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SNOWFLAKES YOU CAN KEEP!

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Introduction

Are all snowflakes the same shape? To answer this question have students try the following procedure, used for the preservation of snowflakes, outlined in a recent *Kalamazoo Nature Center Newsletter*. The method involves coating the crystals with a resin solution. The solution hardens around a crystal and when the crystal's moisture passes through the resin coating, a permanent replica of the crystal remains.

Materials

To make the replicas you will need:

1. Two square feet of black velvet.
2. A table.
3. Several clean microscope slides.
4. A pointed glass rod.
5. A one per cent solution of polyvinyl formal resin dissolved in ethylene dichloride. (Ask your druggist to get this for you or write to any large chemical company.)

Procedure

All the equipment and supplies should be kept in a sheltered spot, outside, so that they remain cold. When snowflakes begin to fall, expose the black velvet (which has been tacked to a board) to the sky. After several specimens have been collected, place the board on the table, then:

1. Dip the glass rod into the resin solution, take out about half a drop and put the solution on a microscope slide.
2. Bring the rod into gentle contact with a snowflake (the solution remaining on the rod will make the crystal adhere to it).
3. Gently pick up the crystal and put it into the solution on the glass slide.

After several crystals have been prepared in this manner, put the slides in a protected place until the solvent evaporates. If a crystal is quite thick it will take longer for its moisture to pass through the resin coating. When evaporation is complete, bring the specimens into a warm room where they can be studied beneath a microscope. Once the technique has been perfected students might explore variables which result in different shaped crystals.