

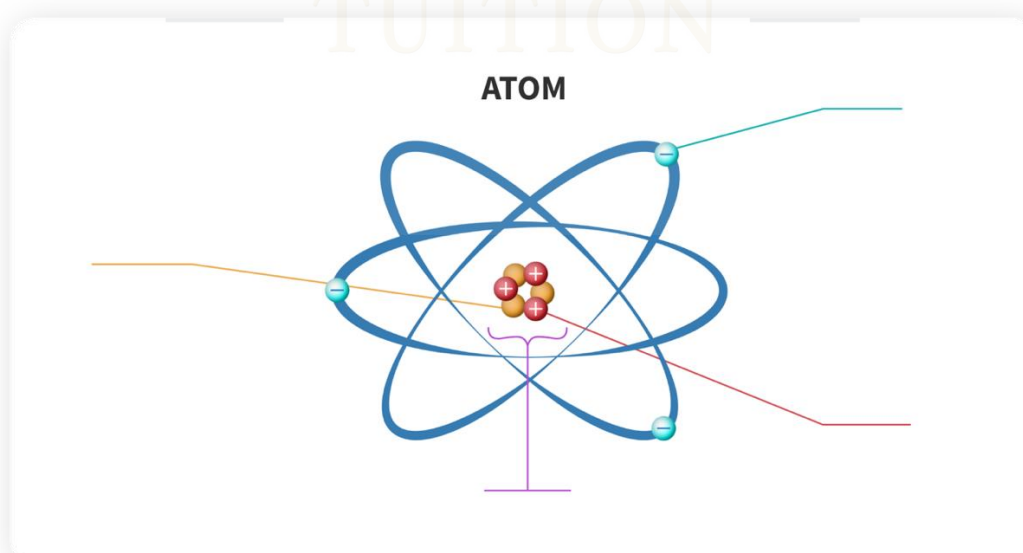
ATOMIC STRUCTURE – Worksheet 1

At the heart of an atom lies a compact, _____ composed of positively charged _____ and uncharged _____. This nucleus is proportionally much smaller than the atom as a whole. Encircling the nucleus are _____ discovered by Bohr. Atoms are electrically neutral because the number of _____ in the nucleus is balanced by the number of _____ with a negative charge orbiting it whereas ions could be positive or negatively charged depending on an unequal number of _____ and _____.

Please fill in the table:

Sub-Atomic Particle	Relative Mass	Relative Charge
Proton		
Neutron		
Electron		

Let's complete the structure of an atom.



The atomic number represents the number of _____.

The mass number of an atom is equal to the sum of its _____ and _____.

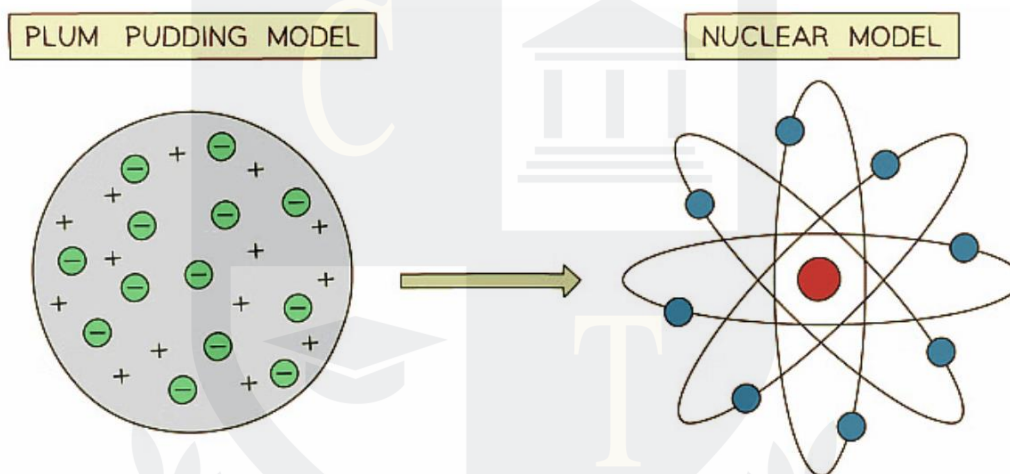
The number of protons, neutrons, and electrons in an atom can be worked out using atomic and mass numbers.

Number of protons =

Number of neutrons =

Number of electrons =

Two atomic models are shown below.



Mention two differences between plum pudding and the nuclear model:

Atoms of the same element have an number of protons. In fact, the number of protons present in an atom determines its(e.g., all atoms with 6 protons are carbon atoms). On the other hand, atoms of different elements possess varying numbers of protons.....

Isotopes are atoms that have the same number of in their nucleus as other atoms of the same element, but they differ in the number ofthey possess. This variation in the number of leads to a difference in the atom's atomic mass number while the atomic number remains the same. Isotopes can exhibit different properties due to their varying atomic mass, which can affect their stability and reactivity while they have the sameproperties because of the same configuration. The study of isotopes has significant applications in fields such as nuclear physics, geology, medicine, and environmental science.

COMPLETE THE TABLE

ATOM	ATOMIC NO	MASS NO	NO. OF PROTONS	NO. OF NEUTRONS	NO. OF ELECTRONS
Boron	5				
Silicon			14		
Sodium	11				
Aluminium		27			
Lead			82		

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