

Homework Lesson 6 A New Language p. 25 # 1-6 (assigned #6 in all sections)

1. An **element** is a pure substance that is made up only of atoms of one type. Ex. carbon (C) or oxygen (O). Can find it by name or symbol on the Periodic Table of the Elements.
A **compound** is something made up of two or more elements that are held together by a chemical bond and which cannot be broken apart except by chemical change. The chemical formula for a compound will have element symbols from two or more elements on the Periodic table.
2. The **physical form** of a substance is a description of its phase of matter—solid, liquid, or gas. Aqueous is used to describe substances dissolved in water.
3. The formula for sodium nitrate has three elements—sodium (Na), nitrogen (N), and oxygen (O).
4. The difference between them is that one is solid (s) and the other is aqueous, that is the solid has been dissolved in water.
5. Chemical symbols can prove that it is not a diamond because diamond would have just the symbol for pure carbon, which is C, in its name whereas cubic zirconia would not have a C or it may have a C in combination with something else.
6. The potentially dangerous steps in this procedure are:
 - a. Step 2 adding nitric acid which produces a poison gas and must be completed in the fume hood with the vent fan running.
 - b. Step 3 adding the caustic solution of 1M NaOH.
 - c. Step 4 using a hot plate.
 - d. Step 8 adding 1 M sulfuric acid