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Introduction

Math Mammoth Measuring 1 is a worktext that covers measuring length, weight, and volume for grades 1-3. The book contains both textbook explanations and exercises, and is designed to be very easy to teach from, requiring fairly little teacher preparation; however in several lessons you need to find beforehand measuring equipment such as a ruler or a scale or measuring cups.

If you have the downloadable version of this book (PDF file), you need to print this file as 100%, not "shrink to fit," "print to fit," or similar. If you print "shrink to fit", some exercises about measuring in inches and centimeters will not come out right, but will be "shrunk" compared to reality.

The lessons in this book come from the Math Mammoth complete curriculum (Light Blue Series) for grades 1-3, and therefore the progression of lessons in this book is in a few places a little awkward. I have grouped the lessons together this way:

- the first two lessons have to do with exploring the concept of measuring (grade 1),
- then come lessons about measuring in inches and centimeters (grades 1-3),
- then lessons about feet, yards, miles, meters, and kilometers (grades 2-3),
- next are lessons about measuring weight (grades 2-3),
- and lastly lessons about measuring volume (grade 3).

The lessons concentrate on hands-on exercises where the student actually measures things. I have only included a few problems about conversion between measuring units; students will study those more in later grades.

The lessons on measuring weight have several activities to do at home using a bathroom scales. The goal is to let students become familiar with pounds and kilograms, and have an idea of how many pounds or kilograms some common things weigh. In order to estimate weight, a child has to know the approximate weights of some objects, and then compare the weight of the unknown object to some known weight. This knowledge is gained through experience.

Similarly, in studying volume, the lessons include many hands-on activities so that the student gets first-hand experience in measuring, and has a basic knowledge of how "big" the units cup, pint, quart, gallon, milliliter, and liter are.

When it comes to measuring, experience is the best teacher. We all use various measuring units in our everyday life, and using them is the key to remembering what they are and what the conversion factors are. Naturally, people in the United States often do not use the metric system a lot, while people elsewhere do not use the customary system. The units your child is not using are likely to be forgotten easily. So encourage the student(s) to have free play time with measuring devices such as a scale, measuring cups, a measuring tape, and rulers—including equipment that uses metric units.

Math Mammoth Blue Series also has another worktext about measuring, *Math Mammoth Measuring 2,* which is a sequel to this one. In it, students practice measurement unit conversions and problem solving.

I wish you success in math teaching!
Maria Miller, the author