

Lift Ice Cubes With String



Supplies

- 1 bowl
- Cold water
- Ice cubes
- Coarse sea salt
- Long piece of thick string or yarn

taken from **100 Easy STEAM Activities: awesome hands-on projects for aspiring artists & engineers**
by Andrea Scalzo Yi

Instructions

- Fill the bowl nearly to the top with cold water
- Put a few ice cubes in the bowl of water. They float because ice is less dense than water.
- Search for a cube whose surface is at about water level. Lay one end of a piece of string across that ice cube. Do you think the ice will stick to the string?
- Lift the string. Does the ice cube stick to the string? Why do you think this is the case?
- Sprinkle a thin layer of salt on top of the ice cube & string
- Wait for about 20 seconds and pick up the string
- You will see that the ice cube sticks to the string and is lifted out of the water

The Science

Salt lowers the melting point of water below 32F which is why we use salt on icy roads in the winter. The salt helps melt the ice on the roads by allowing the ice to melt at lower temperatures. Once the salt is added to the ice cube, a small layer of the cube melts around the string but then refreezes again as the water cools around the string.

Variations

- Try using different kinds of salt to see if one works better.
- Try some other substances, such as sugar or food coloring. Can these make the ice cube stick to the string?
- Try lifting 2 ice cubes at once
- What do you think would happen if you left the ice cubes with the strings on top out for a few minutes?