

Name _____

Date _____

Period ____ ID# ____

States of Matter

Website: <http://phet.colorado.edu/en/simulation/states-of-matter>

1. Compare the solid state of oxygen, neon, argon and water. Record your observations. Pictures are allowed.
2. Are your observations, applicable to all solids? Explain.
3. Compare the liquid state of oxygen, neon, argon and water. Record your observations. Pictures are allowed.
4. Are your observations, applicable to all liquids? Explain.
5. Compare the gas state of oxygen, neon, argon and water. Record your observations. Pictures are allowed.
6. Are your observations, applicable to all gases? Explain.
7. Temperature is a measurement of the average kinetic energy of the molecules in an object or system and can be measured with a thermometer or a calorimeter. Experiment to create a statement that explains the relationship between temperature and the state of matter.

8. When a constant physical force is applied on or against an object by another object, pressure is created. Experiment to create a statement that explains the relationship between pressure and the state of matter.

9. Experiment to create a statement that explains the relationship between the number of molecules and the state of matter.

10. Reset your experiment. Look at the gas phase for water. Are all the water molecules travelling the same speed? Explain this phenomenon in terms of Temperature.

11. Experiment to create a statement that explains the relationship between temperature and the movement of the particles.

12. Experiment to determine how you can change the phases of matter. Create a table/statement to explain your results.

13. Explain this phase diagram by relating what you know about temperature, states of matter and pressure.

