



Core Content Review Criteria v2.0

Science

High School

About EdReports

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: If we identify excellence and increase demand for excellence, then we increase the number of students in classrooms with high-quality instructional materials.

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 the 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' Review Criteria 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 (Teacher and Student Supports).

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

Gateway 1	Designed for NGSS
	Do materials leverage science phenomena and engineering problems in the context of driving learning and student performance?
	Are materials designed for three-dimensional learning and assessment?

Meets or Partially Meets: Move to Gateway 2

Gateway 2	Coherence and Scope
	Are materials coherent in design, scientifically accurate, and do they support grade-band endpoints made for all three dimensions?

Meets for Gateways 1 AND 2: Move to Gateway 3

Gateway 3	Teacher & Student Supports
	Do materials include opportunities for teachers to effectively plan and utilize with integrity to further develop their own understanding of the content?
	Are materials designed for each child's regular and active participation in grade-level/grade-band/series content?
	Do materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers?

Gateway 1

Designed for NGSS

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 leverage science phenomena and engineering problems in the context of driving learning and student performance and are designed for three-dimensional learning and assessment.

Gateway 1 Overview	Available Points	
Criterion 1.1: Phenomena and Problems Drive Learning Indicators 1a-1e Materials leverage science phenomena and engineering problems in the context of driving learning and student performance.	16	
Criterion 1.2: Three-Dimensional Learning and Assessment Indicators 1f-1k Materials are designed for three-dimensional learning and assessment.	18	
Total Available Points in Gateway 1	34	Meets: 29-34 Partially Meets: 17-28 Does Not Meet: <17

Criterion 1.1
Phenomena and Problems
Drive Learning

Materials leverage science phenomena and engineering problems in the context of driving learning and student performance.

Indicators + Scoring Criteria	Scoring
1a. Materials are designed to include both phenomena and problems.	0 2 4
1b. Phenomena or problems require student use of grade-band Disciplinary Core Ideas.	0 1 2
1c. Phenomena and/or problems are presented in a direct manner to students.	0 1 2
1d. Materials intentionally leverage students' prior knowledge and/or experiences related to phenomena or problems.	0 1 2
1e. Phenomena and/or problems drive student learning using key elements of all three dimensions.	0 3 6

Materials must meet the expectations of all scoring criteria in order to receive full points for the indicator.

Total Available Points	16	Meets: 14-16 Partially Meets: 8-13 Does Not Meet: <8
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Criterion 1.2
Three-Dimensional Learning and Assessment

Materials are designed for three-dimensional learning and assessment.

Indicators + Scoring Criteria	Scoring
1f. Materials are designed to incorporate the three dimensions in student learning opportunities.	0 1 2
1g. Materials consistently support meaningful student sensemaking with the three dimensions.	0 2 4
1h. Materials clearly represent three-dimensional learning objectives within the learning sequences.	0 1 2
1i. Materials include a formative assessment system that is designed to reveal student progress on targeted learning objectives.	0 2 4
1j. Materials include a summative assessment system designed to elicit direct, observable evidence of student achievement of claimed assessment standards.	0 2 4
1k. Materials are designed to incorporate three-dimensional assessments that incorporate uncertain phenomena or problems.	0 1 2

Materials must meet the expectations of all scoring criteria in order to receive full points for the indicator.

Total Available Points	18	Meets: 15-18 Partially Meets: 9-14 Does Not Meet: <9
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Total Available Points in Gateway 1	34	Meets: 29-34 Partially Meets: 17-28 Does Not Meet: <17
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Gateway 2

Coherence and Scope

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 are coherent in design, scientifically accurate, and support grade-band endpoints made for all three dimensions.*

* NOTE: Indicators 2d-2e are non-negotiable; materials being reviewed must score above zero points in each indicator, otherwise the materials automatically do not proceed to Gateway 3.

** NOTE: Indicators 2b and/or 2c will address NGSS Connections to Nature of Science and Engineering, if claimed by the program.

Gateway 2 Overview	Available Points
<p>Criterion 2.1: Coherence and Full Scope of the Three Dimensions Indicators 2a-2h</p> <p>Materials are coherent in design, scientifically accurate, and support grade-band endpoints made for all three dimensions.*</p> <p>* NOTE: Indicators 2d-2e are non-negotiable; materials being reviewed must score above zero points in each indicator, otherwise the materials automatically do not proceed to Gateway 3.</p> <p>** NOTE: Indicators 2b and/or 2c will address NGSS Connections to Nature of Science and Engineering, if claimed by the program.</p>	32
Total Available Points in Gateway 2	32 Meets: 27-32 Partially Meets: 16-26 Does Not Meet: <16

Criterion 2.1
Coherence and Scope

Materials are coherent in design, scientifically accurate, and support grade-band endpoints made for all three dimensions.

Indicators + Scoring Criteria	Scoring
2a. Materials provide opportunities for students to fully learn and develop all claimed grade-band Disciplinary Core Ideas.	0 4 8
2b. Materials provide opportunities for students to fully learn and develop all claimed grade-band Science and Engineering Practices.	0 4 8
2c. Materials provide opportunities for students to fully learn and develop all claimed grade-band Crosscutting Concepts.	0 4 8
2d. Materials present Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs) in a way that is scientifically accurate.*	0 1 2
2e. Materials do not inappropriately include scientific content and ideas outside of the grade-band Disciplinary Core Ideas.*	0 1 2
2f. <i>This is not an assessed indicator in High School Science.</i>	
Note: Indicators 2b and/or 2c will address NGSS Connections to Nature of Science and Engineering, if claimed by the program.	
2g. Materials support understanding of how the dimensions connect across contexts.	0 1 2
2h. Materials are designed for student tasks related to explaining phenomena and/or solving problems to increase in sophistication.	0 1 2

Materials must meet the expectations of all scoring criteria in order to receive full points for the indicator.

*NOTE: Indicators 2d-2e are non-negotiable; materials being reviewed must score above zero points in each indicator, otherwise the materials automatically do not proceed to Gateway 3.

Total Available Points	32	Meets: 27-32 Partially Meets: 16-26 Does Not Meet: <16
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Total Available Points in Gateway 2	32	Meets: 27-32 Partially Meets: 16-26 Does Not Meet: <16
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Gateway 3

Teacher & Student Supports

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	
<p>Criterion 3.1: Teacher Supports Indicators 3a-3i</p> <p>The program includes opportunities for teachers to effectively plan and utilize materials with integrity to further develop their own understanding of the content.</p>	14	
<p>Criterion 3.2: Student Supports Indicators 3j-3q</p> <p>The program includes materials designed for each child’s regular and active participation in grade-level/grade-band/series content.</p>	4	
<p>Criterion 3.3: Intentional Design Indicators 3r-3u</p> <p>The program includes a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.</p>	Narrative Evidence Only	
Total Available Points in Gateway 3	18	Meets: 16-18 Partially Meets: 9-15 Does Not Meet: <9

**Criterion 3.1
Teacher Supports**

The program includes opportunities for teachers to effectively plan and utilize materials with integrity to further develop their own understanding of the content.

Indicators + Scoring Criteria	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 in figuring out phenomena and solving problems.	0 1 2
3b. Materials contain explanations and examples of grade-level/course-level concepts and/or standards and how the concepts and/or standards align to other grade/course levels so that teachers can improve their own knowledge of the subject.	0 1 2
3c. Materials include standards correlation information, including connections to college- and career-ready ELA and mathematics standards, that 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. The assessment system provides consistent opportunities to determine student learning throughout the school year. The assessment system provides sufficient teacher guidance for evaluating student performance and determining instructional next steps.	0 2 4
3h. Materials provide clear science safety guidelines for teachers and students across the instructional materials.	0 1
3i. Materials designated for each grade are feasible and flexible for one school year.	Narrative Evidence Only

Materials must meet the expectations of all scoring criteria in order to receive full points for the indicator.

Total Available Points	14	Meets: 12-14 Partially Meets: 7-11 Does Not Meet: <7
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Criterion 3.2
Student Supports

The program includes materials designed for each student's regular and active participation in grade-level/grade-band/series content.

Indicators + Scoring Criteria	Scoring
3j. Materials provide strategies and supports for students in special populations to support their regular and active participation in learning grade-level/band science and engineering.	0 1 2
3k. Materials provide extensions and/or opportunities for students to engage in learning grade-level/band science and engineering at greater depth.	0 1 2
3l. Materials provide varied approaches to learning tasks over time and variety in how students are expected to demonstrate their learning with opportunities for students to monitor their learning.	Narrative Evidence Only
3m. Materials provide opportunities for teachers to use a variety of grouping strategies.	Narrative Evidence Only
3n. Assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment.	Narrative Evidence Only
3o. Materials provide a range of representation of people and include detailed instructions and support for educators to effectively incorporate and draw upon students' different cultural, social, and community backgrounds to enrich learning experiences.	Narrative Evidence Only
3p. Materials provide supports for different reading levels to ensure accessibility for students.	Narrative Evidence Only
3q. <i>This is not an assessed indicator in Science.</i>	

Materials must meet the expectations of all scoring criteria in order to receive full points for the indicator.

Total Available Points	4	Meets: 4 Partially Meets: 2-3 Does Not Meet: <2
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Criterion 3.3
Intentional Design

The program includes a visual design that is engaging and references or integrates digital technology, when applicable, with

Indicators + Scoring Criteria	Scoring
3r. Materials integrate interactive tools and/or dynamic software in ways that support student engagement in the three dimensions, when applicable.	Narrative Evidence Only
3s. Materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable.	Narrative Evidence Only
3t. 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
3u. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable.	Narrative Evidence Only

Materials must meet the expectations of all scoring criteria in order to receive full points for the indicator.

Total Available Points	Narrative Evidence Only
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Total Available Points in Gateway 3	18	Meets: 16-18 Partially Meets: 9-15 Does Not Meet: <9
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