

Create a Crystal

Diamonds sparkle and shine. Salt adds flavor to food. Snowflakes lay a beautiful white blanket on the ground. What do all these things have in common? Diamonds, salt, and snowflakes are all crystals (a type of solid object).

All matter (things that can be seen) in the world is made up of tiny parts called *atoms*, and atoms make up *molecules*. In a crystal, atoms or molecules are arranged in a repeating pattern, giving crystals their unique shapes. Crystals form when a liquid cools and hardens. Diamonds are made when liquid rock cools and hardens. Salt crystals take shape from salt water when the water evaporates (turns from liquid to vapor, or gas). A snowflake forms when water freezes in the clouds.

Most nonliving matter is made up of crystals. This includes precious metals like gold and silver; tasty ingredients like sugar and salt; and beautiful gemstones like diamonds and emeralds. Next time you catch a snowflake on your tongue or sprinkle salt on your potatoes, remember to thank God for making crystals for us to enjoy.



Hello there! I'm Buddy Davis, the host of *Out and About* on Answers TV. Let's get our hands a little dirty as we investigate God's amazing creation.



Create your own crystals!

Materials

- Colored pipe cleaners
- Glass jars
- Pencils
- String
- Saucepan
- Borax

Activity

1. Bend each pipe cleaner into a different shape (such as a letter or a heart). The shapes should be small enough to fit through the opening of the jars.
2. Using string, tie each pipe cleaner shape to a pencil. The string should be long enough so that when you set the pencil on top of the jar, the pipe cleaner hangs inside without touching the bottom.
3. With an adult's help, measure out enough cups of water to fill the jars. Pour the water into the saucepan and heat it on the stove. When the water begins to simmer, remove the pan from the stove.
4. For each cup of water, add three to four tablespoons of borax to the saucepan and stir until dissolved. (Borax is a toxic mineral, so let an adult do this step.)
5. Pour the mixture from the saucepan into the jars. Then carefully lower each pipe cleaner shape into a jar, setting the pencil over the opening of the jar. The pipe cleaner shapes should be hanging in the water, completely submerged.
6. Crystals will begin to form within a few hours. If you leave the pipe cleaner shapes in the jars for two to three days, the crystals will continue to grow. When you like how they look, remove them from the jars, let them dry on a paper towel, and enjoy them as decorations.