

WARM AIR VS COLD AIR

PROBLEM: Does warm air take up more space than cold air?

RESEARCH: Look up heat in a textbook, on the computer or any resource book. Find out what causes something to become warm or hot and what happens when it does become warm or hot.

HYPOTHESIS: Based on your research where do you think the balloon will remain the largest: from the room, the refrigerator, or the freezer?

MATERIALS:	four balloons	hot water
	refrigerator with a freezer	ice or very cold water
	large bowl	glass bottle with narrow neck

PROCEDURE:

1. Label the balloons 1, 2, 3, 4 using a large marker.
2. Blow up three balloons and tie them shut.
3. Using a tape measure, find and record the circumferences of the three balloons.
4. Place balloon 1 outside the refrigerator, balloon 2 inside the freezer, and balloon 3 on the lower shelf of the refrigerator. Shut the doors and wait thirty minutes.
5. After 30 minutes and as quickly as possible, use the tape measure to find and record the circumferences of the three balloons.
6. Fit balloon 4 over the mouth of the bottle.
7. Stand the bottle in the large bowl and fill the bowl with hot water. Let the bottle stand for one minute. Describe what happened to the balloon.
8. Repeat step 7 using ice or very cold water.

DATA: Make a data table to record your observations.

CONCLUSION: Explain what you learned by doing this activity and remember that you must answer the question you asked in your original problem statement..