Major Steps in Calculating Masses & Moles from Molecular Weights:

1) Identify each element present in the molecule and write it on a separate line.
2) Beside each element write it **Atomic Masses**, **AM**, of each element as well as the **Number of Atoms, #,** of that element in the molecule.
3) Calculate the **Molecular Weight, MW,** of the compound if this is possible.
4) Write out the **Number of Moles**, **n**.
5) Write out the **Weight**, **W**.
6) Convert any required units.
7) Write out the Equation related **MW**, **n**, & **W**.
8) Calculate the required **Number of Moles, Weight of Sample, or Molecular Weight**, as required.

MW = **W** / **n**	**W** = **MW** x **n**	**n** = **W** / **MW**

Note #1: Show all work for all questions.

Note #2: Use the number of significant figures in your final answer that is justified by the number of significant figures of the data you were given.

Determine the Mass or number of moles for of the following molecules as required:[1,2]

1. A samples of $\mathbf{C_2H_5F}$ weights 2.3 g, how many moles are present?

2. A samples of $\mathbf{C_3H_5O}$ contains 1.13×10^{-2} moles, what does it weight?

3. $\mathbf{C_5H_5N}$ - 22.3 g

4. $\mathbf{C_6H_{12}O_6}$ - 2.713×10^{3} moles

5. **NaCl** - 34 Kg

6. $\mathbf{C_6CrO_6}$ - 0.0107 g

7. $\mathbf{C_{10}H_{10}Fe}$ - 0.0107 moles

8. **MgO** - 2.3×10^{-5} Kg

9. $\mathbf{Na_2SiO_3}$ - 0.19 moles

10. A 23.1 g sample of Rock is found to be composed of 0.197 moles, what is the Molecular Weight?

11. A bowl of a pharmaceutical product weights 1.2 g and was found to have 0.0078 moles in it. What was the molecular weight of the pharmaceutical?

[1] Note: Use the Atomic Masses from the table on the inside front cover of the text book.
[2] Note: These are the same molecules used on the Molecular Weight and % Composition Problem Sets.