

Background: The third week of class has us continuing to explore matter. We've learned how to measure it and classify it. At the atomic level, we will learn how describe it. This is around the time that you will be given a periodic table of your own. You will love it, like the little black comb you got on picture day in the 5th grade. This is the most beautiful thing that life can give you. Its better than kittens.

There are 118 elements on the periodic table, and 88 of them occur naturally, meaning that you could find them laying around somewhere. A couple of them could straight up kill you (Hg and Pb). One of them was named by a woman as a political protest (Po). One of the beautiful things about the periodic table is that they are arranged in a way that highlights their properties. Nature made them this way, and Mendeleev (among others) found a way to write it down.

Atoms themselves are not as indivisible as we were lead to believe. They are made up of protons, neutrons, and electrons. Each of those are made of something as well. Atoms are important because they are the smallest *unique* division of matter. A proton is a proton, its nothing special. A proton with an electron is Hydrogen, and that makes it different from the 117 other elements.

Atoms can be classified, and we'll spend some time on that. Additionally, we will explore how they combine to form compounds. They do this based on their chemical properties and their relative ability to gain or lose electrons (slippery little things).

After this week, you will begin almost all of your sentences with "Hey, did you know that...". You will also probably end most of your conversations with, "Are you listening? I was trying to tell you that..." Your friends will be really impressed.

Objectives:

1. Classify elements as metals, nonmetals, or metalloids.
2. Classify elements based on their placement in the periodic table.
3. Determine the number of protons, neutrons, and electrons in various elements.
4. Describe the various allotropes of elements.
5. Identify potential pairings of ions to make compounds.

Reading: Zumdahl – Chapter 4