Geology of Iowa for Science Teachers

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The following description is just one of many projects (that include weathering, fossils, soils, glaciation, and Iowa's bedrock geology) I will develop with the inspiration and specimens I've gained in this course,. Thank you for this wonderful experience!

Project description

Unit plan/mineral collection

Objectives

Students will be able to recognize and use physical properties of minerals to identify minerals using a physical properties key.

Implementation statement

Incorporating research-supported Place-Based Education, I want the foundation of Ankeny High School Geology to be Iowa Geology. Calcite will be our "Mineral Mascot" that will guide our investigation of minerals, rocks, fossils, resources, weathering, and more. Some topics will lead us away from Iowa, but using calcite will highlight the wonders of geology here in students' own state, even where the geology is relatively subtle.

With my new calcite samples, each student can have a fine specimen in hand. They can use think-ink-pair-share in response to the question, "What do you notice about the specimen?" We will then investigate and discuss the physical properties of minerals, using calcite as a baseline for comparison with other minerals. This will be especially useful for properties such as cleavage, hardness, luster, color, and can also lend itself to the discussion of special properties such as fluorescence and double refraction. It can be our familiar base for consideration of internal structure and for mineral classes.

I think this strategy will aid student learning because students are generally overwhelmed when presented with a tray of minerals, terms, and a key.

Evaluation

I'll evaluate the effectiveness of the project with an assessment in which students list properties determined for a mineral as they work through its identification key.