Welcome to *Math on the Level*

With ***Math on the Level***, you are equipped to teach any math concept your child needs before Algebra 1, using a combination of real-life activities and paper and pencil tasks.

Math on the Level *Foundations*

Math on the Level *Foundations* is an e-book covering Beginning Math Concepts. It is entirely activity-based and designed for families with young children who wish to teach using the **Math on the Level** approach. (*Families with older students may not need **Foundations**.)*

Math on the Level (2nd Edition)

Math on the Level has three parts:

Part A. Combined Teaching Guide

The **Combined Teaching Guide** volume is designed for teaching a wide range of learners, with emphasis on real-life activities. It is divided into four sections:

- **Operations**
- **Money & Decimals**
- **Geometry & Measurements**
- **Fractions**

Part B. Curriculum Resources

The **Curriculum Resources** volume introduces the Math on the Level approach and provides a wide range of additional teaching resources. It is divided into three sections.

- **Overview and Record Keeping** introduces the curriculum and its 5-A-Day review system.
- ***Math Adventures*** provides additional resources for using family activities to help children learn concepts through cooking, playing games, and more.
- **Math Resources** covers charting, graphing, word problems, math facts & more.

Part C. Record-keeping and Online Essentials

- This online-only purchase includes the Record Keeping and 5-A-Day Scheduling Spreadsheet, (see page Rk-17) which handles record keeping and the scheduling of individualized 5-A-Day Reviews.
- **Math on the Level** uses the **5-A-Day Online Essentials** service (one-year subscription included) to create individualized worksheets and 5-A-Day review papers.

NOTE: Part C. **Record-keeping and Online Essentials** is available only directly from mathonthelevel.com, either as part of a bundled curriculum or else as part of a support package for those who obtain the printed parts of the Math on the Level curriculum from a third party.

The *Math on the Level Approach*

Math on the Level is a curriculum designed exclusively for home instruction. Here you can learn more about why its approach will help you be more successful in teaching your child.

Distinguishing Features

Math on the Level uses a unique approach to education not found in curricula designed for classroom instruction.

- **Teach math through life** — Use practical, real-life methods and family activities.
- **Maturation focus** — Teach when your child is maturationally ready to learn.
- **Continual review** — Review each concept continually to facilitate long-term retention, 5-A-Day.
- **Flexible and adaptable —** This curriculum is designed to adapt to the style and needs of your family.

Why Teach Math through Life?

A primary reason we learn math is to use it in real life. ***Math on the Level*** uses real-life applications that are all around you as a primary means to teach the math concepts they contain. This is a multi-sensory approach that helps the child see the "why" of what is being learned and better understand the concepts. When you start by using math in real-life and then go to pencil & paper computation, the child will approach the problems with a much better understanding.

Math and Maturation

Math on the Level lets you adapt your math program to your child's mental maturation. Children mature both *physically* and *mentally* at a unique pace. Some math concepts which are obvious to adults will be beyond the understanding of a young child, even if very well explained, simply because of the child's maturation level. Although mental maturation is no reflection of intelligence or future learning ability, you could make a child feel less intelligent if you tried to teach beyond the child's ability to learn. There is no reason to do that — as a teaching parent, you can decide when your child is ready.

Teach to the Child's Maturation Level — Not Grade Level

Math on the Level lets you adapt the pace to the child. If your child matures early, you can move more quickly through the curriculum; if your child matures more slowly, ***Math on the Level*** lets you focus on concepts the child can understand. With this individualized approach, each child learns math without becoming discouraged and frustrated. Because none of the concepts are attached to an age or grade level, there is no stigma involved from taking longer to learn a concept. When children have matured to the point of being able to understand the concepts, teaching them will be much easier and more time-efficient — concepts that earlier would take days or weeks of aggravating effort will take much less time.

The following pages will help you understand how easy it is to place your child into the program and get started teaching with confidence.

NOTE: ***Math on the Level*** is designed to be *flexible* and *adaptable*. Therefore, the following instructions are guidelines — not rigid rules — to help you best apply this real-life teaching approach to fit your family's situation.

How we Remember

The goal of math instruction is for students to understand each concept and then *retain the information in long term memory*. It is important to consider three basic ways in which information is stored.

- **Experience — very effective and memorable**
  Experience *is* the best teacher, particularly when it includes fun activities or multi-sensory experiences. That is why activity-based instruction helps the child remember what is learned. This approach is a very effective way to get information stored in long-term memory.
- **Intense repetition over a short period — not as effective on its own**
  Intense repetition, or drill, can be effective in getting information into short-term memory, but is not very effective at moving that information into long-term memory. For example, if a student uses drill to "cram" for an exam, that knowledge may not be retained, for what is learned by drill is often forgotten. The exception to this is when the information learned is used frequently. Phone numbers, addresses and math facts are examples of information that once learned, is used (and therefore repeated) frequently over time. Drill is one of the methods included in **Math Resources**, in the chapter, Math Facts and Memorizing on page 187, because there are times (such as when a large number of facts need to be learned) when drill helps get information into short-term memory. Once learned, repetition over time will move the information from short-term to long-term memory.

  Since drill on its own is not usually an effective way to retain information, **Math on the Level** does not use the short-term drill approach of practicing many problems of the same type immediately after the concept has been taught.
- **Repetition over a long period of time — very effective and practical**
  Continual review over time will store information in long-term memory, whether or not there have been periods of intense repetition (drill). **Math on the level** focuses on this long-term repetition, using an individualized daily 5-A-Day Review of concepts that have been learned. During the teaching process, the parent uses the teaching approach that best fits the child's learning style, and as many problems as needed help the child understand the concept. After the concept is mastered, the 5-A-Day review process makes sure that the child practices each concept repeatedly over time to ensure long-term retention.

Motivation

Many children view math in terms of pages and pages of problems to solve — not particularly motivating! With ***Math on the Level***, the child has only five independent review problems each day. With this focused-review approach, children who once dreaded math often find it much more enjoyable.

Another learning barrier can occur when children cannot see how math relates to real life. That barrier doesn't happen when you teach math concepts using normal daily activities. For example, fractions are taught when cooking, decimals are taught when buying groceries, and math concepts are reinforced with family games or when riding in the car. Even the vocabulary a family uses can be modified to make math more familiar and relevant. These activities are included throughout the entire curriculum.

NOTE: In this curriculum, the term "**review**" is used for providing **regular practice** of what has been learned.

How Math on the Level Works

Math on the Level uses a very straightforward approach to math.

- You teach your child using a combination of activity-based learning and direct instruction, including pencil & paper math.
- Your child practices concepts he or she has already using an individualized, computer-generated review paper containing 5 math problems chosen specifically for the child.

That's it! A spreadsheet is provided to help you keep track of which concepts your child has learned and which still need to be taught. It also schedules and provides the list of which problems to be reviewed each day. With a simple copy/paste from the spreadsheet to the 5-A-Day Online program, your child's 5-A-Day paper can be printed out along with a copy with answers for you.

Benefits of Math on the Level

- Rather than presenting only one way to teach all children, **Math on the Level** provides a variety of teaching options, and it allows parents to teach in the way each child learns best.
- For children who learn quickly, Math on the Level allows parents to present concepts briefly and move rapidly through the concept chart without unnecessary busywork.
- For children who need more time, there isn't a grade level stigma, and parents have the option of choosing math concepts that the child is ready to learn successfully.
- Math is learned in the context of daily life. Children learn to see math around them and to reason mathematically. This gives them a strong foundation of experience.
- Since there is no required sequence, the family can learn math together. Even when children are learning concepts with different levels of difficulty, the parent can choose to have them all working in the same area and using the same kinds of manipulatives or sharing experiences.
- Math can be taught in the context of Unit Studies or on field trips or vacations, or during normal daily life activities. When one of those serendipitous moments occurs and a math concept is learned through life, the child doesn't have to add pages of problems. Whether a math concept is taught using a traditional approach or during an activity, it can be put on the child's Review Chart and reviewed consistently to be sure that it isn't forgotten.

Placing Your Child in Math on the Level

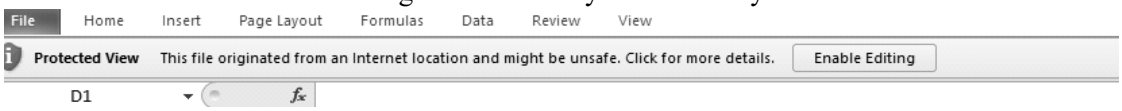
The following pages will help you understand how to easily place your child in Math on the Level and get started teaching with confidence. To begin, you assess what he or she has learned and remembered using the first 5-A-Day papers as a placement tool. In the process, you will also set up and become familiar with the Math on the Level Record Keeping and 5-A-Day Scheduling Spreadsheet, the Combined Teaching Guide, and Math on the Level 5-A-Day Online Essentials.

Set up the Spreadsheet

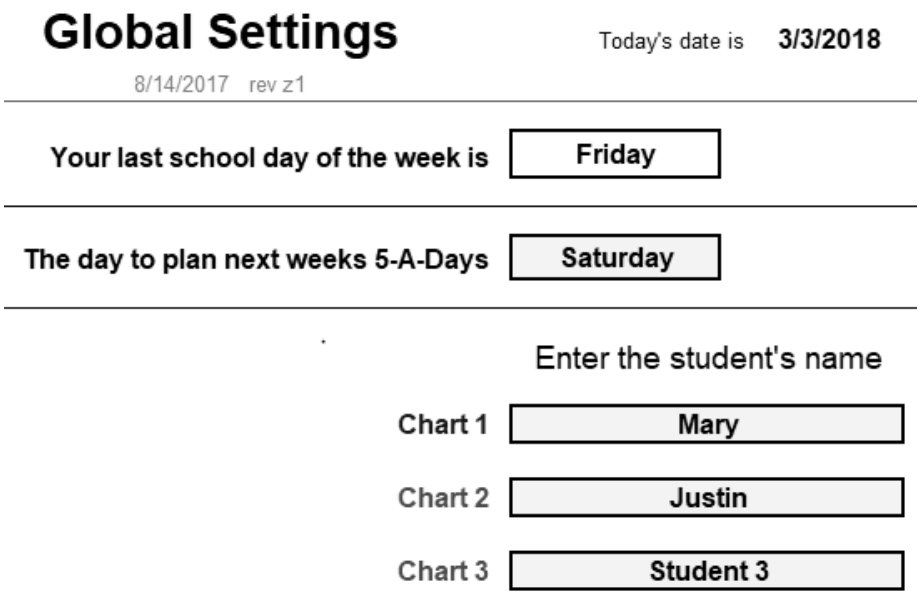
To get the Math on the Level Spreadsheet, log in to mathonthelevel.com and look for the spreadsheet tab on your User Menu.

To run the spreadsheet, you need Microsoft Excel® application or the (free) open-source Open Office Suite (or equivalent, see our website for more information).

1. After downloading the correct version for your application, locate and double-click the file to open it. You may need to click on the Enable Editing button before you can enter your information.



2. On the bottom of the spreadsheet, click the Settings tab. Add the names of your children and other global settings information. If you have questions, there are spreadsheet tutorials mathonthelevel.com.



3. Refer to the Suggested Teaching Sequence, page Seq:211, or else locate the **Sequence** tab of the spreadsheet.