

WHAT ARE WE INVESTIGATING?

How do different surfaces affect the rate at which ice melts?

MATERIALS:

- Ice Cubes
- Aluminum Foil
- Plastic Wrap
- Plate
- Plastic Tupperware
- Timer
- Strive Academy's Engineering Design Process Handout (found at www.striveacademy.org)
- Pencil or Pen

EXTENSION:

- * Try this variable - repeat the experiment using the same surface but at different temperatures. For example, use paper plates and put one in the freezer and one in the microwave before you do the experiment.
- * There are 3 types of heat transfer - conduction, convection, and radiation. Research these and determine which type of heat transfer this experiment was an example of.

When Will It Melt?

DIRECTIONS:

1. Gather all of your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at www.striveacademy.org), fill in the title of your experiment (When Will It Melt?).
3. On your handout, fill in your hypothesis. You want to answer the question: On which surface will the ice melt the fastest?
4. On your handout, sketch a design of your experimental setup. Feel free to use color and label the materials that you will be using!
5. Lay out your surfaces. Examples can be aluminum foil, plastic wrap, a plate, or tupperware.
6. When you are ready, set a piece of ice on each surface and start your timer.
7. Under "Data Collection/Observation", draw a picture of what the ice looks like after 3 minutes. Repeat this again at 5 minutes and 7 minutes.
8. Pay attention to the time at which each piece of ice melts. Under "Results", write down each surface that you used and record the time it takes for each piece to melt.
9. Answer the "Analysis" questions on your handout:
 - On which surface did the ice melt the fastest? Why do you think this happened?
 - On which surface did the ice melt the slowest? Why do you think this happened?
 - How could you redo this experiment and make it more scientific?

**** Try the extension activities on the first page for more fun! ****