

**Project FOCUS
Best Lessons
FIRST GRADE**

Title of Lesson: Freezing and Melting

Theme: Earth/Space Science

Unit Number: 2 **Unit Title:** Water, Water, Everywhere

Performance Standard(s) Covered (enter codes):

S1CS2a
S1CS3a
S1CS4b
S1E2a&c

Enduring Standards (objectives of activity):

Habits of Mind

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

Content (key terms and topics covered):

Freeze: to change from a liquid to a solid

Melt: to change from a solid to a liquid

Learning Activity (Description in Steps)

Abstract (limit 100 characters): This lesson introduces children to the processes of freezing and melting.

Details:

1. **Introduce standard:** Recognize changes in water when it freezes (ice) and when it melts (water).
2. **Read from the science book about freezing and melting.** For HSP Georgia Science book page 102.
3. **Set up first activity:** fill plastic cups to the same point. Mark on the cups where the water level is when the water is at room temperature. Measure the temperature of the water in each cup. Freeze one of the cups, leave the other at room temperature. Remember to leave the thermometers in the cups so we can measure the temperature later.
4. **Ask students to predict where the water level will be for the two cups after one has frozen.** Have them draw their predictions on activity sheet under Part 1.
5. **Set up second activity:** put some water into a zip lock bag (make sure to close the bag securely). Measure the weight of the water on the scale. Measure the temperature of the water. Have students record weight and temperature. Freeze until next class period. *You may want to put the zip lock bag into a cup in the freezer so the water doesn't spill out and the thermometer can stay in it.
6. **Have students predict weight of the ziplock bags after the water has frozen.**

7. During next class period, have students observe differences in the frozen water and the room temperature water. Ask questions: Did the water level in the cup change for the room temperature water? What about for the water that we froze? Did the weight of the water change after it was frozen? Why do we think these things happened?

Materials Needed (Type and Quantity):

2 clear plastic cups

zip lock bag

water

3 thermometers

scale

Recording sheets

permanent marker

Notes and Tips (suggested changes, alternative methods, cautions):

- During next class period repeat the experiment but melt the ice instead of freezing the water. Make sure to record the level on the cup, temperature, and weight. This will allow students to understand the entire process of freezing and melting water.

- There are no safety concerns for this set of experiments.

- What I would do differently next time: Maybe add food coloring to the water so students in the back of the room can see the water level. Plus they really like to color (so make it blue). Also, make sure to leave the thermometers in the water to be frozen because it's hard to stick a thermometer into a block of ice.

Sources/References:

1) HSP Georgia Science book

2)

3)