Lecture Demonstration

IDEAL GAS LAW: \( P \ V = n \ R \ T \)

The reaction: \( \text{Li}(s) + \text{H}_2\text{O}(l) \rightarrow \text{H}_2(g) + \text{Li}^+(aq) + \text{OH}^- (aq) \)

The apparatus (sketch this for future reference):

The data:

- Weight of \( \text{Li}(s) \) ________ g
- Barometric \( P \) = ________ torr (mmHg)
- Temperature = ________ °C
- Displaced volume of \( \text{H}_2\text{O} \) = ________ mL
- \( h \) = \( \text{H}_2\text{O} \) height of difference = ________ mm of \( \text{H}_2\text{O} \)

Calculations of expected \( n(\text{H}_2) \) and \( V(\text{H}_2) \):

Corrections:

Sources of uncertainty: