Phases of Matter Simulation Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_ Period: \_\_\_\_\_

Go to the following link: <https://phet.colorado.edu/en/simulation/states-of-matter>

Click Neon and click Solid. Observe the movement and position of the atoms.

Click liquid. Observe the movement and position of the atoms.

Question: Compare the distance and the movement of the atoms of solid Neon to liquid neon.

Click Gas. Observe the movement and position of the atoms.

Question: What is different about Neon gas atoms and Neon solid/liquid atoms?

Question: Which phase of matter do the atoms moves the most? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Least? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click solid and click Neon. Observe the movement and position of the atoms.

Click solid and click water. Observe the movement and position of the atoms.

Question: Explain how solid Neon atoms are similar to solid water atoms.

Question: Explain how solid Neon atoms are different to solid water atoms.

Questions: When water freezes on a paved road, it can lead to pot holes. Explain why frozen water can lead to pot holes, but liquid water does not create pot holes in paved roads.

Click solid and click water. Slide and hold the temperature setting to heat for 5 seconds. Observe the movement and positions of the atoms.

Questions: What happens to the atoms after the heat is applied? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Questions: What state of matter does the solid water change into? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click and hold the temperature setting to heat. Observe what happens to the movement of the atoms.

Questions: What happens to the movement of the atoms the longer heat is applied?

Click Argon and click gas. Slide and hold the temperature setting on cool. Observe the movement and position of the atoms.

Question: What happens to the movement of the atoms the longer the cold is applied?

Draw the atoms for each phase of matter.

**Solid Liquid Gas**

Movement: \_\_\_\_\_\_\_\_\_\_\_\_\_ Movement: \_\_\_\_\_\_\_\_\_\_\_\_ Movement: \_\_\_\_\_\_\_\_\_\_

Position: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Position: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Position: \_\_\_\_\_\_\_\_\_\_\_\_\_

Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_

Shape: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Shape: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Shape: \_\_\_\_\_\_\_\_\_\_\_\_\_\_