EPS 100 (Stapleton) Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

States of Matter Simulation

Open, download, and run the states of matter simulation at this web address: <http://phet.colorado.edu/en/simulation/states-of-matter>

1. Click the states of matter buttons to switch back and forth between Solid, Liquid, and Gas. For each one, describe what the particles are doing.

Solid:

Liquid:

Gas:

2. What changes do you observe when you switch from one substance to another? (Neon, Argon, Oxygen, Water)

3. Which of the four substances are organized into molecules?

4. Which of the four substances are simply atoms?

5. Click on Neon, and choose liquid.

a. What happens when you add heat to the neon?

b. What happens when you cool the neon?

6. Click on Neon, and choose solid. Then cool the neon down until it reaches 0 degrees Kelvin. What happens?

7. You can do the same thing (from the previous question) with any of the four substances, but it’s easiest with Neon. Why is Neon the easiest to get to 0 degrees Kelvin?

8. Can you guess what is special about 0 degrees Kelvin?

9. Which state of matter is least dense, and how can you tell this from the simulation?

10. In general, which state of matter is most dense, and how can you tell this from the simulation?

11. Which of the four substances is an exception to your previous answer? How can you tell this from the simulation?