Week 6: MOLECULAR WEIGHT OF VAPOR

• You will be finding the Molecular Weight of an unknown liquid substance by relating the mass of gas to its volume at room temperature and pressure:

• Using the Ideal Gas Equation:

\[ P \, V = n \, R \, T \]

\( P \) = pressure, \( V \) = volume, \( T \) = temp, \( n \) = number of moles, \( R \) = ideal gas constant

So: \[ n = \frac{P \, V}{R \, T} \]
And: \[ \text{Molar mass (Mm)} = \frac{m}{n} \]

You will record \( P \), \( T \), \( V \), and the mass of the vapor
<table>
<thead>
<tr>
<th>Week 6 : MOLECULAR WEIGHT OF VAPOR</th>
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<tbody>
<tr>
<td><strong>Basic setup using Erlenmeyer flask</strong></td>
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<td><strong>Heating the sample</strong></td>
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![Erlenmeyer flask setup](image1.png)

![Heating the sample](image2.png)
Week 6: MOLAR GAS VOLUME

- Make sure that you record the unknown label you use
- You do three determinations with the same unknown
- Make sure that your flask is dry before you begin
- Careful handling the flask as it will be hot!

For Next Lab Session:

- Read all of the material available (Lab Manual and on the Website) related to the next experiment (Titrations)
- Email me with any concerns.