



Crystal Icicles

Activity:

Winter is upon us and some of the most fascinating things in nature to observe this season are icicles. On a cold wintery day, go on a treasure hunt for icicles. Notice all the different places you can find them; on trees, on the edges of rocks, on the gutters.

After exploring real icicles outside, experiment with chemistry by making crystal icicles inside!

1. Form a spiral out of a pipe cleaner by wrapping it around a pencil.
2. Tie a string to the top of the pipe cleaner.
3. Boil 3 cups of water.
4. Dissolve 9 tablespoons of Borax into the 3 cups of hot water.
5. Sit the solution for several minutes until the Borax is completely dissolved.
6. Pour this solution into a glass jar.
7. Attach the spiraled pipe cleaner to a spoon with the string.
8. Lay the spoon across the top of the jar and submerge the pipe cleaner into the solution.
9. You can add more pipe cleaners to the same jar, but be sure the pipe cleaner does not touch the sides of the jar or other pipe cleaners.
10. Set the jar in a safe place where the solution can cool.
11. Crystals should begin forming in a couple of hours and can be left overnight to maximize the crystal formation.

Questions to ask about observing icicles outside:

Where do you see icicles?

What do you think affects their size and shape?

How do you think they form?

Science behind the activity:

Borax has a crystal structure. When the Borax crystals are in hot water, most of the crystals are dissolved, and you cannot see them. As the Borax solution cools, the Borax crystals form on the pipe cleaner.