**Unit 6.1 Lesson 4 - States of Matter**

Open States of Matter: Basics PhET simulation (<https://phet.colorado.edu/en/simulation/states-of-matter-basics>).

Select the “States” option which takes you to the PhET simulation. **Note**: For this simulation you should ignore the thermometer and the heat-cool bar at the bottom of the page.

**Answer the following questions in order to define the system that you see:**

1A. What are the system boundaries? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
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1B. What are the system components? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
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1C. What (if anything) can flow in or out of the system? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**On the right side of the page click the box labeled “Gas”. Under “Atoms & Molecules” click through neon, argon, oxygen, and water spending a few moments observing the model.**

2A. Describe the motion of the neon, argon, oxygen, and water as a gas.

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2B. Describe the spacing of the neon, argon, oxygen, and water as a gas.

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2C. Model how gas particles are spaced and move.

**Now on the right side of the page click the box labeled “Liquid”. Under “Atoms & Molecules” click through neon, argon, and oxygen, spending a few moments observing the model.**

3A. Describe the motion of the neon, argon, oxygen, and water as a liquid?

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3B. Describe the spacing of the neon, argon, oxygen, and water as a liquid?

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3C. Model how liquid particles are spaced and move.

**Now on the right side of the page click the box labeled “Solid”. Under “Atoms & Molecules” click through neon, argon, and oxygen, spending a few moments observing the model.**

4A. Describe the motion of the neon, argon, oxygen, and water as a solid?

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4B. Describe the spacing of the neon, argon, oxygen as a solid?

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4C. In what ways was water different from the neon, argon, and oxygen?

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4D. Sketch what the overall model looked like for 1) neon, argon, and oxygen, and for the 2) water as a solid:

Neon, Argon, Oxygen

Water