Results: The volume of water emptied into the beaker is the same volume of oxygen that was introduced in flask B.

Calculations:

1. Weight of Flask A and contents before stirring: **123.44g**
2. Weight of Flask B and contents after stirring (O_2 released): **123.21g**
3. Weight of Oxygen evolved: 123.44 - 123.21 = **0.23g**
4. Volume of Oxygen (Volume of water in beaker): **97ml**
5. Temperature of Oxygen: [T(flask A) + T(flask B)]/2 = (30 + 22)/2 = **26°C**
6. Temperature of Oxygen in Kelvin: **26 + 273.15 = 299.15 K**
7. Barometric Pressure: **745mmHg**
8. Vapour Pressure of water at 299.15K: **25.2mmHg**
9. Volume of Oxygen at STP: $P_1V_1/T_1 = P_2V_2/T_2 \Rightarrow 760(V_1)/273.15 = 719.8(97)/299.15$

   V_1 = **83ml** = **0.083L**
10. Molar Volume of Oxygen at STP: $n(O_2)$= (123.44 - 123.21)/32 = 0.00718mol

    Molar Volume = Volume/$n(O_2)$ = 0.083/0.00718 = **11.56 L/mol**
11. Percent Error: (11.56 - 22.4)/22.4 = **48.4%**

Conclusion: Molar Volume of a gas at STP can be derived from Volume and number of moles of that gas. Certain procedures and setups have to be prepared first.

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