

Before You Start ...

THE CHALLENGE

Today's average high school graduate knows and can do less math than their counterpart of ten, fifteen, or twenty years ago. Basic math skills have deteriorated to the point that many wonder if this country can continue to be a leader in shaping the technology of the future. Unfortunately, the general trend of modern education of all types is downward. Students in private education, while they score higher overall than public school students, still do poorly in math computation skills.

THE GOAL

The goal of this curriculum is to provide the parent and teacher with a tool that will help them effectively combat this deterioration of math skills by raising the level of student performance. Research of the content and methods of other existing curriculums, the concepts evaluated by achievement tests, and typical courses of study resulted in selection of the *Scope and Sequence* starting on page 14. This curriculum was not planned around any particular group of students. Rather, it was determined that the material in this curriculum constituted a reasonable level of performance for third grade students. The curriculum is designed so that the teacher

can adapt its use to student(s) of widely varying ability. In other words, the curriculum is a tool that is capable of performing well over a broad range of student ability to help them achieve a higher minimum level of proficiency. The two major components of the curriculum are the student text (in two volumes) and the **Teacher Handbook**. These are the absolute minimum components for accomplishing the objective of teaching the concepts in the *Scope and Sequence*. Since this handbook was designed as an integral part of the curriculum, it is absolutely necessary to use the handbook. The handbook contains activities not found in the student texts that are essential to the accomplishment of the curriculum objectives. As you will see in the following sections, this **Teacher Handbook** contains a significant number of suggestions and helps for the teacher. All manipulatives are identified with *italics* so that the teacher may easily see them at a glance.

THE DESIGN

Take a moment to look at the sample chart entitled, *Development of Concepts*, on page 29. Take note of how the curriculum concepts are developed. The first presentation is usually a brief familiarization. Then the basic teaching is accomplished as

part of three to five lessons. The thoroughness of a presentation depends on how new and how important the concept is to the student's academic development.

The Development

Each concept will be reviewed for three to five lessons after the complete presentation. For the next two months the concept will be presented every two weeks as a part of two or three consecutive lessons. After a break in presentation of four weeks, the concept will be thoroughly reviewed as part of the lesson for three to five days. This will be followed by a period of two months where the concept will be reviewed every two weeks as part of two or three lessons. This progression continues until the student(s) have had the opportunity to thoroughly master the concept.

An Example

Some mathematics curriculums might teach *graphs* for two weeks and not go back to it again. In this curriculum it will be introduced and practiced for two weeks. For the next two months, *graphs* will be presented every two weeks as a part of two or three lessons to give the student(s) continual practice to develop mastery of the concept. The third month will be considered a break from presenting the concept and *graphs* will not be taught. In the fourth month, *graphs* will first be thoroughly reviewed

and again practiced every two weeks as a part of two or three lessons. By having a series of practices every two weeks, the student(s) will retain what they have learned to a greater degree. Short periods of exposure repeated many times is much more effective than long periods with fewer exposures. Since there are four types of graphs to study at this level (bar, line, pictograph, and circle), each type is introduced at separate intervals. The *bar graph* is taught at the introduction to the study. *Line graphs* are introduced a month later (following the same progression), *pictographs* another month later, and circle graphs still another month later. After each type of graph has been completely introduced individually, the four types are presented together for the remainder of the year. Review the chart on page 29 to see how the concepts are developed.