

# Lift an Ice Cube with Salt

## **The Action**

Picking up a floating ice cube out of a glass of water using only salt and a piece of thread.

## **Grade Level**

Grade 8 - Fluids and Pressure

Grade 10 - Chemical Change

## **Materials**

- Ice cubes
- Cold water
- A glass
- Sewing thread
- Salt in a shaker

## **Instructions**

- Place an ice cube in the glass filled with cold water. Place the thread on the ice cube, making sure that the majority of the thread is actually touching the ice cube.
- Sprinkle the top of the ice cube (where the thread lies) with salt. Wait a minute or two and then slowly test the thread to make sure the water around the thread has had time to freeze.
- Using both ends of the thread, lift the ice cube out of the water.

## **Safety**

No safety concerns

## **Science Principle**

The salt sprinkled on the ice cube melts the ice around and under the thread because the salt water has a lower melting point than pure water. As the salt water becomes more and more dilute, the melting point rises and becomes closer to that of pure water. With the melting point being higher, the ice and cold water are able to cool the water around the thread and thereby re-freezing it. This means the thread will become frozen to the ice cube and it can simply be lifted out.