LAB - Thermal Expansion……..and Contraction!

Background: When solid objects are heated they expand and when they are cooled they contract. Why? When particles (atoms, molecules) gain heat energy, they move faster and farther apart. The object expands. When these particles lose heat energy, they move slower and get closer together. The object contracts. The same is also true for liquids and gases.

Hypothesis:

Procedure:

1. Light the Bunsen Burner. Follow instructions previously given by your instructor.
2. Pick up your Ball and Ring set and see if you can fit the ball through the ring.
3. Hold just the ball over the flame for a minute or so. (Just the ball, NOT the ring)
4. Pick up the ring and see if you can fit the ball through.
5. Dip the ball in water for a few seconds.
6. See if you can fit the ball through the ring.

Questions: \*Be sure to use the scientific terms you have learned in class.

\*Always write in complete sentences

1. Did the ball fit through the ring before you heated it?
2. Did the ball fit through the ring after you heated it? EXPLAIN.
3. What happened to the ball when you dipped it in water? How do you know? EXPLAIN.
4. Let’s say that you only heat the ring, not the ball. Would the ball fit through the ring? EXPLAIN.
5. Online research question. You may use classroom I-PADS.

* Find out how this law of expansion and contraction works in thermometers. Explain in detail.

6- Conclusion: Was your hypothesis correct? Explain.