ESSENTIAL QUESTION: How have scientists explained a wide variety of phenomena that involve the effects of heat = changing the temperature of stuff?

Investigative Series #1: The Effect of Heat on the Ball and Ring Apparatus

1. Watch the ball go through the ring. Draw a diagram of the ball and ring, showing what is "bigger" and what is "smaller."

Ball	Ring

2. Your teacher will heat up the ball. Predict what will happen.

3. Your teacher will put the ball through the ring again. What happened? Draw a new diagram showing what is "bigger" and what is "smaller" after heating.

Ball	Ring

4. What evidence did we see that something had changed?

5. What actually changed in the ball and/or ring?

6. What must have happened to cause the change to happen?

7. What can you say about the size / distances re. the ball and the ring?

8. Was your prediction confirmed or refuted?

9. Write a “Statement of Understanding” to explain what you saw in the Ball & Ring Demo. Use the guidelines below to help you.

We Investigated ….. what we used… what we did… what we saw… what we now know…
The evidence that something changed was that _____.
It was _____ that caused that change to happen.

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10. With your group, analyze the following possible explanation for what you saw:
    "The ball got bigger, because atoms grow in size when they are heated. When cooled, atoms get smaller."