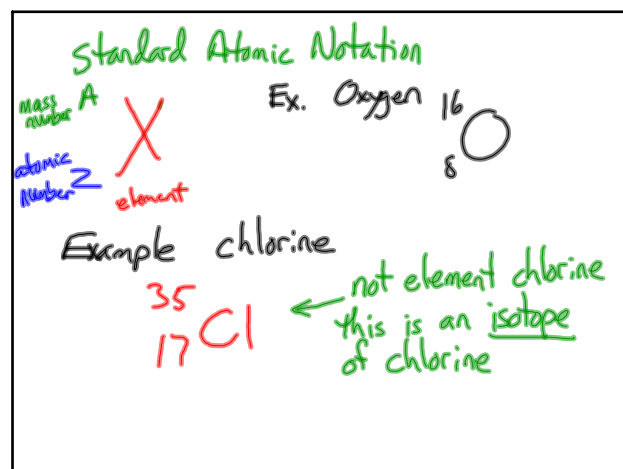
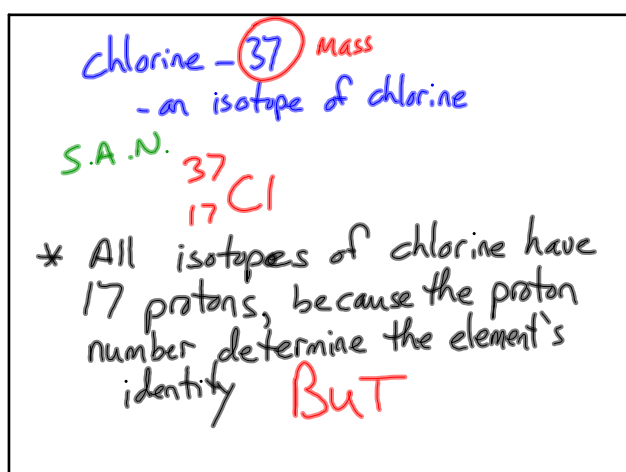


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the isotopes will have different numbers of neutrons. Some isotopes may be radioactive (radioisotopes) because of the unstable combination of protons and neutrons.

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So the atomic mass is not the mass of ~~an~~ an atom, it is the weighted average mass of all the isotopes of that element.

→ The abundance of each isotope is included in the average.

② Calculating Relative Atomic Mass

Given — isotope and % abundance

Ex. Calculate relative atomic mass of a sample of Beryllium.

Be - 7      15%

Be - 9      65%

Be - 11     20%

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Be - 7      15%  
Be - 9      65%  
Be - 11     20%

$$A_r = \left( \begin{matrix} \text{mass} \\ \text{isotope} \\ A \end{matrix} \times \begin{matrix} \text{percent} \\ \text{decimal} \end{matrix} \right) + ( \dots )$$

$$A_r = (7 \times 0.15) + (9 \times 0.65) + (11 \times 0.2) \\ = 9.1 \text{ u (atomic mass unit)}$$

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