

## Winter Bubbles

How does blowing bubbles in winter affect the bubbles?

### Materials

- 1 cup dishwashing liquid
- 2 cups warm tap water
- plastic bowl
- 4 Tbsp glycerin
- 1 tsp sugar
- Bubble blower

### Procedure

1. Mix the dishwashing liquid & warm tap water in the plastic bowl.
2. Add the glycerin.
3. Add the sugar.
4. Go outside on a cold night and blow bubbles with the solution. What do you notice about the bubbles?
5. Blow bubbles inside and compare these with the ones you blew outside.

### Explanation

Water and dishwashing liquid form a thin film that can be inflated with air to form a bubble. Soap bubbles are shaped by the balance between the outward pressure of the gas inside them and the force of tension holding the liquid of the bubbles together. Surface tension is the force of the molecules in water attracting one another. Sometimes the bubbles appear to be motionless. If it is cold enough, the bubbles will sparkle as they freeze and if they hit the snow, they will bounce!

Source: Horticultural Services' Kids Club, December 2003

