

# An Atom: Smallest Part of Matter

Name \_\_\_\_\_

Hour \_\_\_\_\_ Date \_\_\_\_\_

All matter is made of very tiny particles. These particles keep the same characteristics or properties that matter has. These particles are called atoms. All atoms are about the same size and they are VERY tiny. An atom is more than one million times smaller than the thickness of a single hair on your head! It would take billions of atoms just to make up the period at the end of this sentence.

Because atoms are so small, scientist have never really been able to see them. Using very powerful microscopes, scientists have been able to see evidence of atoms and how they behave. From these observations, they have developed a model of what they believe atoms look like. The most recent model is known as the Electron Cloud Model.

According to this model, all atoms have the same basic parts: protons, neutrons, and electrons. The protons are positively charged particles. Neutrons are particles that have no electric charge, and electrons are negatively charged particles. Protons and neutrons are found in the center of the atom in a core called the nucleus. Electrons are found in a cloud that continually move around the nucleus.

Even though they are the smallest part of all matter, atoms must fit our definition of matter. Scientists have found that atoms do have mass. Most of the mass of an atom is found in the protons and neutrons, so most of the mass is found in the atom's nucleus. Atoms also take up space. Most of the space of the atom is taken up by the electron cloud that circles the nucleus.

