



**Quality Instructional
Materials Tool:
High School
Mathematics**

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About EdReports.org

Our Mission: EdReports.org is an independent nonprofit designed to improve K-12 education. EdReports.org increases the capacity of teachers, administrators, and leaders to seek, identify, and demand the highest quality instructional materials. Drawing upon expert educators, our reviews of instructional materials and support of smart adoption processes equip teachers with excellent materials nationwide.

Our Vision: All students and teachers will have access to the highest quality instructional materials that will help improve student learning outcomes.

Our Theory of Action: Credible information against quality criteria in a quickly changing marketplace helps educators make better purchasing decisions and improve student performance. Identifying excellence and improving demand for high quality, aligned instructional materials will improve the supply of quality materials over time, leading to better student achievement outcomes.

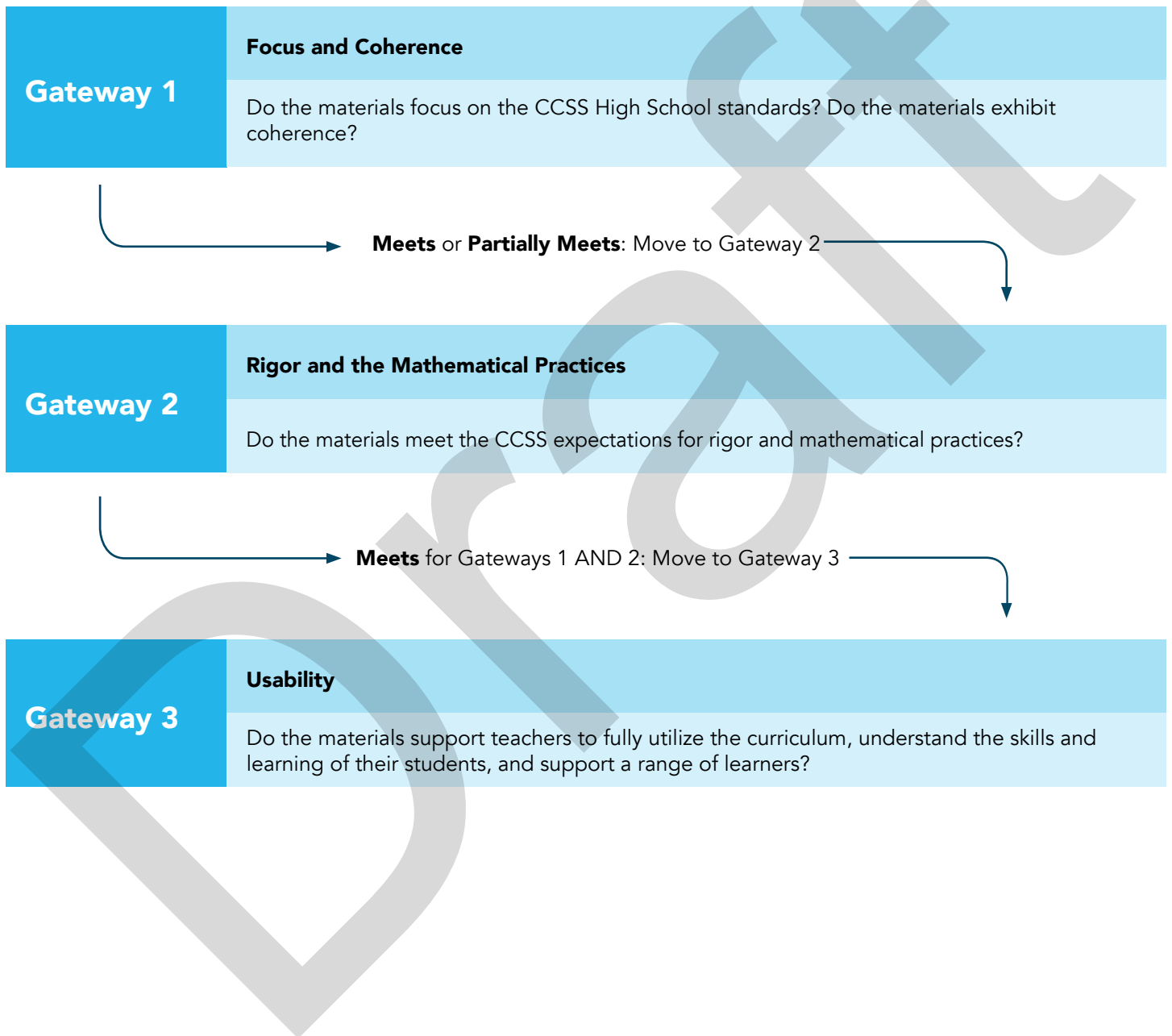
About Our Review Tools

EdReports reviewers use these review tools to create free, evidence-rich reports available on EdReports.org. These reports are developed to provide educators, stakeholders, and leaders with independent, evidence-rich information about the quality of instructional materials from those who will be using them in classrooms. Expert educators use our tools to evaluate full sets of instructional materials against criteria (see Figure 1). The tools are built from the experience of educators, curriculum experts, and leading rubric developers and organizations that have conducted reviews of instructional materials, lessons, and tasks.

To create our review tools, EdReports utilizes information from the Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS). We also conduct research into the application of commonly used rubrics, gather input from hundreds of educators during nationwide listening tours, interview content experts, and convene Anchor Educator Working Groups of expert practitioners. Continuous improvement is important to this development, and each tool is used with multiple sets of materials before being finalized. In addition, the Anchor Educator Working Group has the opportunity to refine the tools after the initial round of implementation.

EdReports' Quality Instructional Materials Tool for year-long comprehensive programs has three major gateways (see Figure 1) to guide the evaluation process. Reviewers apply the three gateways sequentially to ensure EdReports reports convey to the field the extent to which materials are CCSS-aligned or designed for the NGSS, and are usable by educators. Those materials that meet or partially meet the expectations for Gateway 1 will move to Gateway 2. Only those materials that meet the expectations for both Gateway 1 and Gateway 2 (Alignment Indicators) will move to Gateway 3 (Usability Indicators).

Figure 1: Gateway Evaluation Process for Review of Mathematics Materials (High School)



Gateway 1

Focus and Coherence

To identify the Gateway rating, educators use evidence gathered to score indicators related to each criterion.

REMINDER:

- Materials must "Meet Expectations" or "Partially Meet Expectations" in Gateway 1 to be reviewed in Gateway 2.
- Materials must "Meet Expectations" in BOTH Gateway 1 and Gateway 2 to be reviewed in Gateway 3.

Materials focus on the CCSS High School standards and exhibit coherence.

Gateway 1 Overview		Available Points
Criterion 1.1: Focus and Coherence Indicators 1a-1f Materials are coherent and consistent with "the high school standards that specify the mathematics which all students should study in order to be college and career ready" (p. 57 CCSSM).		18
Total Available Points in Gateway 1	18	Meets: 14-18 Partially Meets: 10-13 Does Not Meet: <10

**▶ Criterion 1.1:
Focus and Coherence**

Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 CCSSM).

Indicators	Scoring
1a. Materials focus on the high school standards.	
1ai. Materials attend to the full intent of the mathematical content in the high school standards for all students.	0 2 4
1a.ii. Materials attend to the full intent of the modeling process when applied to the modeling standards.	0 1 2
1b. Materials provide students with opportunities to work with all high school standards and do not distract students with prerequisite or additional topics.	
1bi. Materials, when used as designed, allow students to spend the majority of their time on the content from CCSSM widely applicable as prerequisites for a range of college majors, postsecondary programs, and careers.	0 1 2
1b.ii. Materials when used as designed allow students to fully learn each standard.	0 2 4
1c. Materials require students to engage in mathematics at a level of sophistication appropriate to high school.	0 1 2
1d. Materials are mathematically coherent and make meaningful connections in a single course and throughout the series, where appropriate and where required by the Standards.	0 1 2
1e. Materials explicitly identify and build on knowledge from Grades 6-8 to the High School Standards.	0 1 2
1f. The plus (+) standards, when included, are explicitly identified and coherently support the mathematics which all students should study in order to be college and career ready.	Narrative Evidence Only

Gateway 1 Total	Total Available Points	18	Meets: 14-18 Partially Meets: 10-13 Does Not Meet: <10
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Gateway 2

Rigor and the Mathematical Practices

To identify the Gateway rating, educators use evidence gathered to score indicators related to each criterion.

REMINDER:

- Materials must "Meet Expectations" or "Partially Meet Expectations" in Gateway 1 to be reviewed in Gateway 2.
- Materials must "Meet Expectations" in BOTH Gateway 1 and Gateway 2 to be reviewed in Gateway 3.

Materials align with CCSS expectations for rigor and mathematical practices.

Gateway 2 Overview		Available Points
Criterion 2.1: Rigor and Balance Indicators 2a-2d Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.		8
Criterion 2.2: Practice-Content Connections Indicators 2e-2h Materials meaningfully connect the Standards for Mathematical Content and Standards for Mathematical Practice (MPs).		8
Total Available Points in Gateway 2	16	Meets: 14-16 Partially Meets: 10-13 Does Not Meet: <10

▶ Criterion 2.1: Rigor and Balance

Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.

Indicators	Scoring
2a. Attention to Conceptual Understanding: Materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.	0 1 2
2b. Attention to Procedural Skill and Fluency: Materials support intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters.	0 1 2
2c. Attention to Applications: Materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.	0 1 2
2d. Balance: The three aspects of rigor are not always treated together and are not always treated separately. The three aspects are balanced with respect to the standards being addressed.	0 1 2

Total Available Points	8	Meets: 7-8 Partially Meets: 5-6 Does Not Meet: <5
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**▶ Criterion 2.2:
Practice-Content Connections**

Materials meaningfully connect the Standards for Mathematical Content and Standards for Mathematical Practice (MPs).

Indicators	Scoring
2e. Materials support the intentional development of overarching, mathematical practices (MPs 1 and 6), in connection to the high school content standards, as required by the mathematical practice standards.	0 1 2
2f. Materials support the intentional development of reasoning and explaining (MPs 2 and 3), in connection to the high school content standards, as required by the mathematical practice standards.	0 1 2
2g. Materials support the intentional development of modeling and using tools (MPs 4 and 5), in connection to the high school content standards, as required by the mathematical practice standards.	0 1 2
2h. Materials support the intentional development of seeing structure and generalizing (MPs 7 and 8), in connection to the high school content standards, as required by the mathematical practice standards.	0 1 2

Total Available Points	8	Meets: 7-8 Partially Meets: 4-6 Does Not Meet: <4
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Gateway 2 Total	Total Available Points	16	Meets: 14-16 Partially Meets: 10-13 Does Not Meet: <10
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Gateway 3

Usability

To identify the Gateway rating, educators use evidence gathered to score indicators related to each criterion.

REMINDER:

- Materials must “Meet Expectations” or “Partially Meet Expectations” in Gateway 1 to be reviewed in Gateway 2.
- Materials must “Meet Expectations” in BOTH Gateway 1 and Gateway 2 to be reviewed in Gateway 3.

Materials support teachers to fully utilize the curriculum, understand the skills and learning of their students, and support a range of learners.

Gateway 3 Overview		Available Points
Criterion 3.1: Teacher Supports Indicators 3a-3h Teacher Supports identifies opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.	9	
Criterion 3.2: Assessment Indicators 3i-3m Assessment identifies how materials provide tools, guidance, and support for teachers to collect, interpret, and act on data about student progress towards the standards.	12	
Criterion 3.3: Student Supports Indicators 3n-3y Student Supports identifies how materials are designed for each child’s regular and active participation in grade-level/grade-band/series content.	11	
Criterion 3.4: Intentional Design Indicators 3z-ac Intentional Design identifies how materials support students and teachers with a visual design that is engaging and references or integrates digital technology (when applicable), with guidance for teachers.	Narrative Evidence Only	
Total Available Points in Gateway 3	32	Meets: TBD Partially Meets: TBD Does Not Meet: TBD

**▶ Criterion 3.1:
Teacher Supports**

Teacher Supports identifies opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.

Indicators	Scoring
3a. Materials provide teacher guidance with useful annotations and suggestions for how to enact the student materials and ancillary materials, with specific attention to engaging students to guide their mathematical development.	0 1 2
3b. Materials provide a teacher’s edition that contains full, adult-level explanations, and examples when necessary, of the more advanced concepts so that teachers can improve their own knowledge of the subject.	0 1 2
3c. Materials provide a teacher’s edition that includes standards correlation information and explains the role of the standards in the context of the overall series.	0 1 2
3d. Materials provide strategies for informing all stakeholders, including students, parents, or caregivers about the program and suggestions for how they can help support student progress and achievement.	Narrative Evidence Only
3e. Materials provide explanations of the instructional approaches of the program and identification of the research-based strategies.	0 1 2
3f. Materials provide a comprehensive list of supplies needed to support instructional activities.	0 1
3g. <i>This is not an assessed indicator in Mathematics.</i>	
3h. <i>This is not an assessed indicator in Mathematics.</i>	

Total Available Points	9	Meets: TBD Partially Meets: TBD Does Not Meet: TBD
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▶ Criterion 3.2: Assessment

Assessment identifies how materials provide tools, guidance, and support for teachers to collect, interpret, and act on data about student progress towards the standards.

Indicators	Scoring
3i. Assessment information is included in the materials to indicate which standards are assessed.	0 2 4
3j. Assessments provide aligned rubrics and scoring guidelines that include sufficient guidance to teachers for interpreting student performance on assessments and suggestions for follow-up.	0 2 4
3k. Assessments include a variety of item types to measure grade-level/series standards.	0 1 2
3l. Assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment.	Narrative Evidence Only
3m. Assessments provide a system including multiple opportunities throughout the grade, course, and/or series to determine what students are learning and what they have learned.	0 1 2

Total Available Points	12	Meets: TBD Partially Meets: TBD Does Not Meet: TBD
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▶ Criterion 3.3: Student Supports

Student Supports identifies how materials are designed for each child's regular and active participation in grade-level/grade-band/series content.

Indicators	Scoring
3n. Materials regularly provide strategies and supports for students with unfinished learning to regularly participate and engage in learning grade-level/series mathematics.	0 1 2
3o. Materials provide strategies and supports for students in special populations to support their regular and active participation in learning grade-level/series mathematics.	0 1 2
3p. Materials provide extensions and/or opportunities for students to engage with grade-level/series mathematics at greater depth.	0 1 2
3q. Materials provide varied approaches to learning tasks over time and variety in how students are expected to demonstrate their learning.	Narrative Evidence Only
3r. Materials provide opportunities for students to monitor their own learning.	0 1
3s. Materials provide opportunities for teachers to use a variety of grouping strategies.	Narrative Evidence Only
3t. Materials provide strategies and supports for students who read, write, and/or speak in a language other than English to support their regular and active participation in learning grade-level mathematics.	0 1 2
3u. Materials provide a balance of images or information about people, representing various demographic and physical characteristics.	Narrative Evidence Only
3v. Materials provide guidance to encourage teachers to draw upon student home language to facilitate learning.	Narrative Evidence Only
3w. Materials provide guidance to encourage teachers to draw upon student cultural and social backgrounds to facilitate learning.	Narrative Evidence Only
3x. Materials provide supports for different reading levels to ensure accessibility for students.	Narrative Evidence Only
3y. Manipulatives, both virtual and physical, are faithful representations of the mathematical objects they represent and when appropriate are connected to written methods.	0 1 2

Total Available Points

11

Meets: TBD
Partially Meets: TBD
Does Not Meet: TBD

▶ Criterion 3.4: Intentional Design

Intentional Design identifies how materials support students and teachers with a visual design that is engaging and references or integrates digital technology (when applicable), with guidance for teachers.

Indicators	Scoring
3z. Materials integrate technology such as interactive tools, virtual manipulatives/objects, and/or dynamic mathematics software in ways that engage students in the grade-level/series standards, when applicable.	Narrative Evidence Only
3aa. Materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable.	Narrative Evidence Only
3ab. The visual design (whether in print or digital) supports students in engaging thoughtfully with the subject, and is neither distracting nor chaotic.	Narrative Evidence Only
3ac. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable.	Narrative Evidence Only

Total Available Points	Narrative Evidence Only	Meets: n/a Partially Meets: n/a Does Not Meet: n/a
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Gateway 3 Total	Total Available Points	32	Meets: TBD Partially Meets: TBD Does Not Meet: TBD
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