WONDERSCIENCE

Imagine you are blowing up balloons for an outdoor party. You start early in the morning when the temperature outside is still cool. What will happen to the inflated balloons as the temperature rises during the day? What will happen to the balloons that evening as the temperature begins to drop again? Try this activity to find out what happens when party balloons are heated and cooled!

You will need

- 2 large round balloons
- large cup or bowl
- flexible measuring tape
- hot tap water
- ice water
- paper towels
- ball point pen

1 Blow up your balloons and release the air a few times to stretch them out. Now blow up both of your balloons until they are less than half-filled and still very flexible. They should be about the same size. Tie them closed. Use your pen to carefully mark one balloon "hot" and the other "cold."

2 Measure the distance all the way around the fattest part of each balloon with the measuring tape. This is called the ***circumference*** of the balloon. Record your measurements on the chart below.

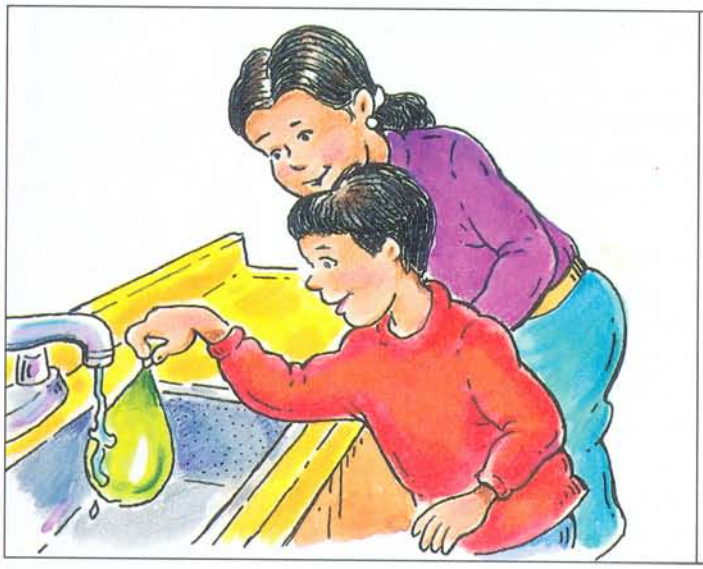
3 What do you think will happen if the air inside one of your balloons gets warmer? To find out, have your adult partner turn on the hot water in your kitchen sink.

CAUTION:
Hot tap water can be very hot. Make sure your child's hand does not come in direct contact with the hot tap water.

4 Hold the balloon by the tied end and let hot water run over it. Move the balloon out of the water and measure its circumference again. Record your measurement on the chart. Was your prediction correct?

	Circumference		
	At start	**After water runs over it**	**Back to room temperature**
Hot water			
Cold water			

BALLOON BATH

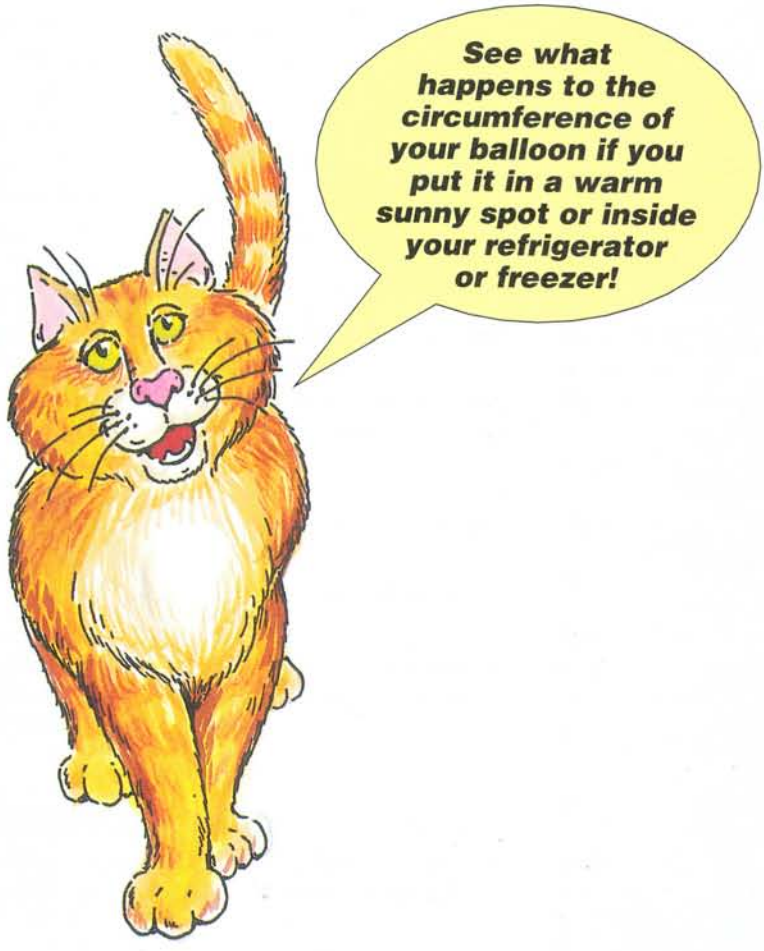


5 What do you think will happen to your other balloon if you pour cold water over it? Fill a large cup or bowl with ice and water. Hold your balloon by the tied end over the sink. Ask your adult partner to slowly pour cold water over your balloon.

6 Measure the circumference of the balloon and record it on the chart. Was your prediction correct?

7 Put the balloons down for about ten minutes to let them return to room temperature. As the balloons return to room temperature, will their sizes change again? Which one do you think will get bigger and which one do you think will get smaller? Why?

8 When the balloons have returned to room temperature, measure the circumference of each one again. Was your prediction correct?



* All activities in *WonderScience* have been reviewed for safety by Dr. Jack Breazeale, Francis Marion University, Florence, SC; Dr. Jay Young, Chemical Health and Safety Consultant, Silver Spring, MD; and Dr. Patricia Redden, Saint Peter's College, Jersey City, NJ.