



ICE FISHING

Explore winter science with this fun ice experiment! Using common household items, this educational activity is a great way to teach children about ice, temperatures, and the states of water. Ever notice how cities salt their streets before a snowstorm? Ice Fishing will help you understand why!

MATERIALS

Bowl or Cup

Water

Ice

String

Small Stick

*Blue Food Coloring
(optional)*





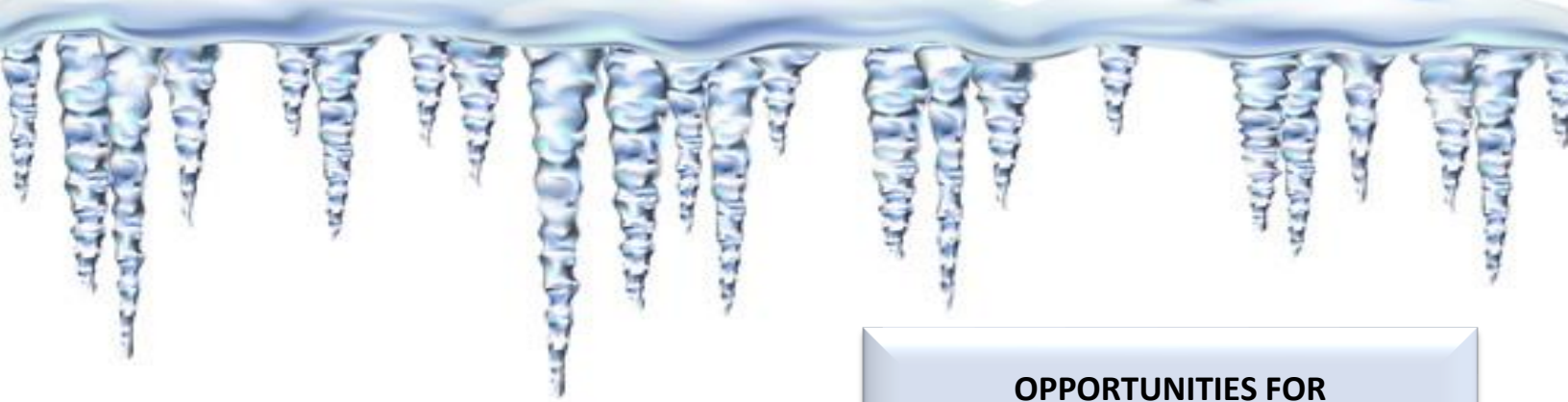
METHOD

- 1) Find a small, light stick (about 3 inches long) and tie a 12 inch string to it to create your “fishing rod.”
- 2) Fill the bowl/cup with water.
- 3) Place about 6 ice cubes in the bowl/cup.
- 4) Have children lay their string over the ice cubes, and then pull up on it- Does the string catch anything? Does it stick to the ice? Can it pick up ice?
- 5) Next, sprinkle a generous layer of salt over the ice cubes (about 1 tbsp), lay the string over those ice cubes, and sprinkle an equal amount of ice on top of the string.
- 6) Wait and count for 60 seconds, then gently pull up on the string again and see what happens! (The ice cubes should cling to the string.)

THE SCIENCE BEHIND ICE FISHING

Ice Fishing shows children how salt affects the properties and temperature of ice. When salt touches ice, it lowers the melting point of the frozen water, forming a layer of water under and over the string. Because the ice is surrounded by freezing temperatures, however, it quickly refreezes, causing the water under and over the string to turn back into ice, which forms a frozen seal over the string. When this happens, the string becomes attached to the ice and can pick it up out of the water!





ICE FISHING SUPPORTS NGSS!

When doing Ice Fishing, children will: Ask questions and define problems; Plan and carry out investigations; Analyze and interpret data; Use mathematics and computational thinking; Construct explanations and design solutions; Engage in argument from evidence; and Obtain, evaluate, and communicate information, all while learning about: Cause and effect; Scale, proportion, and quantity; Energy and matter; Stability and change; and Physical science.

OPPORTUNITIES FOR EXPANDED LEARNING

- * Experiment variations of this activity-
What happens if you use too little salt?
What happens if you use too much?
What happens if your water is lukewarm instead of cool? Try other substances, such as sugar or flour- Do they have the same effect? Ice Fishing takes a few tries and tweaks to get just right, but that's all part of the experiment and learning process! Investigate what works and what doesn't, and form theories about why!
- * Dig a little deeper and apply what you've learned with Ice Fishing to lessons about the real world. Explore why we put salt on icy sidewalks in the winter [HERE!](#)
- * Expand your knowledge about the states of water, melting points, and boiling points [HERE!](#)

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