“MAGNIFICENT MINERALS” 5E Lesson Summary

A great follow up lesson to the Bucket O’ Rocks stations is the “Magnificent Minerals” one. In this lesson, students are introduced to minerals by exploring the different crystals they form.

- **Engage**- Show the “Crystals” slide presentation, which starts with, “Have you ever eaten a crystal?”

- **Explore**- During the first part of the exploration phase, students are given different crystal samples to look at and pass around. They should be of different sizes, shapes and colors. Include “man made” crystals such as sugar, rock candy, pop rocks (have enough for them to taste them, it’s also a treat watching students who have never experienced pop rocks before try them for the first time!), lemonade or punch mix powder, salt of different sizes (fine, coarse, flakes and a huge block of salt which can be found in the hunting section of superstores!), etc.

  The second part of the exploration is where they make their own crystals to simulate a geode. You can use an empty egg shell as the base, and have students add supersaturated solution of borax, salt, sugar, epsom salt or alum powder to make the crystals. Just add a few drops of food coloring to the solution and let them sit outside or on a sunny window sill for a couple of weeks.

- **Explain**- Read the “Geodes” sheet together and have students draw in their science notebooks the steps they followed in making their geodes.

- **Elaborate**- Visit a science museum and check out their mineral collection. Students can try to find the crystal that best matches the one they made in terms of color, the “natural” version of the one they made. If there is a “Gem Mining” attraction around, that’s a great follow up activity too.

- **Evaluate**- Opportunities for formative assessment are integrated into the other phases, but the assessment titled “How much did you learn about rocks?” can be used at the end the unit to see how much students retained and understand.