

B3 ACTIVITY 3: THE BALLOON THAT DOES NOT BURST

Background

This activity illustrates the coolant properties of water. Water has a high capacity for heat. In this activity, the water absorbs the heat given out by the candle, so the temperature of water in the balloon will rise while the balloon itself will remain intact!

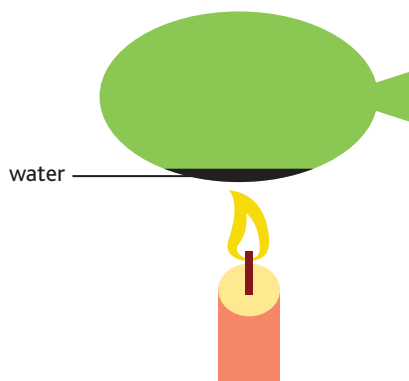


Figure 12: Water in balloon

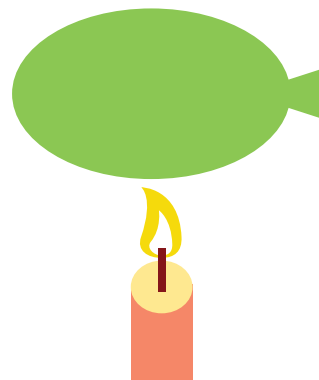


Figure 13: No water in balloon

Equipment required (per group):

- Two identical balloons
- A balloon pump
- Two candles
- Matches
- Access to tap water
- Two plastic lunch bags
- Thermometer

What to do:

1. Place a small amount of water in a balloon, blow it up and seal.
2. Blow up an identical balloon (without putting water in it).
 - ② *What will happen when burning candles are placed under the two balloons as shown in Figure 12 and Figure 13?*
 - ② *What did you observe?*
 - ② *Why was this?*
3. What temperature do you think the water would have to reach before the balloon would melt?
4. Check out this prediction by repeating this experiment. This time use plastic lunch bags instead of the balloons. A thermometer inserted in the bags shows the temperature rising.

Resources:

- [Click here](#) to view a demonstration of this activity using plastic lunch bags instead of balloons.