

Pupil Textbook • Unit 7

makes new elements from existing elements and not the way God made them in the beginning: out of nothing. Furthermore, the new elements fit into God's master plan for all elements.

This numbering of the elements from 1 to 109 is not the only order of the elements. The next section will introduce you to another very wonderful order in God's plan for the elements.

Study Exercises: Group C

1. An element is a material made up of _____.
2. In what way is hydrogen element number 1?
3. What determines the number of an element?
4. What could you tell about element number 65 if all you knew about it was its number?
5. How many elements have been found in the world as God created it?
6. The elements are arranged in order according to
 - (a) the number of protons in one of their atoms.
 - (b) the order in which they have been discovered.
 - (c) the total number of protons and neutrons in their atoms.
 - (d) the order of their usefulness.
7. From where did the "new" elements come? How does the origin of the elements beyond 92 differ from the origin of most of the first ninety-two elements?

The Periodic Table

Each of the 109 elements has different properties. But there are also similarities between the properties of some of the elements. The elements that are most similar are not always next to each other in the order of the number of protons. For example, fluorine, element 9, is more like chlorine, element 17, than either elements 8 or 10. The reason for this is that God determined the arrangement of the electrons in the atom. God's plan can be illustrated with a diagram

of the elements called the *periodic table* of the elements. Although man constructed the table, he only discovered and made use of God's order in placing the electrons in the atom.

As you recall, the hydrogen atom has a single electron since it is element number 1. The helium atom has two electrons, and both of these electrons are the same distance from the nucleus in a region called a shell. (Although the electrons will be pictured in orbits like the well-defined path of planets in orbit about the sun, the actual existence of electrons is more nearly like a shell.)