MATERIALS TEST

Materials

2 Plastic cups
1 Plastic-foam cup
• Insulating material
1 Thermometer
1 Vial with cap
• Hot water, 35 mL
1 Container, 1/2 L
• Ice water
1 Watch or stopwatch

Procedure

1. Place one layer of your team’s insulating material between the plastic cups.
2. Fill ice water in the 1/2 L container up to the line. Make sure you have one or two pieces of ice, to keep the temperature of the water bath at 0°C.
3. Put 35 mL of hot water in the vial. Measure and record the temperature of the water in the vial just before starting.
4. Put the cap on the vial, and place the vial into the inner cup. Place the foam cup upside down over the vial. Push it gently into the plastic cup to form a tight seal.
5. Put the system into the ice bath, hold it down, and start timing.
6. Record the temperature of the water in the vial after 3 minutes.
7. Do two trials and find the average. Start with new hot water for the second trial. If you still have ice in the cold water, you don’t need to replace it.