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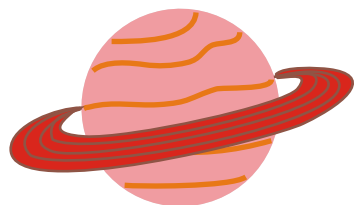
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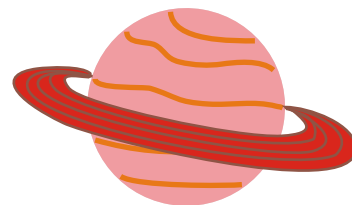
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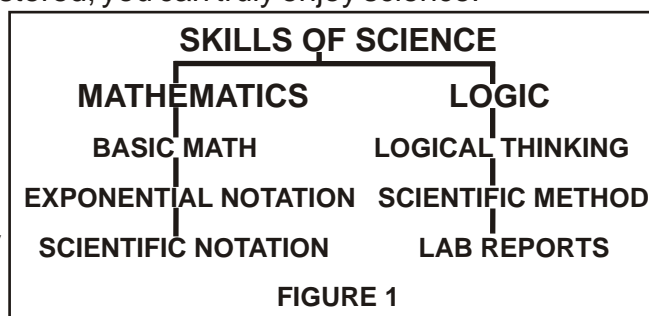


SKILLS OF SCIENCE



Science is the orderly study of anything in God's/Yahweh's universe that is interesting to man. There are many interesting scientific things about which to learn. To study science, you must develop a set of mathematical skills and thinking skills as well as learn how to use them. Once these skills are mastered, you can truly enjoy science!

In **Figure 1**, the skills of science are divided into two types: **Mathematics** and **Logic**. In the mathematics category, the first skill involves the learning and mastering of basic math. **Basic math** skills include addition, subtraction, multiplication, and division which you mastered in the elementary grades.



Now that you have reached a higher grade level in science, more advanced math skills are required. This is because a scientist often works with mathematical problems with long strings of a letter or a number multiplied by itself as in: $b \times b \times b \times b \times b \times b \times b$ or $10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$. If one had to write these long strings each time a mathematical problem needed to be solved, the work of the scientist would be very long, tiring, and laborious. For this reason, a second math skill was developed and named **exponential notation**. Exponential notation is a mathematical method of dealing with very large strings of letters and numbers that makes them manageable.

A scientist often has to work with many very large numbers and many very small numbers. For instance, consider the very large weight of the sun represented by this number: 2,200,000,000,000,000,000,000,000 tons! Consider also the very small size of the atom; there are about 100,000,000,000,000,000,000,000 atoms in about a half teaspoon of water. In order to work with these types of numbers, a third mathematical skill was developed which includes exponential notation. Once exponential notation is mastered, this third math skill can be learned. This math skill is named **scientific notation**.

By this grade level, you should have the skills of basic math already mastered. In this chapter, you will learn how to use the more advanced skills of exponential notation and scientific notation. Explanations of how to use these skills are provided in the following study sections and ample problem solving exercises are included in the workbook. Once you have mastered these math skills, you will move on to **CHAPTER TWO** which will deal with three skills of science under the category named **Logic**. Logic is important to science and it is also an important trait of God.

Logic is a way of thinking that may be found in the Bible. For instance, in the very first chapter of Genesis/Bereshith all mankind learns that God created