



Keep an Ice Cube From Melting

Objective:

Students will have the opportunity to participate in a design and engineering challenge where they are challenged to build a structure that will keep an ice cube from melting. This lesson will work best on a sunny day!

***Note: This lesson can be used with the “Ice Cube Melting” lesson.**



Materials:

- Black construction paper
- White construction paper
- Masking tape
- One ice cube in a sandwich baggie per student
- One ice cube as the control
- Items that can be upcycled to build a structure. For example, popsicle sticks or plastic straws
- Paper for students to draw their design on

Procedure:

1. Ask students if they know what items can be used as shade. Explain to them that shade provides a place to cool down.
2. Introduce them to the challenge. Explain to them that they are to design and build a structure that will help to shade an ice cube.
3. Have students begin to design their structure. It may be easier for students to work in groups.
4. When the students finish their design, have them begin to build!
5. Take the students outside to test their structures. Have them place their structures in an area with sunlight. Place an ice cube in the structure.
6. Place the control ice cube in the open with no shade. Wait for it to melt.
7. Once the control ice cube melts, the test is done. Check the structures for and remaining ice cubes.
8. Have students rank the structures' effectiveness based on the amount of ice left.
9. Discuss the results with students. Why did some ice cubes melt more than others?
10. Later on, you can have students try to make their designs better!

Next Generation Science Standards Used:



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1. K-PS3-2: Use tools and materials provided to design a solution that will reduce the warming effect of sunlight on Earth's surface.
2. K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
3. K-2-ETS1-3: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.