Snow Much to Know! Action Science



Follow-up Activities

**Experiment like Snowflake Bentley**

1. Put a dark piece of paper on a clipboard outside. Wait for it to become cold (10 minutes).
2. Collect snow crystals on your board.
3. Look at the snow crystals closely or use a magnifying glass.
4. Observe how the snow crystal is a hexagon – 6 sides!
5. Examine more than one snow crystal. Same or different?

**Explore Hexagons in Nature**

**Hexagons** are very efficient, and they often occur in nature. A hexagon is the shape that best fills a plane with equal size units and leaves no wasted space.

**Bees** construct their honeycomb into hexagon shapes, it saves them a lot of time and energy that is used in prime jobs like collecting and transporting pollen and nectar. Bees prefer to make hexagon shapes because it is stronger and compact. It is able to store large quantities of their byproducts like honey.

**Snow crystals** as hexagons-When water molecules freeze and bond together they form a hexagon of six molecules. That hexagonal shape sets the basic crystalline structure and sheer planes, so that as crystals grow to macroscopic size they tend to replicate that basic six-sided crystalline structure. These can be simple hexagonal plates, long hexagonal needles, or fractal-like flakes depending on the air temperature and humidity.

**Crystal Growing Science**

Do this experiment and compare these crystals to snow crystals. Do your crystals look like snow crystals? Are they in a hexagonal shape? Are these super-cooled like snow crystals or does this experiment use heat?

**What You Need:**

* [Buy magnesium sulfate](https://www.homesciencetools.com/product/magnesium-sulfate-100-g/) (Epsom salt)
* [Food coloring pack](https://www.homesciencetools.com/product/food-coloring/)
* [250 ml beaker](https://www.homesciencetools.com/product/beaker-glass-250-ml/)
* Hot water

**What You Do:**

* In the beaker, stir 1/2 cup of magnesium sulfate with 1/2 cup of very hot tap water for at least one minute. This creates a saturated solution, meaning no more salt can dissolve in the water. (Some undissolved crystals will be at the bottom of the glass.)
* Add a couple drops of food coloring if you want your crystals to be colored.
* Put the beaker in the refrigerator.
* Check on it in a few hours to see a beaker full of crystals! Pour off the remaining solution to examine them.

**What Happened:**

Epsom salt is another name for the chemical magnesium sulfate. The temperature of the water determines how much magnesium sulfate it can hold; it will dissolve more when it is hotter. Cooling the solution rapidly encourages fast crystal growth, since there is less room for the dissolved salt in the cooler, denser solution. As the solution cools, the magnesium sulfate atoms run into each other and join together in a crystal structure. Crystals grown this way will be small, thin, and numerous.