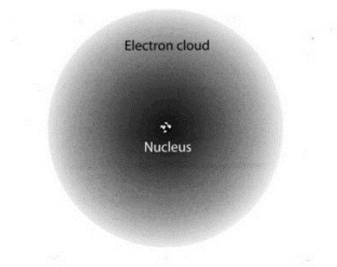


**Section 1**      **Structure of the Atom**

- I. The atom is the smallest particle of matter.
- II. Subatomic particles
  - i. Proton
    1. Positively charged
    2. Located inside the nucleus
  - ii. Neutron
    1. Neutral in charge
    2. Located inside the nucleus
  - iii. Electron
    1. Negatively charged
    2. Located outside the nucleus in the electron cloud
    3. Much smaller than a proton or neutron
- III. Models of the atom
  - i. Scientists use models to represent concepts that are too large or small to work with.
  - ii. The model of the atom has changed over time, as scientists learned more information models were adjusted to accommodate new ideas.
  - iii. Today's model reflects our understanding of atomic structure so far.
    1. An atom contains a well-defined nucleus with protons and neutrons surrounded by electrons.



**Section II**      **Masses of Atoms and the Periodic Table**

- IV. Each element has a unique number of protons in its nucleus.
- Atomic number=number of protons
  - Also equals the number of electrons in a neutral atom.
- V. The mass number is found by adding the number of protons and neutrons together.
- We can use mass number to find the number of neutrons in an element.  $\text{Number of Neutrons} = \text{mass number} - \text{atomic number}$ .

Complete the following chart

	Atomic Number	Mass Number	Number of Protons	Number of Neutrons	Number of Electrons
Chlorine					
Neon					
Lithium					
Carbon					
Nickel					