

Hands on Chemistry Activity 1

Topic: Chemical Structure

Learning Objective: Students will learn about crystals, their chemical structures, and where they can be found. Students will grow their own crystals to take home.

Alignment with NGSS Grades 3-5

Crosscutting Concepts and Connections to Engineering, Technology, and Applications of Science
Patterns

Patterns can be used as evidence to support an explanation.

Structure and Function

Different materials have different substructures, which can sometimes be observed.

Substructures have shapes and parts that serve functions.

Materials:

- Distilled water
- Food coloring
- Epsom salt
- Alum
- String
- Craft sticks

Detailed Description

- Activity
 - A saturated solution will first be prepared with Epsom salt and hot water.
 - Enough salt will be put in the solution to the point where no more salt can dissolve.
 - Students will receive some of the solution in a cup along with a piece of string and a craft stick.
 - Students can choose whether to add food coloring to their solution.
 - Students will tie the stick to the piece of string and place it into the solution.
 - The solution will be left to sit for a couple of days.
 - After a few days students will observe the crystals that grew in their solution.
- Separate Experiment
 - In a separate experiment, crystals will be grown overnight in a solution of alum and distilled water.

- One of the crystals will be chosen and then submerged in a new saturated solution overnight.
- After a few days, the small crystal would accumulate other crystals and have grown bigger in size.
- Conclusion
 - Crystals grow in environments with precise conditions.
 - What kind of environments are moist and warm like conditions of the experiment that was carried out?

What science process skills will this lesson exercise?

Students will grow and observe their own crystals. Students will learn about the chemical structures of crystals.

Safety precautions

None