



Cathy Duffy Review

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by Cathy Duffy, from Broadman and Holmes, 2005

This program offers a compromise between the extremes of a totally manipulative-based approach or a workbook approach. You can actually shift back and forth between the different program components depending upon whether or not you want to use manipulatives to cover each topic. The original Moving with Math program, Levels A-D, offers tremendous flexibility for designing the program to fit your child's needs using the diagnostic/prescriptive tools and instructions that come with the program. The scope and sequence is slower than most other programs. It spends more time on concept development, so it cannot cover as many concepts as quickly as other programs.

The original program, which I will describe first, is divided into four levels: A for grades 1–2, B for 3-4, C for 5-6, and D for 7-8. There are three essential components at each level: Math Capsules, Moving with Math (student workbooks), and Skill Builders. These are all consumable so you will need extra sets for additional students. Skill Builders contains activity pages- some using paper and pencil and some also using manipulatives. This is a substantial part of the program. Moving with Math workbooks include basic instruction and practice along with instruction for some manipulative activity. Answers are in the teacher's guides. It is not absolutely necessary to use manipulatives with the workbooks, but it is strongly recommended. Math Capsules contains pre-and post-tests for each chapter or unit in each Moving with Math workbook. Math Capsules contains a detailed key to the objectives, but you can see the objectives by simply reading the table of contents in each book-they read like a scope and sequence list. While this is useful, the most important part of Math Capsules is "Maintenance Tests", short quizzes to be used for continual review of previous concepts. Every question in each maintenance test is matched to an objective so parents always can identify what their child does and does not know.

To use the program, you may identify which objective you wish to work on, then plan a combination of both the workbook and Skill Builder sheets and activities that is most appropriate for each child. This really is not that confusing, but some parents and teachers have had trouble making decisions about what to use. So the publisher has put together teacher's guides that lay out step-by-step lesson plans showing which program components to use when. MTP recommends that most home schooling parents purchase the teacher's guides to understand how to organize the instruction and teach with the manipulatives. I suspect that many home educators will want the guides since they will save much time in lesson planning and help parents understand concepts they are trying to teach. MTP also provides home educators with free Instructions with a Daily Calendar for each level that show you how to break down program material into one-year programs, suggest how many days to spend on each objective, and provide record keeping and planning forms. You might also be interested in MTP's hour long video, "Moving with Math: An Overview for Home School," which describes the philosophy and components of the program, the role of manipulatives in bridging the gap from concrete to abstract, and practical suggestions from a home-school parent. It also shows students from various levels working with manipulatives.

Level A Home School Set for grades 1 and 2 includes Skill Builders, three student workbooks, Math Capsules, Using Models: Addition and Subtraction, and manipulatives. OR Separate Grade 1 and Grade 2 programs each with a student book, teacher's resource manual, and essential manipulative set. Level A has three workbooks: Part I (numeration), II (addition and subtraction), and III (fractions, geometry and measurement). It reviews basic number activities taught in Kindergarten, so it is possible to begin arithmetic instruction with Level A. The Level A package integrates one more component that is especially useful to those with no experience teaching with manipulatives—"Using Models to Learn Addition and Subtraction Facts." Manipulatives needed for Level A include Base Ten Blocks, A Number Stair, Geoboard, and Unifix Cubes, all available from MTP. Those beginning Moving with Math at second grade level might appreciate an option that MTP has developed; they have broken Level A into separate Grade 1 and Grade 2 programs to make it easier for those with second graders to jump into the program.

The Moving with Math Primary Program is a second option for students in Pre-K through Grade 2. The PreK-Kindergarten level may be used with three and four year olds. The Grade 1 and Grade 2 Moving with Math programs teach the same objectives as Level A but separate the material into two grade levels. These versions are enhanced by the integration of children's stories (from the library or bookstore) that are integrated with the math lessons. Students have a single workbook each for Grade 1 and Grade 2. You will need a student book for each student plus the Teachers Resource Manual. The Teachers Resource Manual for each grade includes detailed lesson plans. They are scripted, telling you what to say as you follow each step-by-step lesson plan. Reduced pictures of student pages show correct answers. Within the lesson plans are suggestions for using over 280 children's books and extensive activities that help children see math in the real world. Combined with additional art activities, this approach might be more appealing to children with literacy or artistic "bents." Also within the Teachers Manual are the reproducible Skill Builders and Math Capsules that come as separate books in Level A. The Grade 1 and 2 versions offer more security for parents who are uncertain about their teaching ability and want less decision making and planning.

Level B for grades 3-4

There are three primary components: Skill builders, three Moving with Math workbooks-Part I (Numeration, Addition, and Subtraction), Part II (Multiplication and Division), Part III (Fractions, Geometry, and Measurement); and Math Capsules. Multiplication covers through two-digit multipliers, but division covers only through single-digit divisors. Considering that this level is supposed to cover through fourth grade level, the program's overall rate of progress is slower than that of A Beka, BJUP, and Modern curriculum Press. Part of the reason is that Moving with Math is designed for mastery of objectives with long-term retention rather than the constant review found in some of the other programs. (Of course, students can move on to higher levels as quickly as they are able.) This might be an important factor for those concerned about standardized tests since those tests are geared toward earlier introduction of some of these concepts. However, Math Teachers Press proudly points to an outside study that shows very positive test results in schools where Moving with Math has been used. (A one-page summary is available from MTP if you are interested.) This level also includes the book "Using Models to Learn Multiplication and Division Facts." Using Models should be especially helpful to those unfamiliar with the use of manipulatives. Manipulative activities need one-on-one presentation as will many of the worksheet activities, but there are many pages students will be able to do alone. If you already have Level A, you can purchase only the additional manipulatives you need rather than the whole set for each new level.

Level C for grades 5-6

Components: Skill Builders C; Moving with Math workbooks- Part I (Numeration and Problem Solving with Whole Numbers), Part II (Fractions, Decimals and Percents), Part III (Geometry Measurement, and Problem Solving), and Math Capsules. Part I stresses problem solving using various strategies. At this level, the need for manipulatives is not universal, but for those students who need hands-on work, this program is one of the few that really addresses that need well. There is a moderate amount of manipulative work in the Moving with Math student workbooks, but it may be enough for many students. Those who need more will benefit from the lessons in Skill Builders that often require more manipulative work. The diagnostic tests (for identifying which areas need attention) and “maintenance tests” (for review) in Math Capsules are very important at this level. At this level, the need for manipulatives for whole number concepts is often greatly reduced; however, students benefit from the Fraction Bar activities for developing fraction concepts, Base Ten Blocks for developing decimal concepts, and the Geoboard activities for increased understanding of geometric concepts.

Level D for Grades 7-8

This program is one of only two I know of for students who still need extensive manipulative (hands-on) work at this level. The layout is similar to earlier levels, but there are five Moving with Math workbooks covering numeration and problem solving with whole numbers; problem solving with fractions and decimals; problem solving with percent; geometry and measurement; and pre-algebra.

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