



Ice Melting Blocks

P6-7060

BACKGROUND:

Heat can be transferred by conduction, convection, or radiation. In this experiment, students will discover the different rates at which materials can conduct heat. Aluminum is a better conductor of heat than high-density foam.

CONTENTS:

One black aluminum block
One black high density foam block
Two rubber O-rings

EXPERIMENTS:

1. Touch both blocks. Which feels warmer? (*The foam block will feel warmer.*) Predict which block will cause ice to melt faster.
2. Place the O-rings on the blocks to prevent water from flowing off. Place an ice cube on each block.
3. Observe the rates at which the ice cubes melt. Which material is conducting heat into the ice faster? (*The aluminum block will melt ice much faster than the foam block.*)
4. After a few minutes, remove the ice and water, and touch the blocks again. Explain what you observe. (*The aluminum block feels even cooler now, and it is cooler. Energy stored as heat inside the block was transferred to the ice when it melted. Now the block has less thermal energy than before.*)
5. The aluminum block felt cool at the beginning for the same reason that it melted the ice faster. It is better at conducting heat away from your hand, and makes your skin feel cool.

RELATED PRODUCTS:

Infrared Thermometer (68-6500). Confirm that the two blocks are initially at the same temperature.

