**Gas Properties – There outta be a law!**

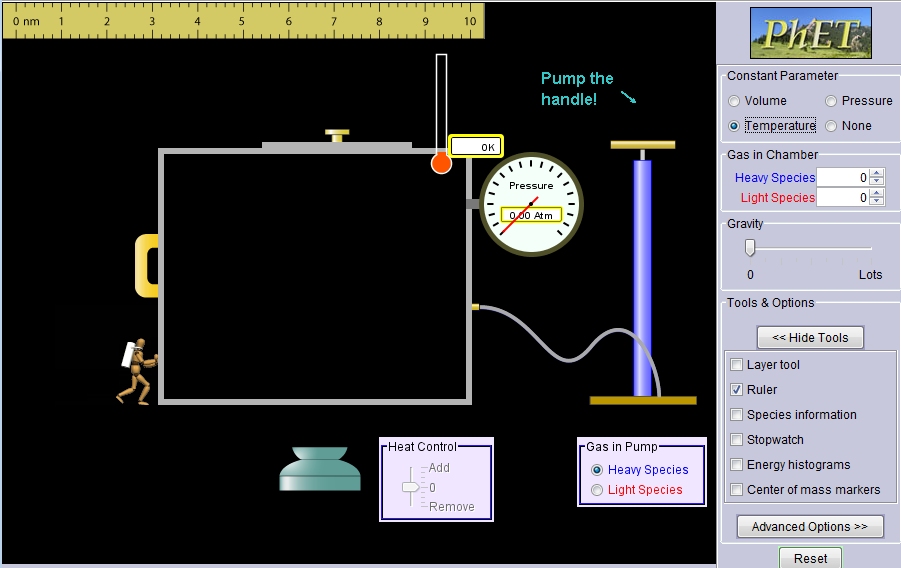
NO Chromebooks!

Sim uses JAVA…

**0. CLICK JAVA CUP**

**3. Pump Handle Once**

**1. CLICK “Temperature”**

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**4. Move**

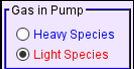
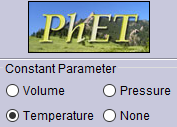
**2. CLICK “Ruler”**

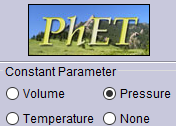
**Part 1**:

1. The diver is around the 3 on the ruler. Move the diver to 1, 2, 3, 4, 5, 6, 7 and 8. Record the pressures in the table, below:

|  |  |
| --- | --- |
| Ruler setting (independent variable, YOU control it!) | Pressure (atm) (dependent variable) |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |

1. What do you notice about the pressures in the table as you go down the column?
2. If you could pull the diver out to 0, what do you think the pressure would do??
3. If you could squeeze the diver into the 10 what would the pressure do???

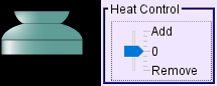
**Part 2:** A. Click . B. Select C. Pump handle once.



D. Wait 10 seconds then change constant parameter to pressure:

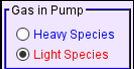
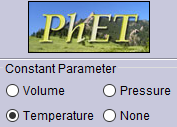


1. What does the diver do to keep the pressure constant?



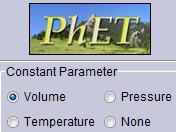
1. Use the temp. control to change the temperature. Fill in the following table:

|  |  |
| --- | --- |
| Temperature (K) (independent variable, YOU control it!) | Ruler setting (nm) (dependent variable) |
| 100 |  |
| 150 |  |
| 200 |  |
| 300 |  |
| 400 |  |
| 500 |  |
| 600 |  |

**Part 3:** A. Click . B Select



C. Pump handle once:

D. Wait 10 seconds then change constant parameter to volume:

1. Use the temp. control to change the temperature. Fill in the following table:

|  |  |
| --- | --- |
| Temperature (K) (independent variable, YOU control it!) | Pressure (atm) (dependent variable) |
| 100 |  |
| 200 |  |
| 300 |  |
| 400 |  |
| 500 |  |
| 600 |  |
| 700 |  |
| 800 |  |

1. What happens to the pressure as you change the temperature? (Sentence(s)!)
2. Play with the sim. Make the lid pop off. How did you do it?
3. Make the lid pop off again in a different way. How did you do it?