

Zach Wilson

*Tip of the Iceberg: Lowering the Melting Point of Water*

The purpose of this project was to find a way to prevent water from freezing or have the water melt at lower temperatures than 0°C. This could help keep water thawed for animals in their tanks, even when it is below freezing. The hypothesis was that glycerin will lower the melting point of water. This could help taking care of animals easier and more efficient. 20 cubic centimeters (cc) of water was put in to an ice tray cubical labeled 1. 19 cc of water was put in an ice tray cubical 2 and 1 cc of glycerin was added to make 20 cc of solution. 18 cc of water was added to ice tray cubical 3 and 2 cc of glycerin was added to make 20 cc of solution. 17 cc of water was added to ice tray cubical 4 and 3 cc of glycerin was added to make 20 cc of solution. 16 cc of water was added to ice tray cubical 5 and 4 cc of glycerin was added to make 20 cc of solution. The ice trays are put into the freezer when the temperature was -22.78 °C and froze for 24 hours at that temperature. After 24 hours the ice tray cubicles were taken out and when they started to thaw, the temperatures were taken. This process was repeated 6 times and an average of the temperatures were found. The hypothesis was correct glycerin did lower the melting point of water to as much as -5.44 °C. The more glycerin that was added the more it lowered the temperature.