**Weather Lab # Properties of Air**

**Name and partners: date:**

**Purpose**: to test the theory that warm and cold air masses have different effects on the weather because warm air rises and cool air sinks.

**Hypothesis:** I predict that the bottle in hot water will \_\_\_\_\_\_\_\_\_\_\_ the balloon and the bottle in the cold water will \_\_\_\_\_\_\_\_\_\_\_\_ the balloon.

**Materials:**

-2 medium sized bowls -hot water

-ice water -balloon

-plastic 2 L bottle

**Procedure:**

1. Fill one bowl half way with hot water and the other bowl halfway with ice water (safety caution: do not splash hot water on yourself or on anyone near you).
2. Stretch a balloon over the opening of the bottle.
3. Predict what will happen when you stand the bottle in the bowl of hot water. Then, stand the bottle in the hot water to test your prediction.
4. Predict what will happen if you move the bottle to the bowl of ice water. Then, stand the bottle in the ice water to test your prediction.
5. Record your observations, draw an illustration of what happened with a caption explaining the results. Be sure to include a drawing of before and after being placed in each bowl of water.
6. Answer the questions in complete sentences, explaining your understanding on Communicate.
7. Write a conclusion of whether your prediction was correct or not and why.

**Conclusion:** My prediction was



Communicate

1. **What happened to the air inside the bottle once the bottle was places in each bowl?**

*Ice water bowl:*

*Hot water bowl:*

1. **Explain what you think would happen if you put the bottle in the cold water first, and then in the hot water.**

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1. **What would you say to someone who thinks an inflated balloon is empty? Explain your answer using the properties of air.**

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1. **Think about how warm and cold air move. Where in a two-storey home would you expect to find the colder rooms? Explain your answer and include a drawing to show how air moves indoors.**

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