crystals.
- Set out samples of each type of mineral for reference.

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