

# Ice Cold Coolers

## Build a cooler to keep ice cubes frozen on a hot day.

### What you need:

Coffee can or similar container	Aluminum foil
4 ice cubes	Cardboard pieces
Plastic seal and lock bag	Masking tape
Timer or stopwatch	Handful of cotton balls
Pencil	Felt pieces and other items from around the house
3 styrofoam or paper cups 8 oz or larger	

### What to do

1. Place 4 ice cubes in a plastic bag and place it into the freezer.
2. Start with the coffee container and design a cooler that will keep the 4 cubes frozen even in a hot area.
3. When you are done place the plastic bag with the ice cubes into the cooler and seal it shut.
4. If it is hot outside place the cooler outside in the sun and begin a timer. \*
5. Check on the ice cubes about every 5 minutes to see if the cubes have melted.
6. When the ice cubes have melted stop the timer and write down how long it took to melt the ice cubes.

### What to ask

- What materials did you use when constructing your cooler?
- Why do you think these materials helped keep the ice cubes cold?
- If you were going to redesign your cooler what materials would you use and how would you build it?

### Did you know?

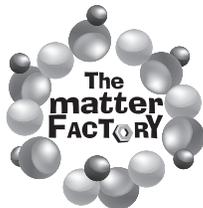
How do you keep your drinks and food cool when you are going to the beach? What type of material would you use to pack everything? The best materials to use are called insulators. Insulators are a group of materials that do not conduct heat well. Examples include wood, sand, styrofoam and air.

Houses use insulation in the walls to keep the inside of the house warm in the winter and the cool in the summer.

### What's next?

- Take a trip to the store and look at the coolers they have. What types of materials were used to make those coolers?
- If you have a cooler at home place 4 ice cubes in that cooler and place 4 ice cubes in the cooler you made. Which one keeps the ice cubes frozen longer? How much longer?

*\* If it is cold outside, have your parents help you create a cooler with items that would be safe in an oven. Heat the oven to 100 F and place the cooler inside.*



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