

DR. CHRISTOPHER'S

THERMAL ENERGY EXPERIMENT INSTRUCTIONS



Background Information

Supplies Needed

- Balloon
- Pen/Pencil
- STEM greenhouse Balloon Experiment Worksheet
- Bowl of Ice Water

Other Tools Needed

- Measuring Tape
- Timer

Chilly Balloons

Note: This experiment will require you to blow up a balloon and tie it. You may need help from a grown-up if you are not familiar with tying balloons. Once air molecules are put into the balloon they are stuck. No more can get and none can get out.

1. Use a **measuring tape**, measure the circumference of the widest part of this balloon. Write (**pen/pencil**) it down on the **STEM greenhouse Balloon Experiment Worksheet**.
2. Change the temperature of the air in the balloon by putting it in a **bowl of ice water**. (*There is no bowl or ice in your kit so if you don't have a bowl big enough or not enough ice, just fill up a sink with cold water.*) Use a **timer** and keep the balloon submerged in the ice water for 3 to 5 minutes.
3. After the time is up, measure the circumference of the balloon and write it down.



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Particles on the Move Experiment

Background: Remember that everything in the world is made of matter, tiny little particles that we can't even see.

Supplies Needed

- Food Coloring
- Clear Cups
- Hot Water
- Cold Water
- Pen/Pencil
- Paper

Other Tools Needed

- Timer

Goal: How does temperature affect particle movement?

1. Fill one **cup** with **hot water** and another with **cold water**. *It is fine if this water comes straight from the tap of your sink.*
2. You received two colors of **food coloring**. Put one drop of one of the food coloring on one side of the cold cup and one drop of the other food coloring on the other side of the cup.
3. Repeat with the cup of hot water.
4. Record your observations about what you see in the cups.
5. Use a **timer** and record your observations once every minute. You won't have long to write your observations.

Share your findings with me
in the comments on Youtube!

