

Criteria for Hawai'i High-Quality Instructional Materials for Science

Criterion 1.1: Three-Dimensional Learning

Materials are designed for three-dimensional learning and assessment.

- **1a.** Materials are designed to integrate the Science and Engineering Practices (SEPs), Disciplinary Core Ideas (DCIs), and Crosscutting Concepts (CCCs) into student learning.
 - 1a.i. Materials consistently integrate the three dimensions in student learning opportunities.
 - 1a.ii. Materials consistently support meaningful student sensemaking with the three dimensions.
- **1b.** Materials are designed to elicit direct, observable evidence for three-dimensional learning.
- **1c.** Materials are designed to elicit direct, observable evidence of three-dimensional learning.

Criterion 1.2: Designed for NGSS

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

- **1d.** Phenomena and/or problems are connected to grade-level Disciplinary Core Ideas.
- **1e.** Phenomena and/or problems are presented to students as directly as possible.
- **1f.** Phenomena and/or problems drive individual lessons or activities using key elements of all three dimensions.
- **1g.** Materials are designed to include both phenomena and problems.
- **1h.** Materials intentionally leverage students' prior knowledge and experiences related to phenomena or problems.
- **1i.** Materials embed phenomena or problems across multiple lessons for students to use and build knowledge of all three dimensions.
- **1j.** Materials assist in the development of the skills, behaviors, and dispositions that are reminiscent of Hawai'i's unique context.

Criterion 2: Coherence & Scope

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

- **2a.** Materials are designed for students to build and connect their knowledge and use of the three dimensions across the series.
 - 2a.i. Students understand how the materials connect the dimensions from unit to unit.
 - 2a.ii. Materials have an intentional sequence where student tasks increase in sophistication.
- **2b.** Materials present Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs) in a way that is scientifically accurate.
- **2c.** Materials do not inappropriately include scientific content and ideas outside of the grade-level Disciplinary Core Ideas.
- **2d.** Materials incorporate all grade-level Disciplinary Core Ideas.
 - 2d.i. Physical Sciences
 - 2d.ii. Life Sciences
 - 2d.iii. Earth and Space Sciences
 - 2d.iv. Engineering, Technology, and Applications of Science
- **2e.** Materials incorporate all grade-level Science and Engineering Practices.
 - 2e.i. Materials incorporate grade-level appropriate SEPs within each grade.
 - 2e.ii. Materials incorporate all SEPs across the grade band.
- **2f.** Materials incorporate all grade-band Crosscutting Concepts.
- **2g.** Materials incorporate NGSS Connections to the Nature of Science and Engineering.
- **2h.** Materials present multiple pathways for educators to address the content and skills in a coherent sequence, grounded in the Hawai'i Core Standards for Science, which are the Next Generation Science Standards.

Criterion 3.1: Teacher Supports

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

- **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.

- **3b.** Materials contain adult-level explanations and examples of the more complex grade/course-level concepts and concepts beyond the current course so that teachers can improve their knowledge of the subject.
- **3c.** Materials include standards correlation information, including connections to college- and career-ready standards, including, but not limited to, ELA and mathematics, that explain the role of the standards in the context of the overall series.
- **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.
- **3e.** Materials provide explanations of the instructional approaches of the program and identification of the research-based strategies.
- **3f.** Materials provide a comprehensive list of supplies needed to support instructional activities.
- **3g.** Materials provide clear science safety guidelines for teachers and students across the instructional materials.
- **3h.** Materials designated for each grade are feasible and flexible for one school year.

Criterion 3.2: Assessment

The program includes a system of assessments that identify how materials provide tools, guidance, and support for teachers to collect, interpret, and act on data about student progress toward the standards.

- **3i.** Assessment information is included in the materials to indicate which standards are assessed.
- **3j.** Assessment system provides multiple opportunities throughout the grade, course, and/or series to determine students' learning and sufficient guidance to teachers for interpreting student performance and suggestions for follow-up.
- **3k.** Assessments include opportunities for students to demonstrate the full intent of grade-level/grade-band standards and elements across the series.
- **3l.** Assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment.

Criterion 3.3: Student Supports

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

- **3m.** Materials provide strategies and supports for students in special populations to support their regular and active participation in learning grade-level/grade-band science and engineering.
- **3n.** Materials provide extensions and/or opportunities for students to engage in learning grade-level/grade-band science and engineering at greater depth.
- **3o.** 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.
- **3p.** Materials provide opportunities for teachers to use a variety of grouping strategies.
- **3q.** Materials provide strategies and supports for students who read, write, and/or speak in a language other than English to regularly participate in learning grade-level/grade-band science and engineering.
- **3r.** Materials provide a balance of images or information about people, representing various demographic and physical characteristics.
- **3s.** Materials provide guidance to encourage teachers to draw upon students' home languages to facilitate learning.
- **3t.** Materials provide guidance to encourage teachers to draw upon students' cultural and social backgrounds to facilitate learning.
- **3u.** Materials provide supports for different reading levels to ensure accessibility for students.

Criterion 3.4: Intentional Design

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

- **3w.** Materials integrate interactive tools and/or dynamic software in ways that support student engagement in the three dimensions, when applicable.
- **3x.** Materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable.
- **3y.** The visual design (whether in print or digital) supports students in engaging thoughtfully with the subject and is neither distracting nor chaotic.
- **3z.** Materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable.

Sources

- [Nā Hopena A'o \(HĀ\) framework](#)
- [Next Generation Science Standards](#)

- Hawai'i's [Curriculum Management System & Instructional Materials Approval Process](#)
- www.edreports.org