



---

**Request for Proposal No. 065.19.B5 for  
ADAPTIVE ELEMENTARY MATHEMATICS SOFTWARE SOLUTION  
Ted Ludicke, Purchasing Office  
Howard County Public School System  
10910 Clarksville Pike  
Ellicott City, MD 21042**

**Submitted by**  
DreamBox Learning, Inc.  
600 108th Ave NE Ste 805 Bellevue WA 98004  
Michael Sarmiento  
Senior District Partner Manager  
michael@dreambox.com  
877-451-7845 x509

**Due: 5/15/19, 2:00 PM**

## Contents

<b>Transmittal Letter.....</b>	<b>2</b>
<b>Technical Proposal. ....</b>	<b>5</b>
1. Purpose. ....	5
2. Project Objectives and Goals .....	7
3. Mandatory Requirements:.....	37
4. Software Requirements:.....	60
5. Reporting Requirements:.....	61
6. Training Requirements: .....	75
7. Staffing Qualifications: .....	77
8. Implementation. ....	78
9. Service and Support:.....	88
10. File Back-Up/File Recovery.....	89
11. Data Migration/Integration.....	89
12. FERPA Regulations .....	89
13. Unique Qualifications. ....	90
14. Company Profile/Demonstration of Prior Work.....	90
15. References .....	91
<b>APPENDIX A – PRICE PROPOSAL .....</b>	<b>93</b>

## Transmittal Letter

Dear Howard County Educators:

DreamBox Learning Inc. would like to formally express our gratitude for the opportunity to share our program in detail with the Howard County Public School System. During the proposal process, our submission for RFP NO. 065.19.B5 for Adaptive Elementary Mathematics Software Solution is being submitted for the information and benefit of the HCPSS review committee and ultimately, the students and educators of the Howard County Public School System.

DreamBox Learning, founded in 2006 in Bellevue, Washington, is the only K-8 digital math program powered by students, built by and for educators, and independently proven to positively impact student achievement. DreamBox dynamically adapts and differentiates in real time based not only on students' answers, but also on how they solve problems. Along with actionable reporting and tools that empower differentiation for all learners, DreamBox gives teachers content-specific professional development and provides administrators with insights about how all students are progressing. The company's pioneering platform has won more than 40 top education and technology industry awards and is in use in all 50 states and throughout Canada.

Earlier this year, DreamBox Learning and The Rise Fund, a global impact investing fund managed by TPG Growth, signed an agreement for a \$130 million investment in the education technology company. This investment is The Rise Fund's largest education investment to date and will continue to cement their role as a leading global education investor. The Rise Fund has made a series of investments in education as part of its global strategy to expand education access and quality for students around the world. This includes a particular focus on leveraging the transformative power of digital curriculum and personalized learning tools like DreamBox to improve student outcomes and increase teacher capacity.

Arne Duncan, former U.S. Education Secretary and senior education advisor to The Rise Fund, has joined DreamBox's Board of Directors.

*"We know that education technology helps students and supports teachers. Providing more effective tools for teachers that drive student learning gains is a win-win for our schools." – Arne Duncan*

The investment will enable DreamBox to further accelerate growth and innovation, serving more educators and students as it continues down the path of being a powerful partner in every classroom, school, and district.

Employing over 200 employees with offices in Bellevue, Washington and Raleigh, North Carolina, along with regional representatives across the country, DreamBox Learning serves a wide band of K–12 institutions (public, charter, private, parochial, and online schools) in all 50 states and in Canada.

DreamBox Learning, Inc. is a Delaware C-Corporation, headquartered in Bellevue, Washington.

DreamBox Learning Math, developed by a team of board-certified and experienced classroom teachers, nationally recognized education researchers and mathematics leaders, and innovative software engineers, is a digital mathematics learning program that includes a growing repertoire of over 2,300 lessons that use virtual manipulatives and games to engage students in reasoning quantitatively and abstractly about mathematical structures, concepts, and strategies, while developing number sense with fluency and skill. The design and interactive features of the DreamBox Learning Math program are informed by the latest research in the learning and cognitive sciences. Both the lessons, and the intelligent adaptive learning platform on which the lessons run, use research-based designs in educational and learning science that help students make sense of mathematics regardless of whether they start below, at, or above grade level. Our student-driven curriculum is designed based on National Council of Teachers of Mathematics (NCTM) focal points and is aligned to the CCSS. We are certain that our solution will make a significant positive impact on HCPSS students and educators across many areas by:

- Fostering an environment where students' problem-solve and develop critical thinking by demonstrating understanding through the use of a wide array of virtual manipulatives.
- Developing skills and closing gaps faster to increase performance on assessments by improving learning outcomes more quickly through differentiated instruction (aligned to the CCSS).
- Personalizing instruction from intervention through enrichment while addressing gaps in mathematical learning pathways for every individual student, and establishing a coherent bridge between elementary and middle school.
- Enriching classroom instruction through seamless integration of continuous formative assessment that provides real-time visibility into individual student performance.
- Providing the highest level of equity, and appealing to the needs of all learners through personalized, student-driven learning.
- Increasing teacher capacity in content knowledge and pedagogy through high quality, job-embedded professional development that is personalized, immediate, relevant and actionable.
- Creating strong school-to-home connections.

We believe all children can excel at learning no matter where they start, where they live, or who they are. A partnership with the Howard County Public School System would leverage our extensive expertise in working closely with school districts to implement instructional technology with fidelity that significantly increases student success and actively promotes educator growth and capacity. We are dedicated to changing the way the world learns and are honored to have the opportunity to partner with the Howard County Public School System in a way that fully



supports the district's mission to provide a comprehensive educational experience that is high quality, challenging, and inspires all students to make a positive contribution to society.

DreamBox is the only digital elementary math solution with an Evidence Rating of "Strong" at EvidenceForESSA.org curated by Johns Hopkins University. Details regarding this study are provided in our response.

DreamBox Learning can meet the specifications of this RFP within the specified parameters and without any contractual exceptions.

***Kelly Havens***

 Kelly Havens

VP Finance & Operations

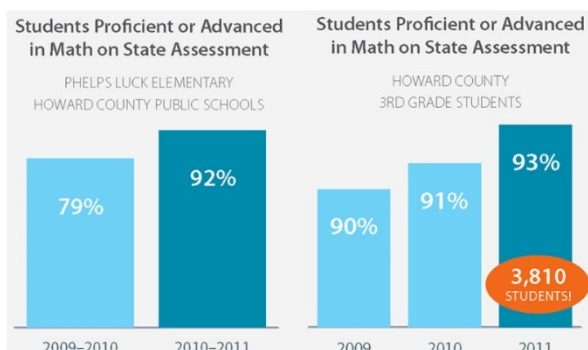
DreamBox Learning, Inc.

[kelly.havens@dreambox.com](mailto:kelly.havens@dreambox.com)

## Technical Proposal.

### 1. Purpose.

#### From Good to Great



#### Fast Facts

- Location: Howard County, MD
- Top performing school district
- 40 Elementary schools
- 25,000 Pre-K-5 students
- 93% Students proficient or advanced in math on state assessments
- 18% Eligible for free or reduced price lunch
- 3% Limited English proficient
- 6% Title I (elementary only)
- 9% Special education

#### DreamBox Implementation

- Deployed since April 2009
- 19 Elementary schools

[Download PDF](#)

“The DreamBox online curriculum program is truly innovative and is helping our schools develop mathematical thinkers.”

John SanGiovanni  
Elementary Mathematics Howard County Public School System  
Instructional Facilitator

The instructional philosophy at DreamBox Learning is built around a rigorous math curriculum that is aligned to the K-8 Common Core State Standards (CCSS). It builds conceptual understanding and fluency in the critical areas of **number and operations, place value, and number sense** providing students with the foundation they need to succeed.

Conceptual understanding is knowing more than isolated facts and methods. The successful student understands mathematical ideas and has the ability to transfer their knowledge into new situations and apply it to new contexts. Deep conceptual understanding is a key principle of the NCTM and what DreamBox Learning Math and Intelligent Adaptive Learning™ technology enable for students.

By tracking, analyzing, and responding every time a student takes an action, our Intelligent Adaptive Learning software is continuously working at the point of instruction. In addition to formative assessment, DreamBox Learning Math provides formative instruction by utilizing virtual manipulatives to allow students to show their thinking through rich, interactive, and open-ended problem-solving lessons that capture every decision a student makes, as well as data regarding response time, strategy used, types of mistakes made, and

more. The idea behind continuous assessment isn't just to enable providing a slightly more difficult or easier problem in response to a single answer. It's also to understand the strategy being used by the student when an answer was submitted which in turn will then be used in real-time to help develop and solidify conceptual understanding.

Thousands of data points are collected, analyzed, and acted upon during every hour a student uses DreamBox Learning Math. The Intelligent Adaptive Learning technology tracks each student interaction and evaluates the strategies used to solve problems. It then immediately adjusts the lesson and the level of difficulty, scaffolding, sequencing, number of hints, and pacing as appropriate. This allows students, whether struggling, at grade level, or advanced, to progress at a pace that best benefits them and deepen conceptual understanding.

During the continuous assessment that happens in real time on the Intelligent Adaptive Learning platform, DreamBox isn't simply recognizing right or wrong answers, DreamBox is also recording:

- Types and nature of mistakes
- Number of steps used
- Hints needed
- Scaffolding provided
- Efficiency of strategy
- And many other differentiating data points

*Below, we provide an example of one very minute slice of the type of information our Intelligent Adaptive Learning platform analyzes every time a student enters DreamBox:*

<u>Number-specific</u>	PV_TOTAL_IN_ALL
OFF_BY_ONE	PV_REVERSAL_COLUMNS
OFF_BY_TWO	PV_MULTIPLIED_OUT
OFF_BY_THREE	PV_NOT_OPTIMAL
OFF_BY_FOUR	PV_OFF_BY_PLACE_VALUE
OFF_BY_FIVE	PV_REVERSAL_DIGITS
OFF_BY_TEN	PV_EXTRA_ZERO
OFF_BY_TWENTY	PV_DROPPED_ZERO
OFF_BY_ONE_HUNDRED	PV_IGNORED_COLUMN
OFF_BY_A_MULTIPLE	PV_ADD_UP
INCORRECT_VALUE	<u>Multiplication</u>
<u>Number-specific diagnostic</u>	MULTIPLICATION_ONE_GROUP_TOO_MANY
DIGIT_REVERSAL	MULTIPLICATION_ONE_GROUP_TOO_FEW
DIGIT_REVERSAL_TWO_FIVE	
DIGIT_REVERSAL_THREE_EIGHT	MULTIPLICATION_INCORRECT_FACTOR
DIGIT_REVERSAL_SIX_NINE	MULTIPLICATION_INCORRECT_NUMBER_OF_GROUPS
<u>Strategy</u>	MULTIPLICATION_REVERSED_FACTORS
INCORRECT_STRATEGY	
<u>Place Value</u>	
PV_TOTAL_IN_TENS	

## 2. Project Objectives and Goals

- **Structural Objectives.**
- **be accessible to HCPSS students, staff, and teachers**

DreamBox Learning realizes the importance of planning the start of an implementation and executing the plan. With that said, we are cognizant that each LEA has its own systems, learning support structures, devices, and cultures. Any large-scale program across districts will require some hands-on troubleshooting and adjustment. DreamBox has assembled a team with large-scale project experience to ensure students and educators in HCPSS will have the best experience possible with DreamBox Learning.

At DreamBox, we take great pride in serving students and everyone who supports them. DreamBox is committed to providing schools, districts, and administration with comprehensive, ongoing support to ensure DreamBox is successfully implemented.

Teachers, parents, and administrators have a wide variety of help functions available to them, ranging from the reporting systems, to phone and email support, with a dedicated Client Success Teams. Additionally, multiple webpage resources, including professional development videos, FAQ pages, lesson plans, and a community of users, are available 24/7.

For our HCPSS partners, we will provide robust and flexible support regarding:

- The initial setup/uploading of district, school, admin, and teacher data
- The promotion, understanding, and accessibility of DreamBox among students, teachers, and parents
- The rollout training and ongoing professional development
- Support throughout the implementation

Aside from consummate support to students, educators, and parents, DreamBox will supply administration with minimal quarterly reporting, or as established at the kick-off meeting. At the end of the contract period we respectfully request a meeting to deliver a year-end comprehensive report and discuss student progression that will be evidenced by various local and state assessment data.

Though every district and school is unique, there are a specific set of strategies and approaches that typically lead to high-fidelity implementations of DreamBox. The district should be able to meet the technical and system requirements for DreamBox. Prior to the start of the school year (or implementation), district leadership and staff develop a rollout plan. Administrators inspire buy-in and usage by communicating the purpose of the program and incorporating DreamBox into district wide goals. They also partner with DreamBox to deliver product training and professional development on how to use DreamBox effectively to their staff and teachers. Once the accounts and rosters are setup, teachers should have the opportunity to prepare to launch DreamBox, including practicing logging in as a student, preparing devices, and determining the best way to incorporate DreamBox into their weekly routines. There are tools and resources in the Insight Dashboard to provide additional training on how to use DreamBox, including effective implementation and math instructional strategies. Because DreamBox is available in English or Spanish, teachers can easily meet their students' needs in supporting Spanish-speaking ELL students or use in a dual-immersion classroom environment with a visual and conceptual learning experience. It is best that teachers introduce DreamBox to their students with the following guidelines in mind: when using DreamBox, students should: 1) try every problem, 2) finish every lesson (persevere), 3) utilize in-lesson support, 4) use headphones with the volume on, and 5) work independently to ensure DreamBox can get an accurate assessment of how the student is progressing. DreamBox is most effective when students use the program at sustained, recommended levels each week.

District leaders often embed DreamBox into professional learning opportunities in order to empower teacher leaders at each site. Examples including PLCs where teachers share best

practices on topics such as using DreamBox data to support diverse learners, and providing targeted PD to enable the teacher leader to support their peers and school staff. As shared in a case study with Southwest Allen School District, Lynn Simmers, Assistant Superintendent described, “During our first full year of implementation, professional learning was a key factor to our success. It was important that professional development went beyond just learning about the program, but also focused on refining instructional strategies.”

As students continue to learn and grow on DreamBox, educators leverage the data in the classroom to monitor learning progression, usage, and celebrate student achievement. The data informs instructional approaches such as small groups, 1:1 time with learners for added support, or the application of long-term assignments to provide more targeted supports and differentiation. Administrators typically measure implementation health by monitoring usage and growth across schools and/or grade bands. Some districts also use Family Math Nights or Curriculum Nights to introduce DreamBox to families and help them set up their Family Insight Dashboard to build a meaningful home connection.

To see real examples of success stories and case studies, visit:

<http://www.dreambox.com/customer-success>

Check out <http://www.dreambox.com/ell> for ELL resources and case studies.

- allow for automatic rostering, account provisioning, and single sign-on integration with HCPSS information technology systems

There are several ways to set up classrooms and classroom rosters in DreamBox. You can select an automated roster management option or upload and manage rosters directly through your DreamBox Insight Dashboard.

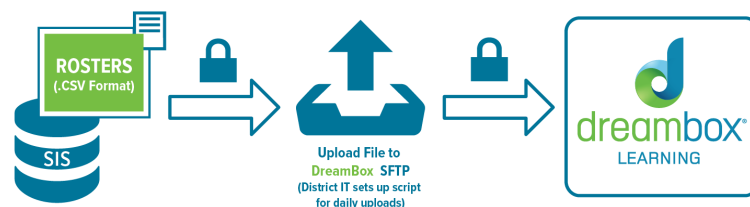
### **Automated Roster Management:**

If your entire school or several schools in your district will be using DreamBox, we recommend choosing one of our two automated options. Automated Roster Management (ARM) allows your district to automate the way you share classroom roster data with DreamBox. You can share the files daily, weekly, or as needed. When you share and update rosters this way, teachers will see roster updates inside DreamBox within 1 business day. A team of DreamBox Client Success agents reviews and processes district updates on a daily basis, adding an additional level of data validation. If an update appears to be out of the ordinary for your district, we will reach out directly to your IT. If you are interested in exploring single sign-on options, you will need to use one of the automated roster management options to set up your rosters.

There are two ways to update rosters automatically in DreamBox:

#### **1) DreamBox Automated Roster Management (ARM)**

With DreamBox ARM, your district sends roster data in a CSV file directly to DreamBox through Secure FTP upload. The roster data is ingested into our provisioning system and our Client Success team reviews and processes the updates.



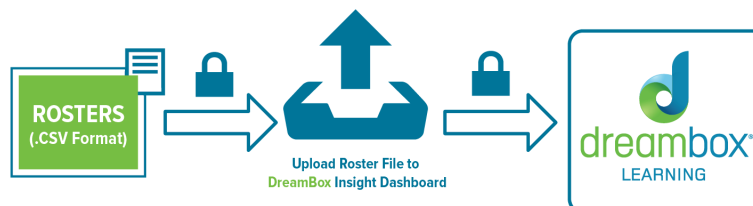
## 2) Clever Automated Roster Management

Clever is a secure, FERPA-compliant, 3rd-party database that can integrate with select student information systems and accepts files through Secure FTP upload. Clever allows you to share some roster data with DreamBox and share additional roster data with different applications. DreamBox integrates with Clever to pull roster data into our provisioning system, where it is reviewed by our Client Success team prior to processing any changes.



## Insight Roster Upload and Manual Management

In addition to our Automated Roster Management options, you can also load your rosters using the Insight Roster Upload tool in your dashboard. While our ARM options allows for automatic updates from your SIS to the classroom rosters, Insight Roster Upload will create your rosters but you will manage them using the tools in your dashboard. After your initial files are processed, your DreamBox rosters will not update unless you and your team make the changes yourselves. If you need to create additional classrooms, the Client Success team will be happy to help. Insight Roster Uploads and manual management are good options for purchasing individual seats within a single school, creating specialty classrooms that do not exist in your SIS system, or creating teacher accounts and empty classrooms to which you can manually create and add students as needed.



There are two ways to manage rosters using a one-time upload in DreamBox:



## 1) Teacher, Student, and Classroom Creation

Your school prepares and uploads CSV spreadsheets through a DreamBox administrative dashboard. The files contain teacher, student, and roster information. Our Client Success team reviews the spreadsheets and processes the data.

## 2) Classroom and Teacher Creation

Your school prepares and uploads CSV spreadsheets through your administrator dashboard. The files contain teachers and empty classrooms. Our Client Success team reviews the spreadsheets and processes the data. When you know which students will use DreamBox or if the students need to be moved, you create students and add them to classrooms using your Insight Dashboard tools.

- **meet federal data collection and reporting requirements.**  
DreamBox Learning meets or exceeds all requirements of FERPA and COPPA. We do not intentionally collect any personal information directly from children. Any incidental and unintentional collection (such as in an unsolicited comment or emailed feedback) is quarantined from our systems and reported to the appropriate school officials and educators.
- **be dynamic to meet current and future needs of the school system**  
DreamBox Learning Software update releases are pushed directly into the DreamBox Learning Production site with no interaction expected or needed from the Client. Information regarding the release is emailed to the DBL Advocate and accessible on the landing page of the Administrator and Teacher dashboards within the DreamBox Learning application. Continued support timelines for previous versions are provided at the time of release.
- **have a streamlined integration with the HCPSS LMS, Canvas or Clever SSO and Rostering**

### Data Setup

DreamBox can fully support the integration of automated roster management or manual student data uploads for HCPSS.

### ***Continuous Automated Roster Management***

- DreamBox offers Automated Roster Management (ARM) at no additional cost. This FERPA compliant data warehousing service (powered by Clever, <https://clever.com/schools/signup/dreambox>) syncs data from the school or district Student Information System (SIS) on either a push (SFTP) or pull (direct SIS integration) and is designed to keep student rosters automatically current in DreamBox as students move within either the campus or district.
- DreamBox strongly recommends this option for this implementation with the HCPSS and understands that Clever is already utilized for data integration throughout the state.
- Once data is made available to DreamBox through Clever, DreamBox requires 3 business

days to provision and validate the data, activate and rename classrooms, add administrators, and send invitations directly to teachers.

- **Programmatic Objectives.**

- [support and enhance learning while providing equity and accessibility.](#)

Many students require targeted math interventions designed to address the gaps in their understanding. An effective intervention will address the specific needs of the student while providing additional opportunities to build a strong foundation of math skills. There are many effective research-based interventions, including:

**Applied problem solving.** Becoming proficient at grade level problem solving skills is a major goal of elementary mathematics instruction. Students must be able to apply basic math skills to larger, more complex problems. However, many struggling math students lack the basic problem-solving skills needed to successfully complete applied problems. A strategy for problem solving is an effective math intervention for students that need direct instruction on solving applied math problems

Teaching students a simple set of steps to follow with every math problem will help them construct their own understanding and devise their own strategies. An example of basic problem-solving steps may be:

- Understand the problem – students determine what the problem is asking and what information is provided.
- Devise a plan – students choose a strategy for the problem such as analyzing data, making lists, or drawing a diagram.
- Carry out the plan – students follow the plan and then check for errors.
- Look back at the problem – students revisit the problem, decide if their solution is reasonable, and determine if any part of the problem-solving process requires further attention.

### **How is DreamBox delivered in the classroom?**

DreamBox can be a powerful partner for you in your classroom. Research suggests that DreamBox increases student growth. Which makes for the perfect complement to your math curriculum. We suggest providing at least an hour a week for your students, broken out into a few sessions. Here are a few ways that teachers have used DreamBox successfully in their classroom:

### **Special Education & Response to Intervention**

DreamBox adapts to each student through continuous formative assessment, therefore all students have differentiated lessons to address gaps in learning or the need for acceleration. When you need more targeted intervention, such as in Special Education or RTI, AssignFocus

and subsequent reporting can be strongly utilized. You can assign long-term learning goals and easily track their progress.

#### **Engaging virtual manipulatives aligned to standards**

- Built from the ground up to be adaptive, our lessons support coherent, connected learning pathways that are designed to achieve the depth and rigor required for growth and achievement.
- Our K-8 virtual manipulatives engage learners in sense-making, conceptual understanding, looking for relationships, and logical reasoning while developing number sense and procedural skills with fluency.

#### **Personalized learning**

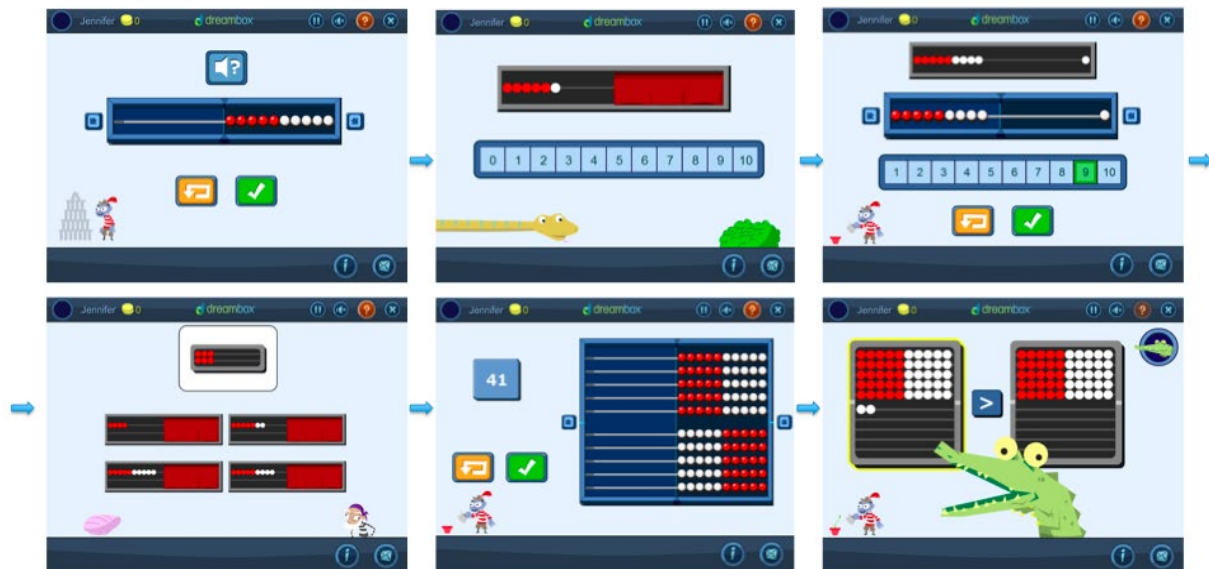
DreamBox invites K-8 students to use transformative digital tools that promote active learning so they “think and do” for themselves in math instead of “sit and get” content where they watch someone else do all the thinking.

- Safe and age-appropriate learning environments put the student at the center of their own learning—encouraging independent critical thinking and productive struggle while fostering engagement and motivation.

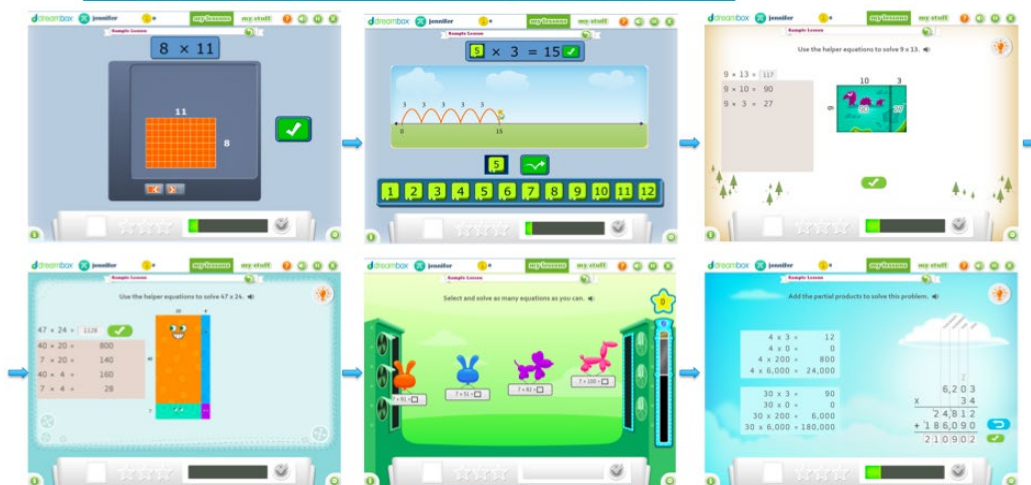
#### **Clearly defined and connected learning paths**

- Our student-driven curriculum is designed based on NCTM focal points and the Learning Landscapes for Addition and Subtraction; Multiplication and Division; Fractions, Decimals and Percents (Fosnot et al., 2007, Contexts for Learning Mathematics). As students work in DreamBox, they follow very deliberate learning pathways to ensure conceptual understanding, sense making, and application of mathematical concepts in the domains of Number and Operations, Algebraic Reasoning, Geometry & Measurement, Data Analysis, Proportionality, Expressions, Equations, & Relationships, and Measurement & Data.

### Math Rack Sample Partial Learning Pathway (not exhaustive)



### Multiplication Sample Partial Learning Pathway (not exhaustive)



### English Language Learners and Spanish Learners

DreamBox Learning Math has lessons in both English and Spanish, so students can learn in the way that works best for them to deepen understanding and progress. DreamBox Learning Math in Spanish lessons provide:

- Manipulatives and visuals required to build a strong foundation and learn the language of mathematics.
- Seamless toggling between English and Spanish so students can learn essential mathematics in the language that works best for them.
- Curriculum that ensures students are working at an appropriate level of difficulty for their

individual level of proficiency and understanding that encourages persistence, practice, and exploration of new concepts.

- Ongoing assessment and reporting to ensure teachers have detailed insights on student comprehension to inform instruction.
- Written and spoken instructions in Spanish



### Small Groups & Station Rotation

Split your students up into small groups to rotate through math stations. This enables you to strategically target differentiated math instruction, conferences, or work collaboratively on math activities.

### Whole Class

All of your students are working on DreamBox Math at the same time. They have access to you for questions or math dialogue, but they are working independently while utilizing in-lesson supports.

### Dyslexic-Specific Intervention

DreamBox is a tool that encompasses visual supports with auditory cues coupled with written instructions and vocabulary. Due to the adaptive nature of the program, students are presented with content in the moment that they are developmentally ready for that content. As students work in DreamBox, they are presented with content from an introductory level that increases in difficulty as they progress. Through their work in DreamBox, students will be presented with content that addresses skill deficits through targeted and continual formative assessment which keeps the student at their optimal instructional level.



The **Spokane** School District case study outlines the success of its diverse population's use of DreamBox to gain math conceptual understanding to meet grade level.



**SPOKANE PUBLIC SCHOOLS FAST FACTS**

- 34 elementary schools
- 55.7% eligible for free or reduced-price lunch
- 14.5% special education

**DREAMBOX IMPLEMENTATION**

- Deployed since 2009
- 15 elementary schools
- 4,600 students
- Kindergarten–6th grade classrooms
- Districtwide use for:
  - Prereferral to special education
  - Tier II intervention
  - Developmentally impaired students
  - Behavioral intervention students
  - After-school tutoring program

**FUNDING SOURCE**

- District special education budget
- District basic education budget
- Title I budget

**ABOUT DREAMBOX LEARNING**

DreamBox Learning's Intelligent Adaptive Learning™ program accelerates learning by ensuring every student works continually in their optimal learning zone and helps all students achieve math proficiency.

Intelligent Adaptive Learning™

CASE STUDY

SPOKANE, WA

## Math Intervention and Special Education

Accelerating growth for students scoring below standard

---

**→ CHALLENGE:**  
**Serving a high mobility, high need student population**

As Washington State's second-largest school district, Spokane Public Schools serves a diverse student population with a high need for academic and social support. Since Spokane is a regional hub for medical services, Spokane Public Schools sees a consistent influx of families seeking medical care in the area and copes with an unusually high rate of student mobility. Over 50 percent of students in Spokane Public Schools qualify for free or reduced-price meals, and approximately 40 percent of Spokane's elementary students are below standard in mathematics on the Measurements of Student Progress, Washington State's federally required test.

Tricia Gessele, the Coordinator of Student Intervention and Support Services in Spokane, describes the district's challenge: "If students are two years below grade level, making one year's worth of progress is not enough. Our challenge is to take students who need remediation and accelerate their growth. We need to help students make up more than one year of progress in a single year." With a flood of kids who perform significantly below standard entering the district on a continuous basis, the need for a consistent, high-

**"DreamBox reaches students with widely divergent experiences in math and varying levels of conceptual understanding."**

— Tricia Gessele, Coordinator of Student Intervention and Support Services, Spokane Public Schools

quality, high-impact intervention solution in mathematics was crucial.

**→ SOLUTION:**  
**Meet students in their learning zone with high-impact, individualized instruction**

For the past three years, Spokane Public Schools has used DreamBox Learning to improve math intervention and support special education in a systematic way to accelerate student learning. After recognizing DreamBox's strengths in conceptual building and its configuration to the district's strategy-based learning initiatives, Gessele and Spokane's special education team quickly moved to implement the program.

Because of the success of the students using DreamBox as an intervention tool and the positive feedback from students, parents, coaches, teachers, and principals, 15 Spokane elementary

**"Our challenge is to take students who need remediation and accelerate their growth. DreamBox helps students develop deep mathematical conceptual understanding, while helping teachers fill in conceptual gaps."**

— Tricia Gessele, Coordinator of Student Intervention and Support Services, Spokane Public Schools

schools have chosen to use DreamBox schoolwide to support students in developing core number sense.

## → IMPLEMENTATION

**Providing differentiated support after skilled instruction**

Gessele says, "For intervention and special education, we're using DreamBox in critical areas where it's not replacing skilled instruction but providing additional support." That includes the district's after-school tutoring program and its behavior interventional classrooms, where students are placed in a special setting due to behavioral issues. "This year, we also introduced DreamBox to our developmentally impaired classrooms," Gessele says. "These students qualify for special education in the intellectually impaired category and are in a special setting due to cognitive delays. It's really important that they develop a good number base so they can get to a point of independence in their lives. DreamBox provides that core number sense very nicely for them."

## → RESULTS

**Support for students who have struggled in traditional classrooms**

Gessele is convinced DreamBox is effective for students, whether their challenges are skills-based, problem-based, or conceptual. "DreamBox helps students develop deep mathematical conceptual understanding, while helping teachers fill in conceptual gaps," she says. "It reaches students with widely divergent experiences in math and varying levels of conceptual understanding."

For her part, Gessele says DreamBox is a rigorous program that meets the individual needs of students. "The adaptive nature of DreamBox is particularly useful in an environment where it's critical to monitor frustration levels. It's a preferred activity for the kids, many of whom have really struggled in traditional classrooms because they lack the patience and stamina necessary for academic work. It's a tool that encourages—it's as if optimism is built into the program."

**"If students are two years below grade level, making one year's worth of progress is not enough. We need to help students make up more than one year of progress in a single year."**

— Tricia Gessele, Coordinator of Student Intervention and Support Services, Spokane Public Schools

For more information, call DreamBox at 877.451.7845, email [schools@dreambox.com](mailto:schools@dreambox.com), or visit [dreambox.com](http://dreambox.com).

- [be available everywhere and anytime, empowering students, teachers and staff to access learning experiences.](#)

Dreambox Learning Math is available anytime, anyplace for teachers, administrators, students, and parents from any of the supported devices either at home or at school.

**Availability of technical support services.**

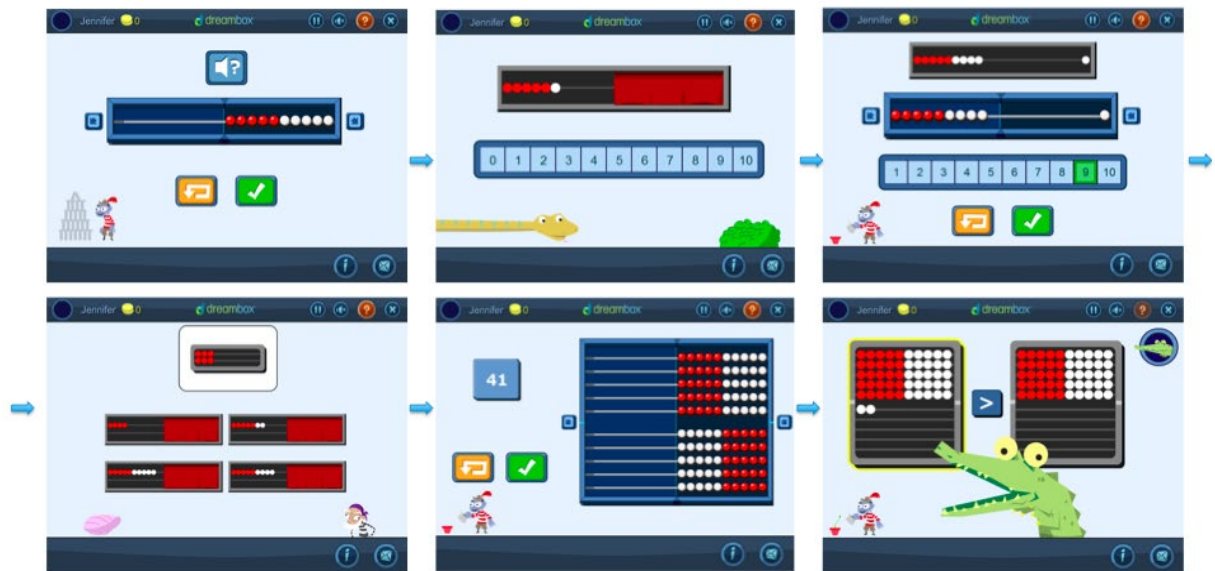
Within DreamBox Teachers, parents, and administrators have a wide variety of help functions available to them, ranging from the reporting systems, to phone and email support, with a dedicated Client Success Team. Additionally, multiple webpage resources, including professional development videos, FAQ pages, lesson plans, and a community of users, are available 24/7.

In addition, Teachers have a variety of self-help resources. Within the insights dashboard they have a support help page as well as a Resource Hub. The Resource Hub targets areas for Professional Development, Classroom Motivators and Webinars.

- [be student-centered and easy for elementary teachers and students to use](#)  
Our student-driven curriculum is designed based on NCTM focal points and the Learning Landscapes for Addition and Subtraction; Multiplication and Division; Fractions, Decimals and Percents (Fosnot et al., 2007, Contexts for Learning Mathematics). As students work in DreamBox, they follow very deliberate learning pathways to ensure conceptual understanding, sense making, and application of mathematical concepts in the domains of Number and Operations, Algebraic Reasoning, Geometry & Measurement, Data Analysis, Proportionality, Expressions, Equations, & Relationships, and Measurement & Data.



### Math Rack Sample Partial Learning Pathway (not exhaustive)



### Multiplication Sample Partial Learning Pathway (not exhaustive)



- align with instructional technology standards and elementary content specific standards

**DreamBox aligns with these ISTE Standards for Students:**

- Empowered Learner: Lesson Dashboard** enables a student to choose which area to focus on. Builds student agency.

- **Digital Citizen:** Feedback link in each lesson enables a student to share in the development by providing feedback. Password protection stresses the importance of privacy on the internet.

For educators, we align to *Learner, Collaborator, Facilitator and Analyst*.

- **Learner: MyFlex PD.** MyFlexPD is a self-paced professional development tool that uses real-time student data to provide Professional Development (PD) content that is immediately relevant to what students are learning in the classroom. MyFlexPD provides a PD curriculum that allows teachers to better utilize DreamBox Learning in the classroom and helps deepen their understanding of mathematical concepts.
- **Collaborator: DreamBox Nation.** DreamBox Nation is a community designed for educators like you who are dedicated to improving student learning with DreamBox Learning Math. Connect with math-minded individuals, get answers to your questions, share your best practices and lessons learned, and, together, help each other get the most out of DreamBox Learning. It's accessed through your Insight Dashboard.
- **Facilitator: AssignFocus.** DreamBox's AssignFocus™ empowers teachers to personalize DreamBox lessons for every learner based on what's happening in their classroom. Educators can now easily create assignments using NWEA Map Growth™ data to automatically deliver differentiated lessons to each student based on their individual level of readiness.
- **Analyst: The data we provide in the Insight Dashboard.** The Insight Dashboard is an intuitive interface to view progress reports and usage data of DreamBox students, to make manual edits to roster and student information, and to assign specific lessons to students using our AssignFocus™ feature. The reports provide a comprehensive picture of students' proficiency in target academic standards so that educators can make informed decisions on how to support individual and classroom-level learning. The Insight Dashboard is available to all school or district DreamBox administrators, teachers, parents, and home subscribers. The **Administrator Insight Dashboard, Teacher Insight Dashboard, and Family Insight Dashboard** are aesthetically identical, but some rights and reports are exclusive to certain roles.

### **DreamBox Alignment with Common Core State Standards of Mathematics (CCSM)**

The Common Core State Standards for Math (CCSSM) and Standards for Mathematical Practice were written to help teachers fine tune instruction and provide a clear understanding of what students are expected to learn. To provide students with the foundation for deep, fundamental mathematical understanding, the DreamBox curriculum intelligently adapts to every student, regardless of mathematical ability or level as it aligns with these Common Core Standards: Counting and Cardinality, Comparing, Operations and Algebraic Thinking, Number and Operations in Base Ten, and Number and Operations in Fractions.

“At the heart of the Common Core elementary curriculum is a deep understanding of the concepts that drive place value, whole number operations and operations with fractions, and that is also at the heart of DreamBox.”

Francis (Skip) Fennell, PH.D. | Professor of Education  
McDaniel College, and Past President, National Council of Teachers of Mathematics

## DREAMBOX ALSO ALIGNS TO COMMON CORE STANDARDS IN THE SUPPORTING AND ADDITIONAL CLUSTERS

Only 4 or 5 test items on assessments of the Common Core State Standards are drawn from these Supporting and Additional Clusters. Given that students learn best when using DreamBox 60 minutes per week – we recommend that greater emphasis is spent on Major Clusters within their grade level to ensure they achieve the depth and rigor required by the CCSS.

### Common Core Supporting & Additional Clusters in DreamBox Learning K–8+ Math

	K	1	2	3	4	5	6	7	8
Operations & Algebraic Thinking			2.OA.C		4.OA.B.4 4.OA.C.5	5.OA.A 5.OA.B			
Number & Operations in Base Ten				3.NBT.A					
The Number System							6.NS.B		8.NS.A
Measurement & Data	K.MD.A K.MD.B	1.MD.B 1.MD.C	2.MD.C 2.MD.D	3.MD.B 3.MD.D	4.MD.A 4.MD.B 4.MD.C	5.MD.A.1 5.MD.B.2			
Geometry	K.G.A K.G.B	1.G.A	2.G.A	3.G.A	4.G.A	5.G.A 5.G.B	6.G.A	7.G.A 7.G.B	8.G.C
Statistics & Probability							6.SP.A 6.SP.B	7.SP.A 7.SP.B 7.SP.C	8.SP.A

**Green** These standards are included in the DreamBox curriculum and available within AssignFocus™ for teachers to create differentiated assignments.

**Blue** These standards are supported by the DreamBox curriculum. Many of these standards set an expectation that students will explain their answers and reasoning using words. In DreamBox, students justify their answers and reasoning with a visual representation or manipulative.

**No Highlight** DreamBox's curriculum ensures students understand the most important math concepts by using uniquely digital and differentiated lessons. Therefore, some of the less critical math content standards in different grade levels are not yet supported in DreamBox. In addition to prioritizing the most important topics, DreamBox's curriculum focuses on math standards that are best-suited and appropriate to learn in a digital environment. For this reason, some standards – such as using a yardstick – are not included in the DreamBox curriculum and are best taught with non-digital classroom learning experiences.

“We selected DreamBox because we wanted an online math program that would provide data to allow our teachers to show each child's progress against the Common Core. Our teachers use the data in DreamBox to see exactly where their students are who's excelling, who might need additional help and which kids that might benefit from some kind of intervention. Many of our teachers also send the DreamBox reports home every week to let parents know exactly what their child is working on.”

Dave S. | Technology Specialist  
Gifford Elementary, NH



Learn more at [dreambox.com](https://dreambox.com)

©2018 DreamBox Learning, Inc. All rights reserved.

- use instructional strategies that align with best practices for elementary instruction assess student understanding and report data to teachers, administrators, and parents. Data reporting should be provided electronically with print capabilities

Teachers using DreamBox will have a deep understanding of the student experience and best practices to make the most of DreamBox Learning instruction. Educators will be able to successfully navigate the resources, interpret data to inform instruction, and identify the strengths and struggles of their students. Educators will be able to support student learning by using strategies from DreamBox Learning Math in the classroom.

Our Insight Dashboard translates thousands of data points per hour, per student and turns that data into information and insights that are instantly available, actionable, and easy to interpret.

The Insight Dashboards brings students data into focus so teachers can get the answers needed to drive instructional decisions. Teachers will be able to know at a glance if students are mastering the standards, where learning gaps exist, and quickly see when to stay the course or pivot to accelerate, differentiate, or remediate instruction. Role based views provide data across a grade, class, school, or entire district so you get a complete picture of student progress and proficiency.

#### **Progress Monitoring for Teachers in DreamBox**

The DreamBox Learning Classroom Report allows educators to monitor their entire classroom and see a students' proficiency on all standards within a grade - allowing educators to easily identify which standards are most important to focus their attention on. By sorting by any standard (clicking on the column header arrows) the educator can see their students grouped by their proficiency on the standard that educator is interested in. The students are arranged by Not Started, In Progress, or Proficient.

#### **Progress Monitoring in DreamBox to Support Response to Intervention (RTI)**

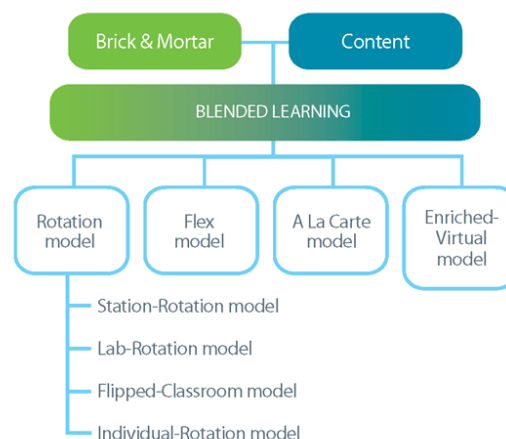
Teachers spend a lot of time creating individual learning plans for students and then documenting student progress toward those goals. The Progress Monitoring capabilities built into the Insight Dashboard equips teachers with the ability to set learning goals for students based on real-time data in DreamBox, or other assessments used by the district or school. Teachers can then track student progress against the learning goal, identify critical areas of need, and then adjust instruction. Reports can be printed and shared with district administrators and the student's learning guardians.

- strategically support effective implementation of the Maryland State Department of Education (MSDE) College and Career-Ready standards and the MSDE Technology Plan and Guiding Principles.

In every model of blended learning, the personalization of content is crucial to the success of the learner and the program. Rather than a one-size-fits-all model, the goal is to achieve a one-size-fits-one solution. That can mean that more than one of the models can be used at different times in the learning experience

Blended learning combines face-to-face instruction and the smart use of advanced digital learning technologies, such as DreamBox Learning, to deliver multiple benefits:

- **Greater personalization** – Enables both advanced and at-risk students to learn at their own level/pace. Simultaneously.
- **Anytime, anywhere learning** – Online instruction, mobile technology, in either a classroom/lab setting or access from remote locations home computer), both during or outside of scheduled classroom periods.
- **Boosts engagement and confidence** – Develops independent learning skills and determination of place and pace build confidence.
- **Improves teaching conditions** – New tools equip teachers with useful data to help shape appropriate interventions and learning pathways. Personalized learning technology that creates autonomous learning time for students opens up time for teachers to work with individual students and small groups.



### CASE STUDY: BLENDED LEARNING

The Christina School District is Delaware’s largest public school system, which has 18 elementary schools and offers REACH and Options Programs (Grades K–12), all dedicated to research-based teaching. Delaware teachers are members of professional learning communities (PLCs) that are very data driven and include state mandated data coaches. Laura Brace, Elementary Math Curriculum Specialist for the district, leads the effective use of student data to inform personalized learning plans for students and core instruction time.

The district is committed to using blended learning and leveraging technology. Christina School District is an example of using community resources and extended school hours to increase the amount of time students are able to use math blended learning programs supported by DreamBox.

In one school, a pilot program was established to allow students to use the computer lab after school. The school planned to accept 35 students and got 60 permission slips back on the first day. The demand from students and parents to extend time on the blended programs was overwhelming. For students who do not have computer access at home, the district has trained staff at Boys & Girls Clubs, and afterschool programs at community centers and libraries to ensure that these students have access to the programs outside of school hours. In keeping with the district’s commitment to leveraging innovation, the school district uses a mix of hardware—desktops, laptops, and iPads—and teachers use the Teaching Channel for classroom tutorials and Khan Academy tutorials for supplemental math.



#### Observations/Results:

Teachers appreciate the data and reports that are provided about students' learning and challenges, such as DreamBox's Common Core Standards Report. Teachers use the data to inform small group instruction and core instruction time. DreamBox and its game-like environment have supported greater student engagement in math.

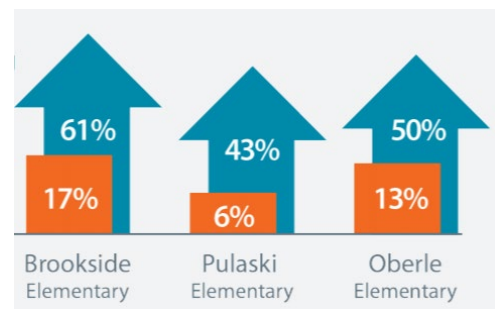
"DreamBox has been instrumental in helping our teachers address gaps in conceptual understanding and maximizing instructional time in the classroom." — Laura Brace, Elementary Math Curriculum Specialist. "I think the thing that is really cool is that the kids want to play and keep on learning the math," says Brace. This shows in the overall results—Christina School District, using blended learning programs for math, has seen double-digit growth in student test scores:

#### **Growth in Math Proficiency for Grade 3-5 Students within Christina School District, Delaware**

Brookside, a suburban school, had only 17 percent of their Grade 3–5 students meeting expectation in math in the fall of 2012, but in the spring, that number had increased to 61 percent—an improvement of 43 percentage points!

At Pulaski Elementary, a more urban school, only 6 percent of students were proficient at the beginning of the year, but by the end of the year, 43 percent

were considered to be working at grade level. Oberle saw a 39 percent increase in math proficiency by ELL alone, moving from only 13 percent of Grades 3–5 at standard to 50 percent of students proficient. Melissa Brady, an assistant principal in the district, sums up why DreamBox is spreading among the Christina schools. "I was a huge supporter of bringing DreamBox to Stubbs Elementary after seeing great success with it while I was assistant principal at Oberle last year. We saw a huge increase in our math scores in one year and the only thing we did differently was use DreamBox. Closing the achievement gap in math is a priority for our schools and I am excited to see the impact it will have on our students here."



- [instructs and assesses concepts.](#)

Because assessment and instruction are seamlessly integrated in DreamBox Learning Math, the engine acts as a real-time diagnostic tool for educators and parents.

It is a ground-breaking, student-driven learning environment that leverages gaming fundamentals to inspire and empower students to build 21st century thinking and problem-solving skills, master key concepts, increase achievement, and boost long-lasting confidence in learning.

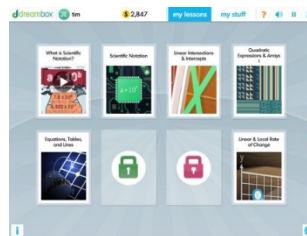
- [develops student understanding through instructional interactives.](#)

DreamBox Learning Math is a web-based digital mathematics learning program that includes a growing repertoire of over 2,300 lessons that use virtual manipulatives and games to engage students in reasoning quantitatively and abstractly about mathematical structures, concepts, and strategies, while developing number sense with fluency and skill. For HCPSS, we are offering licensing and services for K-8 students.

DreamBox offers three age-appropriate environments in which students choose their lessons: K–2, 3–5, and 6–8. Each environment takes into consideration a student’s age and is different in look, flow, and rewards. All three environments continuously assess, intelligently adapt, and prescribe to the depth of knowledge demonstrated. If a student is in fifth grade and therefore in the 3–5 Intermediate environment, he will stay in that age-appropriate environment even if he needs to fill a gap by completing a first-grade lesson. In both the 3–5 and 6–8 environments, students are also able to earn badges that are designed specifically to encourage behavior like persistence, concentration, and motivation.



Grades K-2



Grades 3-5



Grades 6-8

**Use of virtual manipulatives.** The use of virtual manipulatives is fairly new but is a highly effective intervention for struggling math students. Used in tandem with problem solving, math analysis, or basic facts, the manipulatives provide the students a dynamic visual representation of the math concepts. This helps deepen the student’s understanding by discovering and constructing mathematical principles and relationships. Controlling a manipulative with a slide, flip, or turn can unlock understanding.

DreamBox offers a wide variety of virtual manipulatives that link directly with the skills and standards students are practicing. These help teachers adapt the DreamBox program for differentiated instruction and meet the intervention needs of individual students. Since the manipulatives are dynamic, they offer immediate feedback to the user that is helpful and will boost further understanding.

**Explicit time drills.** Although elementary students have long been expected to gain automaticity with basic math facts, the use of explicit time drills has recently been adopted as an effective small group math intervention. Different than standard math

fact practice, these drills rely on smaller segments of time with ongoing feedback from the instructor. For example, students are asked to complete as many problems as possible in the first minute before the teacher calls time. At the end of the first minute the students circle the last problem completed and receive feedback from the teacher on their accuracy. This process continues for five one-minute segments. Over time, students have the chance to assess their growth and improve their basic computational skills.

- aligns with the elements of exemplary mathematics instruction including but not limited to the use of representations, manipulatives, and varied levels of cognitive demand.

In order to support both conceptual and procedural understanding of mathematics, students use DreamBox virtual manipulatives to interact with mathematical structures and ideas to make sense of them concretely and abstractly. For example, young students use a place value “workspace” to make actual groups of ten, hundred, or thousands of digital objects. As another example, older students learning division with remainders pack hundreds of gumballs into bags. Once students demonstrate proficiency with these concrete representations and manipulating digital objects, they are required to demonstrate their understanding on more abstract problems without accessing the concrete visuals.

To ensure students are supported when thinking more abstractly, we often have transition lessons that start by asking students to answer the abstract problems, but still allow them to access the concrete ‘workspace’ if they need it. Ultimately, students must solve problems without the concrete representation in order to demonstrate proficiency in certain standards. In addition to honoring the Common Core Standard for Mathematical Practice 2 (reason abstractly and quantitatively), this design element in DreamBox ensures students develop conceptual understanding and procedural skill in a very balanced way through contextual application.

Procedural understanding also requires elements of strategic thinking. Therefore, some DreamBox lessons increase in complexity by (1) limiting the number of “moves” a student can make when solving a problem or (2) asking students to complete a task optimally (in the fewest number of moves). For example, when composing the number nine with concrete objects, a student who composes this number using nine single objects is demonstrating a different strategy and different thinking than a student who composes nine as  $5 + 3 + 1$  or another student who represents  $10 - 1$  with manipulatives. Once a student can count accurately by ones, she will encounter DreamBox lessons requiring her to compose those same numbers using the fewest moves, which is necessary for developing number sense, fluency, and grouping strategies.



These constraints are intellectually stimulating challenges because students must reconsider something they already know and are required to think about it in a different way. Even in some of our highest-grade level content in which students are developing fluency in adding and subtracting negative fractions and decimals in a miniature golf game, students encounter windmills and other obstacles on the course that require more advanced thinking than they had demonstrated previously. The advanced critical thinking required in DreamBox ensures students' fluency is achieved through an understanding of important mathematical big ideas and concepts.

As students progress through the DreamBox Learning Math curriculum, they deepen their understanding and mastery in:

- Counting and Cardinality
- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Number and Operations— Fractions
- Ratios and Proportional Relationships
- The Number System
- Expressions and Equations

Throughout our curriculum, DreamBox engages students in the Standards for Mathematical Practice, which describe habits of mind and processes that math educators at all levels seek to develop in students. The end goal is to provide students with the ability to think critically and mathematically in ways that lead to college and career readiness in an increasingly global community. The Standards for Mathematical Practice that are most strongly supported by DreamBox lessons are:

- Make sense of problems and persevere in solving them: DreamBox virtual manipulatives are designed to help students make sense of mathematic concepts in innovative ways that aren't possible without technology. Our angle measurement manipulative and scaling number line are two examples available at [www.dreambox.com/teachertools](http://www.dreambox.com/teachertools)
- Reason abstractly and quantitatively.
- Model with mathematics: DreamBox lessons help students model the number system using our place value, open number line, and array models in addition to others.
- Attend to precision: Because DreamBox is developing number sense and

mental math ability in addition to procedural fluency, many DreamBox lessons require students to provide reasonable estimates prior to executing computations. In addition, virtual manipulatives that help students understand rational numbers require students to answer with precision.

- Look for and make use of structure: In a classroom with 30 or more students, it is difficult for a single teacher to have confidence that every student has invested significant time and energy in the intellectual task of “looking for structure.” DreamBox supports this practice because progress is entirely self-directed by students. DreamBox does not explicitly show students the mathematical structures that will help them solve problems because that hinders the development of their investigative capabilities. In DreamBox, students find the structure themselves and then use it.

### Goal Setting

If you are setting goals with your students, we suggest doing so in one of the following terms:

- **Lessons completed** – This is the best way to set goals with your students. Lesson completion is something that they can control and diligence of lesson completion will lead to the most growth in learning. Here is our recommendation for lesson completion per week based on the student’s grade level

#### Recommended usage

	Grades K-2	Grades 3-5	Grades 6+
Approximate length of lesson	5 minutes per lesson	8-12 minutes per lesson*	8-12 minutes per lesson*
Recommended lessons per week	5-6 lessons per week (about 30-60 min)	7-8 lessons per week (about 60-90 min)	7-8 lessons per week (about 60-90 min)

\*Some lessons may take up to 25-30 minutes

- **Standards met** – This is another way that you can specify a goal with your students. In order to progress the equivalent of about one grade level during the school year, we generally recommend a goal of **1-3 Standards Met each month**.

If you want to get more specific with your goal-setting when it comes to Standards Met, you can view the number of standards that DreamBox provides for your grade by referring to the proficiency columns in the classroom overview:

## Proficiency As Of September 6, 2016

Kindergarten  
Out of 13

Grade 1  
Out of 14

Grade 2  
Out of 14

For example, for Common Core State Standards, there are currently 14 standards supported by DreamBox in Grade 1. So if you want your students to progress a full grade level in a year and give them trimester goals, you can give your students a goal of 4-5 standards a trimester (14 divided by 3).

### Monitoring Progress

The progress that each student makes while in DreamBox will vary based on several factors including the complexity of the standard, a student's DreamBox usage time, student pace of learning, and self-directed learning paths.

Teachers can sort by the Standards Met column to see how many standards each student has completed (and which standards if you mouse over!) The Standards Progressed In column provides additional info if you also want to see how many standards the student has made progress in (but not fully met) during the selected time period.

Progress Since July 1, 2017							Proficiency As Of March 28, 2018			
First Name	Last Name	Min/Wk	Total Hours	Extended Use	Lessons	Standards Met	Standards Progressed In	Grade 6 Out of 17	Grade 7 Out of 11	Grade 8 Out of 18
Sharon	N (7th)	19 min	12.3	100%	79	4	12	6	4	0
Kenneth	G (6th)	17 min	11.6	100%	77	4	18	0	0	0
Brian	M (7th)	21 min	14.1	100%	82	4	11	6	4	0
Michelle	P (8th)	20 min	12.9	100%	81	3	14	17	6	2
Laura	R (8th)	17 min	11.3	100%	68	3	7	17	6	2
Kevin	S (8th)	17 min	11.4	100%	68	3	9	17	6	2
Donna	H (6th)	18 min	12	100%	80	3	16	0	0	0
Anthony	Q (8th)	18 min	12.2	100%	74	3	8	17	6	2
Steven	I (6th)	16 min	10.4	100%	48	2	11	0	1	0
Ronald	O (8th)	18 min	12	100%	70	2	11	17	5	2

Because standards completion may take some time, for comparison of student progress in a short time frame (e.g. weekly check-ins or a student contest), we recommend that you focus on lesson completion. To ensure the most growth, students and teachers should focus on completing the recommended number of lessons each week.

### Students Monitoring Lesson Completion

Students in all learning environments can track their lessons completed over the current week (Monday to Sunday). The weekly count resets every Sunday.

While this is a great way for students to see their success in DreamBox, please note that teachers, educators, and parents should continue tracking student progress through the [Insight Dashboard](#) for the most comprehensive lesson completion data.

## VIEW LESSONS COMPLETED IN THE K-2 LEARNING ENVIRONMENT



Student in the K-2 Learning Environment can view their lessons completed this week by clicking on the image of their avatar in the top-left corner of the screen.

In the K-2 Environment, students complete lessons in the Adventure Park with the help of Stella. They are invited to play through four themed stories (Pirates, Pixies, Dinosaurs, and Pet Friends). The lessons are not dependent on the story they choose, and the student will continue to receive new lessons based on the way they answered the previous lessons, even if they switch themes mid-story.

While working on lessons, students earn tokens and discover Adventure Friends based on their current Theme. The tokens can be spent on math-based games in the Arcade. While the K-2 Environment is made for a younger audience, older students have also found this environment engaging.

Students will remain in the Grades K-2 Learning Environment until they are manually graduated to the Grades 3+ Learning Environment by a teacher. If a student completes all four of the Adventure Park story themes, the themes will reset and the student will start over. Students will keep their Adventure Friends but will have to re-earn their certificates.

The student may want to print out coloring pages of their Adventure Friends before they graduate to the new Environment.

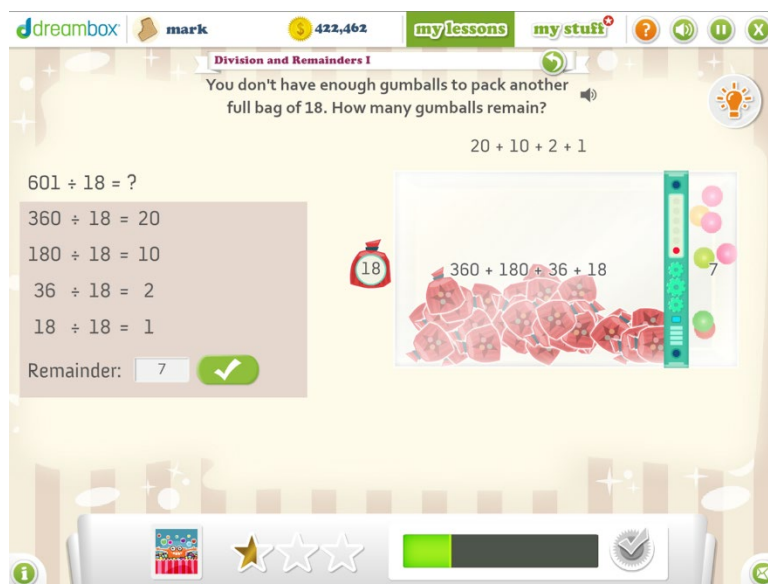
## VIEW LESSONS COMPLETED IN THE 3-5 LEARNING ENVIRONMENT



Students in the 3-5 Learning Environment can view their lessons completed this week by clicking the green tab along the right side of the screen. This panel will also slide out automatically when the student completes a lesson.

## MEASUREMENT OF STUDENT PROGRESS

Students have the ability to “level up” their avatars with borders of bronze, silver, or gold by completing lessons. The border changes color when the three stars located below the avatar fill up. Note that these stars become more challenging to fill as students move from bronze to silver to gold.

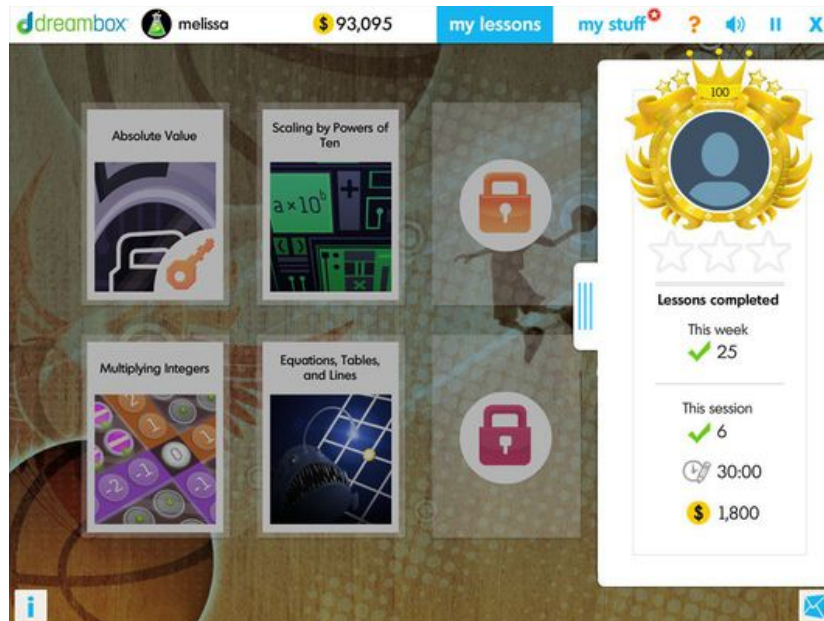


## NANO-GAMES

As students play and progress in DreamBox, they may be offered a nano-game. Nano-games are fun, 15- to 30-second minigames that disappear after they are played. Students can play a nano-game when they see a blue game controller tile as one of the options on their My Lessons page.



## VIEW LESSONS COMPLETED IN THE 6-8 LEARNING ENVIRONMENT



Students in the 6-8 Learning Environment can view their lessons completed this week by clicking the blue tab along the right side of their screen. Students can see additional information below the weekly lesson count, including the time passed and the lessons completed over the student's current session of being logged in to DreamBox.

## NAVIGATING THE LESSON CHOOSER

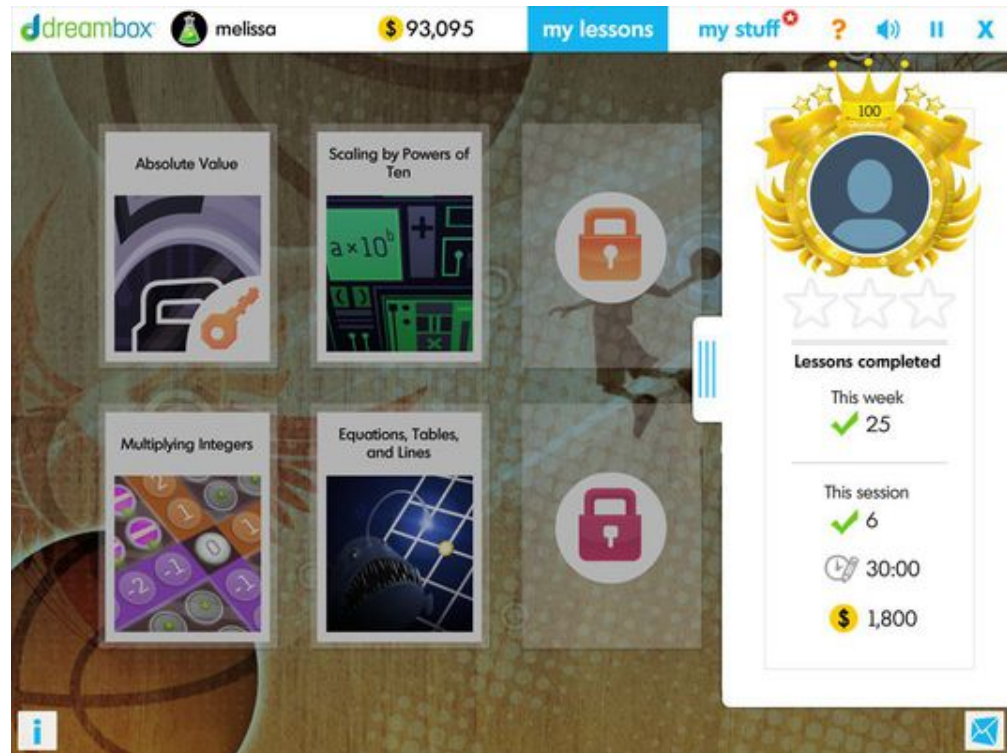
When students log in to DreamBox, they are presented with the **My Lessons** page. Each icon represents a lesson. Students will have multiple options within the same unit in order to give them ownership over their learning.

## MEASUREMENT OF STUDENT PROGRESS

Students can click on a tab on the right side of the Lesson Chooser to open a panel with information on their progress and achievements. Students have the ability to “level up” their avatars with borders of bronze, silver, or gold by completing lessons. The border changes color when the three stars located below the avatar are filled. Note that these stars become more challenging to fill as students move from bronze to silver to gold.

Students can also track statistics for their current session on DreamBox (the time from student log-in to student log-out). Students can see the number of lessons completed (shown as a green check mark), the time spent on lessons, and the amount of coins collected.





## LOCKS AND KEYS

Unique to this learning environment, certain lessons can appear as "locked". By completing the lessons that display a key, students will gain access to the locked content.





## NANO-GAMES

Nano-games are fun, 15- to 30-second minigames designed to incentivize learning. As students play and progress in DreamBox, they may be offered a nano-game. Students can play a nano-game when they see a blue game controller tile as one of the options on their My Lessons page. The nano-game disappears immediately after it is played.



## Digital Tools

Student use DreamBox Learning and its many digital tools which provide personalized instruction from intervention through enrichment while addressing gaps in mathematical learning pathways for every individual student, and establishing a coherent bridge between elementary and middle school. Enriching classroom instruction through seamless integration of continuous formative assessment that provides real-time visibility into individual student performance.

**Rigorous, engaging lessons along coherent learning pathways**

 <p><b>Conceptual understanding</b></p> <ul style="list-style-type: none"> <li>• Concept development through sense-making and exploration</li> <li>• Open-ended investigation</li> </ul>	 <p><b>Finding structure &amp; relationships</b></p> <ul style="list-style-type: none"> <li>• Strategic thinking using mathematical relationships</li> <li>• Deeper independent reasoning</li> </ul>	 <p><b>Procedural skills &amp; fluency</b></p> <ul style="list-style-type: none"> <li>• Applying procedures and algorithms strategically</li> <li>• Targeted skill development</li> </ul>
---	---	--

### 3. **Mandatory Requirements:**

- **Align with HCPSS elementary mathematics curriculum**

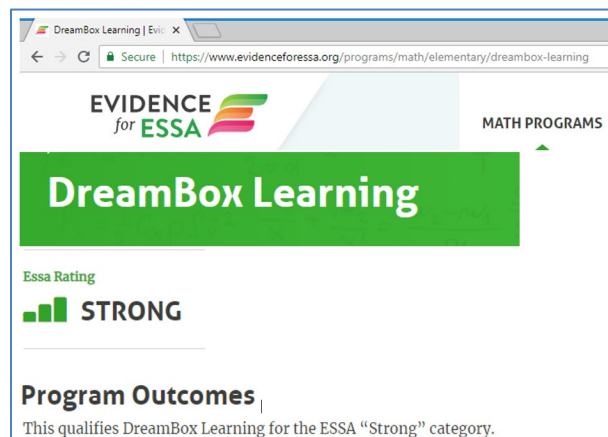
DreamBox Learning currently supports alignment to Common Core, as well as select state standards and print programs.

The Common Core State Standards for Math (CCSSM) and Standards for Mathematical Practice were written to help teachers fine tune instruction and provide a clear understanding of what students are expected to learn. To provide students with the foundation for deep, fundamental mathematical understanding, the DreamBox curriculum intelligently adapts to every student, regardless of mathematical ability or level as it aligns with these Common Core Standards: Counting and Cardinality, Comparing, Operations and Algebraic Thinking, Number and Operations in Base Ten, and Number and Operations in Fractions.

- **Have a “strong” or “moderate” rating according to ESSA’s evidence-based standards.**

DreamBox meets ESSA “evidence-based” approach that have demonstrated statistically significant positive effects on student outcomes.

ESSA identifies four levels of evidence: strong evidence, moderate evidence, promising evidence, and evidence that demonstrates a rationale. ***DreamBox is the only digital elementary math solution with an Evidence Rating of “Strong” at EvidenceForESSA.org curated by Johns Hopkins University.*** The platform was recently recognized by EdTech Digest as the winner of its EdTech Awards math solution category and an adaptive technology solution finalist.



<https://www.evidenceforessa.org/>

- **Align with research-based effective mathematics instructional strategies**

The DreamBox Learning Advisory Board has always been composed of experts and researchers in mathematics and learning, and one of the original advisors for DreamBox Learning Math was Professor John Bransford, co-editor of the book How People Learn. For example, DreamBox Learning Math has a strong emphasis on

fraction understanding to support algebra proficiency for students. The WWC report, *Developing Effective Fractions Instruction for Kindergarten Through 8th Grade*, has five recommendations: two with Moderate effectiveness and 3 with Minimal effectiveness [Note: One of the co-authors of this study – Francis “Skip” Fennell – is a member of the DreamBox Learning Advisory Board]. DreamBox Learning Math lessons reflect the two strategies with moderate evidence of effectiveness (Siegler, R., et. al., 2010):

- Number Lines: DreamBox virtual manipulatives “help students recognize that fractions are numbers and that they expand the number system beyond whole numbers.” DreamBox’s multiple interactive fraction number lines are a central representational tool.
- Understand Why: DreamBox learning progressions, unique virtual manipulatives, and immediate formative feedback ensure “students understand why procedures for computations with fractions make sense.”

The WWC report, *Assisting Students Struggling with Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools*, provides recommendations about effective practices for RTI Tiers 2 and 3. DreamBox Learning Math lessons reflect these strategies (Gersten, R., et. al., 2009):

- Providing models: In DreamBox Learning Math lessons, when a student gets multiple answers incorrect, the program shows the student one way to solve the problem as a model from which to learn.
- Guided practice with corrective feedback: DreamBox Learning Math lessons have corrective and appropriate real-time feedback for students depending on their level of proficiency and types of mistakes. Feedback is typically both audio and visual.
- Frequent cumulative review: Assessment in DreamBox Learning Math is continual and adaptive. The underlying assessment engine uses longitudinal data over the course of multiple weeks and lessons when determining proficiency. Proficiency requires that students use their prior knowledge and logical reasoning to make progress.
- Work with visual representations: All DreamBox Learning Math manipulatives engage students in working with innovative visual representations that go beyond what can be achieved with pencil, paper, or plastic manipulatives.
- Fluency with math facts: DreamBox Learning Math has lessons specifically for developing fluency with understanding that are embedded throughout the curriculum.

The WWC report, *Improving Mathematical Problem Solving in Grades 4 Through 8*, has four recommendations, and DreamBox Learning Math lessons reflect all four strategies. Based on randomized control trial and classroom-based studies,

mathematics education experts have concluded that there is strong to moderate evidence for the effectiveness for these strategies for improving students' mathematical reasoning and the ability to apply that reasoning in new, mathematical problem-solving situations (Woodward, J. et. al., 2012):

- DreamBox's continuous feedback and engagement frameworks "assist students in monitoring and reflecting on the problem-solving process."
- DreamBox lessons and virtual manipulatives "teach students how to use visual representations" (including translating quantitative information into algebraic notation).
- DreamBox learning pathways and multiple manipulatives "expose students to multiple problem-solving strategies." For example, when learning multiplication, students use number lines, arrays, and groups of objects as different strategies for representing problems. IES research about algebra suggests students need to intentionally choose from alternative algebraic strategies when problem solving, and DreamBox has lessons that engage students in choosing computation strategies appropriately.
- DreamBox manipulatives and equation representations "help students recognize and articulate mathematical concepts and notation," (including making sense of algebraic notation).

The research-based learning progressions in DreamBox Learning Math are both concept-based and skill-based. Instead of acquiring knowledge through the "accretion of little bits," DreamBox Learning Math supports student learning by helping them "develop their own cognitive maps of the interconnections among facts and concepts" (Shepard, 1989).

Furthermore, DreamBox Learning Math is dynamic and non-linear, like student thinking. The progressions do not place all content objectives along a linear path as has historically been done in learning designs (Gagne, 1965). Instead, the learning pathways are developed with both vertical and horizontal dimensions and support the development of students' mental structuring as their mathematical reasoning increases in complexity and their access to multiple contexts expands (Treffers, 1987; Fosnot & Jacob, 2010).

The research-based DreamBox assessment platform uses data to make interim determinations about student understanding and progress, which in turn inform real-time software decisions about scaffolding and recommendations. The platform also uses the data to make summative determinations about student proficiency based on the collection of evidence of student performance, using multiple data points about increasingly complex visits to similar topics, spaced over time (Pashler et al., 2007). The

DreamBox Learning Math design often results in students choosing a variety of lessons in such a way that they experience interleaved lessons and practice, which has shown promising results in research studies (Rohrer, Dedrick, & Burgess, 2014).

Each student lesson in DreamBox Learning Math operationalizes research-based recommendations for careful combination of graphics with verbal descriptions (Pashler et al., 2007). Every DreamBox Learning Math lesson consists of a series of mathematics problems. Some problems require students to represent their solution strategies using a virtual manipulative; others require students to connect visual representations of solutions to symbolic representations, and others require students to solve purely symbolic math problems. Student representations with virtual manipulatives are essential to ensuring that students can articulate and test the mathematical validity of their solutions and strategies, a component of effective strategies for students (Star et al., 2015). These representations are used by the DreamBox Learning Math assessment engine as evidence of student understanding of concepts.

Research has shown that students can develop and explain generalized rules about symbolic manipulation in mathematics that are inaccurate and conceptually flawed (e.g., the seminal report on Benny's conceptions of fraction rules, Erlwanger, 1973). To challenge the formation of non-standard conceptions, DreamBox Learning Math lessons require students to demonstrate their strategies using virtual manipulatives and visual representations. For example, if a student mistakenly believes that  $29 + 72 = 911$ , the task of representing the solution to the problem on a virtual number line will surface and confront that belief.

Informed by the real-world classroom experiences of DreamBox Learning Curriculum Designers (Teachers), the intelligent adaptive learning platform differentiates activity recommendations for each student and makes determinations about when students need additional scaffolding, concept development or skill practice. Unlike in the case of the more behavioral learning theory in Erlwanger's study, the scaffolding and recommendation algorithms in DreamBox Learning Math support students to create and enrich their own cognitive maps of the connections among facts, concepts, and representations (Shepard, 1989). The effectiveness of ongoing differentiation is also described in How People Learn: "...Pay close attention to the individual progress of each student and devise tasks that are appropriate...Present students with 'just manageable difficulties' – that is, challenging enough to maintain engagement, but not so difficult as to lead to discouragement" (Bransford, Brown, & Cocking, 2000, p. 24). Ongoing differentiation in DreamBox is made possible because the adaptive learning platform continuously collects, analyzes, and uses assessment data to present lessons to students that are most appropriate based on their demonstrated prior knowledge and performance.

DreamBox Learning Math lessons are designed to enable student use and retrieval of knowledge in both the short - and long-term - which is the foundation of the kind of active transfer needed for critical thinking and success in future learning (Bransford, Brown, & Cocking, 2000, pp. 53, 66). This design ensures students are continually activating their prior knowledge and have opportunities to resolve cognitive dissonance, building more robust and interconnected understandings (Bransford, Brown, & Cocking, 2000). In addition, DreamBox Learning Math leverages multiple lessons and virtual manipulatives to deepen conceptual understanding. For example, success in algebra requires an understanding of fractions, ratios, and proportional reasoning and flexible use of ideas across contexts (Engle, 2012; Perkins & Solomon, 2012; Gick & Holyoak, 1983). DreamBox Learning Math contexts include money, time, bar models, a racecourse double number line, and a ratio table across which students make sense of fractions and proportional relationships.

### **Efficacy**

#### **Harvard Study (2015)**

Research Validated by Harvard University's Personalized Learning Collaborative (PLC) at Center for Education Policy Research (CEPR) recently completed, and publicly released, its independent study of nearly 3,000 math students in Grades 3-5 in two districts. It reveals that using DreamBox Learning Math for just 14 hours can increase learning outcomes by nearly 4 percentile points as measured by the NWEA and PARCC assessments. This suggests students using DreamBox for one hour per week over the course of a school year could see a 10 percentile point gain in math achievement.

#### **Quote from the Study**

"In 2014, the Center for Education Policy Research began working with Howard County Public School System (HCPSS) and Rocketship Education (Rocketship) to measure the impact of the use of DreamBox Learning software on student achievement in their schools. Our goal was to develop a streamlined, low-cost evaluation model which could be replicated easily. Accordingly, rather than conduct a teacher survey or perform classroom observations to measure the fidelity of implementation, we relied on student log files to measure how students were using the software in-school and out-of-school. We also assembled historical data on student achievement on the Northwest Evaluation Association (NWEA) MAP assessment, state assessments and student characteristics."

With the NWEA MAP, Harvard's finding that 14 hours on DreamBox resulted in a 3.8 percentile point gain is very significant because it means that a 3rd grader at the 50th

percentile at the start of the school year who used DreamBox for only 14 hours actually ended the school year at nearly the 54th percentile when they were expected to end the year at the 50th percentile. Similar percentile measures of traditional classroom methods can vary, which makes comparison difficult. But any principal whose school improved student achievement by 5 percentile points over the course of the school year would throw a huge party for the faculty. For DreamBox to achieve these results for students after just 14 hours is therefore a high level of impact. There's no clear way to relate or equate it to some amount of "grade level progress," but it does mean that the student improved their math understanding more than the average expectation and thus accelerated their growth in relation to their peers and national norm comparisons.

#### **Stanford Research Institute (2010)**

Research validated by the Institute for Education Sciences (IES), and published on the What Works Clearinghouse (WWC), has shown that DreamBox Learning Math exhibits positive effects on students' mathematical understanding and achievement. In 2010, SRI conducted a **randomized controlled trial (RCT)** of DreamBox Learning Math with a population of 583 first grade students who used DreamBox Learning Math for an average of 21 hours over the course of 16 instructional weeks (just under 80 minutes per week). This independent third-party study indicated that DreamBox Learning Math led to statistically significant learning gains using pre- and posttest scores on the NWEA Measures of Academic Progress (MAP) assessment (Wang, H., & Woodworth, K., 2011). Furthermore, this study was validated by IES by meeting the WWC evidence standards without reservations: "DreamBox Learning was found to have potentially positive effects on mathematics achievement for elementary school students" (US DOE IES, 2013). All DreamBox Learning Math lessons use the same general learning design and exist on the same intelligent adaptive learning platform. In the Grade 1 study, "dosage" for the treatment group was a total of 21 hours over a half-year. In addition to the SRI study, DreamBox Learning has several case studies that describe progress and learning gains achieved by students using the program

- **Develop understanding of concepts in addition to assessing them**

*The following are examples of our Intelligent Adaptive Learning platform analyzing and differentiating based on strategies students use to solve problems every time they log into DreamBox.*



DreamBox differentiates the lessons based on how students answer correctly. Beginner students may count by ones while more advanced students may count by tens. The Adaptive Learning platform takes this into account when creating a student's learning pathway.

## The only K-8 math curriculum with gains validated by multiple 3rd parties

With just 60 minutes a week, students improve 58% more than growth norms on the NWEA® MAP® Assessment



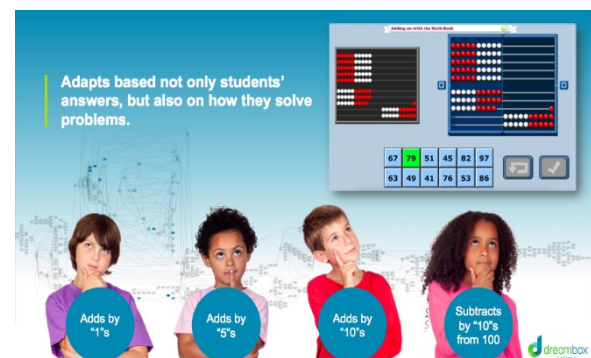
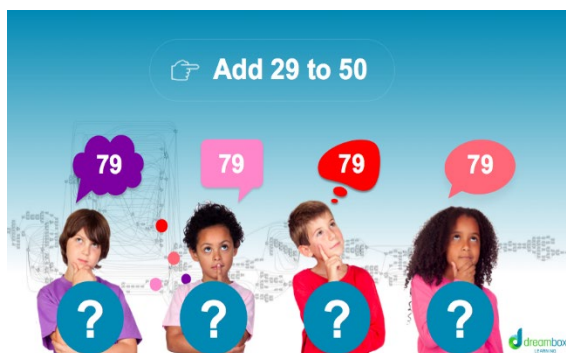
[www.dreambox.com/research](http://www.dreambox.com/research)

EVIDENCE  
IN ESSA

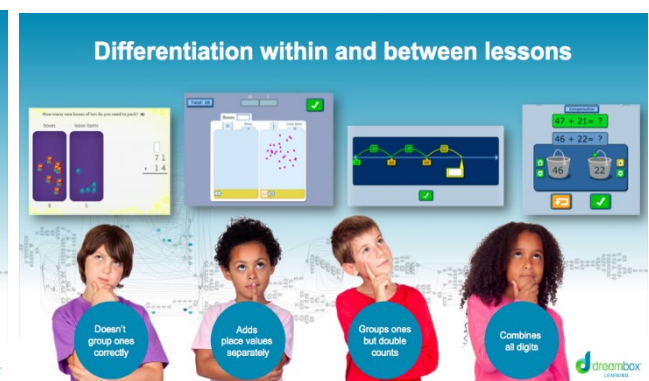
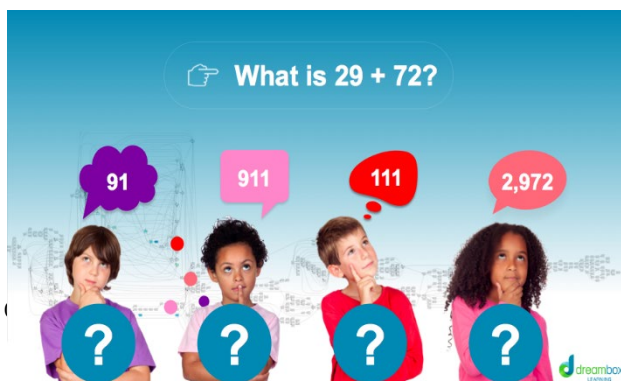
HARVARD  
UNIVERSITY

SFI

dreambox  
LEARNING



DreamBox also differentiates when students answer questions wrong. However, the Adaptive Learning platform takes into account why they answered the question wrong and provides unique pathways for students based on their wrong answer.



DreamBox's recommended usage is 60-90 minutes per week, usually in 2 or 3 sessions lasting 20-30 minutes each. These are independent, student self-directed sessions in which individual students receive real-time differentiation and scaffolding both within and between lessons.

Within independent DreamBox lessons, student learning is structured, focused, and designed to maximize student interactions with the mathematics and with the teacher. DreamBox's differentiated learning pathways are structured so that students first make sense of concepts and representations, then solve problems using efficient strategies and strategic thinking, and ultimately show evidence of fluency and procedural skill.



Intelligent Adaptive Engine™ responds in real time to how students solve problems. Both during and between lessons, DreamBox dynamically adapts and differentiates in real time based not only on students' answers, but also on how they solve problems.

DreamBox continually analyzes key data about student answers and solution strategies, ensuring that lesson recommendations and scaffolding are tailored to individual levels of readiness and proficiency so that every student is learning at their own level of achievable challenge.

- DreamBox Learning Math lessons are designed to enable student use and retrieval of knowledge in both the short- and long-term – the foundation of the kind of active transfer needed for critical thinking and success in future learning (Bransford, Brown, & Cocking, 2000). A coherent learning pathway through lessons includes four general elements, highlighted here in and example in which students engage informally in algebraic reasoning within the context of rotation and angle measurement.

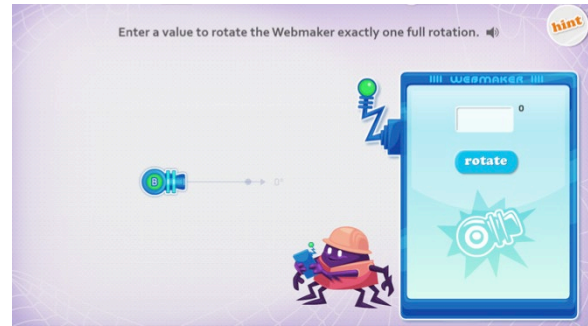


Figure 4a. Tutorial for Sense-Making & Proportional Reasoning

(1) A tutorial with directions about how to use the virtual manipulative or play the game. In Figure 4a, students learn to use a rotation tool for creating angles by starting at 0 degrees. Students make sense of the connection between rotation and numerical measurement and use the defined ratio of 1 rotation =  $360^\circ$  to reason proportionally about benchmark angles such as  $180^\circ$ ,  $90^\circ$ ,  $60^\circ$ ,  $45^\circ$ , and  $30^\circ$ . It can be accessed from a demo account by using AssignFocus, DreamBox Units -> Grade 4 -> Geometry -> Angle Measurement & Rotation -> Just Started Lesson.

(2) More challenging tasks use virtual manipulatives and workspaces. These require extending their knowledge from prior lessons and often enable students to use many different strategies while receiving scaffolded hints and feedback when necessary. Figure 4b shows how students must rotate the manipulative from a starting point other than 0 degrees to hit targets of varying sizes. This particular question is an informal

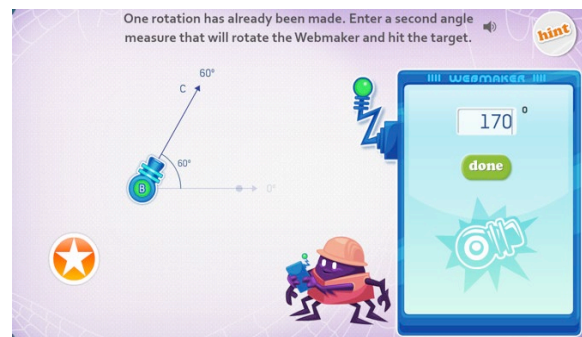


Figure 4b. Rotation & Angle Measurement, "Change Unknown" Situation

"change unknown" situation that requires spatial reasoning skills to estimate the location of the target and use the starting value to determine the amount of rotation needed. It can be accessed from a demo account by using AssignFocus, DreamBox Units -> Grade 4 -> Geometry -> Angle Measurement & Rotation -> Review Lesson.

(3) The same or similar tasks with constraints on manipulative use or different manipulatives for the same content – such as limitations on actions for optimal strategies – and less scaffolded support. In Figure 4c, students must compose a 315 degree angle using a combination of no more than six landmark rotations in either the positive or negative direction. As students choose angles, their expression is recorded and creates a visual referent for operations with integers. It can be accessed from a demo account by using AssignFocus, DreamBox Units -> Grade 5 -> Geometry -> Compose, Add, & Subtract Angles -> In-Progress Lesson.

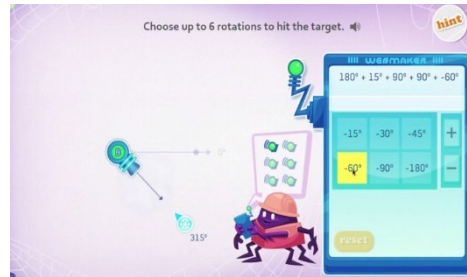


Figure 4c. Integer Operations with Landmark Rotations

(4) Fluently solve complex problems with little or no scaffolded support in novel situations and for ongoing practice. Figure 4d shows how the game expands to create rays that point in opposite directions as students work with vertical angle congruence. These lessons require significant algebraic reasoning because students must use supplementary angle relationships from different starting points to answer “result unknown” and “change unknown” questions as well as locate specific rotations between 0-360 degrees. It can be accessed at [www.dreambox.com/teachertools](http://www.dreambox.com/teachertools) under the Seventh Grade Geometry Heading -> Supplementary and Vertical Angles.

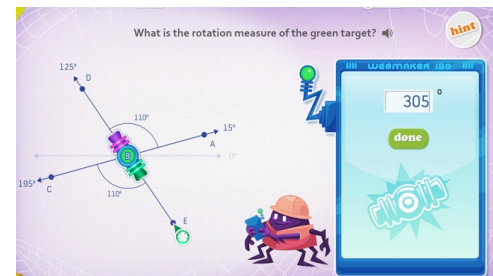


Figure 4d. Vertical Angle Congruence & Supplementary Angle Relationships

This intentional and research-based learning design ensures students are regularly activating prior knowledge and have opportunities to resolve cognitive dissonance, building more robust and interconnected understandings (Bransford, Brown, & Cocking, 2000). In addition, DreamBox Learning Math leverages multiple lessons and virtual manipulatives to deepen conceptual understanding. As noted above, success in mathematics and algebra requires an understanding of fractions, ratios, and proportional reasoning and flexible use of ideas across contexts. In addition to angle measurement, DreamBox Learning Math uses other contexts including money, time, bar models, a double number line, and a ratio table across which students make sense of fractions and proportional relationships.

## **AssignFocus**

AssignFocus allows you to assign topics or standards that align to what you are teaching. You can assign content for your students to preview new concepts, lessons that correlate with what you are teaching today, or as a review before an assessment.

### **DreamBox Learning® and NWEA® Partner to Empower Teachers and Improve Student Achievement**

Educators using the proven power of DreamBox Learning Math to improve student learning and assessment outcomes, have also been able to use students' NWEA MAP® Growth™ results to create differentiated assignments for individual students through DreamBox AssignFocus™ capability for K-8. In these assignments, DreamBox's intelligent adaptive engine addresses gaps in prior knowledge by using strategic, research-based learning pathways to engage and support each student right where they are. Teachers and administrators are able to monitor students' math growth and proficiency in real time to ensure students succeed.

By going to the AssignFocus tab within a classroom and clicking 'Add Assignment (NWEA),' educators are able to select a 'Domain' and 'RIT Score Range' for each student for whom they'd like to create a differentiated assessment.

Educators are then easily able to see if their students are showing proficiency on lessons that are aligned within that domain for the assignment. Teachers will be able to view student activity and progress within the assigned domain and RIT range in the AssignFocus tab, including the ability to lay the lessons their students are working on.

DreamBox maintains our coherent, rigorous learning pathways through the alignment of the RIT range scores so that students still receive content that they are ready to learn while adhering to the proven sequence of the DreamBox curriculum

## **Home Connection**

DreamBox provides an opportunity to strengthen family involvement in their child's learning. The Family Insight Dashboard enables meaningful home-to-school connections that raise awareness of the curriculum, strategies, and progress of students in real time, so teachers and family learning guardians can work together for student success.

## **Customize Content**

DreamBox Learning allows the ability for teachers to differentiate an assignment for their entire class, small group, or an individual student directly from the DreamBox Learning Insights Dashboard using the Assign Focus feature. Informed by data, simply choose a math topic for students to focus on, and DreamBox automatically differentiates their lessons based on each student's current progress in DreamBox. This capability gives teachers a powerful new way to use the best digital curriculum available to engage your students with a more personalized experience while supporting their classroom lessons.

Teachers will be able to:

- Use up-to-date standards proficiency data to determine which of their students are ready for the assignment and which students might not need it.



- View each student's progress against the assignment – with an ability to see whether it was completed, whether students demonstrated understanding and how much time they spent on the assignment.
- Lessons completed in the assign focus area will not impact a student's DreamBox recommended lessons. Assign focus offers the perfect blend of adaptive engine and ability to align with instruction

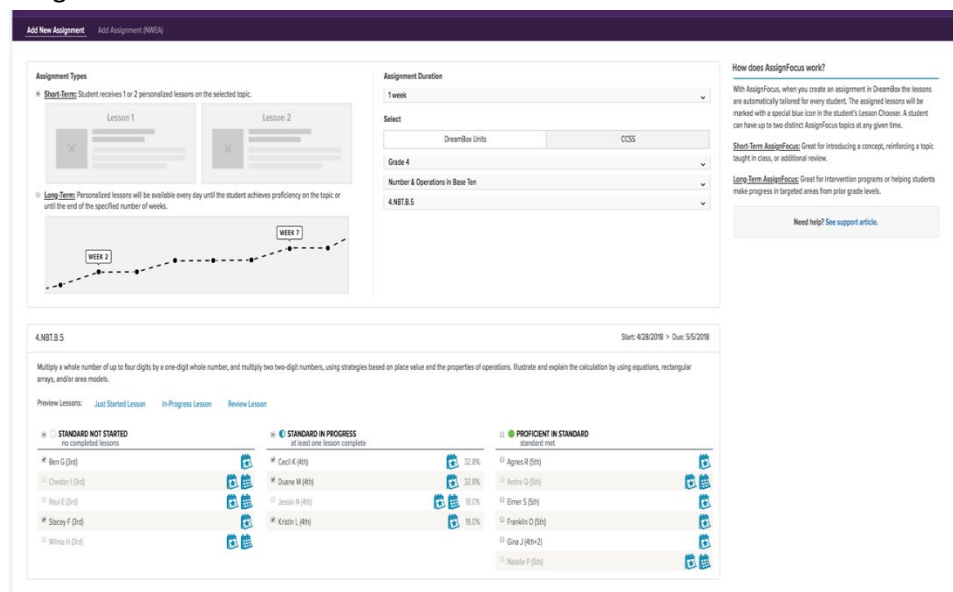
As students drive their own personalized learning paths through DreamBox's recommended lessons, they will be able to easily identify and access their teacher's assignments. Teachers will be able to see which students completed their DreamBox assignment and how well each student performed.

### Teacher selected lessons

DreamBox Learning gives teachers a powerful way to blend adaptive learning and the ability to align effective digital curriculum with classroom instruction. With AssignFocus, teachers can use real-time formative data from DreamBox to automatically differentiate an assignment for their entire class, a small group, or an individual directly from their Insights Dashboard.

Teachers can:

- Use up-to-date standards proficiency data to determine which students are ready for an assignment and which students might not need it.
- View each student's progress against an assignment—with an ability to see whether it was completed, if students demonstrated understanding, and how much time was spent on the assignment.



The screenshot displays the DreamBox AssignFocus interface. At the top, there are tabs for 'Add New Assignment' and 'Add Assignment (NBT.5)'. The main area is divided into several sections:

- Assignment Types:** Includes 'Short Term' (Student receives 1 or 2 personalized lessons on the selected topic) and 'Long Term' (Personalized lessons will be available every day until the student achieves proficiency on the topic or until the end of the specified number of weeks). A graph shows progress over 'WEEK 2' and 'WEEK 7'.
- Assignment Duration:** Set to '1 week'.
- Select:** Includes 'DreamBox Units' and 'CCSS'.
- Grade 4:** Set to 'Number & Operations in Base Ten'.
- 4.NBT.B.5:** The specific standard being assigned.
- How does AssignFocus work?:** A text box explaining that lessons are automatically tailored for every student and marked with a special blue icon.
- Need help? See support article.** A button linking to support resources.
- 4.NBT.B.5 Details:** A section showing the standard description: 'Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.' It includes tabs for 'Preview Lessons', 'Just Started Lesson', 'In-Progress Lesson', and 'Review Lesson'.
- Student Progress Table:** A table showing student progress for the standard 4.NBT.B.5. The table is divided into three columns: 'STANDARD NOT STARTED', 'STANDARD IN PROGRESS', and 'PROFICIENT IN STANDARD'.

STANDARD NOT STARTED	STANDARD IN PROGRESS	PROFICIENT IN STANDARD
Ben G (Gr4)	Cecil K (Rt4)	Agnes R (St4)
Chester L (Gr4)	Duane M (Rt4)	Andre Q (St4)
Raul E (Gr4)	Jessie N (Rt4)	Emet S (St4)
Stacey F (Gr4)	Kristin L (Rt4)	Franklin D (St4)
Wilma H (Gr4)		Gina J (Rt4)
		Nashia P (St4)

Lessons completed in the AssignFocus area will not impact a student's DreamBox recommended lessons.

As students drive their own personalized learning paths through DreamBox's recommended lessons, they will be able to easily identify and access their teacher's assignments. Teachers will

be able to see which students completed their DreamBox assignment and how well each student performed.

### User Scenarios

Teachers can use the Insights Dashboard's data and reporting to monitor student progress to inform differentiated instruction and purposefully group students.

The Standards Grouping View Report provides flexible instructional groups based on the selected standards. An educator simply chooses the instruction focus and the grouping view will automatically group students into 3 instructional groups: Not Started, In Progress and Proficient.


In this example a teacher is focusing instruction around Numbers and Operations 4.2B. The report will allow the teacher to group to provide differentiated instruction. The teacher has the option to create an assignment that would provide differentiated lessons based on the student group.

[Add New Assignment](#)   [Add Assignment \(NWEA\)](#)


**Assignment Types**

☒ **Short-Term:** Student receives 1 or 2 personalized lessons on the selected topic.


Lesson 1



Lesson 2



☐ **Long-Term:** Personalized lessons will be available every day until the student achieves proficiency on the topic or until the end of the specified number of weeks.



**Assignment Duration**

1 week

**Select**

DreamBox Units	TEKS	EngageNY
Grade 4		
Number and Operations		
4.2.B		

**4.2.B** Start: 4/30/2018 > Due: 5/7/2018

Represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.

Preview Lessons: [Just Started Lesson](#) [In-Progress Lesson](#) [Review Lesson](#)

<input checked="" type="radio"/> <b>STANDARD NOT STARTED</b> no completed lessons	<input checked="" type="radio"/> <b>STANDARD IN PROGRESS</b> at least one lesson complete	<input checked="" type="radio"/> <b>PROFICIENT IN STANDARD</b> standard met
<input checked="" type="checkbox"/> Chester I (3rd)	<input checked="" type="checkbox"/> Cecil K (4th) 42.9%	<input type="checkbox"/> Agnes R (5th)
<input checked="" type="checkbox"/> Jessie N (4th)	<input checked="" type="checkbox"/> Duane M (4th) 42.9%	<input type="checkbox"/> Andre Q (5th)
	<input checked="" type="checkbox"/> Raul E (3rd) 42.9%	<input type="checkbox"/> Elmer S (5th)
	<input checked="" type="checkbox"/> Stacey F (3rd) 42.9%	<input type="checkbox"/> Franklin O (5th)
	<input checked="" type="checkbox"/> Kristin L (4th) 28.6%	<input type="checkbox"/> Gina J (4th+2)
	<input checked="" type="checkbox"/> Ben G (3rd) 14.3%	<input type="checkbox"/> Natalie P (5th)
	<input checked="" type="checkbox"/> Wilma H (3rd) 14.3%	

- Provide student performance data relative to curriculum standards



With the **Insight Dashboard**, you can track your students' weekly lesson completion. The Classroom Overview Report offers a clear look at your student's total lessons completed for the selected date range. The dashboard also uses color indicators and symbols to identify students that are exceeding or falling behind our recommended usage at a glance.

In order for students to reach their weekly lesson goals, we recommend setting up multiple sessions of DreamBox throughout the week and having students complete at least one or two lessons every time they log in. Encourage students to develop the following habits:

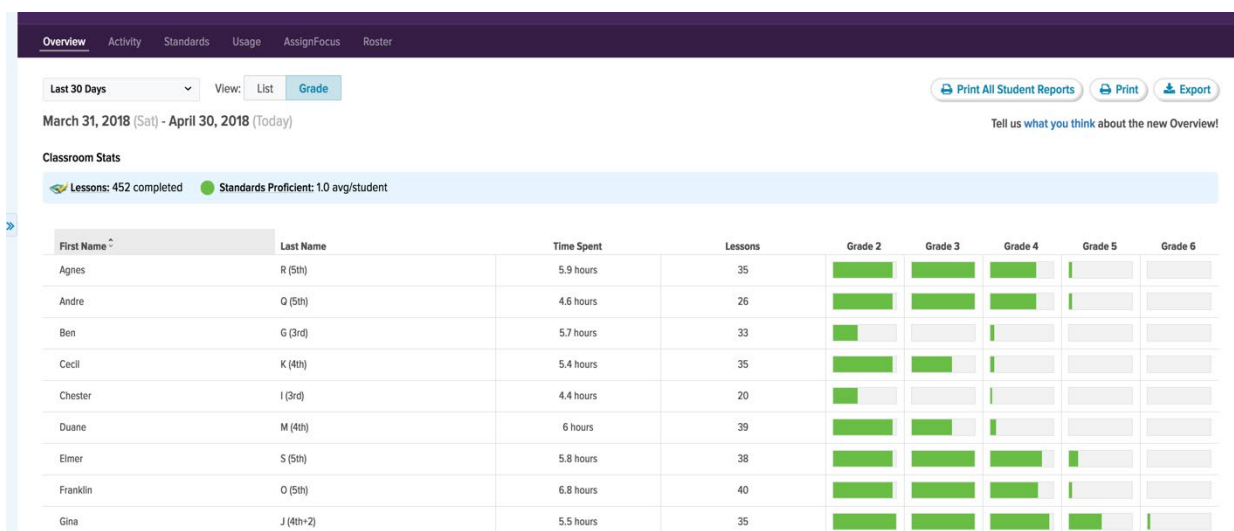
- **Be okay with mistakes.** As long as students complete lessons, DreamBox will be able to assess their comprehension and adapt.
- **Work independently.** Helping a student through a lesson can progress them beyond their current abilities and lead to frustration.
- **Only use the virtual manipulatives.** DreamBox lessons are designed for students to think through problems without the use of pencil and paper.
- **Use the help/hint button when needed.**
- **Use headphones with the volume on.**

### Classroom Reports

A robust set of real-time academic progress reports by classroom gives teachers and administrators insight into how students are progressing.

### Classroom Overview Report

An at-a-glance summary for every student and for the class as a whole.



## Standards Overview Report

Whether tracking progress against a curriculum, determining readiness for an assessment, or surfacing gaps in student learning, the Standards Proficiency Classroom Overview allows teachers to see student proficiency against the standards. Teachers can use this report to identify areas of growth and then take immediate action by assigning content that students need additional support in.

Overview		Activity	Standards	Usage	AssignFocus	Roster																			
Grade 4		Grid View																							
Grade 4 Standards as of April 28, 2018	G	MD							NF						OA										
	4.G.A.1	4.G.A.2	4.MD.A.1	4.MD.A.2	4.MD.B.4	4.MD.C.5	4.MD.C.6	4.MD.C.7	4.NBT.A.1	4.NBT.A.2	4.NBT.A.3	4.NBT.B.4	4.NBT.B.5	4.NBT.B.6	4.NF.A.1	4.NF.A.2	4.NF.B.3	4.NF.B.4	4.NF.C.5	4.NF.C.6	4.NF.C.7	4.OA.A.1	4.OA.A.2	4.OA.B.4	4.OA.C.5
Proficient	6	6	0	6	1	6	6	6	4	6	5	7	6	1	6	6	6	5	6	2	1	6	6	6	15
In Progress	4	0	1	4	2	4	1	3	10	6	5	4	4	14	4	0	0	0	0	1	0	8	8	2	0
Students [15]																									
Agnes R (5th)	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●	●	●
Andre Q (5th)	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●	●
Elmer S (5th)	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●
Franklin O (5th)	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●	●	●
Gina J (4th+2)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Natalie P (5th)	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●
Cecil K (4th)	●	○	○	●	○	●	○	●	●	●	●	●	●	●	●	○	○	○	○	○	○	●	●	○	●
Raul E (3rd)	○	○	○	○	○	○	○	○	●	●	●	○	○	●	○	○	○	○	○	○	○	●	●	○	●
Stacey F (3rd)	○	○	○	○	○	○	○	○	●	●	●	●	○	●	○	○	○	○	○	○	○	●	●	○	●
Duane M (4th)	●	○	○	●	○	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	●	●	●	●
Ben G (3rd)	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	●	●	○	○

## Student Detail Report

An academic progress report detailing concept-level comprehension and progress for each student.

Month of March 2018

Long-Term Assignment

(3/31/18 to 4/29/18, 4 weeks)



### Division to 10,000 with Remainders PD

Students solve multi-digit division problems within 10,000 and interpret remainders.

15 Students ^

[cancel](#)

First Name	Last Name	Status	Time Spent	Lesson Type	Lessons	Details
Agnes	R (5th)	GOAL REACHED	14 minutes	Progressing	3	<a href="#">view</a>
Andre	Q (5th)	In-Progress	56 minutes	Progressing	8	<a href="#">view</a>
Ben	G (3rd)	GOAL REACHED	63 minutes	Progressing	13	<a href="#">view</a>
Cecil	K (4th)	GOAL REACHED	14 minutes	Progressing	4	<a href="#">view</a>
Chester	I (3rd)	In-Progress	98 minutes	Progressing	14	<a href="#">view</a>
Duane	M (4th)	GOAL REACHED	35 minutes	Progressing	6	<a href="#">view</a>
Elmer	S (5th)	GOAL REACHED	14 minutes	Review	2	<a href="#">view</a>
Franklin	O (5th)	GOAL REACHED	21 minutes	Progressing	6	<a href="#">view</a>
Gina	J (4th+2)	GOAL REACHED	--	--	1	<a href="#">view</a>
Jessie	N (4th)	In-Progress	56 minutes	Progressing	9	<a href="#">view</a>
Kristin	L (4th)	GOAL REACHED	77 minutes	Progressing	14	<a href="#">view</a>
Natalie	P (5th)	In-Progress	--	--	1	<a href="#">view</a>
Raul	E (3rd)	In-Progress	91 minutes	Review	13	<a href="#">view</a>
Stacey	F (3rd)	GOAL REACHED	49 minutes	Progressing	8	<a href="#">view</a>
Wilma	H (3rd)	In-Progress	63 minutes	Review	11	<a href="#">view</a>

## Classroom Progress Monitoring Report

An academic progress report detailing concept-level comprehension and progress for each student.

Month of March 2018

Long-Term Assignment

(3/31/18 to 4/29/18, 4 weeks)



### Division to 10,000 with Remainders PD

Students solve multi-digit division problems within 10,000 and interpret remainders.

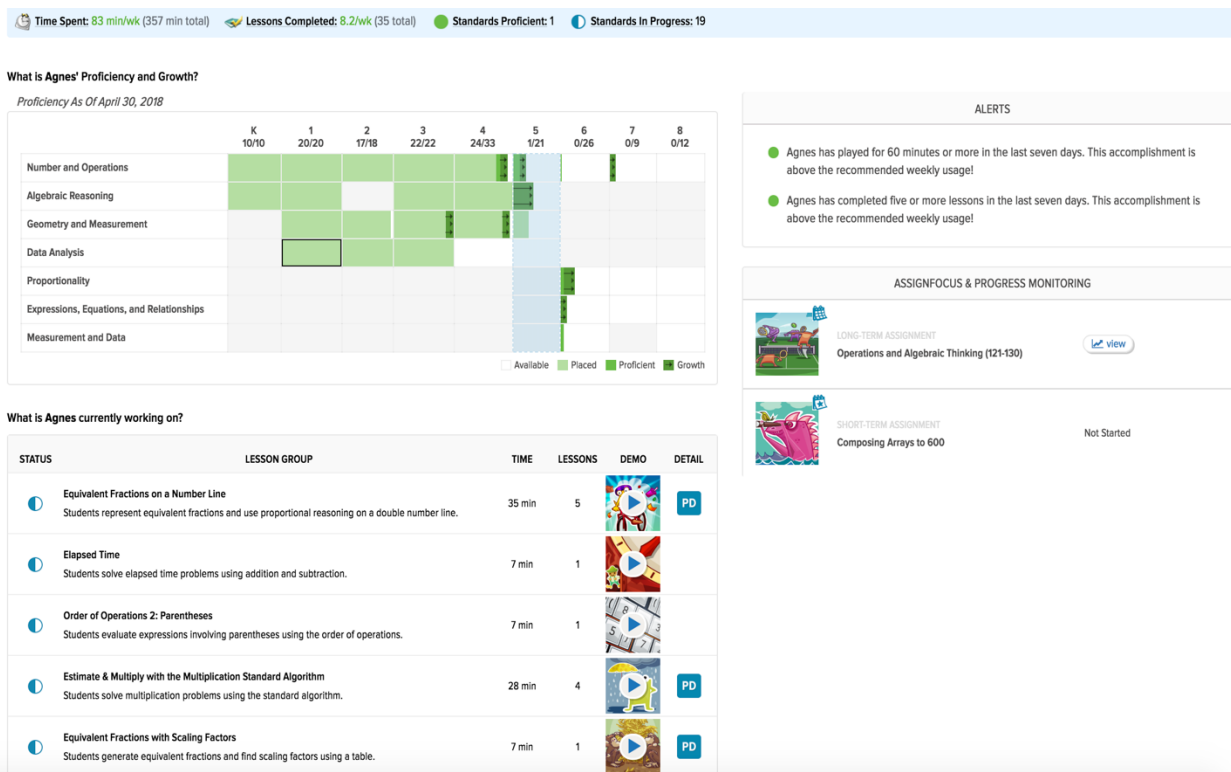
15 Students ^

[cancel](#)

First Name	Last Name	Status	Time Spent	Lesson Type	Lessons	Details
Agnes	R (5th)	GOAL REACHED	14 minutes	Progressing	3	<a href="#">view</a>
Andre	Q (5th)	In-Progress	56 minutes	Progressing	8	<a href="#">view</a>
Ben	G (3rd)	GOAL REACHED	63 minutes	Progressing	13	<a href="#">view</a>
Cecil	K (4th)	GOAL REACHED	14 minutes	Progressing	4	<a href="#">view</a>
Chester	I (3rd)	In-Progress	98 minutes	Progressing	14	<a href="#">view</a>
Duane	M (4th)	GOAL REACHED	35 minutes	Progressing	6	<a href="#">view</a>
Elmer	S (5th)	GOAL REACHED	14 minutes	Review	2	<a href="#">view</a>
Franklin	O (5th)	GOAL REACHED	21 minutes	Progressing	6	<a href="#">view</a>
Gina	J (4th+2)	GOAL REACHED	--	--	1	<a href="#">view</a>
Jessie	N (4th)	In-Progress	56 minutes	Progressing	9	<a href="#">view</a>
Kristin	L (4th)	GOAL REACHED	77 minutes	Progressing	14	<a href="#">view</a>
Natalie	P (5th)	In-Progress	--	--	1	<a href="#">view</a>
Raul	E (3rd)	In-Progress	91 minutes	Review	13	<a href="#">view</a>
Stacey	F (3rd)	GOAL REACHED	49 minutes	Progressing	8	<a href="#">view</a>
Wilma	H (3rd)	In-Progress	63 minutes	Review	11	<a href="#">view</a>

## Student and Classroom Progress and Proficiency Reports

The Student Overview provides a detailed look at student progress, including current and previous performance levels, mastery of standards, and skill acquisition.



## Progress Monitoring to Support Response to Intervention (RtI)

Teachers spend a lot of time creating individual learning plans for students and then documenting student progress toward those goals. The Progress Monitoring capabilities built into the Insight Dashboard equips teachers with the ability to set learning goals for students based on real-time data in DreamBox, or other assessments used by the district or school. Teachers can then track student progress against the learning goal, identify critical areas of need, and then adjust instruction. Reports can be printed and shared with district administrators and the student's learning guardians.

Progress Report: Ben G (3rd) (Grade 4)

(Mar. 31, 2018 to Apr. 29, 2018, 4 weeks)



GRADE 4

Division to 10,000 with Remainders **GOAL REACHED**

Students solve multi-digit division problems within 10,000 and interpret remainders.

Assigned By: Jeff Enoch Time Spent: 77 min Lessons Completed: 8 (Assigned), 1 (Other Lessons) Progress Made: +79%

Proficiency  
100%



Completed Lesson Name	Time	Status	Action
<b>WEEK 3</b>			
Division by Partial Quotients: Dividends to 10,000 and Remainders	7 min	✓	<a href="#">Play Lesson</a>
Lesson Completed with <b>Demonstrated Understanding</b>			
Division by Partial Quotients: Dividends to 1000 and Remainders	7 min	✓	<a href="#">Play Lesson</a>
Lesson Completed with <b>Demonstrated Understanding</b>			
Division by Modeling Partial Quotients: Dividends to 10,000 and Remainders	7 min	✓	<a href="#">Play Lesson</a>
Lesson Completed with <b>Demonstrated Understanding</b>			
<b>WEEK 2</b>			
Division by Modeling Partial Quotients: Dividends to 10,000 and Remainders	7 min	⏸	<a href="#">Play Lesson</a>
Lesson Paused			

- Provide student usage data

### Student Usage Report

Studies on DreamBox reveal a linear relationship between student DreamBox usage, learning growth, and learning outcome success. Administrators can access an overview of student usage, growth, and standards met by classroom.

Usage: ■ Above 60 minutes / 5 lessons per week ■ Below 15 minutes / 2 lessons per week For grade-specific recommendations [Click Here](#).

First Name	Last Name	Avg Active Students	Avg Min/Wk	Total Hours	Extended Use	Avg Lessons/Wk	Total Lessons	Growth	Avg Standards Met
Leland	Kraigh	40.1 (89%)	58 min	192.1	7%	5.0	993	12%	0.6
Courtney	Foreman	29.6 (88%)	61 min	200.3	10%	5.5	1,062	13%	1
Athens	Ayers	39.4 (88%)	54 min	176.3	5%	4.6	891	10%	0.8
Den	Friedrich	29.1 (87%)	60 min	194.3	8%	5.2	1,002	12%	0.8
Tromette	Morris	38.3 (85%)	60 min	188.2	8%	5.3	991	12%	0.8

- Provide reports to teachers, administrators, and parents

### Classroom Progress Monitoring Report

An academic progress report detailing concept-level comprehension and progress for each student.

Month of March 2018

**Long-Term Assignment** (3/31/18 to 4/29/18, 4 weeks)

**Division to 10,000 with Remainders** PD

Students solve multi-digit division problems within 10,000 and interpret remainders. 15 Students [cancel](#)

First Name	Last Name	Status	Time Spent	Lesson Type	Lessons	Details
Agnes	R (5th)	GOAL REACHED	14 minutes	Progressing	3	<a href="#">view</a>
Andre	Q (5th)	In-Progress	56 minutes	Progressing	8	<a href="#">view</a>
Ben	G (3rd)	GOAL REACHED	63 minutes	Progressing	13	<a href="#">view</a>
Cecil	K (4th)	GOAL REACHED	14 minutes	Progressing	4	<a href="#">view</a>
Chester	I (3rd)	In-Progress	98 minutes	Progressing	14	<a href="#">view</a>
Duane	M (4th)	GOAL REACHED	35 minutes	Progressing	6	<a href="#">view</a>
Elmer	S (5th)	GOAL REACHED	14 minutes	Review	2	<a href="#">view</a>
Franklin	O (5th)	GOAL REACHED	21 minutes	Progressing	6	<a href="#">view</a>
Gina	J (4th+2)	GOAL REACHED	--	--	1	<a href="#">view</a>
Jessie	N (4th)	In-Progress	56 minutes	Progressing	9	<a href="#">view</a>
Kristin	L (4th)	GOAL REACHED	77 minutes	Progressing	14	<a href="#">view</a>
Natalie	P (5th)	In-Progress	--	--	1	<a href="#">view</a>
Raul	E (3rd)	In-Progress	91 minutes	Review	13	<a href="#">view</a>
Stacey	F (3rd)	GOAL REACHED	49 minutes	Progressing	8	<a href="#">view</a>
Wilma	H (2nd)	In-Progress	63 minutes	Review	11	<a href="#">view</a>

## **Administrator Reports that Monitor Growth and Proficiency**

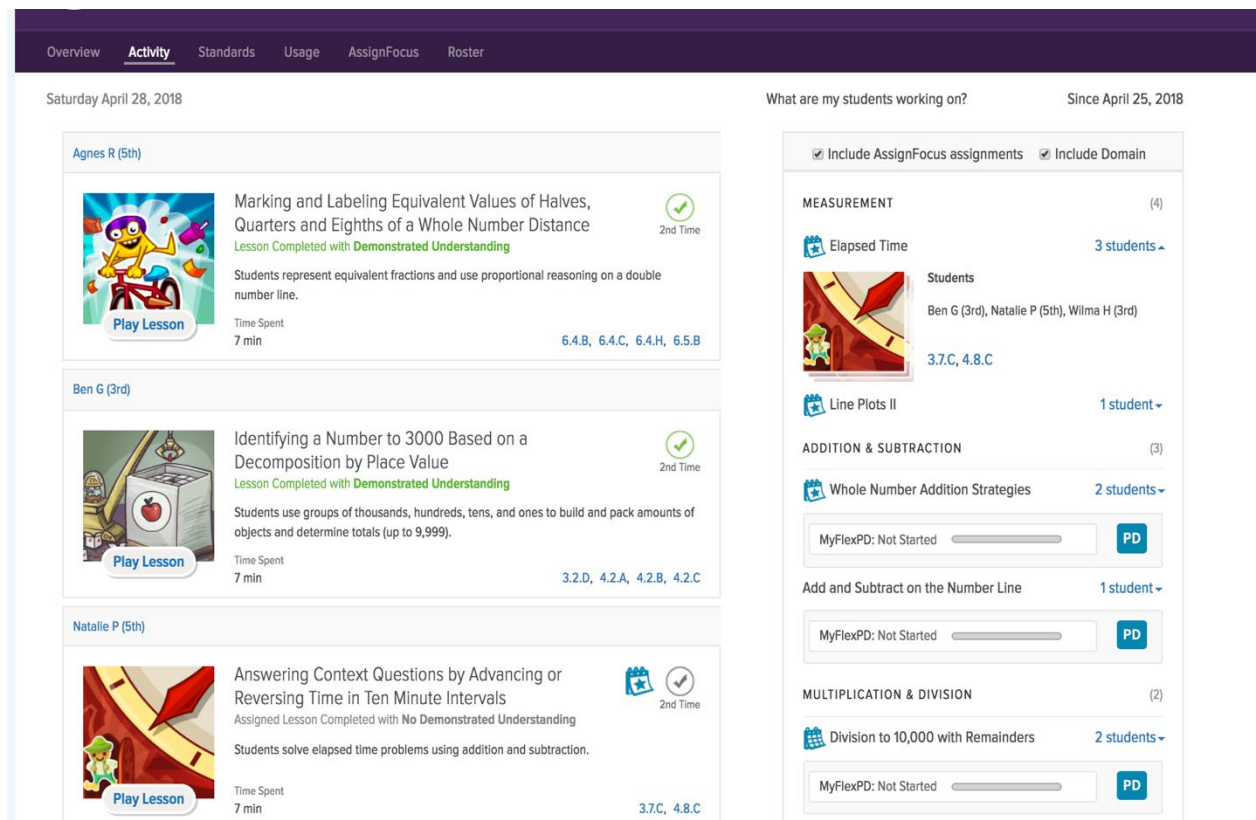
The DreamBox Administrator Dashboard provides key data for principals, math coaches, district administrators, and school program monitors. DreamBox provides education leaders with insights about usage, proficiency, and progress so they understand growth and student achievement.

DreamBox enables administrators to:

- Examine use of the program, including lessons and units completed for a particular school, grade level, or classroom over a specified date range.
- Track concept proficiency and growth over time by grade-level and specific classroom(s).
- Highlight strengths, weaknesses, and gaps in curriculum and inform instructional focus.
- Understand the time students are spending with DreamBox, both during and outside of school hours.
- Compare semester-by-semester usage and progress to match your school's calendar.

## **Teacher Dashboard Utilization Report**

The Dashboard Utilization report provides administrators with the ability to monitor student progress and learning growth, and to support the implementation. This view provides insight into how teachers are using the data and tools available to them to support their classroom practice. Teacher dashboard usage data can help start a conversation about student math proficiency and data-informed decision making.



The screenshot displays the Teacher Dashboard Utilization Report interface. At the top, there are tabs for Overview, Activity, Standards, Usage, AssignFocus, and Roster. The main content area is divided into two columns. The left column lists individual student activities, each with a lesson icon, title, description, time spent, and a 'Play Lesson' button. The right column shows a summary of student progress by domain and standard, including a 'MyFlexPD' progress bar and a 'PD' button.

**Student Activity List:**

- Agnes R (5th):** Marking and Labeling Equivalent Values of Halves, Quarters and Eighths of a Whole Number Distance. Lesson Completed with Demonstrated Understanding. Time Spent: 7 min. Standards: 6.4.B, 6.4.C, 6.4.H, 6.5.B.
- Ben G (3rd):** Identifying a Number to 3000 Based on a Decomposition by Place Value. Lesson Completed with Demonstrated Understanding. Time Spent: 7 min. Standards: 3.2.D, 4.2.A, 4.2.B, 4.2.C.
- Natalie P (5th):** Answering Context Questions by Advancing or Reversing Time in Ten Minute Intervals. Assigned Lesson Completed with No Demonstrated Understanding. Time Spent: 7 min. Standards: 3.7.C, 4.8.C.

**Domain Progress Summary:**

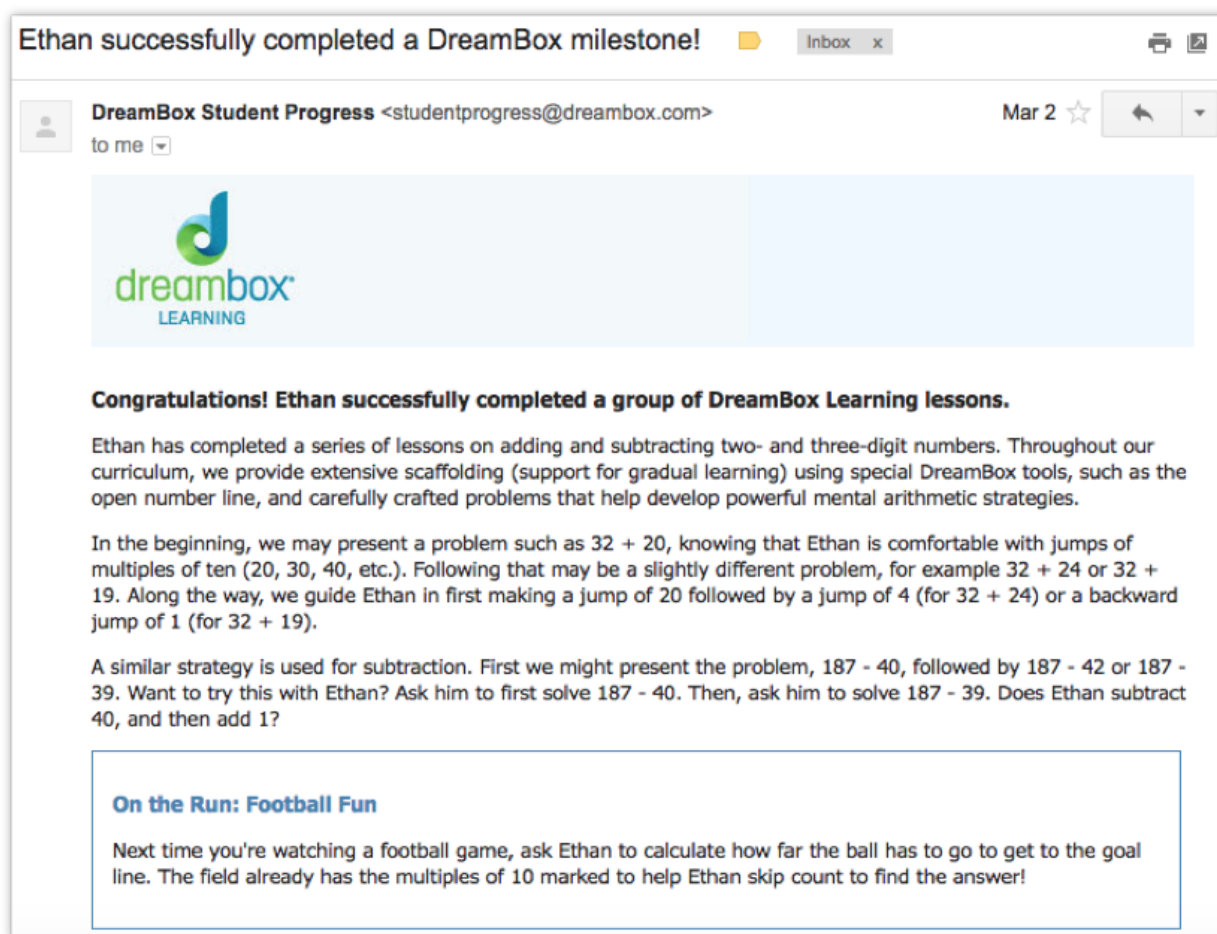
- MEASUREMENT (4):** Elapsed Time (3 students), Line Plots II (1 student).
- ADDITION & SUBTRACTION (3):** Whole Number Addition Strategies (2 students), Add and Subtract on the Number Line (1 student).
- MULTIPLICATION & DIVISION (2):** Division to 10,000 with Remainders (2 students).

Each domain entry includes a 'MyFlexPD: Not Started' progress bar and a 'PD' button.

## **Parent & Guardian Reports**



DreamBox helps educators facilitate meaningful conversations about student learning by providing families with in-the-moment information about what their students are working on and where additional support is needed. Learning guardians also have access to the Family Insight Dashboard where they can view their student's learning progress in reports much like those a teacher would see. With access to the same real-time data, educators and learning guardians can be stronger partners in student success. To further enhance communication, DreamBox will send an email alert, in either Spanish or English, to learning guardians each time a student completes a learning milestone. The emails describe what the student has learned and offers tips for connecting math learning outside of the classroom.



- **Provide before and after school access to students**

If your school is like most, your math teachers struggle with too little time and too many students to effectively address individual needs during the school day. The good news is that a decade of research shows that “Outside-of-School Time” (OST) programs can have a substantial impact on math achievement for low-income and minority students, and other students who may need extra time and practice to master skills.

**What's new and exciting is how blended learning in the classroom is being integrated with OST activities to close math learning gaps.** Online learning builds a bridge of continuity between the classroom and after-school programs. Here's an outline of just two of the OST opportunities within DreamBox.

### 1. At Home: Personalize Homework

Real-time data is essential in aligning homework with instructional goals, benefiting both students and teachers. DreamBox gives students direct feedback while they are doing homework. Teachers also have access to reports that show how each student is progressing and can use that data to inform their instructional approach during class.

### 2. Before and After-School Enrichment

Traditionally, before and after school programs have been focused on recreation. While no child wants to extend their classroom day, these programs can play a crucial role in closing the learning gap and opening up lifelong opportunities for children from underserved and underrepresented communities. Learn best practices for how to use blended learning to make before and after school programs more than simply childcare—while still providing plenty of fun.

- **Be web-based and supported on different browsers, operate on MAC or Windows operating systems, and function on mobile devices including tablets**

The following Requirements Check link will determine if a computer meets our system requirements, including requirements for the web browser, display resolution, and audio:

[http://play.dreambox.com/play/check\\_requirements](http://play.dreambox.com/play/check_requirements)

The list here represents what we regularly validate works well with our service at least through June 2019. There are many platforms, devices, and browsers that have all the capabilities required to play DreamBox, and customers may experience no issue with their chosen configuration. **The list here represents what we regularly validate works well with our service, and will be supported through at least June 2020.** However, we cannot verify that our service is compatible with all combinations of hardware and software. If your specific environment is not included here, please reach out to our support team to check if your selected configuration provides the required capabilities for DreamBox.

### Desktops (includes Laptops and Chromebooks)

Operating System

Chrome OS (auto-updated), Windows 7+, Mac OS 10.10+

### Browser

The latest versions of Chrome, Edge, Safari, Firefox, and Internet Explorer 11 – as well as the current ESR version of Firefox – are always supported. Note: Internet Explorer users may notice a degraded experience with graphics and audio, and are highly encouraged to switch to a more modern browser.

iPad

Device

iPad 2+, iPad Mini (1st Gen)+

iOS

iOS 9.3 or above

### **DreamBox Math Apps**

An important update to the DreamBox Learning Math app is now available in Apple's App Store. After July 16, 2018, we will no longer support versions earlier than 8.0.

Our app is required to be installed, with at least 1GB of space reserved for temporary caching. To ensure your app is automatically updated when updates become available, follow these instructions.

### **Network Configuration and Bandwidth**

Firewall/Security Requirements

**If you protect your school network by allowing only recognized URLs** through your firewall and security settings, please add the following domains to all whitelists and security filters:

[www.dreambox.com](http://www.dreambox.com)

[play.dreambox.com](http://play.dreambox.com)

[static.dreambox.com](http://static.dreambox.com)

[ondemand.dreambox.com](http://ondemand.dreambox.com)

[lms-dreambox-com.s3.amazonaws.com](http://lms-dreambox-com.s3.amazonaws.com)

If you are using Clever Automated Roster Management, you will also need to add "[account.clever.com](http://account.clever.com)" to your whitelist.

**If you protect your school network by allowing content only from recognized IP addresses**, please be aware that [static.dreambox.com](http://static.dreambox.com) may become problematic as it is an AWS CloudFront distribution. To counteract this, please whitelist the IP addresses available at <http://d7uri8nf7uskq.cloudfront.net/tools/list-cloudfront-ips> . Please note that this list occasionally changes. If your school starts experiencing issues loading static content like lesson tools or videos, please check this list to make sure all IP addresses have been whitelisted. If they have and you are still experiencing issues, please reach out to our DreamBox Client Success team.

### **Email Requirements**

The following email address should be added to all whitelists in order to ensure the retrieval of any email communication from us: [\\*@dreambox.com](mailto:*@dreambox.com)

### **Bandwidth Requirements**

Sometimes a building's Internet connection speed is sufficient, but network congestion at a single Wi-Fi access point or computer lab router can become a bottleneck.

Average rate of 4.3 KB/s per student (or 5 MB per 20-minute student session)

Occasional bursts up to 100 KB/s per student, while short animations are shown.

Bandwidth needs are generally higher when students first log in, and go down after the first few minutes of use.

- **Incorporate diverse learning environments that engage students and make use of drag-and-drop options**

The DreamBox student experience is rooted in video game fundamentals, designed to attract digital natives, encourage learning progress, and keep engagement high. This construct, when interwoven with math lessons, allows students to learn in a familiar environment and encourages desirable behaviors like persistence, ingenuity, and focus. DreamBox offers three age-appropriate

environments in which students choose their lessons: K–2, 3–5, and 6–8. Each environment takes into consideration a student’s age and is different in look, flow, and rewards. All three environments continuously assess, intelligently adapt, and prescribe to the depth of knowledge demonstrated. If a student is in fifth grade and therefore in the 3–5 Intermediate environment, he will stay in that age-appropriate environment even if he needs to fill a gap by completing a first grade lesson. In both the 3–5 and 6–8 environments, students are also able to earn badges that are designed specifically to encourage behavior like persistence, concentration, and motivation.

- **Adapt instructional sequence based on student responses**

DreamBox teaches math concepts for understanding and builds fluency by capturing and assessing data on about 60 behaviors as a learner works on a single problem, including the strategies used to construct the answer to the problem. Using this data, DreamBox rapidly responds by adjusting lessons, providing scaffolding and hints, and selecting appropriate manipulatives to support students towards master DreamBox Learning’s detailed data mining and analysis not only continuously adapts to the learner within a given lesson, but adapts the sequence of lessons as well. A seven-year-old using DreamBox might be working on first grade curriculum for the addition and subtraction unit while concurrently using the second-grade curriculum for place value since he/she has already mastered the first-grade curriculum for that concept. In contrast, other online programs use only a linear sequence of lessons that each student must complete in specific order.

In every model of blended learning, the personalization of content is crucial to the success of the learner and the program. Rather than a one-size-fits-all model, the goal is to achieve a one-size-fits-one solution. That can mean that more than one of the models can be used at different times in the learning experience.

#### 4. **Software Requirements:**

- **web-based/cloud-based**

DreamBox Learning Math is web-based.

##### **Browser**

The latest versions of Chrome, Edge, Safari, Firefox, and Internet Explorer 11 – as well as the current ESR version of Firefox – are always supported. Note: Internet Explorer users may notice a degraded experience with graphics and audio, and are highly encouraged to switch to a more modern browser.

iPad  
Device  
iPad 2+, iPad Mini (1st Gen)+  
iOS  
iOS 9.3 or above

- **support multi-year subscriptions**

Dreambox Learning Math can support multi-year subscriptions.

- **support users throughout the Howard County Public School System (see School Listings and Contacts <https://www.hcpss.org/schools/>).**

DreamBox Learning can support users throughout the district when the user technical requirements are met.

- import/export data to Microsoft Office suite software and file formats, as well as industry standard html and/or xml formats including xls, xlsx, doc, docx, and cvs.  
We support CSV/ Excel export of Student Usage and Growth, Standards Proficiency, AssignFocus Usage from the educator dashboard. These reports are available at the student level and at the classroom, school and district levels.
- import data to/from HCPSS's student information system (Synergy) and comply with HCPSS's chart of accounts.  
DreamBox offers two automated options to manage your rosters: **Clever Automated Roster Management** or **DreamBox Automated Roster Management**. Clever automates the secure transfer of student rosters between your Student Information System (SIS) and DreamBox. DreamBox ARM automates the secure transfer of student rosters between your Student Information System (SIS) and DreamBox via a single file, or two file format, to our SFTP site
- import/export data to Clever or Canvas/LTI with roster provisioning to provide security control features, so that access to files, records, fields, and functions can be restricted to authorized personnel.  
DreamBox offers two automated options to manage your rosters: **Clever Automated Roster Management** or **DreamBox Automated Roster Management**. Clever automates the secure transfer of student rosters between your Student Information System (SIS) and DreamBox. DreamBox ARM automates the secure transfer of student rosters between your Student Information System (SIS) and DreamBox via a single file, or two-file format, to our SFTP site. Educators can generate their own reports from the DreamBox Insights Dashboard and we also support more customized ad-hoc reports upon request. These include Impact Reviews & Executive Summary Reports.
- provide features that would detect and block access to unauthorized users. The portal shall provide an audit trail of unauthorized attempts. The audit trail shall log all user activity and system changes including data imports and exports.

DreamBox uses a tiered system of role-based access, ensuring that each authenticated individual can only gain access to those data objects that are within their authorized scope. Strong access credentials are required, and modification of those credentials are protected against brute-force attack with Captcha interpolation.

Data received from or modified by the district, referred to generically as roster data, is captured as change sets from a feed, and the application of these changes can be tracked in a detailed audit log. Manual edits by DreamBox administrators can be tracked back to individual staff, and a specific point in time.

- provide for "role based" security maintained by the application administrators

As noted above, DreamBox uses a tiered system of role-based access, ensuring that each authenticated individual can only gain access to those data objects that are within their authorized scope. Strong access credentials are required, and modification of those credentials are protected against brute-force attack with Captcha interpolation.

## 5. Reporting Requirements:

- mathematic concepts that students are learning

DreamBox Learning curriculum covers the mathematics concepts of the Common Core. Accessible, detailed reporting types are outlined in detail on pages 50-57.

# DreamBox Curriculum Guide

## PRE-K – GRADE 8

Here you can view a grade-by-grade list of topics found in DreamBox Learning® Math.



Build 1 to 10 Optimally



Compare 1 to 10



Identify Missing Addend

### Pre-K – Kindergarten

#### Counting

- **Build 1 to 10 Optimally.** Students build and identify numbers from static and flashed sets of 1 to 10 objects using the least number of mouse clicks.
- **Doubles & Near Doubles.** Students build and identify numbers from 1 to 20 that are grouped as doubles and near doubles.

#### Comparisons & Ordering

- **Compare 1 to 10.** Students compare sets of 1 to 10 objects and identify which is more and/or less.
- **Identify More, Less, & Equal.** Students compare flashed sets and numerals of 1 to 10 objects and identify the set that is more, less, and/or equal.
- **Ordering Numbers.** Students order numbers and identify missing numbers in decades from 1 to 100.

#### Addition & Subtraction

- **Identify Missing Addend.** Students identify a missing part (addend) when given one part (addend) and a whole (sum) from 3 to 10.
- **Beginning Adding & Removing.** Students build and identify amounts that are 0, 1, or 2 more or less than a given quantity of 0 to 10.
- **Identify Number Pairs.** Students identify sets of objects and pairs of numbers that add up to 8, 9, and 10.



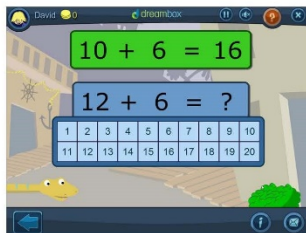
## GRADE 1



Build Up to 20 Optimally



Identify More & Less Up to 100



Doubling & Making 10

### Counting

- **Build up to 20 Optimally.** Students build and identify numbers from static and flashed sets of 1 to 20 objects using the least number of mouse clicks.
- **Build up to 50 Optimally.** Students build and identify numbers from static and flashed sets of 1 to 50 objects using the least number of mouse clicks.
- **Build up to 100 Optimally.** Students build and identify numbers from static and flashed sets of 1 to 100 objects using the least number of mouse clicks.

### Comparisons & Ordering

- **Identify More & Less Up to 100.** Students compare sets of 1 to 100 objects and identify which is more or less.
- **Counting Forward & Backward.** Students place numbers in a row of the hundreds chart when given two numbers.
- **Build Columns of a Hundreds Chart.** Students identify vertical patterns of the hundreds chart by placing numbers in one or more columns.
- **Moving on a Hundreds Chart.** Students identify the number on the hundreds chart that is 1, 2, 8, 9, 10, or 11 away from a starting number.
- **Comparison Symbols.** Students compare sets of objects and numbers from 1 to 100 and make true.
- **Rounding to the Nearest Tens Place: Numbers to 100.** Students round numbers to the nearest tens place on a number line.

### Addition & Subtraction

- **Doubling & Making 10.** Students use the strategies of “doubling” and “making 10” to add and subtract single-digit numbers (sums to 40).
- **Doubling to 20.** Students build and identify numbers from 1 to 20 when told to double a number (and at times, add or subtract 1) from 1 to 10.
- **Using 10 as a Landmark.** Students use landmarks of 10 when adding two numbers with sums to 24 (12 + 12).
- **Identifying Number Pairs.** Students identify pairs of numbers that add up to 15, 20, 50, and 100 using multiples of 5 and 10.

### Place Value

- **Place Value to 100.** Students use groups of tens and ones to build and pack amounts of objects and determine totals (up to 100).



## GRADE 2



Finding Equal Expressions



Making Jumps of 10 (or 3 to 9)



Addition: Compensation

### Comparisons & Ordering

- **Finding Equal Expressions.** Students use numerals to make as many groups of equivalent expressions as possible.
- **Assessing Equality.** Students determine whether a statement is true, false, greater than, less than, equal, or not equal.
- **Hundreds Charts to 500.** Students place numbers up to 500 on hundreds charts and number lines.
- **Hundreds Charts to 1000.** Students place numbers up to 1000 on a hundreds chart.
- **Compare Numbers Up to 500 (or 1,000).** Students compare numbers up to 500 (or 1,000) using the comparison symbols  $<$  and  $>$ , with special attention to the placement of zeroes and digit reversals.

### Place Value

- **Place Value to 500 (or 1,000).** Students use groups of hundreds, tens, and ones to build and pack amounts of objects and determine totals (up to 500 [or 1,000]).

### Addition & Subtraction

- **Making Jumps of 10 (or 3 to 9).** Students add and subtract 10 (or 3 to 9) to and from numbers between 0 and 200.
- **Finding Groups of Tens.** Students group numbers into tens and multiples of 10 when adding up to 12 addends.
- **Addition: Compensation.** Students manipulate two addends to create an equivalent but friendlier problem that can be solved mentally ( $31 + 26$  becomes  $30 + 27$ ).
- **Adding & Subtracting Groups of Tens.** Students add and subtract multiples of 10 and leftovers between 0 and 200.
- **Identifying Missing Tens.** Students identify the difference between two addends when that difference is a multiple of 10.
- **Addition & Subtraction: Landmark Numbers.** Students add or subtract two numbers by jumping to the nearest multiple of 10, then adding additional tens and leftovers ( $45 + 28$  becomes  $45 + 5 + 10 + 10 + 3$ ).
- **Identify Number Pairs Up to 200.** Students identify pairs of numbers that add up to 200 using multiples of 5 and 10.
- **Subtraction: Constant Difference.** Students manipulate two addends to create an equivalent
- **Addition: Doubling.** Students double numbers to create patterns using a function rule.

## GRADE 3



Multiplication & Division Situations



Partial Products Using Arrays



Multiply by 2, 4, 8: Automaticity I & II

### Comparisons & Ordering

- **Whole Numbers on a Number Line.** Students locate positive and negative whole numbers on a number line by scaling the number line by powers of ten.
- **Round & Compare Whole Numbers.** Students round numbers to the tens place and compare whole numbers up to 1000.

### Addition & Subtraction

- **Identify Missing Addends to 1,000.** Students identify a missing part (addend) when given one part (addend) and a whole (sum) from 3 to 1,000.
- **Add & Subtract on the Number Line.** Students add and subtract positive whole numbers on a number line using their own strategies.
- **Fluency: Addition & Subtraction.** Students develop fluency with addition and subtraction of whole numbers by choosing two numbers with a target sum.
- **Rounding & Estimating with Integers.** Students round numbers to the tens place and estimate the sums of integers.

### Multiplication & Division

- **Multiplication & Division Situations.** Students use various tools and groupings to develop an understanding of multiplication and division.
- **Multiplication: Doubling.** Students double known basic facts to find the product of more challenging basic facts.
- **Multiplication: Adding or Removing Groups.** Students add or remove a group to or from a known basic fact to determine the product of another basic fact.
- **Multiplication: Double & Halve.** Students use known basic facts and double one factor and halve the other to determine the product of a more challenging problem.
- **Multiplication Partial Products.** Students use the sum of two known basic facts to determine the product of a more challenging problem.
- **Partial Products using Arrays.** Students build arrays and use partial products to "cover" a rectangular area model of multiplication up to 12x12.
- **Multiply & Divide: Ratio Table.** Students determine factors and products using a table and common ratios (such as 4 tires for every 1 car).
- **Multiply by 0, 1, 5, 10: Automaticity I & II.** Students multiply 0, 1, 5, and 10 by numbers 1-10 and 11-100.
- **Multiply by 2, 4, 8: Automaticity I & II.** Students multiply 2, 4, and 8 by numbers 1-10 and 11-20.

## GRADE 3 CONTINUED



Fractions: Choose Context



Using Clocks & Telling Time 1



Classifying Geometric Figures

- **Multiply by 3, 6, 12: Automaticity I & II.** Students multiply 3, 6, and 12 by numbers 1-10 and 11-20.
- **Multiply by 9, 10, 11: Automaticity I & II.** Students multiply 9, 10, and 11 by numbers 1-10 and 11-20.
- **Multiply by 5, 15, 25: Automaticity.** Students multiply 5, 15, and 25 by numbers 1-10.
- **Multiply by 7, 14, 15: Automaticity.** Students multiply 7, 14, and 15 by numbers 1-10.

## Fractions & Decimals

- **Make & Compare Rods.** Students cut rods into equal parts and use those rods to compare fractions with like numerators or like denominators.
- **Fractions: Money & Time.** Students use money and time amounts to build fraction equivalencies.
- **Fractions: Choose Context.** Students choose between money and time amounts to build fraction equivalencies.
- **Early Equivalency I.** Students use a table to find equivalent fractions and scaling factors for common fractions.
- **Fractions on a Number Line.** Students use a number line to select and place fractions, improper fractions, and mixed numbers.

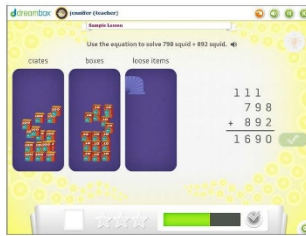
## Measurement

- **Using Clocks & Telling Time 1.** Students explore and use clocks to set and tell time to the nearest hour, half-hour and five minutes.
- **Using Clocks & Telling Time 2.** Students read and set times on an analog clock to the nearest minute.
- **Add & Subtract Time.** Students solve addition and subtraction problems with discrete amounts of time.
- **Line Plots I.** Students organize and represent numerical data on a line plot to a whole, half and quarter unit scale, and interpret these line plots to answer questions about the data.

## Geometry

- **Constructing and Measuring Polygons I.** Students construct triangles, quadrilaterals, and polygons, and use a ruler to measure their sides.
- **Classifying Geometric Figures.** Students define and classify geometric figures that have up to 3 dimensions.
- **Classifying Polygons.** Students define and classify polygons, including different types of triangles and quadrilaterals.

## GRADE 4



Addition Algorithm



Division to 600



Multiplication with Open Arrays

### Addition & Subtraction

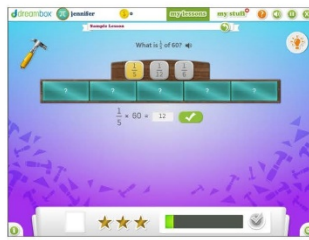
- **Addition Algorithm.** Students use the standard addition algorithm and a place value workspace to solve addition problems involving up to three digit addends.
- **Subtraction Algorithm.** Students use the standard subtraction algorithm and a place value workspace to solve subtraction problems involving up to two three-digit numbers.
- **Whole Number Addition Strategies.** Students choose efficient strategies for solving addition problems with 3-digit numbers.
- **Whole Number Subtraction Strategies.** Students choose efficient strategies for solving subtraction problems with 3-digit numbers.

### Multiplication & Division

- **Multiplication: Mixed Strategies.** Students explore the commutative property ( $3 \times 5 = 5 \times 3$ ) and apply various strategies to solve double-digit multiplication problems.
- **Identifying Common Multiples.** Students find common multiples of two factors ( $2 - 12$ ).
- **Identifying Factors.** Students identify factors of numbers to 100.
- **Multiplication to 1,500.** Students use partial product strategies to build arrays and solve multiplication problems using the distributive property.
- **Division to 600.** Students choose friendly equations (partial quotients), a rectangular array, and the distributive property to mentally solve multidigit division problems.
- **Multiplication with Arrays & Landmarks I.** Students solve multi-digit multiplication problems by creating friendly partial products represented on an open array.
- **Multiplication with Arrays & Landmarks II.** Students solve multi-digit multiplication problems by representing optimal partial products on an open array.
- **Composing Arrays to 600.** Students compose arrays and use the distributive property to solve multi-digit multiplication problems.
- **Multiplication with Open Arrays.** Students solve multi-digit multiplication problems using the distributive property and place value strategies.



## GRADE 4 CONTINUED



Decomposing Fractions



Elapsed Time



Classifying Geometric Figures  
in a Hierarchy

### Place Value

- **Place Value to 9,999.** Students use groups of thousands, hundreds, tens, and ones to build and pack amounts of objects and determine totals (up to 9,999).
- **Decimals to the Thousandths Place.** Students create decimal numbers using place value dials and learn the relationships between powers of ten.

### Fractions & Decimals

- **Fractions in the Real World 1.** Students explore different contexts of money and time to build fraction equivalencies less than 1.
- **Fractions in the Real World 2.** Students explore different contexts of money and time to build fraction equivalencies less than 2.
- **Comparing Fractions 1.** Students use a table to compare grade 4 fractions with unlike numerators and unlike denominators.
- **Comparing Fractions 2.** Students use a table to compare grade 5 fractions with unlike numerators and unlike denominators.
- **Decomposing Fractions.** Students use blocks to build fractions in a variety of ways.
- **Fraction Multiplication.** Students multiply fractions by whole numbers using blocks as a model for a strategy based on multiples of unit fractions.

### Measurement

- **Elapsed Time.** Students solve elapsed time problems using addition and subtraction.
- **Line Plots II.** Students organize and represent numerical data on a line plot to a quarter and eighth unit scale, and use fraction operations to interpret these line plots to answer questions about the data.

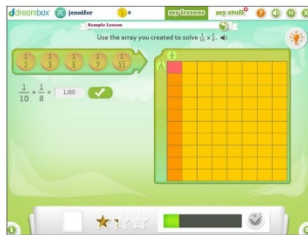
### Geometry

- **Angle Measurement & Rotation.** Students measure angles by using the relationship between rotation and angle measurement.
- **Constructing and Measuring Polygons II.** Students construct different types of triangles, quadrilaterals, and polygons, and use a ruler and protractor to measure side lengths and angles.
- **Classifying Geometric Figures in a Hierarchy.** Students represent hierarchical relationships as they classify geometric figures that have up to 3 dimensions.

## GRADE 5



Multiply & Divide with Decimals



Fraction Multiplication II



Equivalent Fractions on a Number Line

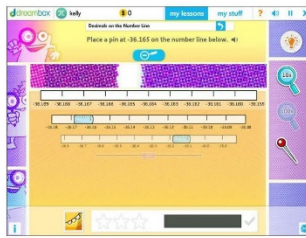
### Multiplication & Division

- **Division to 10,000 with Remainders.** Students choose friendly equations (partial quotients) and the distributive property to solve multidigit division problems within 10,000 and interpret remainders.
- **Multiplication to 100,000.** Students use the distributive property to solve multiplication problems within 100,000.
- **Estimate & Multiply with the Multiplication Standard Algorithm.** Students use the standard multiplication algorithm and estimation strategies to solve multiplication problems involving up to four digit by two-digit numbers.
- **Beyond Times Tables: Automaticity I.** Students multiply by friendly numbers greater than 20.
- **Beyond Times Tables: Automaticity II.** Students multiply by landmark and near-landmark numbers greater than 20.

### Fractions & Decimals

- **Multiply & Divide with Decimals.** Students multiply and divide decimal numbers expressed to the hundredths place using ratios and a unit price context.
- **Decimal Place Value in Products & Quotients.** Students estimate decimal products and quotients, then put the decimal point in the correct place value location of those products and quotients.
- **Equivalent Fractions with Scaling Factors.** Students generate equivalent fractions and find scaling factors using a table.
- **Fraction Addition.** Students add fractions with like denominators using blocks as a model.
- **Subtract Fractions.** Students subtract fractions with like denominators using blocks as a model for the removal strategy.
- **Fraction Multiplication II.** Students multiply two fractions together and use an area model to represent the product.
- **Fraction Division I.** Students divide fractions by whole numbers and whole numbers by fractions using a fair-sharing context.
- **Equivalent Fractions on a Number Line.** Students represent equivalent fractions and use proportional reasoning on a double number line.
- **Add & Subtract Decimals.** Students add and subtract positive decimal numbers on a number line using their own strategies.

## GRADE 5 CONTINUED



Decimals on a Number Line



Classifying Polygons in a Hierarchy



Order of Operations 2: Parentheses

- **Decimals on a Number Line.** Students locate positive and negative rational numbers on a number line by scaling the number line by powers of ten.
- **Multiplying Decimals with Arrays.** Students multiply decimal numbers up to the thousandths place using an array as a model.
- **Round & Compare Fractions & Decimals.** Students round numbers to the ones and tenths place and compare fractions and decimals.
- **Rounding Rational Numbers.** Students round numbers to the ones and tenths place and estimate the sums of decimals and fractions.
- **Fluency: Fraction & Decimals.** Students develop fluency with addition & subtraction of fractions & decimals by choosing two numbers that have a target sum.

## Geometry

- **Compose, Add, & Subtract Angles.** Students compose angles through addition and subtraction of angle measurements.
- **Classifying Polygons in a Hierarchy.** Students represent hierarchical relationships as they classify polygons, including different types of triangles and quadrilaterals.

## Expressions & Equations

- **Order of Operations 1.** Students use the order of operations to evaluate expressions involving addition, subtraction, multiplication and division.
- **Operations Fluency 1.** Students fluently simplify expressions involving addition, subtraction, multiplication and division.
- **Operations Fluency 2: Parentheses.** Students fluently simplify expressions involving parentheses.
- **Order of Operations 2: Parentheses.** Students evaluate expressions involving parentheses using the order of operations.
- **Variable Expressions.** Students simplify and evaluate expressions involving variables.



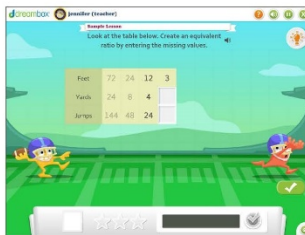
## GRADE 6



Add & Subtract Integers



Division Standard Algorithm: Decimals



Ratios in Context: Measurement

### Addition & Subtraction

- **Fluency: Integer Sums.** Students gain fluency with addition of integers by choosing two numbers to sum to a target value.
- **Add & Subtract Integers.** Students add and subtract positive and negative whole numbers on a number line using their own strategies.
- **Decimal Addition Strategies.** Students choose efficient strategies for solving addition problems with decimals to the tenths and hundredths.
- **Decimal Subtraction Strategies.** Students choose efficient strategies for solving subtraction problems with decimals to the tenths and hundredths.
- **Adding Integers.** Students add integers between -10 and 10.
- **Subtracting Integers.** Students subtract integers between -10 and 10.

### Fractions & Decimals

- **Add & Subtract Negative Decimals.** Students add and subtract positive and negative decimal numbers on a number line using their own strategies.
- **Fluency: Rational Numbers.** Students gain fluency with addition of rational numbers by choosing two numbers to sum to a target value.
- **Round & Compare Rational Numbers.** Students round numbers to the ones and tenths place and compare rational numbers.

### Multiplication & Division

- **The Distributive Property with Variables.** Students multiply expressions with one or two variables using an array as a model.
- **Division Standard Algorithm.** Students divide up to a four-digit number by a two-digit number using the standard algorithm, also known as "long division".
- **Division Standard Algorithm: Decimals.** Students solve a division problem with decimals using the standard algorithm, also known as "long division".

### Ratios & Proportions

- **Calculating Percentages.** Students calculate percentages and solve equations with percents of whole numbers.
- **Ratios in Context: Measurement.** Students use scale factors to generate equivalent ratios in measurement situations (e.g., miles, meters, cups, gallons, rates, etc.).
- **Ratios & Division with Fractions.** Students generate equivalent ratios with fractions and use ratios to divide fractions.

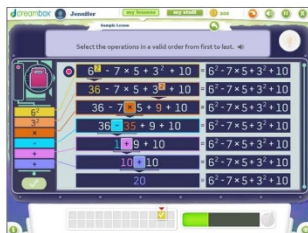
## GRADE 6 CONTINUED



Advanced Angle Relationships



Coordinate Grids: Line of Symmetry



Order of Operations 3: Exponents

### Geometry

- **Advanced Angle Relationships.** Students enter radii with angle measurements and explore vertical angles.
- **Coordinate Grids: Location & Measurement.** Students use a Cartesian coordinate grid to locate points and measure distances between points.
- **Coordinate Grids: Lines of Symmetry.** Students create symmetrical shapes on a coordinate grid using a line of symmetry.
- **Graphs, Tables, & Lines.** Students represent linear relationships by translating x-y tables to graphs and translating graphs to x-y tables.
- **The Coordinate Plane with Decimals 1.** Students locate points expressed as fractions and decimals to the tenths place by scaling the Cartesian coordinate plane.

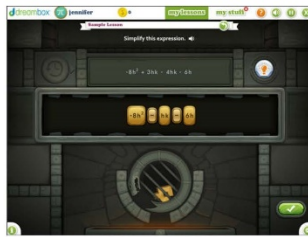
### Expressions & Equations

- **Order of Operations 3: Exponents.** Students use the order of operations to evaluate expressions involving exponents.
- **Operations Fluency 3: Exponents.** Students fluently simplify expressions involving exponents.
- **Operations Fluency 4.** Students fluently simplify multi-step expressions.
- **Integers & Inequalities.** Students compare integers from -10 to 10 using a number line.
- **Round and Compare Integers.** Students round integers to the tens place and compare integer values.

## GRADE 7



Multiplying Integers



Variable Expressions Involving Integers



Constructing and Measuring Polygons III

### Addition & Subtraction

- **Add & Subtract Integers: Automaticity I.** Students quickly and mentally add and subtract integers.
- **Add & Subtract Integers: Automaticity II.** Students quickly and mentally add and subtract negative integers.

### Multiplication & Division

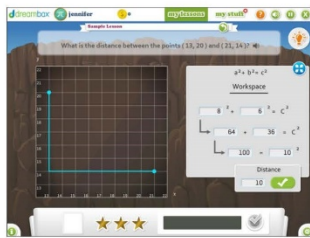
- **Multiply & Divide Integers: Automaticity I.** Students quickly and mentally multiply and divide integers.
- **Multiply & Divide Integers: Automaticity II.** Students quickly and mentally multiply and divide negative integers.
- **Multiplying Integers.** Students multiply integers with products between -25 and 25.
- **Dividing Integers.** Students divide integers with dividends between -25 and 25.

### Expressions & Equations

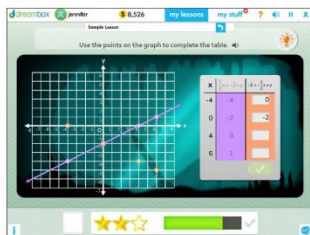
- **Integer Operations 1.** Students use the order of operations to evaluate integer expressions involving addition, subtraction, multiplication and division.
- **Integer Operations 2.** Students evaluate integer expressions involving parentheses and exponents using the order of operations.
- **Absolute Value.** Students determine the absolute value of integers between -10 and 10 using a number line.
- **Identifying Variables.** Students determine the value of a variable in a multi-step expression.
- **Variable Expressions Involving Integers.** Students simplify and evaluate variable expressions involving integers.
- **Variable Expressions with Distribution.** Students simplify and evaluate variable expressions with distribution.

### Geometry

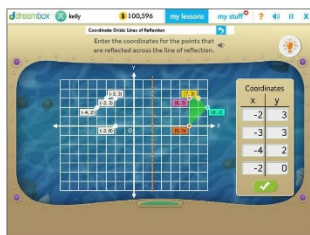
- **The Coordinate Plane with Decimals 2.** Students locate points expressed as fractions and decimals to the hundredths place by scaling the Cartesian coordinate plane.
- **Constructing and Measuring Polygons III.** Students construct different types of triangles, quadrilaterals, regular polygons, and scaled polygons using specified restraints, and use a ruler and protractor to measure their sides and angles.



### Linear & Local Rate of Change



### Equations, Tables, & Lines



### Coordinate Grids: Lines of Reflection

## GRADE 8

## Expressions & Equations

- **Linear Intersections & Intercepts.** Students visually locate intercepts and intersections of linear functions by scaling the Cartesian coordinate plane.
- **Non-Linear Intercepts & Extremes.** Students visually locate intercepts and extremes of non-linear functions by scaling the Cartesian coordinate plane.
- **Quadratic Expressions & Arrays I.** Students factor and expand quadratic expressions by representing them with arrays and combining like terms.
- **Quadratic Expressions & Arrays II.** Students factor and expand quadratic expressions with a leading coefficient by representing them with arrays and combining like terms.
- **Scientific Notation.** Students express very large and very small numbers using both decimal and scientific notation.
- **Variable Expressions Involving Exponents.** Students simplify and evaluate variable expressions involving exponents.

## Functions

- **Linear & Local Rate of Change.** Students determine the rate of change between two points using the Cartesian coordinate plane.
- **Applying Linear Rate of Change.** Students use one point on the Cartesian coordinate plane and a linear rate of change to locate the coordinates of another point on that line.
- **Equations, Tables, & Lines.** Students graph linear equations by finding multiple solutions to the equations and recording them in x-y tables.
- **Equations, Graphs, & Lines.** Students use the graph of a linear relationship to write the equation of the line.
- **Coordinates of Linear & Non-Linear Functions.** Students create a table of values to approximate the path of a line or curve of best fit.
- **Rates of Change in Linear & Non-Linear Functions.** Students create a table of "changes" to approximate the local rate of change of lines and curves of best fit.
- **Equations of Linear & Non-Linear Functions.** Students create equations of functions in both standard and factored form to match a specified graph.

## Geometry

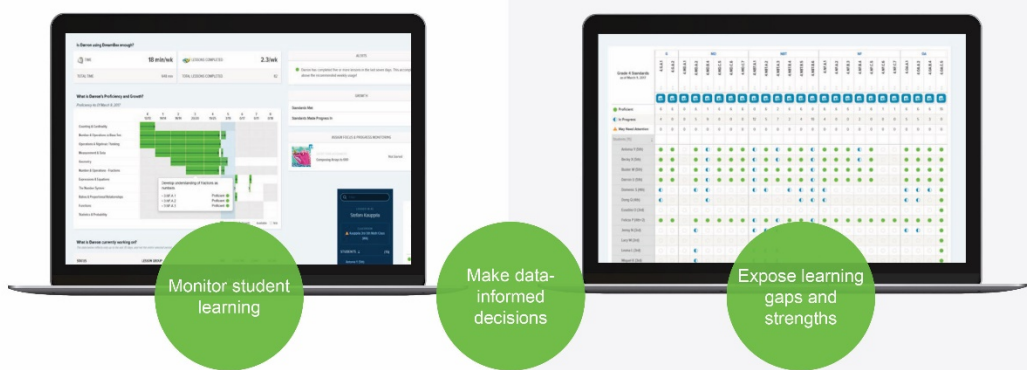
- **The Pythagorean Theorem.** Students calculate whole number distances between two points on the Cartesian coordinate plane using the Pythagorean Theorem.
- **Coordinate Grids: Lines of Reflection.** Students reflect shapes on a coordinate grid over a line of reflection.
- **Transformations on a Plane.** Students transform a given shape to a target shape by dilating, rotating, translating or reflecting.



- usage data and performance measurements locally and across the district for teachers, students, and parents to inform and assist in instructional decisions.

Insight Dashboard houses a myriad of usage data and performance measurements and is outlined in detail on pages 49-57.

## Teacher insights + home connection



## 6. Training Requirements:

### PD PROPOSAL FOR HOWARD COUNTY, MARYLAND

#### Professional Development Description:

DreamBox Learning is committed to providing teachers and administrators with comprehensive and ongoing support to ensure the successful implementation of DreamBox. Professional development can include onsite or live web-based sessions differentiated to fit your educator's needs. Our partnership also includes access to our online learning community, client success professionals, project management team and MyFlexPD learning modules.

#### Learner Outcomes:

Educators will be able to successfully navigate the resources on the teacher dashboard, interpret data within the reports aligned with CCSS to inform instruction, and identify the strengths and unfinished learning of their students.

Educators will be able to independently use their learning to examine proficiency data to make strategic and differentiated decisions to assign short and/or long-term assignments.

Educators will be able to independently use their learning to leverage technology to enable blended learning environments that develop a classroom culture of mathematicians, through accountability, mathematical mindsets, and student engagement.

### Professional Development Structure:

#### 1. Onsite Professional Development

- 6 hours of onsite training for teachers, coaches, or administrators (PLC Groups, Full Groups, Split Day)
- Implementation models and strategies will be discussed to meet the needs of each site
- Exploration of implementation models for each school based upon the resources available
- Hands-on guidance and practice with navigating the Insight Teacher Dashboard
- Participants will develop an implementation and professional development plan utilizing resources and schedules at *each* site as purchased
- Overview and navigation of the administrative reports at the school and district level as needed

#### 2. Live Hosted 60-minute Web-based Training Differentiated for Teachers (sample content below)

- Using DreamBox Data to Inform and Empower Classroom Learning 201
- Using DreamBox Learning in Blended Learning Models
- Using AssignFocus™ to Differentiate for All Learners
- Using Data Formatively and Summatively in Your Classroom
- Learning Pathways: An Approach to Understanding Math
- Cultivating Young Mathematicians in the Classroom
- Developing Your Mathematical Content Knowledge for Teaching

August/September	<ul style="list-style-type: none"> <li>Back to School-if needed Self Start Training and Intro to DBL for New Educators (embedded in Dashboard)</li> <li>Using DreamBox Data to Inform and Empower Classroom Learning 101 (embedded in Dashboard)</li> <li>Using DreamBox in Blended Learning Models</li> </ul>
October/November	<ul style="list-style-type: none"> <li>Using DreamBox Data to Inform and Empower Classroom Learning 201</li> <li>Using AssignFocus™ to Differentiate for ALL Learners</li> </ul>
December	<ul style="list-style-type: none"> <li>Using Data Formatively and Summatively in Your Classroom</li> </ul>
January/February	<ul style="list-style-type: none"> <li>Learning Pathways: An Approach to Understanding Math</li> <li>Cultivating Young Mathematicians in the Classroom</li> </ul>
March	<ul style="list-style-type: none"> <li>Developing Your Mathematical Content Knowledge for Teaching</li> </ul>
April	Self-Paced Dashboard Trainings (MyFlexPD, Resources – embedded in Dashboard)
May	Self-Paced Dashboard Trainings (MyFlexPD, Resources – embedded in Dashboard)

### Technical Support

Within DreamBox Teachers, parents, and administrators have a wide variety of help functions available to them, ranging from the reporting systems, to phone and email support, with a dedicated Client



Success Team. Additionally, multiple webpage resources, including professional development videos, FAQ pages, lesson plans, and a community of users, are available 24/7.

We have a team of 30 Client Success team members available on both the East and West coast. The DreamBox Client Success Team provides ongoing Technical Support. The Client Success Team is available via a toll-free number between the hours of M-F 5AM to 5PM Eastern Standard Time. Email sent to [support@dreambox.com](mailto:support@dreambox.com) is answered within 1 business day. Support calls can be initiated via phone/email/chat and can come from any DreamBox Learning Admin or Teacher that utilizes the DreamBox Learning Application within the district.

In addition, Teachers have a variety of self-help resources. Within the insights dashboard they have a support help page as well as a Resource Hub. The Resource Hub targets areas for Professional Development, Classroom Motivators and Webinars.

DreamBox Learning Software update releases are pushed directly into the DreamBox Learning Production site with no interaction expected or needed from the Client. Information regarding the release is emailed to the DBL Advocate and accessible on the landing page of the Administrator and Teacher dashboards within the DreamBox Learning application. Continued support timelines for previous versions are provided at the time of release.

## **7. Staffing Qualifications:**

### ***PROJECT MANAGER - SINGLE POINT-OF CONTACT FOR HOWARD COUNTY***

**Kristen Richards**

**Senior Client Experience Manager**

Kristen is an experienced educator, coach, and administrator who worked in elementary and middle school settings prior to joining DreamBox Learning in 2017. Now a senior member of the Client Experience Team, she has the privilege of working with some of our largest district partners across the east coast. Kristen enjoys travelling to works hands on with district partners, creating sustainable impact and lasting relationships. She believes passionately in the power of education to impact life trajectories for all students regardless of where they start. DreamBox Learning has rekindled her love of math and she enjoys sparking that same excitement in students across the country.

## 8. Implementation.

What follows is a draft schedule of events and some detail on how DreamBox sees how the project will unfold. This detail is intended to give the administration an idea of some of the resources DreamBox can bring to the table, but it should be noted that the actual plan will be worked out in detail at the initial planning meeting with administration and DreamBox staff. All dates and activities are subject to change.

Date/Time Frame	Task
Month 1	RFP awarded to DreamBox
Month 2	Agenda determined for kick-off meeting
Month 2	Kick-off meeting
Month 2	Initial information, marketing and implementation materials delivered to District ADMINISTRATION for review
Month 3	LEAs contacted with program materials
Month 3	License allocation is determined
Month 3	Data uploads and license provisioning complete
Month 4	Product training and initial professional development delivered onsite
Month 4	Follow-up professional development provided to teachers and administrators via webinars
Month 7	Progress reports provided to administrators
Month 8	Report submitted to District ADMINISTRATION on progress
Month 8	Progress reports provided to administrators – Intervention training recommendations and services delivered.
Month 9	Report submitted to District ADMINISTRATION on progress
Month 10	Progress reports provided to administrators
Month 11	Report submitted to District ADMINISTRATION on progress

Teachers, parents, and administrators have a wide variety of help functions available to them, ranging from the reporting systems, to phone and email support, with a dedicated Client Success Teams. Additionally, multiple webpage resources, including professional development videos, FAQ pages, lesson plans, and a community of users, are available 24/7.

For our HCPSS partners, we will provide robust and flexible support regarding:

- The initial setup/uploading of district, school, admin, and teacher data
- The promotion, understanding, and accessibility of DreamBox among students, teachers, and parents
- The rollout training and ongoing professional development

- Support throughout the implementation.

Aside from consummate support to students, educators, and parents, DreamBox will supply administration with minimal quarterly reporting, or as established at the kick-off meeting. At the end of the contract period we respectfully request a meeting to deliver a year-end comprehensive report and discuss student progression that will be evidenced by various local and state assessment data.



*"During our first full year of implementation, professional learning was a key factor to our success. It was important that professional development went beyond just learning about the program, but also focused on refining instructional strategies."*

- Dr. Lynn Simmers, Assistant Superintendent, Southwest Allen Schools

Research and publications from leading organizations suggest that when educators have a deeper understanding of the mathematics concepts they're teaching, their students have higher achievement. With the DreamBox Learning FlexPD™ solution, districts and schools receive a personalized professional development (PD) plan that goes beyond product training and evolves with your unique needs and goals. Use my FlexPD to:

- **Build teacher capacity:** FlexPD empowers teachers to immediately and continuously expand their knowledge and skills to actively facilitate students' learning in a highly differentiated way and implement the best educational practices in their classroom.
- **Support classroom practice:** FlexPD addresses specific teaching and learning challenges and provides strategies and tools teachers can immediately apply to improve student confidence and learning outcomes.

### Learner Outcomes

Our Professional Development Team is committed to providing teachers, coaches, and administrators with comprehensive and ongoing support to build understanding of DreamBox curriculum, its alignment to Common Core State Standards to ensure a successful blended learning implementation and increase of instructional practice in the classroom.

### Onboarding and Implementation

Highly effective teachers and intentional school leadership are the most influential factors in raising student achievement. DreamBox Learning's Professional Learning Services will partner closely with HCPSS to support a successful implementation that is aligned with instructional goals and fits the needs of HCPSS educators and administrators. To ensure continual improvement and success, DreamBox will provide engaging and relevant sessions designed to develop the knowledge and skills required to improve student learning outcomes and build capacity.

The most critical element of any successful implementation, especially at scale, is to get as many teachers and staff as possible to participate in face to face training with a DreamBox PD Specialist. There are many ways we can work with HCPSS to accomplish this objective, to include: participation in the summits that teachers attend, as well as other collective meetings held by HCPSS throughout the school year, New

Teacher Orientations, vertical team meetings/trainings, individual campus visits, or any other collective training/meeting opportunities HCPSS desires where it makes sense for DreamBox to participate.

Teachers can also get additional support through our online learning community, DreamBox Support, and through our on-demand, job-imbedded blended learning modules (MyFlexPD) at the individual lesson level students are working on. The following is a catalog of our PD courses and offerings that would be coordinated and planned accordingly with HCPSS and District Leadership:

# DreamBox Learning® FlexPD™

## ONLINE AND ONSITE COURSE OFFERINGS

DreamBox offers a range of courses and training sessions\* delivered in person or online to meet the learning needs of your entire math staff, and help them realize the full potential of a blended-learning practice.



Two learning tracks are available for administrators and educators:

1. **Professional Training:** Explores how to implement DreamBox with confidence and fidelity.
2. **Professional Learning:** Explores how to develop and enhance professional knowledge and practice.

	Webinars Include:	Onsite Training Includes:
Consultation Call	✓	✓
Personalized Presentation(s)	✓	✓
Live Webinar Presentation	✓	
PD Specialist (6 hours on site): Can deliver multiple presentations or the same presentation multiple times		✓
Travel Expenses		✓
Follow-up E-mail(s)	✓	✓

For a live webinar, we recommend an audience size of 40 participants or less.

For an onsite session, we recommend an audience size of 75 participants or less.

\*NOTE: Some courses may be eligible for continuing education units (CEUs) through your district.

## Professional Training Track

Course   Description	Teachers	Administrators	Delivery Method	Recommended Time Frame
<b>Introduction to DreamBox Part 1: Self-Paced Training Modules*</b> Educators access interactive training materials from the DreamBox Insight Dashboard, including a Self-Guided Tour and introductory videos.	•	•	Self-Paced Training Modules 30 Minutes	Beginning of the School Year
<b>Introduction to DreamBox Part 2: Kickoff Session*</b> In addition to the self-paced Training Modules, teachers can also complete their Introduction to DreamBox training on-demand, available through the Insight Dashboard.	•	•	On-Demand 45 Minutes	Beginning of the School Year
<b>Using DreamBox Data to Inform and Empower Classroom Learning 101*</b> This session explores how to navigate the Insight Dashboard, and how to use DreamBox data to drive instruction in the classroom. Available through the Insight Dashboard.	•	•	On-Demand 45 Minutes	1 Month into using DreamBox
<b>Introduction to DreamBox Learning</b> This session is an extension of the included Introduction to DreamBox Part 2: Kickoff Session. It provides an interactive introduction to DreamBox, while offering more in-depth training on DreamBox's student experience and Insight Dashboard.	•	•	Webinar 60 Minutes <hr/> Onsite 90 Minutes	First Month of School
<b>Using DreamBox to Inform and Empower Classroom Learning 201</b> This session is for educators who have been using DreamBox in the classroom for four to five months, and are ready to take a deeper dive. Participants learn how to use real-time data to measure progress and proficiency against standards, identify learning gains and areas for growth, and create differentiated assignments within DreamBox.	•		Webinar 45 Minutes <hr/> Onsite 60 Minutes	4–5 Months into using DreamBox
<b>Using AssignFocus™ to Differentiate for All Learners</b> DreamBox's revolutionary AssignFocus feature allows educators to create differentiated and personalized assignments using real-time proficiency data about each learner. In this session, educators learn how to analyze student data to support learning progressions, and create focused assignments using their Insight Dashboard.	•		Webinar 60 Minutes <hr/> Onsite 90 Minutes	Any Time

\*Sessions that are included in your license with DreamBox Learning® K–8 Math

FLEXPD COURSES 2018 | 2



## Professional Training Track *Continued*

Course   Description	Teachers	Administrators	Delivery Method	Recommended Time Frame
<b>Using DreamBox in Blended Learning Models</b> This session engages teachers in creating a vision and implementation plan anchored in inquiry-based learning. Teachers learn how to best leverage DreamBox tools and lessons as part of a blended-learning model that supports differentiated instruction for an entire class, small groups, or an individual student.	•		Webinar 60 Minutes Onsite 90 Minutes	Any Time
<b>Classroom Norms and Management for Personalized Learning with Virtual Learning Environments</b> Personalized learning and digital environments create new challenges and opportunities for classroom management. In this session, teachers learn techniques for successfully integrating DreamBox into their curriculum, including how to establish routines and set goals to foster positive classroom and online behaviors.	•		Webinar 45 Minutes Onsite 60 Minutes	Any Time
<b>The Role of Building-Level Leadership with DreamBox Implementation</b> Integrating new programs into classrooms requires careful planning and execution. What should educators expect to do, see, and change in their classrooms when using DreamBox? How can building administrators and leaders support and sustain this effort? In this session, participants create site-level implementation plans to seamlessly integrate DreamBox into their school.		•	Webinar 60 Minutes Onsite 90 Minutes	During Implementation
<b>Empowering Closer Home-School Connections with DreamBox</b> Studies show that students who have parents that are involved in their education tend to have higher attendance rates, better social skills, and do better academically. In this session, teachers and administrators explore how to use DreamBox to strengthen home-school connections. Participants learn strategies for everything from setting up a DreamBox math night at school to educating parents on how to access the Parent Dashboard to view their child's progress and communicate with teachers.	•	•	Webinar 45 Minutes Onsite 60 Minutes	Any Time

## Professional Learning Track

Course   Description	Teachers	Administrators	Delivery Method
<b>DreamBox Learning MyFlexPD™*</b> MyFlexPD is a self-paced professional learning tool that uses real-time student achievement data to surface professional development content that's relevant to what students are learning in DreamBox. Accessible via the Insight Dashboard, MyFlexPD empowers educators with immediate, relevant, and actionable content to guide student success.	•	•	Dashboard Self-paced
<b>A Vision for Blended Learning in Your Classroom</b> This session engages educators in creating a vision and implementation plan for building a blended-learning model in their classrooms. Our Professional Development specialists facilitate conversations involving cultivating mathematical mindsets, classroom culture, and exploring new models for math learning and engagement. Educators will leave with a plan to implement this vision in their classrooms.	•		Webinar 60 Minutes <hr/> Onsite 90 Minutes
<b>Learning Pathways: An Approach to Deeply Understanding Math</b> DreamBox uses developmental progressions through intentionally structured and "just-in-time" math experiences. Based on student conceptions, erroneous conceptions, progressions, and needs, DreamBox's curriculum follows developmentally appropriate learning pathways. This session helps educators shift their thinking about what it means to be successful and fluent in mathematics, while supporting them as they consider and use new strategies to improve student learning outcomes.	•	•	Onsite 2 Hours
<b>Educating Parents about Mathematics and Curricula</b> Parental involvement has been proven to increase student academic performance and achievement. Especially in math, parents do not always understand curricular content and classroom culture, which could lead to difficulty with communication and support at home for the student. This session helps educators build partnerships with families and stronger home-school connections by bringing math to life and life to math.	•		Webinar 60 Minutes <hr/> Onsite 90 Minutes

\*Sessions that are included in your license with DreamBox Learning® K–8 Math

FLEXPD COURSES 2018 | 4

## Professional Learning Track *Continued*

Course   Description	Teachers	Administrators	Delivery Method
<b>Mathematical Fluency</b> What does it mean to be fluent in mathematics? What does it mean if a student can't mentally multiply $7 \times 13$ or add $1998 + 2302$ quickly and without a calculator? Math facts are no longer the gold standard of mathematical fluency. In this session, participants explore the relationship between mathematical strategies and concrete models while learning to determine how to recognize mathematical fluency in students.	•	•	Webinar 60 Minutes <hr/> Onsite 90 Minutes
<b>Early Mathematical Strategies for Middle-Schoolers</b> When middle-school students have difficulty with advanced math topics, they can often make better sense of them by revisiting related concepts and strategies from prior grades. This session engages educators in activities that leverage these elementary strategies to engage, support, and inspire middle-school students.	•		Webinar 60 Minutes <hr/> Onsite 90 Minutes
<b>Cultivating Young Mathematicians in Your Classroom</b> Mathematics empowers students to think logically about problems and to make sense of techniques for solving them. This session engages educators in discourse around supporting a growth mindset in the classroom, allowing students to productively struggle while independently and collaboratively grappling with new ideas. Teachers learn strategies for cultivating a culture that views challenges and failures as opportunities.	•		Webinar 60 Minutes <hr/> Onsite 90 Minutes
<b>Challenging Learners Above Grade Level</b> Engaging advanced learners in meaningful dialogue, critical thinking, and practical application deepens their conceptual understanding of mathematics and creates a solid foundation for advanced study. This session engages teachers in strategies tailored to challenging students who are learning topics above their grade level.	•	•	Webinar 60 Minutes <hr/> Onsite 90 Minutes
<b>Supporting Below-Grade-Level Learners</b> Improving interventions for students with challenges in mathematics requires us to foster problem-solving strategies and mathematical communication within our classrooms. This session focuses on shifting our view of what it means to be a struggling learner, how to take a preventative approach to intervention, and how to avoid a deficit-model view of students who need additional support.	•	•	Webinar 60 Minutes <hr/> Onsite 90 Minutes

## Professional Learning Track *Continued*

Course   Description	Teachers	Administrators	Delivery Method
<b>Using Data Formatively and Summatively in Your Classroom</b> Meaningful assessment practices are dynamic and continuously informative about student thinking and understanding. This session explores strategies and classroom applications for using meaningful formative data to inform instruction. Participants engage in reflective practices while using summative data to inform strategic and intentional learning experiences throughout the year.	•		Webinar 60 Minutes <hr/> Onsite 90 Minutes
<b>Developing Your Mathematical Content Knowledge for Teaching</b> How do you motivate teachers to want to strengthen their content knowledge in mathematics? This session engages math coaches in professional development activities designed to help teachers comfortably explore unfamiliar topics and deepen their content knowledge.	Math Coaches		Webinar 60 Minutes <hr/> Onsite 90 Minutes

### **MyFlexPD™ – Job-embedded Blended Professional Learning**

Math achievement across the US has been consistently low for decades, with only 40 percent of students in Grade 4 and only 33 percent of students in Grade 8 performing at a proficient level as measured by the 2015 National Assessment of Educational Progress (NAEP) test. According to a report from learning Forward, annual PD spending has reached over \$2.6 billion at the federal level. Even so, research from the Gates Foundation found that only 29 percent of teachers are highly satisfied with PD, often because they have little input on the topics and it lacks relevance to their students and their practice. Additionally, in many states less than 8 percent of teachers receive any specialized math training in college.

To improve student achievement, school districts must reach every teacher with job embedded, relevant, and timely professional learning. There must be sustainable, innovative new models of PD that empower teachers and ensure relevant professional learning. The DreamBox solution, MyFlexPD, engages teachers in a dynamic, self-paced environment that enables them to use real-time student performance data as a starting point for relevant professional learning.

MyFlexPD represents a scalable way for school districts to deepen teachers' content knowledge in mathematics while also informing their classroom curriculum and lessons.

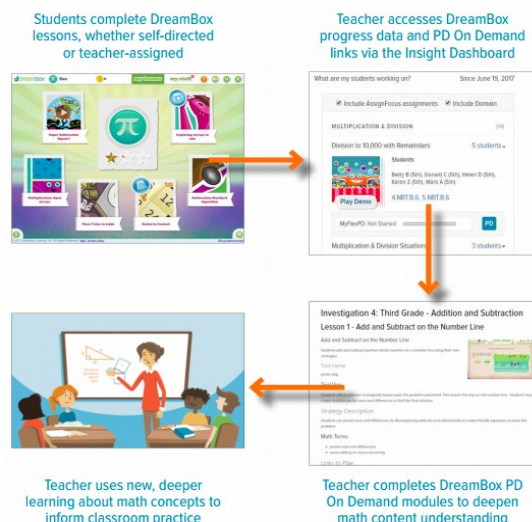
There are three linked components of MyFlexPD:

- DreamBox Learning K-8 Math program for students,
- DreamBox Insight Dashboard analytic system for teachers,
- DreamBox virtual professional learning modules for teachers.

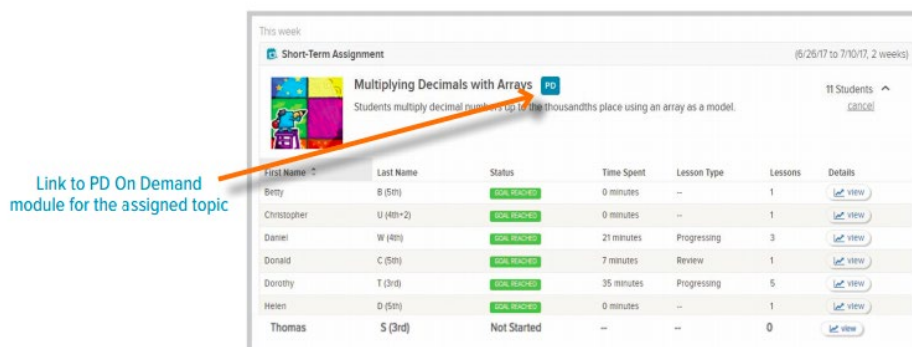
As students use the DreamBox Learning software they are assessed formatively, allowing the software to analyze types of behavior including right and wrong answers, types of right and wrong answers, strategies used, hints needed, and scaffolding required. This formative assessment data is used to adapt the difficulty, scaffolding, and hints during a lesson and to adjust a student's place in the DreamBox curriculum between lessons. That formative assessment data is also communicated to educators in the DreamBox Insight Dashboard. These dashboards allow teachers to understand, in real-time, what progress their classroom and their students are making along with a host of other features that positively impact teacher practice and ability to differentiate instruction. Lastly, this data is used to inform which math content professional learning modules are suggested to teachers inside of their DreamBox Insight Dashboard.

The general process is outlined below:

Two key ways that MyFlexPD supports the development of teacher capacity in mathematics and leads to increased learning outcomes for students:



- Understanding the classroom-taught curriculum. When teaching a math concept to the whole class from the pacing calendar, textbook, or other source, a teacher can access PD modules for that topic to better understand the math concepts and more confidently facilitate classroom lessons for that topic.



The screenshot shows a "Short-Term Assignment" for "Multiplying Decimals with Arrays" (PD). Below the title is a table with student progress data:

First Name	Last Name	Status	Time Spent	Lesson Type	Lessons	Details
Betty	B (5th)	Goal Reached	0 minutes	--	1	<a href="#">view</a>
Christopher	U (4th-2)	Goal Reached	0 minutes	--	1	<a href="#">view</a>
Daniel	W (4th)	Goal Reached	21 minutes	Progressing	3	<a href="#">view</a>
Donald	C (5th)	Goal Reached	7 minutes	Review	1	<a href="#">view</a>
Dorothy	T (3rd)	Goal Reached	35 minutes	Progressing	5	<a href="#">view</a>
Heleen	D (5th)	Goal Reached	0 minutes	--	1	<a href="#">view</a>
Thomas	S (3rd)	Not Started	--	--	0	<a href="#">view</a>

- Informing small group differentiation. When a small group of students is simultaneously working on a math concept in DreamBox that isn't being taught in class, the classroom teacher can access PD modules to understand the math concepts and facilitate a strategy to discuss the topic.

## 9. Service and Support:

### A. Help Desk Service:

DreamBox has a Client Success Team that is available by phone Monday through Friday, from 5:00 AM PST - 5:00 PM PST, at 877-451-7845 ext 3. They can be accessed 24/7 at [support@DreamBox.com](mailto:support@DreamBox.com). And, DreamBox Learning provides a user-friendly customer support website at <http://support.dreambox.com>

**B. Solution Availability:** DreamBox Learning agrees to the 99% SLA outlined in 9.2 (pg15) of the RFP.

### C. Customer Service Coach:



Your Customer Experience Manager, Kristen Richards will oversee all training, check-in call, tracking, and provisioning. Nicky Szczur will provide the professional development training to implement the program.

- Onboard the team and teachers through video lessons and webinars
- Facilitate check-in calls with instructional leaders
- Help the district track student mastery of standards over time
- Provide global account provisioning (teachers and students)

#### 10. **File Back-Up/File Recovery.**

Backup snapshots are taken at least daily for all critical data stores, and maintained at the data centers on both coasts. These are rotated out and erased in cycles not longer than 30 days, in order to prevent unwanted long-term storage of data covered by data removal agreements with districts and various state and federal regulations.

#### 11. **Data Migration/Integration.**

DreamBox offers two automated options to manage your rosters: **Clever Automated Roster Management** or DreamBox Automated Roster Management. Clever automates the secure transfer of student rosters between your Student Information System (SIS) and DreamBox. DreamBox ARM automates the secure transfer of student rosters between your Student Information System (SIS) and DreamBox via a single file, or two file format, to our SFTP site.

#### 12. **FERPA Regulations**

DreamBox Learning meets or exceeds all requirements of FERPA and COPPA. We do not intentionally collect any personal information directly from children. Any incidental and unintentional collection (such as in an unsolicited comment or emailed feedback) is quarantined from our systems, and reported to the appropriate school officials and educators.

We do not share student information with any third party, except as a required element of performing the service contracted by the school or district. Parents are able to review student data and correct inaccuracies as needed (though, in most cases, these corrections are most effectively made within school systems, and the corrections delivered into DreamBox systems through Clever or other on-boarding connection).

Student data is never used for marketing purposes, either internal or external. Student data is not sold or shared with marketing firms, or any other entity unconnected with the educational purpose contracted by the school or district.

### 13. Unique Qualifications.

In addition to your project manager, Kristen Richards, the following DreamBox Learning team will work with the District.

#### ***DISTRICT PARTNER MANAGER***

**Michael Sarmiento**

**Senior District Partner Manager**

As a Sr. District Partner Manager for DreamBox, Michael has the privilege of partnering with top districts across the east coast. Michael began his career with DreamBox seven years ago and has spent those years learning from educators and colleagues across the nation. He is passionate about education technology and where DreamBox can and will make a positive impact on students and educators.

#### ***PROFESSIONAL TRAINING/CUSTOMER EXPERIENCE TEAM***

**Nicky Szczur M.Ed.**

**Professional Development Specialist**

Nicky Szczur holds a B.S. in Elementary Education K-6, M.Ed. in Special Education, Birth-Grade 8, and a Level II Instructional License for both Elementary Education and Special Education in Pennsylvania. Her experience consists of both classroom instruction and instructional coaching. She has also designed curriculum, pacing guides, and instructional supports for Title 1 schools. After being nominated by school administration and awarded the Innovative Teacher of the Year distinction in both 2015 and 2016, Szczur focused her attention and passion to supporting teachers achieve growth and proficiency within their classrooms by joining the DreamBox PD Team in 2017. Nicky is passionate about partnering with administrators and educators to help build confident mathematicians and change the way students think about math. In her free time, she can be found lakeside enjoying time her family and dogs or catching a hockey game.

### 14. Company Profile/Demonstration of Prior Work

DreamBox Learning, founded in 2006 in Bellevue, Washington, is the only K-8 digital math program powered by students, built by and for educators, and independently proven to positively impact student achievement. DreamBox dynamically adapts and differentiates in real time based not only on students' answers, but also on how they solve problems. Along with actionable reporting and tools that empower differentiation for all learners, DreamBox gives teachers content-specific professional development and provides administrators with insights about how all students are progressing. The company's pioneering platform has won more than 40 top education and technology industry awards and is in use in all 50 states and throughout Canada.

DreamBox is used by nearly 3 million students and 120,000 teachers in every state in the U.S., including the District of Columbia, and throughout Canada. The company has also recently expanded into Mexico with a Spanish-language version of the platform. The investment will enable DreamBox to further accelerate growth and innovation, serving more educators and students as it continues down the path of being a powerful partner in every classroom, school, and district.

Independent studies from both the Center for Education Policy Research (CEPR) at Harvard University and SRI have demonstrated that DreamBox Learning K-8 Math improves student achievement as measured by NWEA MAP Growth. In addition to being the only digital elementary math solution with an

Evidence Rating of “Strong” at EvidenceForESSA.org, curated by Johns Hopkins University, a recent analysis of nearly 8,000 students in grades 1-7 showed that students completing just five DreamBox lessons per week experienced double the growth of their peers on the Renaissance Star assessment. DreamBox Learning K-8 Math was recently recognized by EdTech Digest as the winner of its EdTech Awards math solution category and was also awarded a 2018 CODiE Award for Best Mathematics Instruction Solution.

DreamBox Learning Inc. is a privately held organization and has been cash flow positive since 2012. Earlier this year, DreamBox Learning and The Rise Fund, a global impact investing fund managed by TPG Growth, signed an agreement for a \$130 million investment in the education technology company. This

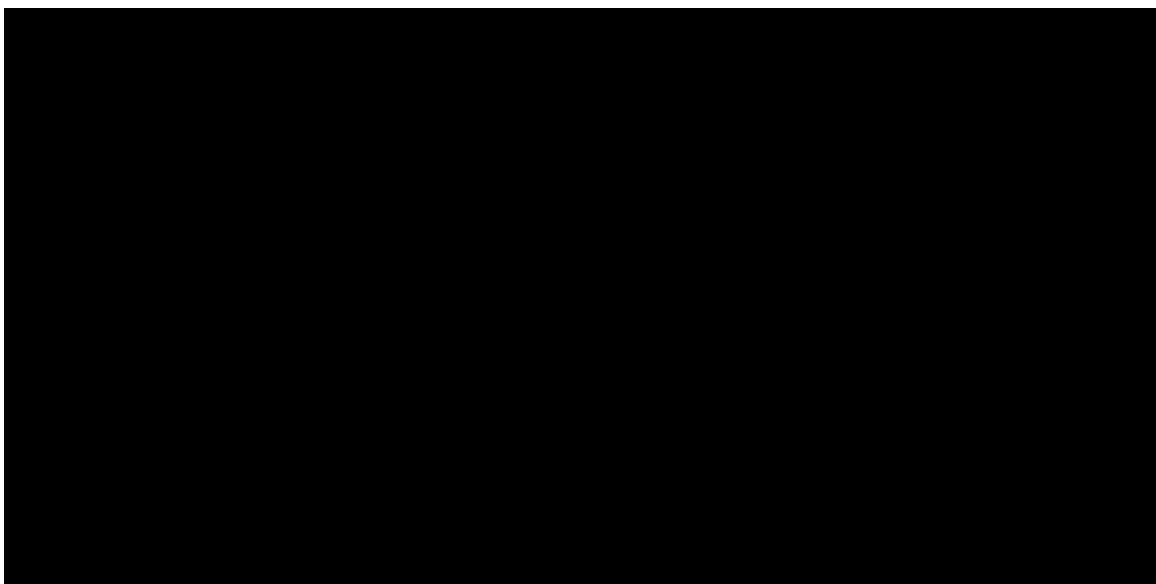
investment is The Rise Fund’s largest education investment to date and will continue to cement their role as a leading global education investor. The Rise Fund has made a series of investments in education as part of its global strategy to expand education access and quality for students around the world. This includes a particular focus on leveraging the transformative power of digital curriculum and personalized learning tools like DreamBox to improve student outcomes and increase teacher capacity.

Arne Duncan, former U.S. Education Secretary and senior education advisor to The Rise Fund, has joined DreamBox’s Board of Directors.

*“We know that education technology helps students and supports teachers. Providing more effective tools for teachers that drive student learning gains is a win-win for our schools.” – Arne Duncan*

Employing over 200 employees with offices in Bellevue, WA and Raleigh, NC, along with regional representatives across the country, DreamBox Learning serves a wide band of K–12 institutions (public, charter, private, parochial, and online schools) in all 50 states and in Canada. As a privately-owned company, our revenue and sales volume is not published.

## 15. References





## APPENDIX A – PRICE PROPOSAL

No additional fees are associated with this proposal for 77 school sites. Professional development recommendations are included on pages 75-76 .

Site License Pricing:			
	List Price	Howard County Annualized	Multiyear paid up front
<b>Price per 12-month term:</b>			\$6,200/ site
<b>Included Professional Development:</b> <i>Additional PD services can be purchased*</i>			
On-demand PD Modules	✓	✓	✓
Self-Paced Educator On-boarding Modules	✓	✓	✓
Two interactive On-Demand modules (embedded into the Insights Dashboard): Introduction to DreamBox Using DreamBox Data to Inform and Empower Classroom Learning 101	✓	✓	✓
<b>Seat License Pricing:</b> <i>(PD services not included with seat pricing, please reference below pricing*)</i>			
<b>List Price</b>	<b>Howard County Annualized</b>		
<b>*Professional Development Services Pricing</b>			
60-minute webinar*			
Full Day (6 hour) On-site**			

\*Webinars: recommended 40 participants or less.

\*\* On-site Sessions: recommended 50 participants or less.