



University
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Fishing for ice with salt

Can you think of a way to get ice cubes out of water without getting your fingers wet? All you need is some salt and a piece of thread!

What you'll need

- an ice cube
- a glass of cold water
- salt
- thread

Instructions

- Fill the glass with cold water
- Place the ice cube in the glass and add a little more water until it is full to the brim.
- Lay a piece of thick thread across the ice cube, with the ends hanging over the sides of the glass. Make sure the thread is touching the ice cube.
- Sprinkle a few grains of salt on the ice cube and thread, and wait for a minute or two.
- Now carefully lift up the ends of the thread.
- (If the ice cube doesn't stick to the thread, sprinkle on some more salt and try again. You may have to wait a little longer.)

What happens and how does it work?

- If the experiment worked, the ice cube froze to the thread, allowing you to lift it out of the water.
- When you put salt on the ice cube, some of the ice melts as the salt particles push in among the frozen water particles. This process consumes energy, lowering the temperature. A thin layer of salt water forms on the ice cube. As more of the ice melts, this salt water is diluted. At some point, it is so diluted and the temperature so low that the ice freezes once again, and the thread freezes with it.

