**KMT and Thermal Expansion** - HAND IN Name: \_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the difference between *temperature* and *heat*?



1. When the lid of a jar is stuck tight, which method will help to loosen the lid: running the lid under cold water or hot water? Explain, using KMT



1. The Eiffel Tower in Paris is 324 meters tall. Would you expect it to be taller or shorter on a hot day? Explain.
2. What structure is this and why is it important for bridges?



*Consider the experimental set up on the left to answer the following questions.*

1. If the flask on the right were heated, what would happen to the water level in the tube?
2. Use KMT (using terms like spacing and particle energy) to explain the relationship between volume and temperature of water.
3. Earth’s atmospheric temperature is rising from global warming. What effect do you think rising ocean temperatures will have on *sea levels*?
4. How is the model from question 5 similar to an ocean? (How is this model useful?)
5. How is this model different from an ocean? (What are the deficiencies/limitations in this model?)

1. Parts of Richmond are at 0 m above sea level. These cities must maintain structures like dykes and levees to prevent flooding. What might happen to these cities if the ocean levels rise a few feet?

