edreports

Core Content Review Criteria v2.0

Science

Grades 6-8

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).

A Note About Publishing Review Criteria Before Starting Reviews: This is the first time EdReports has made criteria publicly available before starting reviews. We made this decision for two main reasons: first, to provide equal access to all publishers of comprehensive, K–12 instructional materials to inform their planning for forthcoming program revisions. Second, to give states, districts, and partner organizations the earliest possible opportunity to consult these documents in support of their work to advise and conduct materials adoptions that align with local needs and policy requirements.

Please note that all version 2.0 Review Criteria are in a "final draft" state. They represent a robust foundation, but they remain subject to ongoing refinements until the publication of the first reports using the updated criteria. Over the course of the review process for each content area and grade band, we will fine-tune the criteria to maximize clarity and practical use for our educator reviewers.

Figure 1: Gateway Evaluation Process for Review of Science Materials (Grades 6-8)

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: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

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. ● Materials consistently provide learning opportunities that include phenomena or problems.	0 2 4
1b. Phenomena or problems require student use of grade-band Disciplinary Core Ideas. ● Phenomena and problems consistently connect to grade-band appropriate DCIs or their elements.	0 1 2
1c. Phenomena and/or problems are presented in a direct manner to students. ● Materials consistently present phenomena and/or problems in a direct manner to students.	0 1 2
1d. Materials intentionally leverage students' prior knowledge and/or experiences related to phenomena or problems. ● Materials consistently elicit and leverage students' prior knowledge and/or experience related to phenomena and problems.	0 1 2
1e. Phenomena and/or problems drive student learning using key elements of all three dimensions. ● Materials consistently use phenomena or problems to drive student learning. ● Materials consistently use phenomena or problems to engage with 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: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

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. ● Learning sequences consistently include student learning opportunities that incorporate the three dimensions.	0 1 2
1g. Materials consistently support meaningful student sensemaking with the three dimensions. ● Materials are designed for the three dimensions to consistently and meaningfully support student sensemaking across the learning sequences. ● Materials consistently provide opportunities for students to iterate on their thinking as they engage in sensemaking.	0 2 4
1h. Materials clearly represent three-dimensional learning objectives within the learning sequences. ● The materials consistently provide element-level three-dimensional learning objectives. ● Materials consistently provide opportunities for students to use and engage with the elements of the three dimensions present in the objectives.	0 1 2
1i. Materials include a formative assessment system that is designed to reveal student progress on targeted learning objectives. ● The formative assessments are consistently designed to reveal student progress on the targeted learning objectives.	0 2 4
1j. Materials include a summative assessment system designed to elicit direct, observable evidence of student achievement of claimed standards. ● Materials consistently identify the standards assessed for summative assessments. ● The summative assessment system is designed to measure student achievement of all or nearly all of the claimed assessment standards.	0 2 4
1k. Materials are designed to incorporate three-dimensional assessments that incorporate uncertain phenomena or problems. ● Materials consistently provide assessments that integrate the three dimensions. ● Assessments consistently 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: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

Total Available Points in Gateway 1	34	Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

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.

Gateway 2 Overview		Available Points
Criterion 2.1: Coherence and Full Scope of the Three Dimensions Indicators 2a-2h 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.		34
Total Available Points in Gateway 2	34	Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

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 grade-band Disciplinary Core Ideas.	
2a.i. Physical Sciences • Materials provide opportunities for students to fully learn and develop nearly all associated elements of the grade-band Physical Science DCIs.	0 1 2
2a.ii. Life Sciences • Materials provide opportunities for students to fully learn and develop nearly all associated elements of the grade-band Life Science DCIs.	0 1 2
2a.iii. Earth and Space Sciences • Materials provide opportunities for students to fully learn and develop nearly all associated elements of the grade-band Earth and Space Science DCIs.	0 1 2
2a.iv. Engineering, Technology, and Applications of Science • Materials provide opportunities for students to fully learn and develop nearly all associated elements of the grade-band Engineering, Technology, and Applications of Science DCIs.	0 1 2
2b. Materials provide opportunities for students to fully learn and develop all grade-band Science and Engineering Practices. • Materials provide opportunities for students to fully learn and develop all grade-band SEPs and nearly all associated grade-band elements. • Materials consistently provide multiple and repeated opportunities for students to use grade-band SEPs across various contexts.	0 4 8
2c. Materials provide opportunities for students to fully learn and develop all grade-band Crosscutting Concepts. • Materials provide opportunities for students to fully learn and develop all grade-band CCCs and nearly all associated grade-band elements. • Materials consistently provide multiple and repeated opportunities for students to use grade-band CCCs across various contexts.	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.* • Materials consistently present all three dimensions in a scientifically accurate manner. • Assessments consistently present all three dimensions in a scientifically accurate manner.	0 1 2
2e. Materials do not inappropriately include scientific content and ideas outside of the grade-band Disciplinary Core Ideas.* • Materials contain no instances where non-scientific content or ideas (e.g., moral, societal, aesthetic, religious, existential) are included as science ideas. • Materials contain few instances where scientific content or ideas are included without meaningful connections to grade-band DCIs. • Materials contain no instances of DCIs from below the grade-band that are included without meaningful connections made to the grade-band DCIs. • Materials contain no instances of content from beyond the grade-band DCIs that are included without meaningful connections made to the grade-band DCIs.	0 1 2
2f. Materials incorporate NGSS Connections to Nature of Science and Engineering. • Materials incorporate grade-band NGSS Connections to Nature of Science and Engineering within learning opportunities. Elements from all three of the following categories are included in the materials for the grade band: ○ grade-band Nature of Science elements associated with SEPs, ○ grade-band Nature of Science elements associated with CCCs, ○ grade-band Engineering elements associated with CCCs.	0 1 2
2g. Materials support understanding of how the dimensions connect across contexts. • Materials consistently demonstrate how the dimensions connect across contexts by describing connections for students AND/OR providing support for teachers to help students understand	0 1 2

connections.	
2h. Materials are designed for student tasks related to explaining phenomena and/or solving problems to increase in sophistication. • Student tasks related to explaining phenomena and/or solving problems consistently increase in sophistication across the grade-band.	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	34	Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

Total Available Points in Gateway 2	34	Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

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
Criterion 3.1: Teacher Supports Indicators 3a-3i Materials include opportunities for teachers to effectively plan and utilize with integrity to further develop their own understanding of the content.	14
Criterion 3.2: Student Supports Indicators 3j-3q Materials are designed for each child’s regular and active participation in grade-level/grade-band/series content.	4
Criterion 3.3: Intentional Design Indicators 3r-3u Materials include 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	18
Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX	

Criterion 3.1 Teacher Supports	Materials include opportunities for teachers to effectively plan and utilize 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. ● Materials provide comprehensive guidance that will assist teachers in presenting the student and ancillary materials. ● Materials include sufficient and useful annotations and suggestions that are presented within the context of the specific learning objectives.	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. ● Materials contain explanations and examples of grade/course-level concepts and/or standards so that teachers can improve their own knowledge of the subject. ● Materials contain explanations and examples of 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. ● Correlation information is present for the science standards addressed throughout the grade level/series. ● Correlation information and explanations of the role of the specific grade-level/grade-band ELA and mathematics standards are present in the context of the 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. ● Materials contain strategies for informing students, parents, or caregivers about the program. ● Materials contain suggestions for how parents or caregivers can help support student progress and achievement. ● Materials for parents and caregivers (like letters home) have been translated into languages other than English.	Narrative Evidence Only
3e. Materials provide explanations of the instructional approaches of the program, identify the research-based strategies, and explain the role of the standards. ● Materials explain the instructional approaches of the program. ● Materials include and reference research-based strategies. ● Materials include and reference the role of the standards in the program.	0 1 2
3f. Materials provide a comprehensive list of supplies needed to support instructional activities. ● Materials include a comprehensive list of supplies needed to support the 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. ● The assessment system consistently provides opportunities to determine student learning throughout the school year. ● The assessment system consistently provides sufficient teacher guidance for evaluating student performance. ● The assessment system consistently provides sufficient teacher guidance for interpreting student performance and determining next instructional steps.	0 2 4
3h. Materials provide clear science safety guidelines for teachers and students across the instructional materials. ● Materials embed 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. • 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: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

Criterion 3.2 Student Supports	Materials are designed for each child'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 work with grade-level content and meet or exceed grade-level standards, which support their regular and active participation in learning grade-level/band science and engineering. • Materials regularly provide strategies, supports, and resources for students in special populations to support their regular and active participation and engagement in grade-level/grade-band science and engineering.	0 1 2
3k. Materials regularly provide extensions and/or opportunities for students to engage in learning grade-level/band science and engineering at greater depth. • Materials regularly provide multiple extensions and/or opportunities for advanced students to engage in grade-level/grade-band science at a greater depth. • No instances of advanced students doing more assignments than their classmates.	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. • Materials provide varied tasks for students to show their thinking and make meaning. • Students have opportunities to share their thinking, to demonstrate changes in their thinking over time, and to apply their understanding in new contexts. • Materials leverage the use of a variety of formats over time to deepen student understanding and ability to explain and apply literacy ideas. • Materials provide for ongoing review, practice, self-reflection, and feedback. Materials provide multiple strategies, such as oral and/or written feedback, peer or teacher feedback, and self-reflection. • Materials provide a clear path for students to monitor and move their own learning.	Narrative Evidence Only
3m. Materials provide opportunities for teachers to use a variety of grouping strategies. • Materials provide grouping strategies for students. • Materials provide guidance for varied types of interaction among students. • Materials provide guidance for the teacher on grouping students in a variety of grouping formats.	Narrative Evidence Only
3n. Assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment. • Materials offer accommodations that ensure all students can access the assessment (e.g., text-to-speech, increased font size) without changing its content. • Materials include guidance for teachers on the use of provided accommodations. • Materials include guidance for teachers about who can benefit from these accommodations. • Materials do not include modifications to assessments that alter grade level/expectations.	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. • Materials provide a range of representation of people, ensuring a broad range of cultural, racial, gender, and ability backgrounds are accurately and authentically represented. • Materials provide detailed instructions and support for teachers on incorporating and drawing 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. • Materials identify strategies to engage students in reading and accessing grade-level/grade-band science. • Materials identify multiple entry points to help struggling readers access and engage in grade-level/grade-band science.	Narrative Evidence Only
3q. *This is not an assessed indicator in Science.*	

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

Total Available Points	4	Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX

Criterion 3.3 Intentional Design	Materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.

Indicators + Scoring Criteria	Scoring
3r. Materials integrate technology such as interactive tools, virtual manipulatives/objects, and/or dynamic software in ways that engage students in the grade-level/series standards, when applicable. • Digital technology and interactive tools, such as data collection tools and/or modeling tools are available to students. • Digital tools support student engagement in mathematics. • Digital materials can be customized for local use (i.e., student and/or community interests).	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. • 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. • Images, graphics, and models support student learning and engagement without being visually distracting. They also clearly communicate information or support student understanding of topics, texts, or concepts. • Teacher and student materials are consistent in layout and structure across lessons/modules/units. • Materials' organizational features (table of contents, glossary, index, internal references, table headers, captions, etc.) are clear, accurate, and error-free.	Narrative Evidence Only
3u. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable. • Teacher guidance is provided 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

Total Available Points in Gateway 3	18	Meets: XX-XX Partially Meets: XX-XX Does Not Meet: < XX