

*Title:* "Flop or Fabulous" Geode

*Unit:* Geology of Iowa: Minerals and Crystals

*Name:* Ann Echelmeyer

*School:* Hoover Middle School

*Grade:* 8th grade

a. Description: Students will learn about geodes by collect geodes at a quarry. They will then determine the internal composition of the geode by factors of their choosing: mass, volume, density, surrounding mineralogy of environment. Students will write a short report and present findings to the class. The students will then cut the geodes in half to determine effectiveness of variables used.

b. Objectives:

- For students to accurately collected and identify geodes through science inquiry.
- For students to predict internal composition of a geode with supporting evidence.

c. Implementation

1. Go to Morgan Quarry and collect samples of rocks, minerals and geodes.
2. Students will analyze their sample based on physical characteristics, compare their sample with other students and use external resources to find the expected composition of the geode from this location.
3. Students will write a short report describing their evidence which their prediction of the composition of their geode.
4. Student will then present their evidence and prediction to the class.
5. Students will then break open the geodes.
6. Students will compare final results to their predictions. As a class students will come to a conclusion about which physical properties are best used to prediction internal structure of geodes.

d. Evaluation

Students will submit a one page report. This report will be evaluated on completeness...

Resources

Iowa Geode

<http://www.igsb.uiowa.edu/browse/geodes/geodes.htm>

Illinois Geology Museum

<http://geologyonline.museum.state.il.us/tools/lessons/8.4/lesson.html>