

# Grow a Crystal Snowflake

## Science Experiment

Learn how to make crystal snowflakes by dipping pipe cleaners into borax dissolved in boiling water and food coloring. As the water cools, borax forms crystals that cling to pipe cleaners.



### How are snowflakes formed?

A snowflake first forms as an ice crystal when an extremely cold water droplet freezes onto a pollen or dust particle in the sky. As the ice crystal falls to the ground, water vapor freezes onto the primary crystal, building new crystals – the six arms of the snowflake.

### Are any two snowflakes exactly alike?

No! Each snowflake has their own unique look, since each follows its own slightly different path from the sky to the ground and experience different atmospheric conditions along the way.

### How does it work?

Water is made up of molecules. When you boil the water, the molecules move away from one another. When you freeze water, they move closer to one another. Boiling hot water allows for more borax powder to dissolve to create the desired saturated solution.

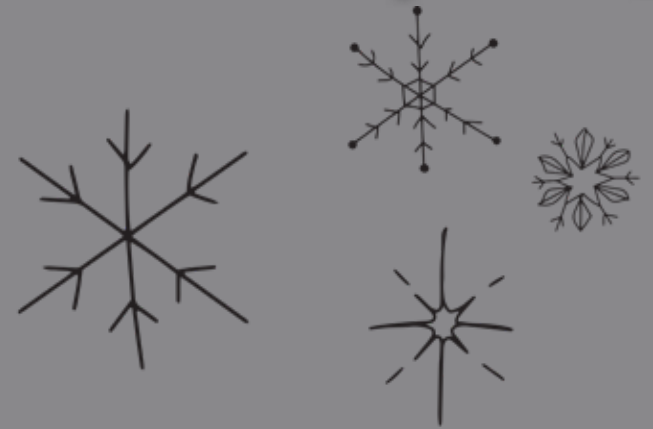


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### Materials:

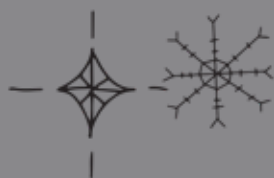
- Blue food coloring
- Boiling water
- Borax
- A jar
- A pencil
- Pipe cleaners
- A ruler
- String



### What to Do:

1. To make your snowflake, cut a pipe cleaner into thirds, place them together and twist the center to connect them. Pull the six sides out to look like a snowflake. Next cut six 1.5" pieces of matching pipe cleaner and twist one onto each point of the snowflake.
2. Tie a string around the flake and hang it from a pencil. Place the pencil on top of jar big enough so it hangs inside without touching the sides of the jar.
3. Dissolve three tablespoons of borax powder and one drop of blue food coloring for each cup of boiling water. Once the solution is made, pour it into the jar with your snowflake.
4. Let it sit overnight; remove. The next day, gently lift out your crystal snowflake and let them dry on paper towels for an hour.

(Note: Adult supervision and assistance is highly recommended due to the use of boiling water.)



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