MYSTERY: CRYSTALS · 15 MINUTES + OVERNIGHT

Borax Snowflakes

Twist pipe cleaners into a snowflake, hang it in a jar of borax solution, and by morning it's covered in sparkling crystals. Where did they come from?

What you'll need

- ✓ Pipe cleaners
- ✓ String
- ✓ A pencil or wooden skewer
- ✓ A clean glass jar
- ✓ Water
- ✓ A box of borax (laundry aisle)
- ✓ A pan, a stove and a spoon
- ✓ An adult helper
- ✓ Optional: food coloring

Make the snowflake

1. Twist pipe cleaners into a snowflake that fits inside the jar without touching the sides.
2. Tie a string to the snowflake and the other end to the pencil. Rest the pencil across the jar so the snowflake hangs free, off the bottom.

Grow the crystals

3. With an adult, boil enough water to fill the jar (at least 2 cups). Add food coloring if you like.
4. Stir in 1 cup of borax. Keep adding spoonfuls until no more will dissolve and a little settles on the bottom.
5. Let it cool until it's hot to the touch but not too hot, then pour just the liquid over the snowflake.
6. Leave the jar in a warm spot overnight without moving it. Check it in the morning!

Safety: An adult handles the boiling water. Borax isn't food: keep the crystals away from little kids and wash your hands afterward.

Tip: The solution has to be full of borax, with a little left undissolved at the bottom, or the crystals won't grow.

Why it works

Hot water can hold much more dissolved borax than cold water. As the water cools, it can't hold it all, so the extra borax comes back out as solid **crystals**.

The borax particles stack up in a neat, repeating pattern, which gives each crystal flat sides and sharp edges. The fuzzy pipe cleaner gives them lots of places to start.

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Record your results

What I checked	What I saw
Right after pouring	
After 1 hour	
Next morning	
After 2 days	

WINTER CONNECTION

Snowflakes are crystals too. They grow when water vapor high in a cloud freezes onto a tiny speck of dust, and they have six sides because of the way water molecules fit together.

Think about it

1. Where did the most crystals grow? Why do you think that is?

2. How are your borax crystals like real snowflakes? How are they different?

Watch the video and try 4 more winter mysteries

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