



SCIENCE HIGH-QUALITY INSTRUCTIONAL MATERIALS GUIDANCE

Science Standards Overview

The Next Generation Science Standards have been adopted by DC State Board of Education (December, 2013), as the new K-12 Science Standards for the District of Columbia Schools.

Together with the Common Core State Standards in Mathematics and English Language Arts, the NGSS hold the promise of transforming STEM education and preparing all DC students to succeed, in education, work, and their daily lives. Over the next few years, OSSE will work closely with community stakeholders to provide clear guidance and support around NGSS implementation.

- [NGSS Introduction Video](#)
- [DC Science Assessment](#)
- [View the Next Generation Science Standards](#)

Science Innovations

The NGSS Innovations are the five most significant ways the NGSS advance science teaching and learning, when compared to previous standards and typical instructional and curricular practice in American schools.

As the key ways that the NGSS are new and different, these innovations also provide the intellectual framework Primary Evaluation of Essential Criteria (PEEC) uses to evaluate science instructional materials.

Innovation 1: Making Sense of Phenomena and Designing Solutions to Problems

Making sense of phenomena or designing solutions to problems drives student learning.

Innovation 2: Three-Dimensional Learning

Student engagement in making sense of phenomena and designing solutions to problems requires student performances that integrate grade-appropriate elements of the Science and Engineering Practices (SEPs), Cross Cutting Concepts (CCCs), and Disciplinary Core Ideas (DCIs) in instruction and assessment.

Innovation 3: Building K–12 Progressions

Students' three-dimensional learning experiences are designed and coordinated over time to ensure students build understanding of all three dimensions of the standards, nature of science concepts, and engineering as expected by the standards.

Innovation 4: Alignment with English Language Arts and Mathematics

Students engage in learning experiences with explicit connections to and alignment with English language arts (ELA) and mathematics.

	<p>Innovation 5: All Standards, All Students Science instructional materials support equitable access to science education for all students.</p> <p>Read more about the NGSS Innovations here.</p>
<p>EdReports Review Process</p>	<p>EdReports reviewers use review tools to create free, evidence-rich reports of programs that are comprehensive (year-long) and coherent (lessons connected to one another day-to-day, unit-to-unit), with a sequenced learning path to prepare students for grade-level mastery. 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.</p> <p>Expert educators use the tools to evaluate full sets of instructional materials against criteria. 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.</p> <p>Each report found on EdReports.org represents hundreds of hours of work by educator reviewers. Working in teams of four to five, reviewers use educator-developed review criteria, evidence guides, and key documents to thoroughly examine their sets of materials. After receiving more than 25 hours of training on the EdReports review tools and process, teams meet weekly over the course of several months to share evidence, come to consensus on scoring, and write the evidence that ultimately is shared on the website.</p> <p>All team members look at every grade and indicator, ensuring that the entire team considers the program in full. Final reports are the result of multiple educators analyzing every page, calibrating all findings and reaching a unified conclusion.</p>
<p>Characteristics of High-Quality Science Materials</p>	<p>The EdReports science review criteria identifies the indicators for high-quality instructional materials. The review criteria supports a sequential review process that reflects the importance of alignment to the standards then considers other high-quality attributes of curriculum as recommended by educators.</p> <p>For science, our review criteria evaluates materials based on:</p> <p>Designed for NGSS</p> <ul style="list-style-type: none"> • Are the materials designed for three-dimensional learning and assessment? • Do materials leverage science phenomena and engineering problems in the context of driving learning and student performance? <p>Coherence and Scope</p> <ul style="list-style-type: none"> • Are the materials coherent in design, scientifically accurate, and do they support grade-band endpoints of all three dimensions? <p>Instructional Supports and Usability</p> <ul style="list-style-type: none"> • Do the materials support teachers to fully utilize the curriculum, understand the skills and learning of their students, and support a range of learners?

**Related
Science Links
and Resources**

[Why Materials Matter Research and Data](#)

[EdReports Review Tools](#)

[OSSE Science and Stem](#)

[OSSE Next Generation Science Standards](#)