



Try This at Home Science: Crystal Painting

Activity Overview:

Paint a picture with a supersaturated salt solution to grow your own crystal artwork.

Materials:

- Epsom salt
- Water
- Measuring cup
- Bowl
- Paintbrush or Q tip
- Black construction paper

Try this!

1. Mix one cup of boiling water with one cup of Epsom salt in a bowl until well dissolved. Allow to cool slightly.
2. Using the salt solution, paint a picture on the black construction paper, without going back over the same lines twice. At first, the paper will only appear wet.
3. Allow to dry for several hours and observe!

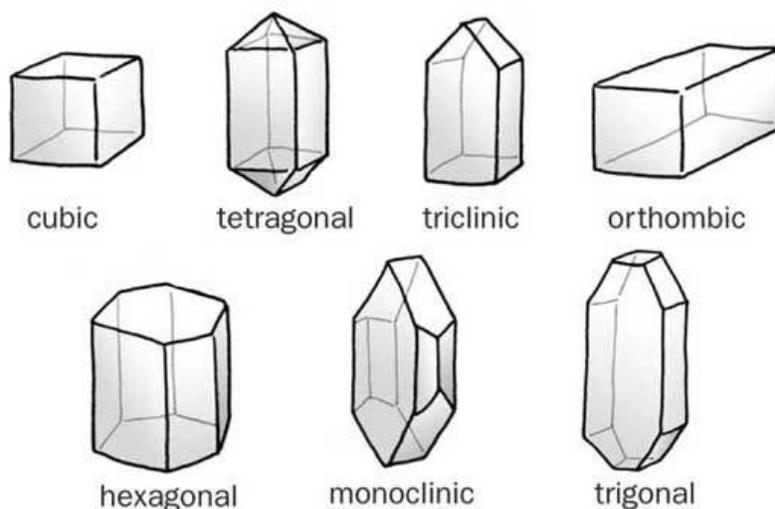
What's happening?

The "paint" you mixed is a super saturated salt solution. This means that the water has dissolved as much salt as it can hold and is not able to dissolve anymore. This is why some salt may remain at the bottom of the bowl. As water evaporates out of the solution, the Epsom salt left behind will turn into crystals. Small crystals will form rapidly where the salt solution is thinnest. In wetter areas, there is more salt deposited and the water takes longer to evaporate which allows larger crystals to form.



How does this relate to everyday life?

The process of crystal formation is called crystallization. Crystals often form in nature when liquids cool and start to harden in just the right environmental conditions. Certain molecules in the liquid gather together as they attempt to become stable. They do this in one of seven uniform and repeating pattern that forms the crystal. Crystals are all around us. Salt, sugar, snowflakes and even rock candy are examples. Each crystal has different properties, such as shape and color depending on their chemical composition and impurities.



Now try...

- Try adding food coloring into the water before mixing in the salt. Do your crystals match the color of the water? Is it a solid color, or does it fade away?
- Experiment with adding different amounts of salt to the water. Did more salt make more or less crystals?