

Name: _____ Date: _____

Development of Atomic Theory

Fill in the blanks in the following paragraph.

More than 2000 years ago, Greek philosopher _____ proposed the existence of very small, indivisible particles, each of which was called a(n) _____. An atomic theory would be proposed years later by _____.

It was later proposed that the atom was not indivisible, but is made up of smaller particles, each of which is called a(n) _____.

These particles include the negatively-charged _____ discovered by _____, the positively-charged _____ and the uncharged _____ discovered by _____. The latter two particles are present in the _____, or center, of the atom, which was discovered by _____ in his gold foil experiment.

The number of positively-charged particles in an atom is its _____, while the sum of the positively-charged particles and the uncharged particles is its _____. Atoms that have the same number of positively-charged particles but different numbers of uncharged particles are called _____.

The Danish physicist _____ proposed an atomic model in which the electrons orbit the nucleus without losing energy. Each possible orbit was also called a(n) _____.

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Answers

More than 2000 years ago, Greek philosopher Democritus proposed the existence of very small, indivisible particles, each of which was called a(n) atom. An atomic theory would be proposed years later by Dalton.

It was later proposed that the atom was not indivisible, but is made up of smaller particles, each of which is called a(n) subatomic particle. These particles include the negatively-charged electron discovered by Thomson, the positively-charged proton and the uncharged neutron discovered by Chadwick. The latter two particles are present in the nucleus, or center, of the atom, which was discovered by Rutherford in his gold foil experiment.

The number of positively-charged particles in an atom is its atomic number, while the sum of the positively-charged particles and the uncharged particles is its mass number. Atoms that have the same number of positively-charged particles but different numbers of uncharged particles are called isotopes.

The Danish physicist Bohr proposed an atomic model in which the electrons orbit the nucleus without losing energy. Each possible orbit was also called a(n) energy level.