HMH

RTI

RESPONSE TO INTERVENTION

An Alignment Guide to:

Do The Math®

Created by Marilyn Burns

RTI RESPONSE TO INTERVENTION

An Alignment Guide to: *DO THE MATH*

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This Alignment Guide Provides:

Houghton Mifflin Harcourt® (HMH®) has prepared this Alignment Guide to assist Local Education Agencies (LEAs) and schools that are currently implementing or are considering adopting a Response to Intervention (RTI) approach. This guide provides key background information on current educational policy related to RTI, and describes how *Do The Math*® can complement and strengthen the implementation of RTI to raise student achievement as well as identify students with learning disabilities. This Alignment Guide provides the following information:

- RTI Overview
- School Features
- Infrastructure Supports
- ***Do The Math*** Overview
- Alignment of ***Do The Math*** to RTI Core Components

Do The Math:

Do The Math is a research-based math intervention program created by Marilyn Burns along with a team of Math Solutions® master classroom teachers that gives students who have fallen behind a chance to catch up and keep up. Focusing on number and operations — the cornerstone of elementary math education — *Do The Math* helps students build a solid foundation in computation, number sense, and problem solving for immediate and long-term learning.

DO THE MATH:

- is organized around thirteen modules targeting addition, subtraction, multiplication, division, and fractions;
- supports teachers by providing step-by-step lessons that are scaffolded and paced especially for students who struggle with math;
- emphasizes diagnostic interviews, explicit instruction, multiple strategies, student interaction, and meaningful practice so that all students have opportunities to master concepts and skills;
- supports the development of mathematical habits of mind
- includes embedded formative and summative assessments that can be used for the purposes of progress monitoring so teachers can measure achievement and differentiate instruction according to individual needs; and
- supplies professional learning resources and materials that support instruction to meet all students' diverse needs.

Funding Sources

This Alignment Guide addresses how *Do The Math* supports the implementation of RTI. For questions regarding funding sources for Response to Intervention services, please consult your local Account Executive or state educational agency (SEA).

This Alignment Guide is informed by the Every Student Succeeds Act (ESSA), IDEA 2004 Regulations, the National Association of State Directors of Special Education (NASDSE) 2005 Report, guidelines provided from the Vaughn Gross Center for Reading and Language Arts at the University of Texas at Austin, and consultation with Dr. Joe Witt, author of the iSTEEP model on the core principles and practical implementation of RTI in schools.

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ABOUT HOUGHTON MIFFLIN HARCOURT RESEARCH

Houghton Mifflin Harcourt (HMH) research is committed to developing innovative educational programs and professional services that are grounded in learning science evidence and efficacy. We collaborate with school districts and third-party research organizations to conduct research that provides information to help improve educational outcomes for students, teachers, and leaders at the classroom, school, and district level. We believe strongly in a mixed-methods approach to our research – an approach that provides meaningful and contextualized information and results.

We look forward to partnering with you to improve math achievement, and would welcome the opportunity to talk with you about how we can best support your efforts to implement Response to Intervention.

RESPONSE TO INTERVENTION (RTI) OVERVIEW

BACKGROUND
The reauthorization of the Individuals with Disabilities Education Act (IDEA 2004) changed the way students are evaluated for special services by encouraging schools to use research-based interventions to address the diverse needs of students through early intervention as well as identify and work with struggling learners at risk for school failure. The ESSA has provided states greater flexibility in determining the specific practices and service delivery models, including multitiered systems of supports such as RTI, to ensure access to comprehensive learning supports.

WHAT IS RTI?
Response to Intervention is not a particular program, curriculum, or model. Rather, it is a framework for allocating instructional services that are aligned to students' individual needs to maximize student academic achievement. It aims to prevent unnecessary assignments to special education through the provision of tiers of intervention and continuous progress monitoring.

THE RTI FRAMEWORK REQUIRES SCHOOLS TO:
- implement a universal screening process to identify struggling learners;
- provide an effective program for all students and intervention for those who fall behind;
- rigorously implement services through tiers of increasingly targeted and intensive, research-based intervention services matched to students' needs;
- measure and continually monitor students' learning rate and performance over specific periods of time;
- adjust the intensity and nature of the intervention services in light of student response (or non-response) to services provided; and
- use resulting data to drive instructional decision-making.

THE PURPOSE OF RTI IS TO:
- integrate student assessment and instructional intervention within a multi-tiered prevention system to maximize student achievement;
- intervene early and monitor of at-risk students in need of individualized instruction and specialized services;
- identify students with learning and other disabilities (in accordance with state law); and
- better integrate services between general and special education populations.

CORE COMPONENTS OF RTI

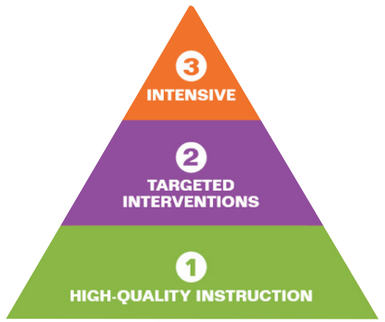
There are many variations of RTI models highlighted in the literature and utilized in practice. However, many share the following core components that allow them to be effective agents of change.

1. A MULTI-TIERED INTERVENTION MODEL
RTI uses a multi-tiered model of service delivery to promote efficient response to students' needs. Each tier provides increasingly intensive support structures to ensure that students succeed.

Tier 1: Core Instructional Interventions General curricula for all students Proactive interventions based on instructional variables within whole-group instruction

Tier 2: Targeted Group Interventions Supplemental instruction for students who are not successful in Tier 1 Targeted interventions oriented toward small-group instruction Explicit instruction, rapid response

Tier 3: Intensive, Individual Interventions Individualized instruction for students who are not successful in Tier 2 Intensive interventions oriented toward individual students Diagnostic assessments to determine student need Higher intensity, longer duration



CORE COMPONENTS OF RTI
(CONTINUED)

Three tiers of intervention allow schools to offer increasingly intensive interventions to those students who are not making adequate progress in the core curriculum (Tier 1). Increasing intensity can be achieved by: (a) using more teacher-centered, explicit instruction; (b) more frequent intervention sessions; (c) extending the duration of the intervention; (d) working within smaller, more homogenous grouping; or (e) relying on specialists or instructors with greater experience to implement components of the intervention (Fuchs & Fuchs, 2006). Student responses are measured to determine whether they have made adequate progress and no longer need the intervention, continue to need some intervention, or need more intensive intervention.

2. UNIVERSAL SCREENING
Screening measures should be brief, reliable, valid, and should help to identify those students who require more intense interventions. Screenings are performed at the beginning, middle, and end of the academic year. More information (e.g., through additional assessment or diagnostic interviews) is gathered from children who perform below the benchmarks associated with the screener to determine root causes for learning difficulties.

3. IMPLEMENTATION OF SCIENTIFICALLY VALIDATED AND EVIDENCE-BASED INTERVENTIONS
IDEA 2004 and ESSA (and formerly NCLB) require that interventions be evidence-based. ESSA sets forth four tiers of evidence: Strong Evidence, Moderate Evidence, Promising Evidence, and Demonstrates a Rationale. Interventions applied under Title I, Section 1003 (School Improvement) are required to have strong, moderate, or promising evidence to support them.

4. FREQUENT MONITORING OF STUDENT PROGRESS
Student progress is assessed on an ongoing basis and is used to inform planning and instruction. The selected method of assessment is anchored in mathematical content as well as brief, targeted assessment to assess specific skills, and is easily administered. The goal of progress monitoring is to quantify student rate of improvement (i.e., comparing a student's expected and actual rate of learning) and instructional effectiveness.

5. DATA-BASED DECISION MAKING
In all tiers of intervention, data from screening and progress monitoring measures should be used to make instructional decisions for individual students. Data on an individual allows adjustments to the nature and intensity of interventions. Schools can also aggregate data to compare and contrast the curriculum, instructional effectiveness, and different components of the intervention for various subgroups of students within the school. It is also an alternative method for identifying students with learning disabilities after students have demonstrated non-responsiveness to evidence-based instruction and intervention.

6. SUPPLEMENTAL INSTRUCTIONAL MATERIALS
Use supplemental instructional materials, where appropriate, to strengthen the efficacy of the comprehensive core curriculum and support student learning.

7. ENGLISH LANGUAGE LEARNERS
Instructional strategies should be included to address the specific needs of English language learners.

8. PROFESSIONAL LEARNING
A high-quality professional learning plan should be included to support teachers who are implementing interventions within the RTI framework. The plan should allow for coaching and other opportunities.

9. COORDINATED FUNDING
Components of RTI funded by IDEA may be coordinated with activities funded by, and carried out under, the Elementary and Secondary Education Act (ESEA).

USING *DO THE MATH* TO IMPROVE OUTCOMES OF STRUGGLING LARNERS

According to the 2015 National Assessment of Education Progress (NAEP) Mathematics test, 60 percent of America's fourth graders are not proficient in mathematics. The NAEP data also reveal that 67 percent of eighth graders are not proficient in mathematics. The National Mathematics Advisory Panel's (NMAP, 2008) Final Report establishes fluency with whole numbers, fluency with fractions, and some aspects of geometry and measurement as critical foundations for algebra. With over two-thirds of eighth-grade students in the United States not proficient in these areas, they are not prepared for success in algebra. Unfortunately, lack of preparation for success in algebra can have dire consequences. Research conducted by University of California, Santa Barbara's California Dropout Research Project (2008) showed that 65% of students who failed to pass Algebra I by the end of ninth grade failed to graduate on time.

Also, one percent of school-age children experience a math disability not associated with any other learning disability, and two to seven percent experience serious math deficits. Students with mild disabilities do not perform as well as their peers without disabilities on basic operations, and this discrepancy in performance increases with age (Cawley, Parmar, Yan, & Miller, 1996). In addition, students with math disabilities may respond with lower self-esteem, avoidance behaviors, and decreased effort. Learning math is also a challenge for many English language learners, as the content presents its own unique academic vocabulary and is often presented abstractly.

The Every Student Succeeds Act requires that all students in America be taught to high academic standards that will prepare them to succeed in college and careers, and the goals of the National Council of Teachers of Mathematics (NCTM, 2000) aspire for all students to become mathematical problem solvers, learn to communicate and reason mathematically, use representations to model problem situations, and make connections among mathematical ideas. In addition, the National Mathematics Advisory Panel recommends that math curricula for elementary and middle school be a coherent progression of key topics with an emphasis on proficiency with key topics. For many students, especially those who struggle, meeting those goals presents a challenge when they receive only the typical 50 minutes per day dedicated to math instruction. Moreover, many students require instruction that is specifically designed to meet them at their level and to focus on the most critical foundational mathematical concepts.

Do The Math addresses these learning challenges facing American students. The program's instructional design applies what is known about reaching a wide variety of students who struggle with math to achieve proficiency with mathematical concepts and skills.

DO THE MATH OVERVIEW

Do The Math is a research-based math intervention program designed to support students who are struggling with elementary arithmetic. Developed by Marilyn Burns and a team of Math Solutions master classroom teachers, the program was developed to address the growing national concern regarding mathematics performance in this country. By focusing on number and operations — the cornerstone of elementary math education — the program supports students by building a strong foundation in computation, number sense, and problem solving. Twelve modules focusing on addition, subtraction, multiplication, division, and fractions each consist of thirty 30-minute step-by-step lessons that are scaffolded and paced for students who struggle with math.

Do The Math gives students who have fallen behind the chance to catch up and keep up. *Do The Math* helps students develop the skills they need to compute with accuracy and efficiency, the number sense they need to reason, and the ability to apply their skills and reasoning to solve problems. To do so, the program offers:

- carefully scaffolded and sequenced content, in small chunks and with appropriate pacing, that allows students to build conceptual understanding and skills;
- instruction that gradually moves students from explicit instruction, to guided practice, to cooperative pair work, to working independently;
- visual directions that support students who may not read well or whose first language is not English;
- consistent encouragement of students to confer with a partner to solve problems, communicate mathematically, and build confidence;
- explicit instruction that presents carefully sequenced experiences through which the students develop concepts, learn skills, see relationships, and make connections;
- games and literature that engage and motivate students, providing them with opportunities to strengthen and reinforce their learning;
- carefully selected vocabulary and straightforward sentences to improve students' understanding of the directions and questions from the teacher;
- explicit instruction based on the see it, hear it, say it, write it, read it method for learning mathematical vocabulary; and,
- access to materials that teachers can use immediately to meet students' needs.

Each learning experience encourages students to link concepts and skills to their corresponding mathematical representations and language. A range of assessments, including Beginning-of-Module and End-of-Module Assessments to measure growth and formative and summative tests to monitor progress, give teachers various ways to measure achievement and adjust instruction according to individuals' needs. In addition, suggestions for differentiating instruction, strategies for supporting English language learners, a series of professional learning options, and various materials offer multiple means for addressing every student's needs.

DO THE MATH ALIGNS TO RESPONSE TO INTERVENTION CORE COMPONENTS

The following information outlines how *Do The Math* addresses the Core Components of a Response to Intervention Model.

RTI 1—A multitiered intervention model with intensity of services increasing as students move up the tiers.
Do The Math has the capacity to be used flexibly by educators within a variety of instructional models that address any one of the three tiers of service delivery — Tier 1, Tier 2, or Tier 3.

Within a RTI model, all students have access to high-quality core content in Tier 1. *Do The Math* supplements core instructional programs to provide teachers with the support they need to help students develop reasoning and number sense. *Do The Math* enables students to spend more time and practice developing concepts and skills over the course of multiple lessons, thus solidifying their foundational knowledge in addition, subtraction, multiplication, division, and fractions. Unlike most textbooks, which typically cover a broad range of topics, *Do The Math* modules focus on the concepts and skills essential to long-term student success in mathematics.

Tier 2 is characterized by targeted group interventions for students who are considered to be at-risk. These are students instructed in a regular core program (Tier 1) whose conceptual knowledge and habits of mind are fragile and need the additional support offered in Tier 2. Students in Tier 2 are collectively given scaffolded instruction, which is paced specifically to meet their needs. Explicit step-by-step instruction anticipates common errors or misconceptions, and the gradual release pedagogy at the core of the program helps all students to move through phases with increasing independence.

In addition, the Beginning-of-Module Assessment reveals a baseline of what students know, and the End-of-Module Assessment shows whether they have mastered the set of objectives taught. After every five lessons, Progress Monitoring Assessments can be used to track students' growth so teachers can make data-based decisions to adjust the intervention to meet student needs or have them return to Tier 1.

Tier 3 students are typically individual students who demonstrate minimal or no response to the regular core program provided in Tier 1 nor the intervention services provided in Tier 2. The intervention is further intensified and individually customized to meet the needs of students. Which components of *Do The Math* are intensified are based on embedded progress-monitoring assessments, which occur every fifth lesson, and are followed by suggestions for differentiating instruction.

Do The Math supports those students who struggle with math and those who require differentiated instruction by providing the following:

- Thirteen Different Modules — *Do The Math* consists of thirteen modules that cover addition, subtraction, multiplication, division, and fractions. Students receive instruction in the topic that aligns to their grade level, their performance, or the goals of their Individualized Education Plans (IEPs).
- Meaningful Practice — For each topic, students have multiple opportunities to develop a deep understanding of the operation, the concepts related to the meaning of the operation, the relationships to other operations, and the connections to our base-ten numeration system, as well as the increased skills in performing the operations. Written practice is always similar to what students experience during the lesson. It is carefully sequenced so that no new knowledge or skill is required for students to be successful. Practice is supported through visual directions for those students who need point-of-use reminders of the steps involved, and often achieved through partner interaction and game playing.
- Suggestions for Differentiation — During the lessons, teachers are encouraged to observe students working in the whole group, with partners, or independently. Specific guidance for how to promote understanding and address student misconceptions is integrated into the lessons. Suggestions for differentiating instruction based on individual formative assessment are included after every fifth lesson, both for students who need additional help and those who are ready for an additional challenge.

RTI 2—Universal screening measures that are brief, reliable, and valid.
Do The Math has a Beginning-of-Module Assessment for each of its thirteen modules. It does not, however, offer a universal screener. The Beginning-of-Module assessments yield information that help teachers determine which students are in need of more intense interventions to supplement the findings from the universal screening tool selected. It is administered before beginning instruction in that module. The assessment will reveal what students know in regard to the topic content for that module.

RTI 3—Scientifically validated, evidence-based instructional practices.
For the past 40 years, Marilyn Burns has worked to provide the best quality mathematics instruction to students and teachers. She has spent a lifetime identifying the most effective instructional strategies for supporting students who struggle with math.

Do The Math synthesizes this body of work in teaching and learning math to create an intervention curriculum. The program's instructional design not only applies what she knows, but also what research concludes about reaching a wide variety of students who struggle with math. The following eight proven instructional strategies are drawn from a foundation of research:

1. **Teaching for Understanding**
   Teaching for Understanding describes an approach to mathematics instruction in which the teacher: 1) demonstrates and provides clear models of thinking through solving a problem or learning a skill (Gersten, 2003), 2) supports students to understand connections and articulate relationships, 3) provides extensive practice with timely feedback (Wiggins, 2012), and 4) encourages students to verbalize their thinking. Teaching for understanding is accomplished through explicit, intentional instruction that addresses the diverse needs of students (National Mathematics Advisory Panel, 2008).

2. **Scaffolded Content**
   Scaffolding is the systematic process of analyzing the content and partitioning it into small, manageable chunks for the purpose of planning and delivering instruction that facilitates students' learning (Grouws & Cebulla, 2000). Scaffolded content is at the heart of planning instruction for struggling students. Research shows that scaffolding content to inform instruction benefits all students, particularly those with learning disabilities and in special education (Gersten, 1998), and those whose second language is English. Students learn better when new knowledge is connected to things they already know and understand (Hiebert & Carpenter, 1992; Hiebert et al., 1997), and their individual needs are more readily met (Kame'enui et al., 2002). Moreover, strategies for scaffolding content, such as organization of concepts, sequencing, and chunking, support teaching for conceptual understanding (Grouws & Cebulla, 2000).

3. **Multiple Strategies**
   Multiple Strategies are essential to ensure that all students build number sense, develop skills, deepen their mathematical understanding, and make connections. Using multiple strategies such as modeling (Sabean & Bavaria, 2005; Sowell, 1989), engaging in discussions, and viewing and creating visual representations to teach mathematics ensures that students have a deep understanding of each skill and concept (Ball et al., 2005; Tomlinson, 1999), rather than a shallow or incorrect notion developed out of reliance on a single representation (NMAP, 2008; Ozgun-Koca, 1998; Goldin, 2000; McArthur et al., 1988; Yerushalmy, 1991).

4. **Mathematical Thinking**
   Do The Math is focused on developing the early habits of mind necessary to foster the ongoing progress toward mathematical proficiency. Building these skills is fundamental in developing students into mathematical thinkers. Students must be able to persevere, reason abstractly, use mathematics to model and solve real-world problems, and strategically apply mathematical and practical tools (Confrey & Krupa, 2010).

5. **Classroom Routines**
   When students voice their mathematical ideas and explain them to others, they extend and deepen their understanding of the mathematics (Chapin et al., 2003). Using classroom routines such as "think, pair, share" encourages students to interact and to take responsibility for their own learning as they discuss their thinking. Expressing math knowledge verbally to a partner is particularly valuable for many students who are developing English language skills.

6. **Independent Student Work**
   Independent student work is most effective when it provides students opportunities to use their developing conceptual understanding and number sense, and is connected to previously learned concepts and skills. Regular practice is essential, and intervention students typically need more practice (National Mathematics Advisory Panel, 2008). Independent work, such as practice, provides students opportunities to strengthen and reinforce their learning as they connect new understanding to existing knowledge (Rosenshine, 2012).

7. **Vocabulary and Language**
   Teaching students correct mathematical language gives them the tools to articulate their mathematical thinking coherently and precisely. Students incorporate the new vocabulary into their own language as they explain their thinking to each other or in whole-group settings. Explicitly teaching vocabulary and then using the words frequently in class discussions benefits all learners and encourages them to use the words when they are explaining their reasoning to each other (Marzano, 2002; Allen, 1988; Ball et al., 2005). Direct vocabulary instruction alleviates confusion about the precise meaning of mathematical words (Raiker, 2002; Shuard & Rothery, 1984).

8. **Assessment and Differentiation** ensure that the needs of all children are met. Providing teachers with specific information about how each student is performing consistently enhances students' mathematics achievement (National Mathematics Advisory Panel, 2008; Baker et al., 2002). Several studies show that all children, including those who have been traditionally underserved, can learn mathematics when they have access to high-quality instructional programs that support their learning (Campbell, 1994; Griffin et al., 1994; Knapp et al., 1995; Silver & Stein, 1996).

Supporting literature on the development and efficacy of *Do The Math* includes:

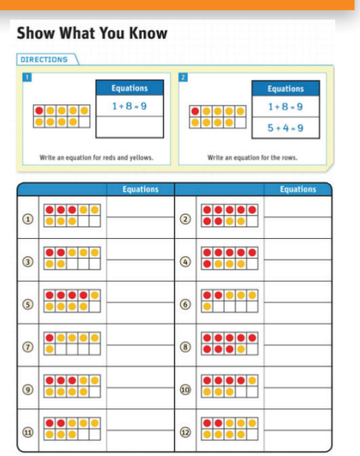
- Burns, M. (2007, October). Nine Ways to Catch Kids Up. Educational Leadership (16-21).
- *Do The Math*: Math intervention in New York City schools. An impact study. (2008). Houghton Mifflin Harcourt.
- Students Reveal Significant Improvements in Performance on the FCAT After Participation in *Do The Math*: Research Update. (2012). Houghton Mifflin Harcourt.

RTI 4—Use of progress monitoring tools that inform instruction.

Continuous monitoring and progress monitoring are necessary to determine whether the interventions being implemented are working and support teachers in differentiating instruction. *Do The Math* ProgressSpace™ reports provide detailed information about students' progress on assessments. These reports help teachers to target instruction for students, assess strengths and challenges, and identify areas where students might be struggling.

In addition to assessments at the beginning, middle (if using ProgressSpace), and end of each module, progress monitoring occurs after every fifth lesson so teachers can quickly identify and provide immediate support for the students who need it. During every fifth lesson, students independently complete a written assessment, which mirrors what they have been working on in the previous four lessons. Teachers then use the results to select and implement the suggestions for differentiation included in the program and make decisions about targeting instruction according to each student's needs.

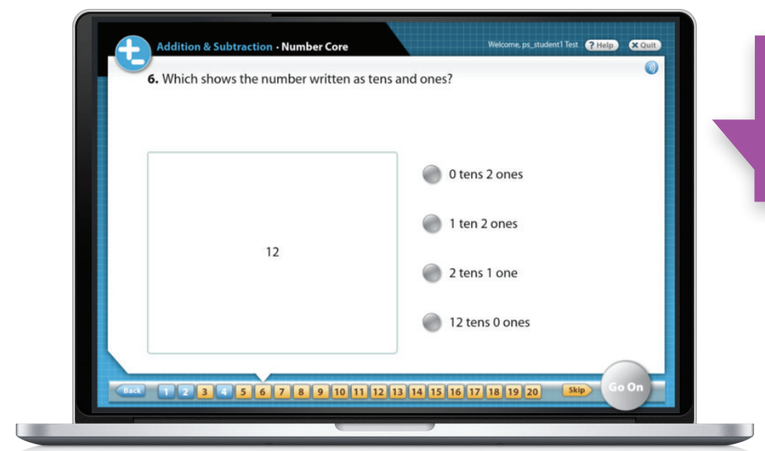
Daily opportunities for formative assessment are built into the program so teachers can make sense of what students do and have yet to understand. Supporting instruction boxes appear frequently to highlight opportunities for teachers to observe student understanding and provide additional support.



RTI 5—Data-based decision making.

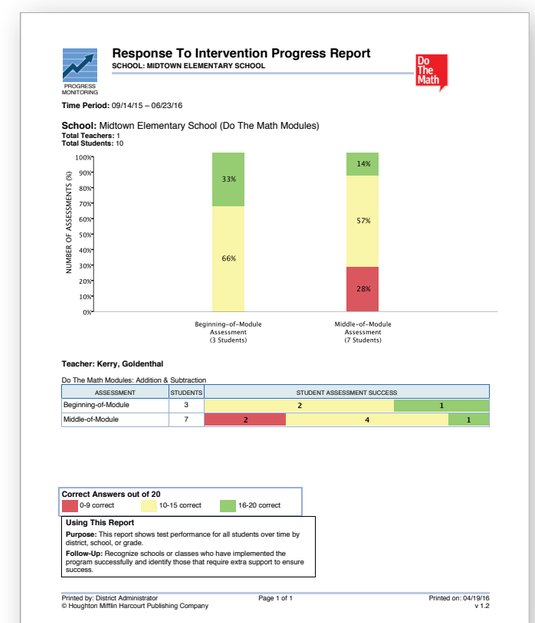
Do The Math provides various opportunities for teachers to collect and use data to inform and target their instruction in order to meet all of their students' diverse needs.

ProgressSpace diagnostic reports provide information on students' strengths and weaknesses in specific areas in order to help teachers tailor their teaching to meet individual needs.



Students complete the **Beginning-of-Module Assessment** as a pre-module snapshot of what they know.

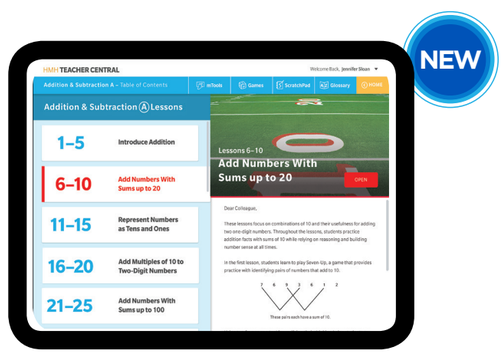
Upon completion of the module, administering the Middle-of-Module Assessment provide the teacher with documentation of skill and understanding demonstrated by each student. By comparing end of module data with the data collected in the Beginning-of-Module Assessments, the teacher can determine each student's mathematical growth.



RTI 6—Support Implementation of RTI.
Do The Math provides materials that support both teachers and students and complement any core program.

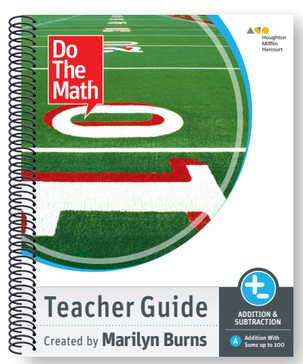
- **Teacher Guides** give teachers the information necessary for teaching the lessons, including step-by-step teaching instructions, guidance for monitoring student progress, and specifics about how to use the other materials provided in the program.
- **Teacher Demonstration Materials** needed for instruction are included in the Manipulative Box for easy access.
- **HMH Teacher Central®** offers professional resources related to the program, including reproducibles and professional articles.
- **The Professional Learning Guide** provides additional mathematical and pedagogical support for each module.
- **WorkSpace®** assignments are integrated into the lessons. Pages are designed to support students' transition to independent work and to help teachers monitor students' progress. The Annotated Teacher Version is a replica of the Student Version and shows answers to help with quick monitoring.
- **Manipulatives** provide visual and hands-on support for student learning. Digital manipulatives are also available for student use on iPad® devices.
- **Games** for providing student practice are integrated into the lessons and are also provided in the Teacher Bookcase which can be used in a math center or outside the regular classroom for additional practice. Digital games are also available for students to play on iPad devices. Students are encouraged to share and play with a partner on the same iPad while recording in their workspace pages.
- **Read-Alouds** support the mathematics in each module. Children's literature is incorporated into each module to provide an engaging springboard for instruction. The Read-Alouds are included in the Teacher Bookcase.

TEACHER RESOURCES

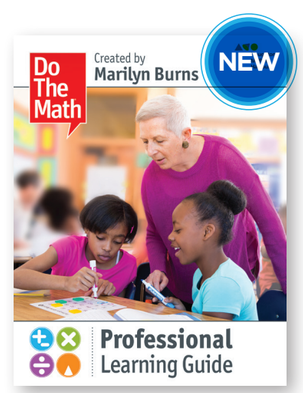


HMH Teacher Central™

Teacher Bookcase



Teacher Guide



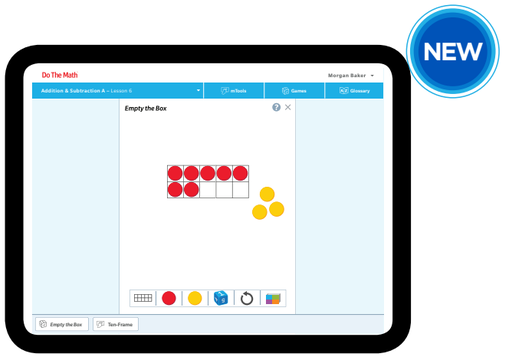
Professional Learning Guide

RTI 7—Instructional strategies specific to the needs of English language learners.
Do The Math is designed to grant maximum access and success for English language learners, with an emphasis on language development, the incorporation of visual representations and directions, and consistency across all instructional routines.

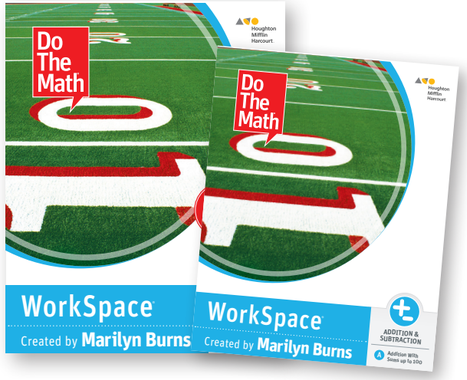
- The four-phase gradual release model prepares all students for individual success and ensures that they are prepared to complete their work independently. Routines are well established so English language learners can focus on the content and not the process of the assignment.
- Numerous structured opportunities for students to engage in meaningful conversations about math are embedded throughout the program to support intentional vocabulary and language development, while increasing access to content. Working in pairs allows for English language learners to speak in their first language in order to understand the task at hand before practicing articulating their solution in English when they share with the larger group.
- Visual tools, such as visual representations of mathematical concepts, visual directions in the student WorkSpace, visual representations of manipulatives, and the visual connections to mathematics in children's literature all support students whose second language is English.
- Math vocabulary is explicitly taught using a consistent routine. Every lesson includes a sidebar that highlights the key math and academic vocabulary used in each lesson along with the Spanish translation of each word or phrase. Language Development boxes provide further explanation and additional support.
- Communication in the form of Community News and a Glossary is available in Spanish in Teacher Central. Through this ongoing communication, parents are kept informed of the topics and concepts that have been presented in the classroom. The resources also include suggested activities for students to try at home.

RTI 8—A strong professional learning plan to support teachers' implementation.
Do The Math offers a variety of professional learning solutions. The comprehensive Professional Learning solutions are data- and evidence-driven, centered on students, and delivered by master educators. Daily instructional support ensures teachers are confident and prepared to teach the program, including how to incorporate technology.

STUDENT RESOURCES

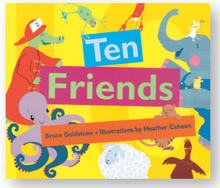


HMH Student Central™



Annotated Workspace

Workspace



Read Alouds

Classroom Materials Box

1. Embedded Professional Learning:

- Teacher Guide: The Teacher Guide provides all the information needed for preparing to teach the lesson, step-by-step teaching instructions, and guidance for monitoring student progress. Supporting Instruction, Language Development, and Mathematical Background boxes at point of use provide professional information that help prevent teaching stumbling blocks.
- HMH Teacher Central: This online resource includes videos of actual lessons and Marilyn Burns' descriptions of the pedagogy and the deep thinking that went into creating the scaffolded and sequenced lessons. Also provided are reproducibles and professional articles related to the program.
- The Professional Learning Guide provides additional mathematical and pedagogical support for each module.

2. Implementation Training:

The *Getting Started for Teachers* in-person one-day course develops teachers' understanding of the *Do The Math* methodology and how it supports students who are below grade level in math. Teachers learn how to support the development of whole number and fraction proficiency for struggling students. Teachers consider what it means to provide intervention instruction as they spend time exploring the program and planning for their first week of instruction.

3. Professional Learning Support:

HMH has provided support from Math Solutions (www.mathsolutions.com) to offer teachers professional development options that focus on the mathematics and pedagogical choices that are the foundation of every *Do The Math* lesson. They are:

- **Three-Day Content-focused Course: Number and Operations in Base Ten**
  This course focuses on number and operations in base ten and operations and algebraic thinking for students in Grades K–5. The emphasis of this course is on developing a foundation of understanding of early number concepts, the significance of place value, and the four operations. Recommended for *Do The Math* teachers and elementary core content math teachers.
- **Two-Day Content-focused Course: Strategies for Supporting Fraction Sense**
  This course focuses on number and operations with fractions for students in Grades 3–5. The emphasis of the course is on building understanding of fractions as numbers and connections between whole number knowledge and fraction knowledge. Recommended for *Do The Math* teachers and Grades 3–5 core content math teachers.
- **Two-Day Content-focused Course: Making Sense of Fraction Computation**
  This course focuses on building understanding of fraction computation. Participants learn to build on students' understanding of whole number operations to make sense of fraction computation. Strategies that support the development of fraction operation sense are highlighted. Recommended for *Do The Math* teachers and Grades 3–5 core content math teachers.
- **One Day Deeper Dives**
  These sessions are designed for teachers who have already attended the getting started course and have had some exposure teaching *Do The Math* in the classroom. These courses deepen participants' understanding of addition and subtraction, multiplication, fractions, or division concepts and the *Do The Math* methodology. Participants gain familiarity with lessons and increase their confidence in the use of the eight instructional principles. They explore the Instructional Practices Inventory and consider how it can elevate instructional decisions.

Additionally, HMH offers individual coaching for teachers. Side-by-side, monthly coaching visits help *Do The Math* teachers integrate new skills immediately into their practice. Individual coaching can include lesson modeling, which provides teachers with professional learning before, during, and after lesson delivery.

RTI 9—IDEA RTI funding in coordination with activities funded by, and carried out under, the ESSA/ESEA.

Do The Math can be purchased and implemented using a variety of sources including state funds, funds from local districts, or donations from private foundations. For questions regarding funding sources for Response to Intervention services, please consult your HMH representative or state educational agency (SEA).

SUMMARY

Do The Math strengthens and complements the implementation of RTI in schools. *Do The Math* is a research-based math intervention program that proactively improves young students' access to the core curriculum by supporting the development of the underlying concepts of mathematics for all students (Tier 1), differentiating and targeting intervention for groups of students who need additional support (Tier 2), or providing assessments and targeted interventions for individual students who have not yet acquired a foundational understanding of key topics in mathematics (Tier 3).

Do The Math is a mathematics intervention program that addresses the diverse needs of all students. Incorporating research-based instructional strategies to specifically meet the needs of students who struggle with math, the program helps students to gain the necessary conceptual understanding of addition, subtraction, multiplication, division, and fractions. Moreover, there are assessments and suggestions for differentiation embedded in the program that guide the teacher as to when a student may need additional support in order to succeed. Ongoing progress monitoring, professional learning resources, and supplementary materials further assist practitioners to use the program effectively to meet the goals of RTI.

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