

# Cryogenic Roses

**Grade Levels:**

4-6

**Question:**

Can ice be used to preserve once-living things?

**Possible Hypotheses:**

Ice can/cannot preserve once-living things.

**Materials:**

Five rose buds just beginning to open

Four plastic bowls

Water

**Procedure:**

1. Fill four plastic bowls with equal amounts of water.
2. Observe the five rose buds and record any differences in the fragrance, texture, appearance, or color.
3. Submerge one rose bud in each bowl of water and put the bowls in the freezer, keeping one rose bud at room temperature for a control. Observe the control daily and record your observations.
4. After one week, allow one rose bud to thaw and observe, comparing it to the control and to the observations made before freezing. Place the thawed rose bud with the control.
5. Repeat this procedure the next week with another frozen rose. Do this weekly until all roses have been thawed and observed.

**Analysis and Conclusion:**

Did ice preserve the roses well? Did the length of freezing have an effect? What happened to the roses once they were thawed?

