***Temperature and Pressure***

***Directions:***

1. Copy the data table onto your notebook page.
2. Go to your teacher’s website, and click on the Temperature and Pressure link. (If you can’t find it, the link is: [**http://tinyurl.com/kdenrlm**](http://tinyurl.com/kdenrlm) **)**
3. Click on the launch/ play button.
4. Once the program opens, make sure that you are clicked on the “States” tab.
5. Click on “Oxygen” on the right side of the window.
6. Explore and record data on the Data Table you copied in your notebook.
7. Restart the simulation. Now, click on the “*Phase Changes*” tab on the right of the program.
8. Click on “Oxygen” on the right side of the window.
9. Respond to the following questions (1-7) in your notebook. Use the sentence starters provided.

***Data***

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Labeled Diagram** | **Description of Molecular Movement** | **State of Matter** |
| Oxygen |  |  | Solid |
| Oxygen |  |  | Liquid |
| Oxygen |  |  | Gas |

*Discussion Questions – answer in complete sentences in your notebook*

*(use the sentence starter if provided)*

1. What is different about the motion of oxygen in the three states?
2. To increase the heat, drag the slider tool at the bottom towards the word “heat” and hold it. What happens to the oxygen when you increase the amount of thermal energy (heat)?

*When I increase the thermal energy or heat, oxygen molecules….*

1. Now, look at the pressure. As you increase the heat, what happens to the pressure inside the container?

*As the heat increases, the pressure…..*

1. Now, look at the thermometer. As you increase the heat, what happens to the temperature inside the container?

*As the heat increases, the temperature...*

1. To the right of the screen you see a pump. Click the handle and move it up and down. As you use the pump additional oxygen is introduced. What happens to the pressure in the container?

*When additional oxygen molecules are introduced…*

1. To decrease the heat, drag the slider tool at the bottom towards the word “cool” and hold it. What happens to the oxygen when you decrease the heat? What happens to the pressure?

*When I decrease the temperature the oxygen….*

*When I decrease the temperature the pressure…*

1. What do you think is the relationship between temperature and pressure?

*As the temperature increases…*

1. What is the relationship between the movement of oxygen and temperature and pressure?

*As the movement of oxygen increases, temperature and pressure….*