**Atoms: Development of the Atomic Theory**

*Model Name:*

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Greek philosopher proposes the existence of the \_\_\_\_\_\_\_\_\_\_.

His theory:

* all atoms are small hard particles
* made of a single material formed into different shapes and sizes
* always moving, and that they form different materials by joining together.

*Model Name:*

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British chemist who found that \_\_\_\_\_\_\_\_\_\_\_\_ combined in specific proportions to form compounds.

His theory:

* all substances are made of atoms that cannot be created, divided, or destroyed
* atoms join with other atoms to make new substances
* atoms of the same element are exactly alike, and atoms of different elements are different in mass and size (\_\_\_\_\_\_\_\_\_\_\_\_\_)

English chemist developed the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ theory.

His theory:

* every atom has a fixed number of \_\_\_\_\_\_\_\_\_\_\_\_(chemical links) that it can form
* for the atom to be stable, all of these bonds must be used.

English chemist and physicist discovered the 1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ particles

His theory:

* negatively charged particles called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and positively charged matter
* created a model to describe the atom as a sphere filled with positive matter with negative particles mixed in
* Referred to it as the \_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ model.

*Model Name:*

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New Zealand physicist discovered the \_\_\_\_\_\_\_\_\_\_\_\_\_\_

His theory:

* small, dense, positively charged particle present in nucleus called a \_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_ travel around the nucleus, but their exact places cannot be described

*Model Name:*

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Danish physicist discovered \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

His theory:

* \_\_\_\_\_\_\_\_\_\_\_\_\_ travel around the nucleus in definite paths and fixed distances
* electrons can \_\_\_\_\_\_\_\_\_\_ from one level to a path in another level

Austrian physicist developed the \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ model

His theory:

* \_\_\_\_\_\_\_\_\_\_\_\_ exact path cannot be predicted
* regions, referred to as the \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, are areas where electrons can likely be found.

*Model Name:*

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* Atoms are composed of three main subatomic particles: \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (in the nucleus) and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (outside the nucleus)
* Most of the **mass** of the atom is concentrated in the nucleus of the atom (\_\_\_\_\_\_\_\_\_\_\_ +\_\_\_\_\_\_\_\_\_\_\_\_).
* In stable atoms, the number of protons is equal to the number of electrons.
* The type of atom is determined by the number of protons it has (\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ electrons are the outermost electrons and are where bonding takes place

English physicist discovered \_\_\_\_\_\_\_\_\_\_\_\_\_

His theory:

* neutrons have no \_\_\_\_\_\_\_\_\_\_\_ charge
* neutrons have a \_\_\_\_\_\_\_ nearly equal to the mass of a proton
* unit of measurement for subatomic particles is the \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ unit (amu)

Modern Day Theory