Mr. MacGillivray General Chemistry Pre-Lab Assignment: Determining the Molar Mass of Butane

1	What is the	name of the	nas that is	used in	cigarette	lighters?
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- 2. What is its chemical formula?
- 3. What is the molar mass of this gas? (Use periodic table.)
- 4. What is the % composition by mass of air? Round to the nearest 0.1 %. Look it up in your textbook or online.
- 5. What is the average molar mass of air?
- 6. What is the density of air in g/L? Remember: $\mathbf{D} = \frac{\mathbf{m}}{\mathbf{V}}$. It will be easier if you assume that you have one mole of air.
- 7. What is the density of the gas from #2? Remember: $\mathbf{D} = \frac{\mathbf{m}}{\mathbf{V}}$. It will be easier if you assume that you have one mole of this gas.
- 8. Will the gas from #2 float or sink in air? Why?
- 9. Design an experiment to determine the molar mass of butane using a cigarette lighter, a flask, an electronic balance, and a tub of water.