

Intro to Chemistry, Basic Concepts - Periodic Table, Elements, Metric System & Unit Conversion

In this video, we will be going over some of the basic topics that you need to know if you are about to take a chemistry course. The elements in the periodic table all have one valence electron, which means they like to form ions with plus one charges. In the next column, we have elements such as beryllium, magnesium, calcium, and strontium. These are known as alkaline earth metals. Group 1 to 2a then groups 13 to 18 are known as representative elements. Group 3 to 12 is the transition metals, and then this is the inner transition metals which are nonrepresentative elements. Nitrogen likes to form a minus three charge, and the same is true for phosphorus when it has a negative three charge it is called phosphite. Nonmetals tend to be electronegative metals, and usually they are electropositive electronegative elements. The noble gases are chemically inert and they are very stable; they do not usually participate much in chemical reactions. If you were asked which element is nonreactive, your answer would be neon.

In chemistry, silicon and germanium are the most common metalloids that you'll be tested on. Metals can also conduct electricity, metals are malleable, they could be hammered into sheets, and they're ductile. They can be drawn into wires. Nonmetals do not conduct electricity. Sodium has one valence electron and chlorine has seven valence electrons. Sodium loses that electron, and it becomes a positively charged cation. Chlorine on the other hand becomes a negatively charged anion. Whenever you have two like charges next to each other these two will feel a force that repels them opposite charges. Well like charges repel but opposite charges attract. Take a mini quiz to see if you remember what you've learned so far: Classify the following compounds as ionic or covalent. When you have a molecule that contains only carbon and hydrogen atoms, it's a nonpolar molecule. The bond between carbon and nitrogen is polar.

In the nucleus of an atom, helium has a mass of four and an atomic number of two. In this form, it looks like the atomic number and the mass number switched. However, helium has two protons, two neutrons, and