



Sweet 16 Rock Identification Tournament

Do your students eagerly fill out their "March Madness" tournament brackets? Have some fun and inspire your students with March Madness earth science—it rocks! This activity combines the popularity of "bracketology" with a review of the classification of rocks. Knowledge of the composition and formation of rocks will help students determine the winner of the Sweet 16 Rock Identification Tournament!

Review of Concepts

- Igneous rock
- Sedimentary rock
- Composition of rock
- Metamorphic rock
- Intrusive vs. extrusive

Tournament Rules

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

- First round: Identify and label each rock name by type (igneous, metamorphic or sedimentary). Only igneous and sedimentary rocks advance to the next round.
- Second round: Only igneous rocks advance.
- Semifinals: Classify the igneous rocks as intrusive versus extrusive. Intrusive igneous rocks advance to the finals.
- Final round: The rock with the higher silica content (felsic) 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
 - PS1.B: Chemical Reactions
- MS-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
 - PS1.B: Chemical Reactions
- HS-PS3 Energy
- ES-ESS2 Earth's Systems
 - ESS2.A: Earth's Materials and Systems

Science and Engineering Practices

- Asking questions and defining problems
- Planning and carrying out investigations
- Constructing explanations and designing solutions

Crosscutting Concepts

- Energy and matter
- Structure and function
- Stability and change

Tips

- Assign pairs of students to research the composition, properties, distribution and classification of different rocks in this activity (one rock per student group) and prepare index card summaries of the data, including a color photo, if possible.
- Granite is considered a *felsic* rock (>69% SiO₂) and gabbro is a *mafic* rock (<52% SiO₂).

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