Test: **Atom. Atomic Models. Quantum Mechanics. Quantum Mechanic Model**

Activity: Look and complete.

image taken from https://blog.nearsoftjobs.com/c%C3%B3mo-instalar-paquetes-en-atom-23c64d8ddb4c

All matter is made up of

An is the smallest particle of matter which can exist alone.

The centre of the atom is called

The nucleus is made up of particles called and

Protons have charge

Neutrons have charge

Nucleus has a charge

Electrons have a charge

Each atom is defined by two characteristics: its atomic number and its mass number.

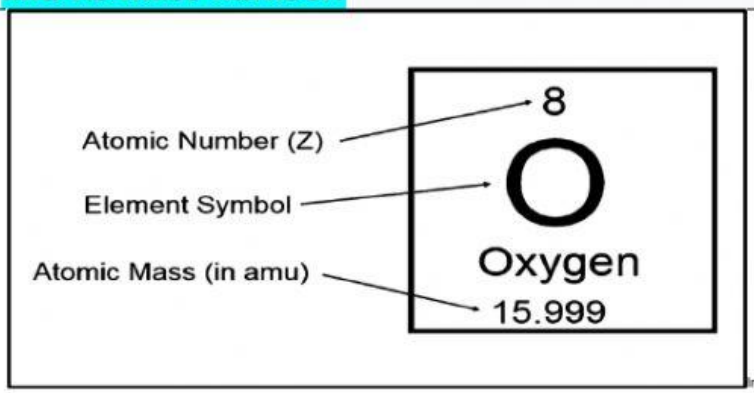


image taken from https://link.springer.com/referenceworkentry/10.1007%2F978-3-319-39312-4_244

The atomic number of an atom is the in the nucleus

The mass number equals the

and are the four quantum numbers.

Image taken from https://www.youtube.com/watch?v=rxNIr9CZrhY

Activity: Match

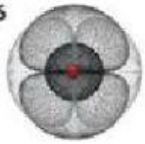
1 1803

2 1904

3 1911

4 1913

5 1926



A Rutherford demonstrates the existence of a positively charged nucleus that contains nearly all the mass of an atom.

B In the current model of the atom, electrons occupy regions of space (orbitals) around the nucleus determined by their energies.

C Thomson discovers electrons, believed to reside within a sphere of uniform positive charge (the plum pudding model).

D Bohr proposes fixed circular orbits around the nucleus for electrons.

E Dalton proposes the indivisible unit of an element is the atom.

Activity: complete

is the science dealing with the behaviour of matter and light on the atomic and subatomic scale. It attempts to describe and account for the properties of molecules and atoms and their constituents—electrons, protons, neutrons.

The model is the current model of what an atom looks like.

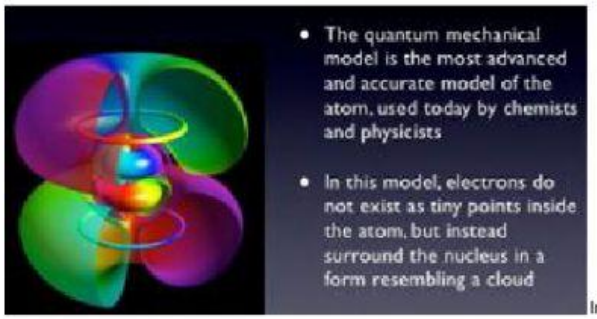


Image taken from https://www.flexiprep.com/Important-Topics/Chemistry/Quantum-Mechanical-Model-of-Atom.html

The three scientists that laid the foundation of the quantum mechanical model are

, and

Their contributions:

In 1924 proposed that electrons have wave and particle properties

In 1926 suggested that it is not possible to determine the position and the momentum of a particle with absolute precision. This is called the

.

In 1927 established a that describes the probable location of electrons. The Schrödinger model assumes that the electron is a wave and tries to describe the regions in space, or orbitals, where electrons are most likely to be found.