Lesson Created By: Katie Brandon

Title:

Grade Level: First Grade       Length of Time: This Lesson will take 2 to 3 days to complete.

Standard(s): Science 1.3.1 Recognize and explain that water can be a liquid or a solid and can go back and forth from one form to the other. Investigate by observing that if water is turned into ice and then the ice is allowed to melt, the amount of water is the same as it was before freezing.

Objective(s): The students will correctly explain, in their journals, the transformation process of a frozen solid to a liquid with 100% accuracy.

Teacher Preparation: The teacher will have to make sure to purchase enough popsicles for every student. A container (clear plastic cup) will also have to be gathered for every student, so they have a container to hold their popsicle. Scales will also have to be set-up for the students to weigh their materials, so they can compare the frozen popsicle to the melted popsicle liquid. Questions will have to be produced to engage the students and spark curiosity. The teacher will also have to create an assessment that will show student understands.

Introduction/Motivation:
How many of you have seen an icicle hanging outside in the winter? (Bloom’s Taxonomy-Knowledge) What happens when it melts? Have you ever seen an icicle that drips water? How can a solid icicle drip a liquid? Well, today we are going to experiment with a favorite food of ours, to give an example of what happens to an icicle when it melts. (Engagement)

Step-by-Step Procedure:

1. The students will receive a clear plastic cup.
2. The students will then receive a popsicle.
3. After unwrapping the popsicle, the students will weigh the materials to get a correct measurement to show that a solid can be turned into a liquid and back to a solid.
4. As the students weigh their popsicle, the teacher will go around the room asking the students questions, such as, what do you think will happen to this popsicle as it sits out?
5. The students will be instructed to set their popsicle and glass aside and will observe it for approximately five minutes, while they write in their science journal. In their science journal they will write the weight of the popsicle and they will also write what they think will happen to the popsicle.
6. The students will then write their observations about what is happening to the popsicle as it begins to melt.
7. After the popsicle completely melts, the students will measure the liquid form and it should be the same weight as the solid form.
8. The weight will be written in their journals.
9. Finally, the students will write all of their findings and questions in their science
10. The teacher will begin to teach the lesson to the students explaining the transformation from a solid to a liquid. A brief example may be as follows: Someone tell me what happened to the popsicle as it began to melt. That is exactly right, the popsicle melted. What that means is the popsicle started out as a solid, which means that the particles are condensed and the solid cannot be poured. After the solid melted it turned into a liquid, which means that the particles are no longer stuck together. A liquid can be poured. Did you also notice that the ingredients in the popsicle weighed the same as a solid and a liquid. The same is true for an icicle. An icicle is a solid as it hangs, but once it melts it becomes a liquid.

11. Now that we understand how a solid can be turned into a liquid we are going to determine how to get the popsicle back into a solid form. The students will be given time to brainstorm in their journals on how the popsicle can be turned back into a solid. After they have been give time, they will elaborate on their ideas and the students will learn that the liquid can be put back into the freezer. After the liquid the liquid has been refrozen the students will observe and weigh the solid. They will then relate their findings to the example of an icicle.

12. Throughout the lesson the teacher will observe the students and ask questions to assess their understandings, conceptions, and misconceptions. The teacher will also collect the student’s journals to learn what the students understand and what they need help with. At the end of the lesson, the teacher will ask the students to explain in their journals, how a solid can be turned into a liquid and back to a solid. They can use examples, such as a popsicle or icicle.

Closure: Since we have been talking about icicles in science, we are now going to write a story about a winter wonderland during writer’s workshop.

Enrichment/Adaptations: Students that are learning disabled in written expression may have an aide that will write down answers as the student orally states them. A student that has a mild to moderate disability may participate in the project as much as possible, with the assistance of an aide.

Self-Reflection: The teacher will reflect on how engaged the students were able to get during the project. The teacher will also make sure that the students are able to learn that a solid can be transformed into a liquid and back again. These are a few questions that may be asked to reflect upon the lesson.