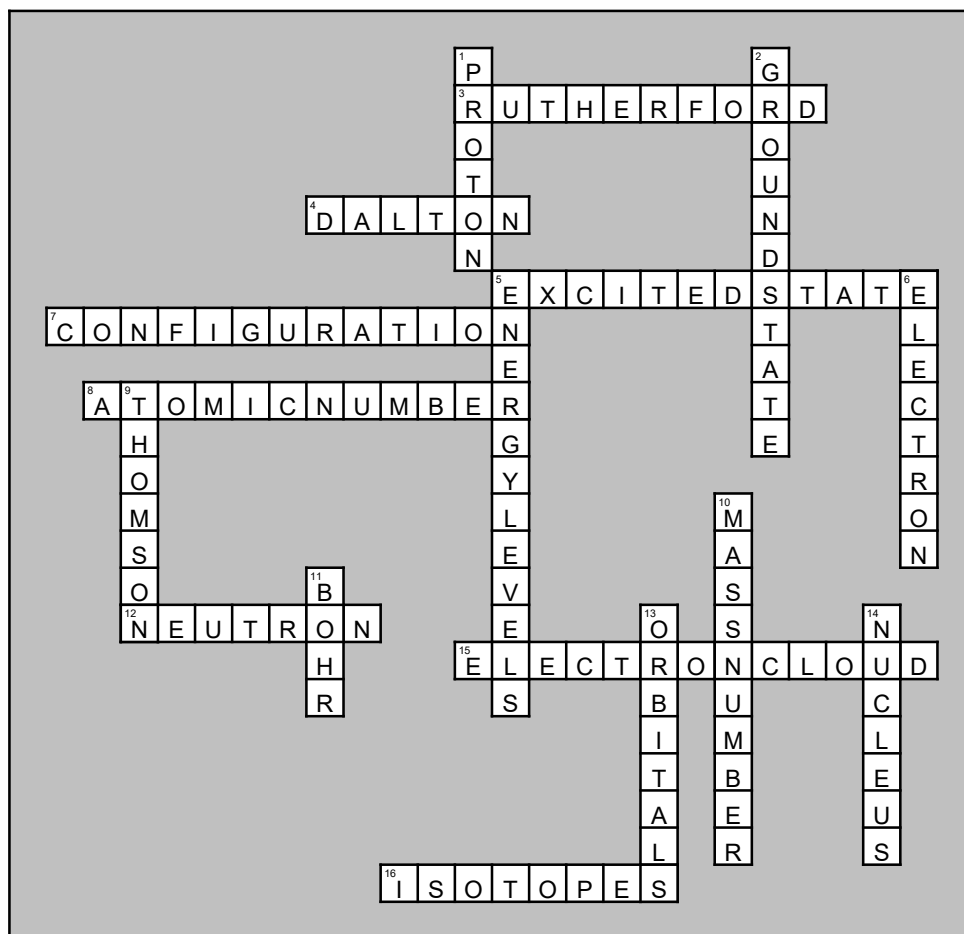


# Crossword



## Across

- According to his model, all of an atom's positive charge (and mass) is concentrated in its nucleus. Electrons move randomly in the space around the nucleus.
- Proposed the theory that all matter is made up of individual particles called atoms, which cannot be divided.
- Atoms absorb energy and become unstable where electrons change energy level. This less stable condition is known as the \_\_\_\_\_. Atoms return to the ground state from this condition by losing energy.
- The arrangement of electrons in the orbitals of an atom. The most stable possesses the lowest energy possible.
- The number of protons in an atom's nucleus. Different elements have different number of protons.
- Neutral subatomic particle that is found in the nucleus. Same mass as a proton (1 amu).
- Modern model of the atom where the probability of finding an electron is higher in the denser regions. This describes possible locations of electrons around the nucleus.
- Atoms of the same element that have different numbers of neutrons and, therefore, different mass numbers. H-1 has 1 proton and 0 neutrons; H-2 has 1 proton and 1 neutron; H-3 (tritium) has 1 proton and 2 neutrons.

## Down

- Positively charged (+1) subatomic particle found in the nucleus of an atom. Mass of 1 amu.
- When electrons in an atom exist in the lowest possible energy configuration, the atom is in the \_\_\_\_\_.
- Electrons move with constant speed in fixed orbits around the nucleus. Each electron has a specific amount of energy. The energies are called \_\_\_\_\_. Electrons can change where they exist by gaining or losing energy.
- Negatively charged (-1) subatomic particle found outside the nucleus. Considered to have "no" mass.
- His experiments provided the first evidence that atoms are made of even smaller particles. He worked with "electrons." Plum pudding model of the atom.
- The sum of the protons and neutrons in the nucleus of the atom. Used to determine the number of neutrons in the atom. # neutrons = \_\_\_\_\_ # - atomic number
- His model focused on the electrons existing in energy levels (spherical orbits) outside the nucleus (planetary model of the atom).
- A region of space around the nucleus where an electron is likely to be found. Two electrons can be found in each of these aspects of the electron cloud.
- The dense, positively charged mass located in the center of the atom. Discovered by Rutherford.