

NEW HAVEN BOARD OF EDUCATION
AMENDMENT TO AGREEMENT

Pending

CONTRACTOR: Houghton Mifflin Harcourt AMENDMENT #: 1

GRANT # if applicable: N/A AGREEMENT #: 96293366

GRANT NAME: Commissioner's Network Grant - Wexler Grant DATE: 12/20/2019

FUNDING SOURCE OF AGREEMENT: 2547-6293-56697-0032

ORIGINAL AMOUNT OF AGREEMENT: \$ 34,992

AMOUNT OF AGREEMENT PRIOR TO THIS AMENDMENT: \$ 34,992

X ACTUAL OR ESTIMATE

AMOUNT OF THIS AMENDMENT: \$ 0

INCREASE OR DECREASE

AMOUNT OF AGREEMENT INCLUDING THIS AMENDMENT: \$ 34,992

FUNDING SOURCE FOR AMENDMENT: 2547-6293-56697-0032

DESCRIPTION AND NEED FOR AMENDMENT: To correct the contract start date from October 7, 2019 to August 28, 2019 on Wexler-Grant School Commissioners Network Grant account #: **2547-6293-56697-0032**.

ALL OF THE TERMS AND CONDITIONS OF ORIGINAL AGREEMENT REMAIN IN FULL FORCE AND EFFECT

CONTRACTOR'S SIGNATURE: *Lisa A. Jackson* Feb 14, 2020
(Name) (Date)

Director, Bids and Contracts

(Title)

NEW HAVEN BOARD OF EDUCATION:

President

(Date)

October 29, 2019

Lisa Jacobson
Houghton Mifflin Harcourt Publishing Company
Math Solutions
125 High Street
Boston, MA 02110

Dear Ms. Jacobson:

Enclosed is your signed copy of Agreement No. 96293366, which was approved by the New Haven Board of Education on 10/15/2019. Please reference this Agreement No. 96293366 on all future correspondence and/or invoices.

When submitting invoices for payment be sure to provide a complete description of services rendered including date, place and times.

The funding source for this agreement comes from the Commissioner's Network Wexler Grant. Please make sure that all services are applicable to this funding source.

If you have any questions regarding payment status please call Chantel Esdaille at 1-475-220-1378.

Sincerely,

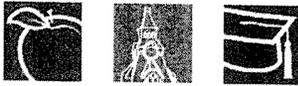


Derricka Suggs-Wilkes
Office Manager

DW enc.1

cc: K. Hannans
D.Diah

CONTRACTOR COPY



NEW HAVEN PUBLIC SCHOOLS

AGREEMENT NO. 96293366

AGREEMENT COVER SHEET
TO BE COMPLETED BY DISTRICT EMPLOYEE

PLEASE ATTACH TO AGREEMENT

PLEASE TYPE

CONTRACTOR FULL NAME: Houghton Mifflin Harcourt Publishing Company

DOING BUSINESS AS, IF APPLICABLE: Math Solutions

BUSINESS ADDRESS: 125 High Street, Boston, MA 02110

BUSINESS PHONE: 410-937-7609

BUSINESS EMAIL: Mathew.harnett@hnhco.com

SS# OR TAX ID #: 04-1456030

PREPARED BY: David Diah

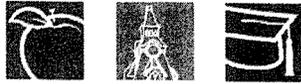
PRINCIPAL OR SUPERVISOR: David Diah

AGREEMENT EFFECTIVE DATES: From October/7/2019. To May 20, 2020.

HOURLY/ DAY/or PER SESSION RATE: Math Solutions training PD on rigorous math instruction with focus on increasing math content knowledge, effective strategies for teaching math, formative assessment and job embedded coaching through May 20, 2020.

Date	Description	Cost
2	<i>Professional Learning Course 2 days Mathematical Thinking - A Focus on Representation and Procedural Fluency</i> <i>Problem Solving - Developing Disposition, Competence, and Confidence</i>	\$7,776
7	<i>Onsite Job-embedded Coaching</i> <i>7 days (8 total days - one day of coaching is dedicated to Do the Math, see separate cost proposal)</i>	\$27,216
Total		\$34,992

TOTAL AMOUNT: \$34,992



NEW HAVEN PUBLIC SCHOOLS

AGREEMENT

AGREEMENT NO. 96293366

By And Between
The New Haven Board of Education
AND

Houghton Mifflin Harcourt Publishing Company

FOR DEPARTMENT/PROGRAM:

[Wexler-Grant Community School]

This Agreement entered into on the 7th day of October, 2019 effective (no sooner than the day after Board of Education Approval), the 7th day of October, 2019, by and between the New Haven Board of Education (herein referred to as the “Board”) and, Houghton Mifflin Harcourt Publishing Company, doing business as Math Solutions, located at 125 High Street, Boston, MA 02110 (herein referred to as the “Contractor”).

SCOPE OF SERVICE: *Brief description of service deliverables. In addition, please attach a detailed Scope of Service that describes all deliverables, locations and costs for service, including supplies, materials and travel, if applicable:*

Math Solutions will be providing 7 days of job-embedded coaching to Wexler Grant teachers during the 2019-20 school year. They will also provide 2 all-day Professional Development for K-8 math teachers at Wexler- Grant. The Professional Learning Course is designed to introduce teachers to a research-based perspective for implementation of the math workshop model with a focus on standards and student needs driving math instruction.

During the 8 days of job-embedded coaching (8 days for coaching classroom teachers, 2 days for Professional Learning Workshops), educators work side by side enabling teachers to integrate new skills immediately into their practice.

Instructional coaching lessons support teachers to implement the strategies introduced in professional learning experiences. Teachers work side-by-side with a Math Solutions consultant to review highly-effective instructional practices and collaborate with colleagues to implement mathematics tasks that align to their Standards. Participating teachers have the opportunity to discuss the effect of instructional strategies on student learning as observed in the classroom and analyze the connection between tasks, active student engagement, reasoning and problem solving.

The most effective coaching occurs over time. Key to its effectiveness is the involvement of the principal, including a schedule that provides adequate time for teacher learning. Inherent in these

experiences is a ‘gradual release of responsibility’ from the coach to the classroom teacher.

Model lessons are one aspect of job-embedded coaching. The model lesson cycle typically includes the following:

- **Lesson Pre-Brief**—Math Solutions consultant and teachers co-plan the lesson he/she will teach. The Math Solutions consultant might teach or co-teach the lesson with the teacher.
- **The Lesson**—Math Solutions consultant teaches the lesson to a class of students, while teachers observe with a specific focus identified during the lesson planning sessions.
- **Lesson Debrief**—Math Solutions consultant facilitates as teachers collaborate to debrief the lesson with a focus on student learning and student misconceptions, identifying specific aspects and strategies used that supported student learning. Finally, the team reflects on next instructional steps for students. In addition to model lessons, job-embedded coaching may include:
 - Support for implementing effective teaching practices aligned to their Standards
 - Strategies for differentiating instruction to meet the needs of all students, especially struggling students and those needing intervention
 - Opportunities to focus on developing and deepening content knowledge
 - Collaborative instructional planning and observation of participant lessons to refine instruction

Followed by additional support in teacher’s area of need

- Effective teaching strategies aligned with standards
- Strategies for differentiating
- Opportunities to deepen content knowledge
- Collaborative instructional planning

Compensation: The Board shall pay the contractor for satisfactory performance of services required the amount of \$34,992 for training PD on rigorous Math Instruction with focus on math content knowledge, effective teaching and differentiation strategies, and job embedded coaching through May 20, 2020 for up to a maximum of 7 days of job-embedded coaching which will provide school-based mentoring and 2 days of professional development for all K-8 math teachers to cover the period from October 7, 2019 through May 20, 2020. The maximum amount the contractor shall be paid under this agreement: thirty-four, nine hundred and ninety-two dollars (\$34,992). Compensation will be made upon submission of an itemized invoice which includes a detailed description of work performed and dates of service.

Days	Description	Cost
2	Professional Learning Course 2 days Mathematical Thinking - A Focus on Representation and Procedural Fluency Problem Solving - Developing Disposition, Competence, and Confidence	\$7,776
7	Onsite Job-embedded Coaching 7 days (8 total days - one day of coaching is dedicated to Do the Math, see separate cost proposal)	\$27,216
Total		\$34,992

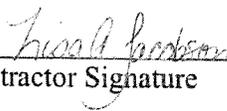
Fiscal support for this Agreement shall be by **Commissioner's Network Grant** of the New Haven Board of Education, **Account Number:** 2547-6293-56697 **Location Code:** 0032.

This agreement shall remain in effect from October 7, 2019 to May 20, 2020.

APPROVAL: This Agreement must be approved by the New Haven Board of Education prior to service start date. Contactors may begin service no sooner than the day after Board of Education approval.

HOLD HARMLESS: The Contractor shall insure and/or indemnify the Board and its members, employees and agents against all claims, suits, and expenses, including reasonable attorney's fees, in connection with loss of life, bodily injury or property damage arising from any neglect act or omission of the Contractor or its employees or agents. Further, the Contractor covenants and agrees that it shall hold the Board and its members, employees and agents harmless against any and all claims, suits judgments of any description whatsoever caused by the Contractor' breach of this agreement or based upon the conduct of the Contractor, or its agents or its employees or arising out of in connection with their activities under this agreement.

TERMINATION: The Board may cancel this agreement for any reason upon thirty (30) days' written notice sent to the Contractor by certified U.S. mail, return receipt requested; provided however, that the Board shall be responsible to the Contractor for all services rendered by the Contractor through the last day of thirty (30) day notice period, as long as the Agreement was approved by the Board prior to the start date of service.



Contractor Signature



President
New Haven Board of Education

September 18, 2019

Date

10/15/19

Date

Lisa Jacobson, Director, Bids and Contracts
Houghton Mifflin Harcourt Publishing Company
doing business as Math Solutions

Contractor Printed Name & Title



Proposal for Partnership with Wexler Grant Community School New Haven, CT

Professional Learning for Improvement in Mathematics

July 3, 2019

Presented to:

Mr. David Diah, Principal

Ms. Mandy Bonz, Math Coach

Contacts:

Matthew Harnett
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DPL Math Solutions
bkonicke@mathsolutions.com
602.616.3802

The purpose of this proposal is to create a plan for improving the effective teaching and student learning of mathematics at Wexler Grant Community School. We believe that a partnership with you that focuses on your district goals, student data, and a thorough understanding of your instructional needs to meet the Connecticut Core Standards for Mathematics, will lead to building the capacity required for student achievement in mathematics.

What We Heard

In our latest conversation, Mr. Diah shared that he was very pleased with the work conducted by Math Solutions during the 2018 – 2019 school year and is interested in offering a professional learning opportunity to grades K-8 teachers in the next school year. Math Solutions proposes to collaborate with district and school leadership to design this engagement to address the needs of teachers and the requirements of the Commissioners Network Grant.

- Proposing onsite job-embedded coaching one day/week for all teachers of math K-8
- Want the consultants to work closely with the math coach
- Continue course work to increase depth of knowledge and understanding of content

Based on collaborative conversations with you, we will create a customized **Professional Learning Plan** that includes/describes professional development focused on your unique needs and goals

Why Math Solutions?

Math Solutions has been partnering with schools and districts to improve math instruction for more than 30 years. Founded by Marilyn Burns in 1984 and always focused exclusively on mathematics education, Math Solutions has the depth of professional development expertise to transform math instruction in your school/district. Over the years, we have supported thousands of schools and districts to build learning environments where teachers are more knowledgeable and confident about math instruction and students are more engaged and excited about learning math.

While many companies provide generic professional learning services, Math Solutions is the sole expert in *mathematics* professional learning. Math Solutions draws upon years of classroom-grounded research and extensive knowledge of curricula and state standards, to provide the highest-quality face to face courses, coaching, and resources, all developed and delivered by experts in math education.

Math Solutions has identified the four *Guiding Principles* to be essential to improving instruction and student outcomes. These *Guiding Principles* are the foundation of all the professional learning we provide and ensure that educators:

- **Know the math they need to teach**— know it well and flexibly enough to understand various solution paths to increase students' reasoning of mathematics. Math Solutions increases teachers' math content knowledge necessary to deliver effective classroom instruction.
- **Understand the conditions necessary for learning**, so they may understand deeply the unique conditions necessary for student learning in mathematics— what they need to provide and what students must make sense of for themselves
- **Recognize each student's strengths and weaknesses**, content knowledge, reasoning strategies, and misconceptions.
- **Have the expertise to make math accessible for all students**, to ask questions that reveal and build understanding, and help students make sense of and solve problems.

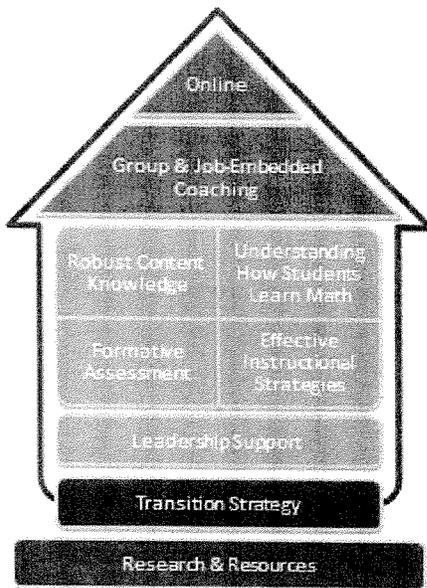
Based on these *Guiding Principles*, Math Solutions has identified key areas of instructional focus to reach math achievement goals: **learning environment, reasoning and sense making, focus and coherence, and formative assessment**. Math Solutions will help you recognize what a classroom that encompasses these key areas actually looks like with observable examples for both teachers and students. The *Instructional Practices Inventory (Appendix X)* guides leaders and teachers to know what works best to create a model math classroom. It outlines best teaching practices and student learning practices and is utilized in the assessment of the instructional needs of your teachers, monitoring progress, and end of the year or project summary.

30 years of experience has also resulted in a wealth of knowledge of individual state (or common) standards. Math Solutions has worked throughout the country with many curricula as well. Deep understanding of standards and the current curricula in your school or district, aligned with your professional learning goals is key to success.

More information about Math Solutions is in **Appendix II**.

Recent academic research (Learning Forward) tells us that a successful professional learning plan needs to be ongoing and include leadership support. At the foundation is math instruction that improves teachers' math content knowledge and pedagogy, which is sustained by classroom coaching and online support. Additionally, school and district leaders need to play a strong role in the plan, and the plan needs to connect to district goals.

Math Solutions Professional Learning



-  ...is part of a larger, long-range strategy to improve math instruction and student outcomes
-  ...is built on a foundation of leadership support
-  ...addresses the instructional needs of every teacher
-  ...is sustained through differentiated, targeted, on-going professional learning
-  ...is based on extensive in-classroom research incorporating the most innovative strategies and “best practices” from our award winning authors

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Description of Proposed Professional Learning Services for Wexler Grant Community School
The scope of work below describes a proposal for professional learning that supports your teachers, instructional coaches, and building level leaders. Before implementation, we will meet and collaborate with you to ensure your goals are fully integrated in your *Professional Learning Plan*.

This proposal is organized into the following components:

Component 1: Foundational Professional Learning Courses

Math Solutions courses have been developed by a team of thought-leaders and professional development experts instructional best practice strategies and methods.

AGENDA

Mathematical Thinking

A Focus on Representation and Procedural Fluency

OVERVIEW

Current state standards call for students to develop knowledge of computational procedures along with knowledge of when and how to use them appropriately. The goal is for students to become skillful in performing computational procedures flexibly, accurately, efficiently, and with understanding.

This full-day course provides teachers with a deeper understanding of procedural fluency beyond merely the ability to memorize procedures and apply them with little understanding. In addition, teachers will learn strategies to support students in representing ideas visually, symbolically, and verbally, as well as strategies for helping students make connections between these different representations.

OUTCOMES

- Expand understanding of procedural fluency to include carrying out procedures flexibly, accurately, and appropriately
- Broaden the definition of mathematical tools to include anything that students use to think about mathematics
- Connect multiple representations for the purpose of helping all students better understand underlying mathematical ideas
- Consider students' use of tools and representations for the purpose of assessing student understanding

FLEXIBLE, ACCURATE, AND EFFICIENT

For many students, procedures have been the mainstay of learning mathematics. “Yours is not to reason why, just invert and multiply” was a phrase used by teachers to help students remember the procedure for dividing fractions. The approach to learning computational procedures was based on a set of steps, or an algorithm, learned through repeated practice and memorization.

OPENING—WELCOME, LOGISTICS, AND EXPERIENCES

This introduction includes the course goals, an explanation of the structure and layout of the *Participant Guide*, an overview of the pillars and the practices addressed during the day, and pertinent logistical information.

WHAT IS PROCEDURAL FLUENCY?

Procedural fluency refers to knowledge of procedures; knowledge of when and how to use them appropriately; and skill in performing them flexibly, accurately, and efficiently. In this introductory experience, participants focus on aspects of procedural fluency beyond performing procedures such as estimation and sensemaking.

USING TOOLS TO DEVELOP UNDERSTANDING

Manipulative materials coupled with good questions can prompt students to think about mathematical ideas and reflect on their understanding of them. In this experience, teachers engage in a mathematical investigation and examine the questions used to focus students' work with manipulatives on important mathematical ideas.

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LUNCH

CONNECTING MULTIPLE REPRESENTATIONS

In this portion of the day, participants explore multiple representations of a mathematics problem as physical or mental constructs that describe aspects of the concept. Participants consider the various representations as forms of an idea that allow the learner to interpret, communicate, and discuss the idea with others.

REFLECTION AND CLOSING

Participants take time to reflect on the experiences of the day and ways that these experiences will affect their classroom instruction.

AGENDA

Problem Solving

Developing Disposition, Competence, and Confidence

OVERVIEW

Current state standards call for students to make sense of problems and persevere in solving them. Teachers' instructional practices directly affect students' confidence in their mathematical skills and their willingness to persevere to solve difficult problems.

This full-day course provides teachers with a deeper look at building perseverance in problem solving and applying mathematics to everyday situations. Participants will learn strategies for engaging students in appropriate levels of constructive struggle, thus allowing all students to approach mathematics with confidence and competence. Teachers learn how to maintain the integrity of high-level tasks by structuring lessons to allow students to make connections and develop new mathematical knowledge.

OUTCOMES

- Broaden participants' understanding of how students learn and the features of a classroom environment that promotes confidence and perseverance in students
- Develop a working knowledge of constructive struggle as offering opportunities to involve students in problems that require critical thinking and connections across multiple mathematical concepts, skills, and ideas rather than those that entail superficial application of a rote procedure.
- Examine three core features of the role of the teacher who teaches for understanding
- Consider how two cognitive processes that are key in students' efforts to understand mathematics—reflection and communication—are also tools teachers use to assess student understanding

SUPPORTING CONSTRUCTIVE STRUGGLING

It is important for all students to experience some struggle in order to make sense of mathematics and develop new knowledge. Students will not persevere and be confident in their mathematical skills if we do not provide opportunities to make sense of the math and support them in the process.

Teachers maintain the integrity of high-level tasks by structuring lessons to allow students to make connections and develop new mathematical knowledge.

OPENING—WELCOME, LOGISTICS, AND EXPERIENCES

This introduction includes the course goals, an overview of the practices addressed during the day, and pertinent logistical information.

THE NATURE OF TASKS

The session focuses on grade-level content to highlight the nature of tasks that promote confidence, competence, and perseverance in students. In this session, participants experience firsthand an example of a task that is rigorous yet accessible, at some level, to all students.

PROBLEM SOLVING AND CONSTRUCTIVE STRUGGLE

This session highlights the importance of constructive struggle in a classroom environment that supports students' mathematical practice of making sense of problems and persevering in solving them. Participants solve a problem, communicate orally about their solutions, and record and organize their thinking. In processing this experience, participants discuss important ideas about the role that constructive struggle plays in developing problem-solving skills in students.

HOW LEARNING OCCURS

This session focuses on a view of learning in which people create/construct their own understanding of mathematical concepts/relationships through interactions between their minds & concrete experiences.

LUNCH

HOW LEARNING OCCURS (CONTINUED)

THE PROBLEM-SOLVING LESSON

The ability to identify and execute the critical phases of a problem-solving lesson, and to ask questions during each phase that compel students to think and reason, is vital to students' learning mathematics with understanding.

REFLECTION AND CLOSING

This session reviews the connections between today's tasks and the processes and students habits of mind, the five pillars for mathematics, and the learning outcomes for the day.

MATH SOLUTIONS GUIDING PRINCIPLES

Drawing upon academic work and our own classroom-grounded research and experience, Math Solutions has identified the following four instructional needs as absolutely essential to improving instruction and student outcomes:

- Robust Content Knowledge
- Understanding of How Students Learn
- Insight into Individual Learners through Formative Assessment
- Effective Instructional Strategies

These four instructional needs drive the design of all Math Solutions courses, consulting and coaching. We consider them our guiding principles and strive to ensure that all educators:

- Know the math they need to teach—know it deeply and flexibly enough to understand various solution paths and students' reasoning.
- Understand the conditions necessary for learning, what they need to provide, and what students must make sense of for themselves.
- Recognize each student's strengths and weaknesses, content knowledge, reasoning strategies, and misconceptions.
- Have the expertise to make math accessible for all students, to ask questions that reveal and build understanding, and help students make sense of and solve problems.

Component 2: Job-Embedded Coaching for Teachers, Instructional Coaches, and Building Administrators

8 days

Sept 11, Oct 23, Nov 6

Jan 15, Feb 12, March 18

April 22, May 20

Math Solutions Coaching

Math Solutions job-embedded coaching for individuals and teams drives innovation and instructional improvement and provides the tools for your teachers to transform theory into practical classroom practice. Team coaching builds a community of learners through collaboration. It is the fastest way to synchronize your teams across grade levels, share experience and expertise, and collaborate on plans and protocols. Individual coaching builds skills and leadership capacity through differentiation. With job-embedded coaching and model lessons, educators work side by side, enabling them to integrate new skills immediately into their practice.

Instructional coaching lessons support teachers to implement the strategies introduced in professional learning experiences. Teachers work side-by-side with a Math Solutions consultant to review highly-effective instructional practices and collaborate with colleagues to implement mathematics tasks that align to their Standards. Participating teachers have the opportunity to discuss the effect of instructional strategies on student learning as observed in the classroom and analyze the connection between tasks, active student engagement, reasoning and problem solving.

The most effective coaching occurs over time. Key to its effectiveness is the involvement of the principal, including a schedule that provides adequate time for teacher learning. Inherent in these experiences is a 'gradual release of responsibility' from the coach to the classroom teacher.

Model lessons are one aspect of job-embedded coaching. The model lesson cycle typically includes the following:

- **Lesson Pre-Brief**—Math Solutions consultant and teachers co-plan the lesson he/she will teach. The Math Solutions consultant might teach or co-teach the lesson with the teacher.
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 - Strategies for differentiating instruction to meet the needs of all students, especially struggling students and those needing intervention
 - Opportunities to focus on developing and deepening content knowledge
 - Collaborative instructional planning and observation of participant lessons to refine instruction

SERVICES AGREEMENT

CP# 007368134

DATE: SEPTEMBER 12, 2019

NAME OF ORGANIZATION: WEXLER GRANT COMMUNITY SCHOOL (NEW HAVEN, CT)

	Days	Description	Cost
	2	<p>Professional Learning Course 2 days Mathematical Thinking - A Focus on Representation and Procedural Fluency Problem Solving - Developing Disposition, Competence, and Confidence</p>	\$7,776
	7	<p>Onsite Job-embedded Coaching 7 days (8 total days - one day of coaching is dedicated to Do the Math, see separate cost proposal)</p>	\$27,216
Total (All Inclusive)			\$34,992

Total Cost Includes	
Travel and Expenses	<ul style="list-style-type: none"> - Airfare - Ground transportation - Lodging - Meals - All other travel expenses
Materials	<ul style="list-style-type: none"> - Instructional materials used during the session (as applicable)

Services Agreement valid for 30 days -

Subject to terms and conditions, located at: <https://www.hmhco.com/terms-of-use/services>

The district referenced above hereby accepts and agrees to the details set forth in this Services Summary, including dates and fees, subject to the terms and conditions.

CLIENT:

Signature: _____

Date: _____

Printed Name: _____

Title: _____

- Will a PO be issued for this purchase? Yes No PO Required
- Is the PO attached? Yes No If no, anticipated date of PO: _____
- Please invoice from Houghton Mifflin Harcourt: Upon delivery of service or Upfront
- If invoice 'upon delivery of service' is selected, please indicate funding/PO expiration/last date
HMH can invoice: _____
- Please return Services Agreement and PO (payable to Houghton Mifflin Harcourt) to:

Matthew.harnett@hmhco.com

A DIVISION OF



Houghton Mifflin Harcourt

Math Solutions Instructional Practices Inventory

Professional development opportunities provided for teachers can only target the learning needs of students if information is collected from classrooms. This tool will be used to compile information gathered from multiple schools and classrooms in an effort to design professional development that targets identified needs. Information from one classroom or school will not be used in any way.

LEARNING ENVIRONMENT	
Teacher	Students
Provides a respectful, safe learning environment in which mistakes are seen as an opportunity to learn.	Take an academic risk and rely on their own thinking and the thinking of other students.
Structures the class for independent work, pairs, groups, and whole class in a thoughtful and deliberate way.	Listen and ask questions to each other to clarify information; respectfully challenge ideas; make conjectures.
Asks questions that both build and reveal new understanding of content and practice. Avoids yes/no questions unless they also ask for justification.	Explain their reasoning; construct viable arguments and critique the reasoning of others.
Makes appropriate tools available and encourages their use.	Communicate using appropriate mathematical language both orally and in writing.
	Work well in a variety of grouping structures.
REASONING AND SENSE-MAKING	
Teacher	Students
Selects rigorous learning experiences.	Persevere in making sense of rigorous problems.
Makes learning experiences accessible to all students without compromising the rigor in the problem.	Seek out multiple approaches to solving a problem.
Expects students to justify their reasoning for all answers, whether correct or incorrect.	Use multiple representations when solving problems such as symbols, diagrams, graphs, words, etc.
Selects learning experiences that represent a balance of conceptual understanding and procedural fluency.	Understand math concepts and use procedures appropriately.
	Use appropriate tools strategically, including mental calculations, that fit the situation.
	Look closely to discern a pattern or structure.
FOCUS AND COHERENCE	
Teacher	Students
Understands the expectation of the standard to be taught and its connection to previous standards; aligns the lesson to grade level content and practice standards.	Connect their current learning to previously learned standards.
Differentiates instruction based on student needs.	Use math to contextualize and/or decontextualize problems.
Selects problems that provide opportunities for students to contextualize and/or decontextualize.	Apply the math they know to solve real-world problems.
Selects problems that provide opportunities for students to apply math to real-world situations.	
FORMATIVE ASSESSMENT	
Teacher	Students
Uses data to make instructional decisions based on student need.	Take responsibility for their learning by monitoring their progress toward a learning target.
Provides feedback to students or structures opportunities for students to provide feedback to each other.	Evaluate the reasonableness of their results using feedback from the teacher or a peer.
Identifies and communicates the learning target(s) of the lesson.	Articulate what they are learning and why.
Implements a variety of strategies to monitor student learning.	

About Math Solutions

Founded in 1984 by renowned math educator Marilyn Burns, Math Solutions, a division of Houghton Mifflin Harcourt (HMH), is the nation's leader in developing effective teachers of mathematics. With more than 30 years of experience working with thousands of school districts nationwide, our team of educational experts creates solutions for accelerated sustainable improvement in teacher effectiveness, student learning, and test results. You can learn more about Math Solutions services at www.mathsolutions.com.

Our Mission

Math Solutions is dedicated to improving students' learning of mathematics by providing educators with the highest quality professional development services, products, and resources.

Method of Approach

Math Solutions Directors of Professional Learning and Instructors collaborate with district and school leadership during each professional development engagement to ensure the improvement of school level practices and student learning. Drawing from academic research and more than 30 years of experience, Marilyn Burns has identified four goals for educators that are essential to improving the teaching of mathematics:

- Teachers' understanding of the math they teach
- Understanding of how students best learn math
- Development of effective strategies for teaching mathematics
- Formative assessment to guide instruction

Math Content Knowledge

As we implement the professional learning of adult educators, we identify what math content is of vital importance for teachers to understand by grade level and state standards. This content is different from the mathematics that a mathematician – instead, it's knowing mathematics deeply and flexibly enough to convey concepts, reasoning and the real-world application of the mathematics to students.

How Students Learn

In addition to being clear about what math content knowledge a teacher needs to understand, we also support teachers by helping them to understand how children learn mathematics—knowing what is important to *tell* children and what is best *not to tell* children. It implies asking thoughtful questions for the part of mathematics that we don't tell children. It also involves knowing what conditions are needed for learners to make sense of mathematics. Developing this understanding requires a career-long effort on the part of a teacher.

Effective Instructional Strategies

Given a deep and flexible understanding of the math content and a developing understanding of how children learn mathematics, we introduce teachers to effective instructional strategies, including choosing and scaffolding accessible tasks, asking questions that build and reveal understanding, and providing tools that help students make sense of mathematics and solve problems.

Formative Assessment

Assessment, or determining what students know, is a central element in the process of teaching and learning. Assessment generally falls into two categories—summative (assessment *of* learning) and formative (assessment *for* learning). Tests given at the end of teaching units and standardized tests are examples of summative assessments. Formative assessment is intended to provide teachers and students with information about what students *understand*, as well as unveiling student misconceptions. This type of assessment is used to guide instructional decisions on a daily basis, in order to improve student learning; it includes open questions and tasks, listening to students, observing students, and examining student work.

EXHIBIT B does not pertain to this Agreement.



NEW HAVEN PUBLIC SCHOOLS

EXHIBIT B

STUDENT DATA PRIVACY AGREEMENT SPECIAL TERMS AND CONDITIONS

For the purposes of this Exhibit B "directory information," "de-identified student information," "school purposes," "student information," "student records," "student-generated content," and "targeted advertising" shall be as defined by Conn. Gen. Stat. §10-234aa.

1. All student records, student information, and student-generated content (collectively, "student data") provided or accessed pursuant this Agreement or any other services agreement between the Parties are not the property of, or under the control of, the Contractor.
2. The Board shall have access to and the ability to delete student data in the possession of the Contractor except in instances where such data is (A) otherwise prohibited from deletion or required to be retained under state or federal law, or (B) stored as a copy as part of a disaster recovery storage system and that is (i) inaccessible to the public, and (ii) unable to be used in the normal course of business by the Contractor. The Board may request the deletion of any such student information, student records or student-generated content if such copy has been used by the operator to repopulate accessible data following a disaster recovery. The Board may request the deletion of student data by the contractor within two (2) business days of receiving such a request and provide to the Board confirmation via electronic mail that the student data has been deleted in accordance with the request, the date of its deletion, and the manner in which it has been deleted. The confirmation shall contain a written assurance from the Contractor that proper disposal of the data has occurred in order to prevent the unauthorized access or use of student data and that deletion has occurred in accordance with industry standards/practices/protocols.
3. The Contractor shall not use student data for any purposes other than those authorized pursuant to this Agreement.
4. A student, parent or legal guardian of a student may review personally identifiable information contained in student data and correct any erroneous information, if any, in such student data. If the Contractor receives a request to review student data in the Contractor's possession directly from a student, parent, or guardian, the Contractor agrees to refer that individual to the Board and to notify the Board within two (2) business days of receiving such a request. The Contractor agrees to work cooperatively with the Board to permit a student, parent, or guardian to review personally identifiable information in student data that has been shared with the Contractor, and correct any erroneous information therein.

5. The Contractor shall take actions designed to ensure the security and confidentiality of student data.
6. The Contractor will notify the Board, in accordance with Conn. Gen. Stat. § 10-234dd, when there has been an unauthorized release, disclosure or acquisition of student data. Such notification will include the following steps:

Upon discovery by the Contractor of a breach of student data, the Contractor shall conduct an investigation and restore the integrity of its data systems and, without unreasonable delay, but not more than thirty (30) days after such discovery, shall provide the Board with a more detailed notice of the breach, including but not limited to the date and time of the breach; name(s) of the student(s) whose student data was released, disclosed or acquired; nature of and extent of the breach; and measures taken to ensure that such a breach does not occur in the future.

7. Student data shall not be retained or available to the Contractor upon expiration of the contract between the Contractor and Board, except a student, parent or legal guardian of a student may choose independently to establish or maintain an electronic account with the Contractor after the expiration of such contract for the purpose of storing student- generated content.
8. The Contractor and Board shall each ensure their own compliance with the Family Educational Rights and Privacy Act of 1974, 20 U.S.C. § 1232g, as amended from time to time.
9. The Contractor acknowledges and agrees to comply with the above and all other applicable aspects of Connecticut's Student Data Privacy law according to Connecticut General Statutes §§ 10-234aa through 10-234dd.
10. The Parties agree that this Agreement controls over any inconsistent terms or conditions contained within any other agreement entered into by the Parties concerning student data.

PAYMENT INSTRUCTIONS

To expedite the payment process of your agreement please make sure invoices are submitted to your account executive and contain the following information:

- Contact Information (name, address and telephone number)
- Agreement number
- Invoice number
- Invoice date
- Full description of work performed, including dates
- Itemized breakdown of expenses
- Total amount of request
- Original receipts (if requesting reimbursement for expenses incurred as part of the agreement)

Upon submission of invoice(s) please review your agreement and make sure all information on invoices(s) are within the agreement guidelines.