ATOMIC NUMBER AND MASS NUMBERS

After reading this section you will be able to do the following:

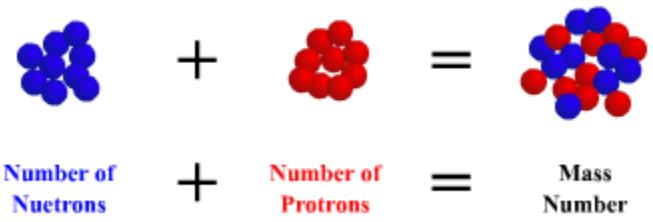
- Define and determine the atomic number of an atom.
- Define and determine the mass number of an atom.

What is an atom's atomic number?

The number of protons in the nucleus of an atom determines an element's atomic number. In other words, each element has a unique number that identifies how many protons are in one atom of that element. For example, all hydrogen atoms, and only hydrogen atoms, contain one proton and have an atomic number of 1. All carbon atoms, and only carbon atoms, contain six protons and have an atomic number of 6. Oxygen atoms contain 8 protons and have an atomic number of 8. The atomic number of an element never changes, meaning that the number of protons in the nucleus of every atom in an element is always the same.

What is an atom's mass number?

All atoms have a mass number which is derived as follows.



Review:

1. An element's or isotope's **atomic number** tells how many protons are in its atoms.

2. An element's or isotope's **mass number** tells how many protons and neutrons in its atoms.

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