USING DIMENSIONS MATH®

Why Use Dimensions Math

Dimensions Math uses a highly effective teaching approach based on research of math mastery in the country of Singapore, which consistently ranks among the top in international math testing.

In a typical U.S. program, students are given an example and then solve problems using the same steps. In Dimensions Math, students are taught how to think through concepts and apply them in new ways. They learn to think mathematically.

Another strength of this approach is the strong mental math component. Logical, unique strategies are taught that help students truly understand mathematical concepts. Students are then able to solve problems mentally without always relying on paper and pencil.

We recommend that you find time to watch each of the teacher education videos listed below, produced by Hillsdale College. It is important for anyone who will be teaching math to watch these before they begin teaching. (see the links to these videos at mfwbooks.com/cat/35/2nd-6th-Grade/#use)

1. Why Singapore Mathematics? (the importance of presenting concepts in this order: concrete, pictorial, abstract)
2. Using Number Bonds (an eye-opening presentation showing how "number bonds" help students understand simple numbers, fractions, and decimals)
3. How to Use a Ten Frame
4. Using Place Value Manipulatives (to add, subtract, multiply, and divide)
5. Using Bar Models (a frequently used technique)

Pacing of Instruction

Many students who switch to Dimensions Math after 2nd grade will need to complete more than one lesson a day until they are on target to complete at least Level 5B by the end of 6th grade. (Some students may easily be able to finish 6B, and should be encouraged to do so.)

The following time recommendations will help students catch up

- 3rd and 4th graders who are behind should spend at least 45 minutes a day on math.
- 5th graders who are behind should spend at least 60 minutes a day on math.
- 6th graders who are behind should spend at least 75 minutes a day on math.

Once students have progressed sufficiently so that they are on track to finish at least Level 5B by the end of 6th grade, they can complete one lesson per day.

Using Dimensions Math

Each one-semester set from My Father's World includes:

- One consumable Textbook (one per semester)
- One consumable Workbook (one per semester)
- One Home Instructor's Guide (Ideal for home, school, or MicroSchool, they are much more concise and easier to use than traditional Teacher's Guides.)

Dimensions Math is divided into two semesters: A-1st semester and B-2nd semester. Students can begin instruction with "A" or "B" depending on their math knowledge. Two One-Semester Sets should suffice for a standard school year. (If a student is working at an accelerated pace, then you will need more than the two One-Semester Sets per school year.)

Textbooks and workbooks are also available separately if you are teaching the same level to more than one student.

Video Instruction (recommended add-on; purchase at link below)

As an optional add-on, you can purchase 12-month access to video lessons that teach all of the textbook and workbook lessons. These are excellent videos that show students how to use a variety of techniques to solve problems. If you use the videos you won't use the Guides for instruction, but will still need them for answers and as a backup.

You might watch the videos yourself before teaching a lesson to better understand the math techniques used. Or you might watch them together with a student. (If you give them to a student to watch independently, which is not our top recommendation, then train them to stop the video each time the online teacher asks them to work problems.) Skip the videos for the workbook if the student is doing well.

The same teacher and format is used for all grades. You can watch the first few lessons FREE for each course. (see the links to these videos at mfwbooks.com/cat/35/2nd-6th-Grade/#use)

In addition to Dimensions Math we recommend:

We recommend regular practice of math facts written horizontally, instead of vertically, to reinforce how math concepts are being taught in Dimensions Math. Horizontal Math Addition/Subtraction Flashcards and Horizontal Math Multiplication/Division Flashcards are a simple and effective way to mentally practice math facts. Use Fast Facts for written practice of math facts consistent with Dimensions Math.

Tests

Student Textbooks include pages that may be used as tests: two or more cumulative Reviews per semester book, and one or more Practice Pages for most chapters.

Schools: Optional tests are available to purchase for Grades 1-5. In most cases these tests are not necessary; teachers can use Reviews and Practice Pages. This will show how students are progressing without the formality and stress (and expense) of additional testing. However, tests are available per semester at Dimensions Math (https://www.singaporemath.com/collections/dimensions-math-pk-5/tests). The booklets include answers at the back.

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DIMENSIONS MATH® PLACEMENT TESTS

How to Give Placement Tests

Before you order Dimensions Math®, each student must take a placement test.

Dimensions Math® teaches math differently than most American programs, laying a very strong foundation in the early grades. Most children who switch to Dimensions

Math will test into a level below their grade level, and will need to complete more than one lesson a day until they are on target to reach their goal. (Dimensions Math is divided into two semesters: A-1st semester and B-2nd semester. Students can begin instruction with either "A" or "B" depending on their math knowledge.)

Placement Test Guidelines

- **1st Grade:** No placement test needed. Begin teaching at 1A/1B.
- **2nd-5th Grade:**
    - If the student is uncomfortable with basic addition/subtraction concepts, begin teaching at 1A/1B. No placement test needed.
    - If a 2nd-5th grade student completed a different Singapore math program, not Dimensions Math, we still recommend placement tests because of a slight change in teaching sequence, and to catch students who didn't fully understand concepts.
    - 2nd grade: begin testing at 1A
    - 3rd grade: begin testing at 1B
    - 4th or 5th grade: begin testing at 2A
- **6thGrade:** No placement test needed. If the student has successfully completed any 5th grade math program, begin teaching at Dimensions Math 6.

How to Test

See below to print free Dimensions Math placement tests. Look through the tests. Use the grade-specific guidelines given above, but also see the hints below.

- Expect students to take more than one placement test, but don't give more than one test a day.
- It is absolutely essential to begin testing with success, or many students will become very frustrated. The goal is to **begin testing** at a level the student can complete with more than **90% accuracy** without your assistance. All tests include a lot of mental math that will be new to most children.

2nd - 5th Grade Placement Test

(see the links to the Placement Tests at mfwbooks.com/cat/35/2nd-6th-Grade/#test)

Answers are included on the last page of each test.

How to Evaluate Placement Tests

Refer to the chart below. Each part of a question is worth 1 point.

- If a student scores **90% or above** give the next higher level test.
- If a student scores **80%-90%**, evaluate where the student made errors.
    - If it shows mastery of content, give the next higher level placement test
    - If there is any doubt of mastery, begin teaching at this level.
- If a student scores **below 80%** on the first test you give, look through the placement tests and give a test you think the student can pass at 80% or better.

Begin teaching at the level where a student scores below 80% (and passes the previous level). For example, if a student passes Test 2A and scored 70% on Test 2B, begin instruction at Dimensions Math 2B.

Placement Testing Chart

	# of answers per test	90% and above miss:	80% and above miss:
1A	44	4 or less	9 or less
1B	64	6 or less	13 or less
2A	63	6 or less	13 or less
2B	95	10 or less	19 or less
3A	114	11 or less	23 or less
3B	99	10 or less	20 or less
4A	119	12 or less	24 or less
4B	77	8 or less	15 or less
5A	93	9 or less	19 or less
5B	66	7 or less	13 or less
6A	N/A		
6B			

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