Let it Snow! Let it Melt!—Grade 1

Introduction:
Students will make observations and draw conclusions about what makes ice melt as well as begin to understand the properties of and differences between solids and liquids.

Objectives:
Students will be able to:
1. describe the difference between solid water and liquid water.
2. identify the sun and salt as factors that make ice melt.

Materials:

Rubber gloves
Ice cubes
3 Plastic containers
Water
6 in. pieces of yarn or string
Paper cups
Newspaper
Salt
Permanent markers

*Prepare enough cups ahead of time with ¼ in of water in them so there is one per student and set them outside the school to begin chilling.

What makes ice melt? (15 min)

1. Begin by walking around with a rubber glove full of ice (tied off) and a rubber glove full of water (tied off). Ask students what ice feels like. Is it hot or cold? (Cold!) Return to the rubber gloves and ask students which glove has solid water in it and which glove has liquid water in it? Does the glove with ice look like the glove with water? (NO) Does the water take the shape of the glove? (YES) Are ice and water the same stuff? They may say NO! Try to explain that ice is just hard water. If you freeze yogurt it becomes a yummy treat: frozen yogurt! But it's still the same 'stuff'. The same is true for ice and water.
2. Ask what would happen if snow was brought inside. Then ask what may happen to the snow when the sun comes out. (It melts!) What other things can melt snow or ice? If they don't come up with it on their own, lead them to the answer of salt by asking them about the sidewalk coming in to their school or the roads—how do they keep those free of ice?
3. Explain that you will do an experiment to see what makes ice melt faster, the sun, salt, or "wrapping it in a blanket" of newspaper. Have the students make a prediction. Tell them you will go on a snowshoe hike and see what has happened when you come back. Arrange the ice cubes in the plastic containers: one with salt on it, one wrapped in newspaper, one left alone in a sunny spot, if possible.

Ice ornament treasure hunt (20-30 min)

4. While outside, tell students they will make their very own ice ornament using water and treasures they collect from their hike. While hiking point out any animal tracks or birds you see. If you can find icicles, point them out and ask students how they form. Have students collect little bits of evergreens or berries or twigs. You should find two sticks to jam in the snow bank outside the classroom window. Tie a length of string around them so the teacher has a place to display the students ice ornaments. Alternatively, they can decorate trees in the schoolyard with their ornaments.
5. Bring the treasures back to the tub with the cups of water. Write initials on the sides of cups as students put their treasures inside. Leave them outside to freeze—you may have to leave them for the teacher to retrieve with the students later in the day or the next day.

Ice cube experiment results (5 min)

6. Head back inside to check on the ice cube experiment. Discuss the results and finish with the reminder that ice and water are the same thing: put water outside and it becomes ice, bring the ice inside and it becomes water. The temperature changes what water looks like!