

Section I: K-12 Non-Negotiable Criteria for High-Quality Curricular Materials: Instruction

The instructional framework has a comprehensive scope and sequence that includes a direct order in which skills are presented and allow for continued practice to build automaticity, skills building from the simple to more complex, and how knowledge and skills build and connect across grade levels (including the Process Standards for Mathematics).

Desmos Math 6-8 is a rigorous curriculum with a scope and sequence based on Illustrative Mathematics® IM K–12™ and authored by the Desmos Classroom team. The program features a full year of lessons and assessments that promote mathematical curiosity and student engagement, building on the coherence and rigor of the IM program and following a tight, narrative arc. As each unit progresses, students are systematically introduced to representations, contexts, concepts, language, and notation. As their learning progresses, they make connections between different representations and strategies, consolidating their conceptual understanding, and see and understand more efficient methods of solving problems, supporting the shift toward procedural fluency.

Desmos Math also connects mathematical concepts by identifying previous grade level standards and connecting them to future grade level standards, for example:

- In [Grade 6, Unit 2](#), students apply their Grade 5 work with multiplication, division, and fractions to make sense of ratios, proportional relationships and unit rates.
- In [Grade 7, Unit 2](#), students apply their Grade 6 understanding of rates and ratios to proportional relationships.
- In [Grade 8, Unit 2](#), students connect Grade 7 work with scaled triangles to the slope of a line.

Each unit additionally contains a Unit Facilitation Guide that outlines connections to prior and future learning within the unit (ex. [Grade 8, Unit 3 Unit Facilitation Guide](#)).

At least 85% of units provide a balance of opportunities for students to build conceptual understanding, procedural fluency, and real-world application skills.

Desmos Math is designed to put student thinking at the center by posing problems that invite a variety of approaches before formalizing them. This method invites students' intuition and knowledge and supports them to develop conceptual fluency with more formal mathematics. Several structures in the curriculum help students to develop procedural fluency, from paper practice days to challenge creators, where students can challenge classmates to problems they have created. Most units additionally provide opportunities for students to apply what they have learned to new and engaging real-world contexts.

Desmos Math offers students the opportunity to build conceptual understanding through highly engaging visual tasks. For example, in [Grade 8, Unit 2, Lesson 9](#), students develop the concept of slope through trying to create a smooth water slide. In [Grade 7, Unit 5, Lesson 1](#), students develop the concept of adding and subtracting positive and negative integers by solving problems related to a submarine moving up and down. Many of the Desmos lessons

additionally emphasize multiple representations to support conceptual understanding. In [Grade 7, Unit 2, Lesson 11](#), students are invited to consider the multiple representations of proportional relationships in description, table, graph, and equation form. [Grade 6, Unit 3, Lesson 9](#) invites students to consider multiple representations of percentages in the form of number lines, tape diagrams, and tables. In [Grade 8, Unit 5, Lesson 5](#), students explore multiple representations of linear relationships in the form of a graph, table, and real world context.

Procedural skill and fluency are developed from conceptual understanding in Desmos Math 6-8. As students progress through the curriculum, they will have the opportunity to apply their conceptual understanding to solve problems with meaningful feedback intended to support the development of procedural skill. For example, in [Grade 7, Unit 5, Lesson 3](#), students learn about addition and subtraction of rational numbers conceptually using a number line and then develop their procedural skill and fluency with repeated challenges on screen 8. After developing the concept of decimal addition and subtraction in lesson 3, students in [Grade 6, Unit 5, Lesson 4](#) will further develop their procedural skill and have the opportunity for repeated practice on screen 8.

Units in Desmos Math offer a variety of opportunities for students to independently apply mathematical concepts in real-world situations. In particular, many units end with more independent activities after students have developed conceptual understanding related to the mathematical focus of the unit. For example, in [Grade 6, Unit 3, Lesson 13](#), students use unit rates and percentages to analyze characteristics of a country's population. In [Grade 7, Unit 2, Lesson 12](#), students use proportional relationships to analyze a problem about water usage. In [Grade 8, Unit 6, Lesson 11](#), students create a relative frequency table and a segmented bar graph that represent categorical data about federal budgets.

At least 95% of lessons include differentiated support to meet the needs of all students including, but not limited to, students with special learning needs and English Learners (e.g., linguistic scaffolds).

Desmos believes every student is brilliant, and that every student has brilliant mathematical ideas worth sharing and cultivating. This presumption of competence is the foundation of the curriculum's support for students with disabilities. Desmos Math 6–8 is designed to support and maximize students' strengths and abilities in the following ways:

- Each lesson is designed using the Universal Design for Learning (UDL) Guidelines. [Here](#) is more information on how Desmos Math 6–8 supports UDL.
- Each lesson includes strategies for accommodation and support based on the areas of cognitive functioning.
- Opportunities for extension and support are provided when appropriate.
- Most digital activities are screen reader friendly.

Each Desmos Math lesson embeds suggestions at point of use for instructional moves to support students with disabilities. These are intended to provide teachers with strategies to

increase access and eliminate barriers without reducing the mathematical demand of the task. In the curriculum, concepts are scaffolded by building from informal to formal. Each activity builds on prior learning, and new information is embedded in familiar contexts in order to support comprehension. Students are consistently provided with interpretive feedback that emphasizes the role of effort and practice in learning mathematics. Each lesson additionally includes opportunities for self-reflection, which helps to build students' metacognitive skills by monitoring their own progress.

Desmos Math 6–8 is based on low floor, high ceiling tasks that all students can successfully attempt to the degree that is best suited for them (at the discretion of the teacher). Because these types of tasks have multiple entry points, they are accessible to all students, particularly students in need of Tier 2 and Tier 3 intervention. These rich problems involve exploring and understanding the more profound nature of mathematical concepts as a by-product of solving the problem. This allows others to extend and enrich their thinking through [Challenge Creator/Class Gallery](#) and [Are you Ready for More?](#) Problems. Desmos Math 6-8 is additionally a fully editable curriculum, in which teachers have the opportunity to alter any lesson, screen, and/or paper support to meet the needs of all learners.

Desmos lessons contain a variety of interactive digital manipulatives that help students make sense of and model complex mathematical topics. For example, in [Grade 7, Unit 6, Lesson 5](#), students explore the importance of balancing moves when solving equations with a hanger manipulative. In another lesson, [Grade 7, Unit 7, lesson 2](#), students explore angle relationships through open-ended tasks involving polygon manipulatives.

Every lesson in Desmos Math incorporates opportunities for students to develop and use language as they grapple with new math ideas and is built to surface the many assets students bring to the classroom. When students are exploring a new mathematical idea, the curriculum's activities encourage them to use their own informal language to start and later guide students to make connections to more formal vocabulary and definitions. Many lessons invite students to bring their own knowledge and experiences to make sense of new math ideas. Desmos Math provides numerous opportunities for students to engage in all four language domains: speaking, listening, reading, and writing (e.g., text inputs, partner conversations, whole-class discussions). For example, in the Grade 7 lesson [Can You Build It?](#), students explore side lengths that do not create a triangle, describe their thinking in words, and then compare their ideas with others.

The Desmos platform provides opportunities for multiple types of student responses, many of which are open-ended text and math-input response types. The included teacher guides give specific suggestions on how to structure academic language discussions in the classroom using Mathematical Language Routines, and lessons contain a variety of group structures from whole class discussions to small group and partner work. The snapshot tool additionally allows teachers to collect student work to connect thinking and include prompts to spark discussion. The Desmos Math curriculum also has Spanish language translation and text to speech. Specific student supports can be found on screens throughout each digital lesson and in the lesson guide of each paper lesson.

Digital materials are web-based, compatible with a variety of internet browsers, and platform-neutral.

Desmos Math supports the most recent two versions of every popular browser on ChromeOS, Windows, and Apple devices. For a complete list, please see the article on [browser and system requirements](#).

Section II: K-12 Non-Negotiable Criteria for High-Quality Curricular Materials: Assessment

Formative assessments (e.g., classroom-based assessments, unit assessments, lesson-based summative assessments) are included within the instructional framework to continuously monitor progress and identify the skill level and needs of each student (e.g., assessments in students' home language when possible).

Desmos Math 6-8 includes pre-unit readiness checks, an informal assessment to help teachers see which concepts and skills from previous grades need to be bolstered in order for students to be successful. All units contain a quiz designed to provide teachers and students with information about what they know and what they are still working on learning. There are several additional formative assessment tools (e.g., teacher dashboard, written feedback) for teachers and students to use in order to monitor progress as students move through a unit.

Desmos Math additionally includes tests that vary in form and depth of knowledge, assessing both understanding of lesson problems and ability to apply knowledge to novel situations. Each lesson includes a Cool-Down that gives students the chance to show what they understood from the day's lesson and to reflect on their understanding of the math in the lesson. More information about Desmos Math's approach to assessment can be found [here](#).

Multiple types of formative and summative assessments are embedded throughout the materials, including but not limited to: projects, presentations, homework assignments, surveys, common misconceptions, tests, student self-assessments, and in-class discussion prompts.

There are several formative assessment tools for teachers and students to use to make adjustments within a unit. The teacher dashboard paints a picture of the class's understanding as a whole and highlights opportunities to check in with students individually during or after a lesson. Teachers can also provide feedback with the written feedback tool. In addition, each lesson includes a cool-down / exit ticket at the end, an opportunity for students to show what they individually understood about the main idea of the lesson. Teachers often use these results, along with the guidance in the teacher tips for each cool-down / exit ticket to plan upcoming lessons.

Students are additionally encouraged to show their understanding of material in a variety of ways, including but not limited to posters, challenge creators, practice problems, error analysis, and reflections. Some examples of these opportunities are as follows:

- [Grade 6, Unit 1, Lesson 8](#) contains a Polygraph activity, a game in which students describe polygons using informal language. This will support students in defining the characteristics of polygons later in the lesson.
 - In [Grade 7, Unit 8, Lesson 15](#), students make a poster to analyze data about asthma rates in different neighborhoods of New York.
 - In each lesson, students have the opportunity to reflect on their understanding of the lesson objective and their experience engaging in the lesson ([ex. Grade 8, Unit 3, Lesson 7](#)).
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Section III: K-12 Non-Negotiable Criteria for High-Quality Curricular Materials: Professional Development and Educator Support

At least one day of professional development opportunities and explicit guidance for implementation, coaching, and evaluation is provided.

Desmos Math 6-8 includes onboarding webinars, tutorials, and support to prepare teachers for launch, as well as access to the following:

- Unit overview webinars.
- Lesson preview emails.
- Curriculum email support help desk.
- Facebook community specifically for teachers using the curriculum.

A designated Desmos Math national coach will be assigned as well, who supports district-level leadership with implementation in the following ways:

- Facilitates frequent site contact meetings with district point-of-contact.
- Shares monthly teacher usage reports with site contact.
- Provides ongoing site contact support to ensure successful implementation.
- Joins site-level teaching meetings to answer questions and provide support on a quarterly basis.
- Facilitates meetings with other site contacts across your state (optional).

All lessons include guidance and resources designed specifically to build teachers' knowledge. Relevant supports might bolster aspects of content knowledge (e.g., math vocabulary, fundamental math theory) and pedagogical content knowledge (e.g., development of number sense or algebraic reasoning).

Each unit in Desmos Math 6-8 contains various resources to build teachers' content and pedagogical knowledge. Each unit offers a [Student Goals and Glossary](#) resource that clearly outlines the progression of the learning goals throughout the unit as well as definitions and examples of the important vocabulary for the unit. Teachers can also take advantage of each

unit's [Unit Overview Video](#) and [Guided Notes](#). These resources guide teachers through thinking about the learning progressions that lead up to and follow the unit's content, highlight key lessons and activities in the unit, and offer suggestions for supporting student understanding. Easy to access sample responses in the digital screens additionally support teachers' pedagogical content knowledge, allowing them to complete activities as students to explore the various strategies that students might bring to the classroom.

All materials have clear and direct instructions that connect all curricular resources.

Each course is designed with consistency and ease of use for teachers and students. At the course level, teachers can access [At-a-Glance](#) documents that outline the course at a high level as well as the necessary materials. Each unit includes teacher resources (e.g., Facilitation Guides, Unit Overview Videos, Cool-Down activities), student resources (e.g., Student Goals and Glossary), admin resources (e.g., [admin guide](#)), and [family resources](#). Teachers have access to all grade levels' content, providing students with opportunities to access prior learning and progress content knowledge. Materials supporting coherence and connection include year at a glance documents, [standard alignments](#), and unit facilitation guides. The easy to use Desmos Math platform provides teachers with all of these resources, along with all lesson and assessment materials, in one centralized location.

All lesson scripts/explanations are provided with explicit guidance to teach each concept in a systematic, cumulative way.

Each lesson contains a Teacher Guide or Lesson Guide as well as an At a Glance modal that provides an overview of the lesson and includes the length and the goals of each activity. More information about Lesson Guides and teacher tips can be found [here](#).

Section IV: K-12 Optional Criteria for High-Quality Curricular Materials

Materials include experiential learning opportunities including hands-on activities, opportunities for reflection, and authentic problems.

Desmos Math 6–8 is a problem-based program where students explore problems that create an intellectual need for new mathematical ideas, at which point the teacher highlights strategies students developed to solve the problem or offer an explanation. The lessons pose problems that invite a variety of approaches, moving through conceptual, representational abstract understanding. The platform's innovative technology helps teachers celebrate and develop valuable and interesting thinking in their classrooms. Real world scenarios are used in almost every Desmos activity to promote engagement and connections.

The Desmos Curriculum invites students to view mathematics in highly engaging visual contexts with meaningful feedback intended to spark student thinking and reflection. For example, in [Grade 8, Unit 4, Lesson 11](#), students are given feedback through modeling an equation depending on the values they select. The model helps students make sense of solving equations while the hanger provides meaningful feedback intended to assist students in

persevering in solving the problem. Digital lessons incorporate interpretive feedback to show students the meaning of their own thinking and offer opportunities for students to learn from each other's responses. Paper lessons (e.g. [Grade 6, Unit 2, Lesson 14](#)) often include movement around the classroom or other social features to support students in seeing each other's brilliant ideas and reflect upon their own work. Each lesson additionally provides space for students to reflect on their understanding of the math in the lesson.