

Section i.

NYC Shifts for Mathematics : Demonstrate how your curriculum aligns with each of the NYC Shifts for Mathematics

Support for NYC Shifts for Mathematics

Amplify Desmos Math New York provides support to shift from mathematics as a series of established procedures that must be demonstrated and explained to mathematics as a discoverable, meaningful, and connected collection of big ideas and disciplinary practices. Information on how Amplify Desmos Math New York can support the NYC Public School Shifts in Mathematics is detailed below.

Students engage in individual and collaborative sensemaking first, and then the teacher helps them connect their ideas, strategies, and informal language to the lesson goal to formalize their learning.

Lessons in Amplify Desmos Math New York are built around a structured approach to problem-based learning that systematically builds on students' curiosity to develop lasting grade-level understandings for all. Lessons begin by activating students' natural curiosity and offering opportunities to generate new ideas through collaboration using informal language. Teachers are then able to refine ideas through intentional facilitation and guide students to grade-level understandings, all while students retain the ability to use different strategies and methods to show their understanding of the content.

For example, in [Grade 2, Unit 1, Lesson 4](#), students generate ideas as a class about the connection between a tape diagram and an equation, and the teacher solidifies this understanding through a think-pair-share at the end of the activity and synthesis. In [Grade 5, Unit 1, Lesson 9](#), students explore strategies to find the volume of composite rectangular prisms and through collaborative sensemaking figure out that the volume is the same, no matter how the figure is composed.

As shown in these examples, the program provides teachers with clear step-by-step moves to support students in shifting from prior knowledge to grade-level learning, including early student thinking, discussion questions, and differentiation support. Powerful teacher facilitation tools additionally support teachers to view student thinking in real time, select and sequence student work, and guide productive student discussions.

A shared, low floor, high ceiling task provides cognitively demanding grade-level work to all learners.

In Amplify Desmos Math New York, students engage in low floor, high ceiling activities in each lesson that are designed to invite a variety of approaches and strategies. Students can participate in lesson activities at multiple levels as they work to build lasting grade-level understandings. Many lessons begin with a Warm-up activity that is built to allow students multiple entry points to engage with the mathematics and tools students will encounter in the lesson. Warm-ups might elicit information from their personal experience or intuition, remind them of a context they have seen before, invite them to think about the previous lesson, or preview a calculation that will appear in the current lesson. As they continue to engage with the cognitively demanding grade-level materials throughout the lesson, students are encouraged to discuss their own ideas and approaches to a problem, while teacher guidance supports teachers to anticipate a variety of strategies and connect them in meaningful ways. Included differentiation resources additionally enable teachers to provide targeted intervention to students who need additional practice or support.

For example, in [Kindergarten, Unit 2, Lesson 10](#), students can engage in the task by counting items individually, subitizing and counting on, or using the structure of the arrangement to compare the groups. For students who count items individually, the Teacher Edition provides questions and intervention resources to strengthen student understanding. In [Grade 4, Unit 1, Lesson 9](#), students can use a variety of strategies, from skip counting to using multiplication facts. Responsive Feedback moments along the way provide motivating feedback intended to support students' mathematical thinking as they try different strategies. This feedback illustrates visually why students might need to refine their answer and invites them to try again.

Students engage in discourse as the means to develop mathematical understanding and academic language.

Amplify Desmos Math New York lessons are powerful in their ability to elicit student thinking and spark interesting, productive discussions. Lessons pose problems that invite a variety of approaches, with dynamic and interactive learning experiences that are flexible, creative, and engaging. Students are encouraged to generate their own ideas and strategies to approach problems, and teachers receive detailed step-by-step guidance to anticipate and connect student ideas, guiding learners to lasting grade-level understandings.

For example, in [Grade 1, Unit 1, Lesson 7](#), students create conjectures about the sum of $n+1$ expressions and use the Mix and Mingle routine to talk to partners and test their conjectures. In [Grade 3, Unit 1, Lesson 15](#), students use the Notice and Wonder routine to compare single-unit bar graphs and scaled bar graphs. After students grapple with the concept in pairs, the teacher introduces vocabulary that students use to describe the mathematical tools.

The Launch, Monitor, Connect structure provides easy to follow facilitation moves, instructional routines, discussion questions, examples of early student thinking, and ideas for early finishers, ensuring teachers have the tools needed to learn from and engage with each other. Facilitation tools on the teacher dashboard give teachers the ability to see student thinking in real time so they can quickly select student work to share and guide productive student discussions.

Teachers work collaboratively to understand and implement shared High-Quality Instructional Materials.

Amplify Desmos Math New York provides a comprehensive suite of High Quality Instructional Materials that are standards-aligned and easy to use, ensuring that teachers do not have to rely on informal or self-published materials. The program resources include a multi-volume, consumable Student Edition with student pages for every lesson along with practice problems. Teachers can assign Student Activity Screens for digital lessons that take advantage of engaging interactions and Responsive Feedback. Students can also access Personalized Practice that adjusts to student learning. Teacher materials include a multi-volume Teacher Edition that includes all instructional supports, Teacher Presentation Screens, item banks, and a teacher dashboard that offers facilitation and progress monitoring tools. Teachers also have access to a suite of assessments that measure student understanding and provide teachers with targeted, actionable insights based on assessment results. These program resources ensure that teachers can spend time understanding and implementing resources shared in common rather than sourcing informal and inconsistent materials.

Professional development packages are also available to meet district and school specific needs and support teachers in understanding and implementing materials. Amplify Desmos Math New York professional development is designed to be scaffolded for participants in different stages of learning and differentiated for targeted audiences, and professional development takes advantage of a variety of modalities including onsite, remote, and asynchronous for maximum flexibility. Amplify offers pre-implementation sessions for educators to build and deepen their knowledge of a problem-based approach, supporting teachers' implementation of included program resources. Launch trainings subsequently orient teachers to the key components of Amplify Desmos Math New York, including learning how to navigate, teach, and monitor student progress, while exploring content and program resources. Following initial professional development, teachers and leaders can take advantage of Strengthen trainings, which offer a variety of topics such as planning support, instructional routines, and enhancing practice. This comprehensive suite of professional development resources ensures that teachers have ample support with understanding and implementing program resources.

Teachers use deep knowledge of their students and the content to provide asset-based supports that make struggle productive.

Amplify Desmos Math New York lessons are structured in a way that invites learners to engage in productive struggle and learn from mistakes as they grapple with new mathematical ideas. Lessons are built around low floor, high ceiling tasks that allow learners to apply their own prior knowledge and use informal language to solve novel problems. Responsive Feedback moments, like those in the Student Activity Screens in [Grade 5, Unit 1, Lesson 10](#), and step by step teacher moves that make use of examples of early student thinking help teachers guide students through productive struggle to solidify conceptual understanding of new topics. The print Teacher Edition and digital screens provide point of use asset based differentiation supports for teachers to use their knowledge of their students to support all learners as they engage in productive struggle. For example, the Teacher Edition in [Grade 1, Unit 1, Lesson 6](#) provides specific teacher moves to guide students who are almost there with their mathematical reasoning. In addition to specific differentiation recommendations that provide tips to stretch, strengthen, and support based on student needs, Amplify Desmos Math New York includes resources such as Personalized Practice, Centers, and Mini-Lessons. These included resources help all students access grade-level tasks in core lessons.