



Radioactivity and atomic structure

Atomic Structure Rule Box

1. The number of protons in the nucleus is called the **atomic** or **proton** number.
2. The number of **nucleons** (neutrons + protons) is called the **mass** number.
3. In a neutral atom, number of electrons = number of protons.
4. Isotopes of an element have the same number of protons in the nucleus but different numbers of neutrons.

Questions

1. An isotope of carbon contains 6 protons and 8 neutrons.

- a) What is its atomic number? _____
- b) What is its mass number? _____
- c) Write down the symbol for this isotope. _____
- d) How many electrons would a neutral atom have? _____

2. Complete this table

Symbol	Number of protons	Number of neutrons	Number of electrons	Atomic number	Mass number
⁴ He	2	2			
¹² C					
⁶	6	8			
¹⁶ O					
⁸	8				17
⁵⁴ Fe					
²⁶		30		26	

3. Which of the atoms in this table are isotopes of the same element?
