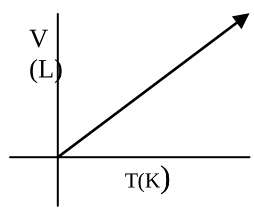
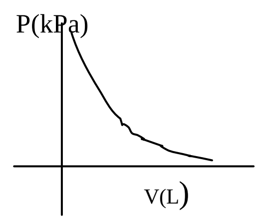
A Summary of the Gas Laws

<table>
<tr><td>Gas Law</td><td>Charles' Law</td><td>Boyle's Law</td></tr>
<tr><td>Variables Involved</td><td>Volume, Temperature of a gas in Kelvin</td><td>Pressure and volume</td></tr>
<tr><td>What is Constant?</td><td>Number of moles and pressure</td><td>Number of moles and temperature</td></tr>
<tr><td>Formula</td><td>$\frac{V_1}{T_1} = \frac{V_2}{T_2}$</td><td>$P_1V_1=P_2V_2$</td></tr>
<tr><td>Graph</td><td>
</td><td>
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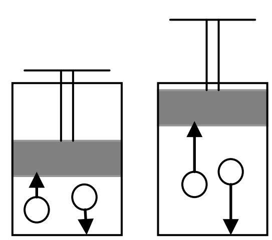
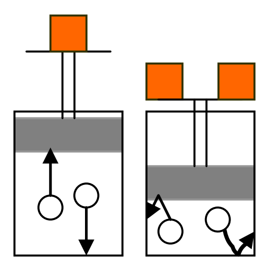
<tr><td>Qualitative Representation</td><td>At constant pressure, a gas' volume is directly proportional to the absolute (Kelvin) temperature.</td><td>At constant temperature, a gas' volume is inversely proportional to its pressure.</td></tr>
<tr><td>Data Example</td><td><table><tr><th>T(K)</th><th>V(L)</th></tr><tr><td>0.00</td><td>0.00</td></tr><tr><td>150</td><td>22</td></tr><tr><td>300.</td><td>44</td></tr></table></td><td><table><tr><th>V(L)</th><th>P(kPa)</th></tr><tr><td>10.0</td><td>100.</td></tr><tr><td>20.0</td><td>50.0</td></tr><tr><td>40.0</td><td>25.0</td></tr></table></td></tr>
<tr><td>Molecular Representation</td><td></td><td></td></tr>
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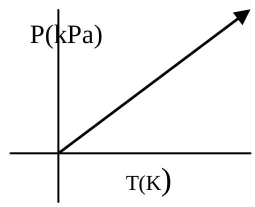
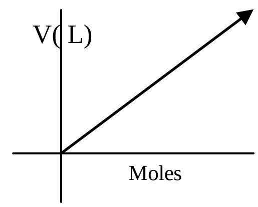
<tr><td>Gas Law</td><td>Gay Lussac's Law</td><td>Avogadro's Law(only one way of representing it)</td></tr>
<tr><td>Variables Involved</td><td>Pressure, Temperature of a gas in Kelvin</td><td>Moles and volume</td></tr>
<tr><td>What is Constant?</td><td>Number of moles and volume</td><td>Pressure and Temperature</td></tr>
<tr><td>Formula</td><td>$\frac{P_1}{T_1} = \frac{P_2}{T_2}$</td><td>$\frac{V_1}{n_1} = \frac{V_2}{n_2}$</td></tr>
<tr><td>Graph</td><td>
</td><td>
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<tr><td>Qualitative Representation</td><td>At constant volume, a gas' pressure is directly proportional to the absolute (Kelvin) temperature.</td><td>At constant temperature and pressure, a gas' volume is directly proportional to the number of moles, regardless of the type of ideal gas.</td></tr>
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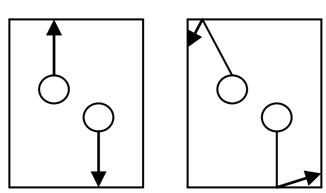
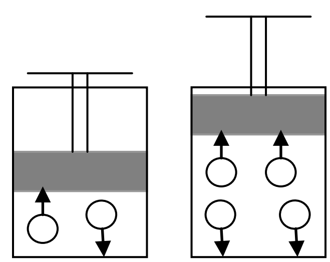
<tr><td>Molecular Representation</td><td></td><td></td></tr>
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