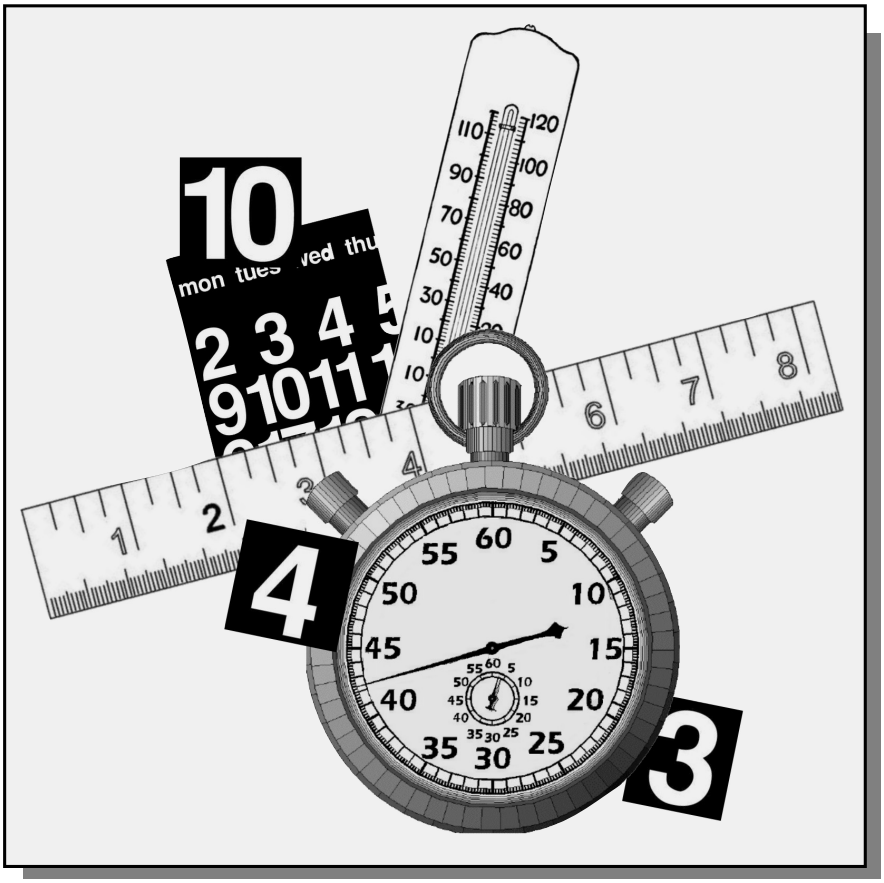
Basic Math Skills

Teacher's Resource Kit



Black Line Masters

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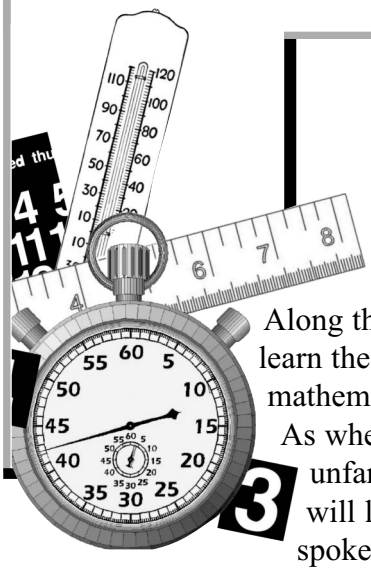
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Basic Math Skills
INTRODUCTION



You are about to take a journey through the land of Mathematics with Professor K. Along the way you will learn the history of many mathematical concepts. As when going to any unfamiliar land you will learn the language spoken there and how to use the tools of that land to accomplish the job set before you.

All of us use mathematics in some form or another everyday, from currency exchange to weighing and measuring. Math can be fun if taken one small step at a time. You have probably solved riddles just for fun. The fun in a riddle is in the solving of it, the satisfaction of getting to the right answer. Math can be fun too, because you are given a problem and challenged to find the answer. As with riddles, problems can be fun in the quest for solutions. You can have fun as Professor K reviews mathematical concepts you already know and shows you new ones.

Since the dawning of civilization man has seen the importance of mathematics. Mathematics began as simply tallying or counting possessions, such as camels, sheep, or pieces of gold or silver. Man has applied math skills in trading, keeping up with the passage of time, and inscribing geometric shapes on pottery and patterns woven into cloth.

You probably remember from history, stories of the Egyptian pyramids. Ancient architects could not have built the pyramids without the use of mathematics. Even today we do not know how men built pyramids in Egypt, Mexico, Cambodia and elsewhere, without the use of today's technology and machinery. Mathematics and physics enabled ancient cultures to build geometric wonders to precision.

Ancient Greeks, Romans, Aztecs and Incas used mathematics to explain the universe in light of religion. Ancient cultures in Central and South America, France, England, Cambodia and Egypt used similar mathematics to plot orbits of stars and to duplicate the constellations dating back as far as 10,500 years ago. You may recall hearing the names of such men as Archimedes, Plato, Newton, and Einstein. These are just a few of the men who have contributed to what we know today about mathematics. Some of these men saw and solved problems just for fun. Others diligently worked for years not giving up just because the answer was not easy to identify. You, too, can do the same and make math an enjoyable educational experience that can last your entire life.

You remember from history books the stories of early explorers and the founding of America. Writers used time lines to give you an idea of when events took place in relationship to other events. When looking at time lines, you see only key years displayed. Some time lines have gaps of many years between key dates. To find the number of years between these dates you have to subtract one date from another.

For example, in 1513 Ponce de Leon explored parts of Florida, looking for the "Fountain of Youth." Then in 1527, Cabeza de Vaca began a journey of discovery and

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exploration, which lasted eight years. To know how many years were between Ponce de Leon's travels and those of de Vaca, you have to subtract 1513 from 1527 to get 14 years as the answer. Cabeza de Vaca spent eight years exploring what is today the American Southwest. If you wanted to know in what year he ended his amazing journey you could add eight to the year, 1527. Mr. de Vaca's journey, therefore, ended in 1535.

Professor K will take you to different places in the world and to different times so that you can learn how mathematics has been a basic tool used by mankind throughout history. In Chapter 1 you will learn the basic addition and subtraction operations on which all mathematics is built. Addition and subtraction are possible because numbers have absolute values, which allow people to calculate quantities of objects. Over the passage of years, people have been able to establish certain rules, laws, principles and properties by which to use numbers in daily situations. In this chapter you will learn about properties of addition and subtraction. A *property* is the term used to refer to a rule or principle about mathematics.

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WHAT AND *HOW* YOU WILL LEARN FROM THIS COURSE

This course consists of 90 lessons. Basic Math Skills are recommended for 7th grade, and Intermediate Math Skills are recommended for 8th grade. The format is designed for classroom or self-study settings. Students will be able to progress through the course individually or in class groups. The secret to doing well is for students to read the entire lesson first, then complete the activity questions as the text is read again.

Each booklet contains one chapter. Each chapter is divided into three sections of five lessons each: (Chapter 1; Section 1; Lessons 1-5). The course is designed so students will enjoy learning important math concepts. Students are encouraged to read each lesson completely then respond to the activity questions which are packaged in a separate booklet labeled: *Activities*. Students may answer the questions directly on each activity page or on a separate sheet of notebook paper. The teacher will inform students of local school policy.

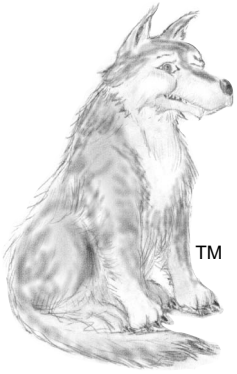
Questions on the Life Principles and vocabulary will be included in quizzes and chapter tests. Students may be required to quote the Life Principles to the teacher when students turn in their activity questions.

A section quiz is provided for students to complete at the end of every 5 lessons. The teacher will issue a chapter test after students complete all 15 lessons (after the third section quiz). The chapter test is compiled from the three quizzes (section quizzes and chapter tests are included in this *Teacher's Resource Kit*). Students who fail the quiz may be required to rework the five lessons from that section. Students who score 85% or higher on the three section quizzes may not be required to take the chapter test; this option is at the discretion of the teacher.

Answers to activities, quizzes and tests are found in this *Teacher's Resource Kit.* The activity answer keys are divided by chapter and section number. Students may be allowed to grade their own answers to activity questions. The teacher will inform students of local school policy. **The contents of the *Teacher's Resource Kit* may be duplicated as needed, but not for resale.**

If the teacher requires additional comprehensive exams, questions may be compiled from the chapter tests of this course.

Vocabulary words are identified at the beginning of each lesson and are noted in bold, italics type within the text. Vocabulary words will appear on most quizzes.



Meet ***Max Potential***, PAC curriculum's mascot. Max is an adolescent wolf who will be "hanging around" to encourage you to reach your maximum potential as you read and work through these pages.

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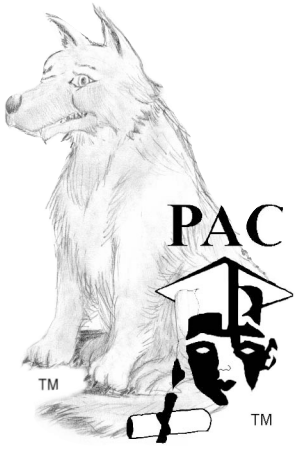
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