**This advisory recommendation has not been approved by the Instructional Quality Commission or the State Board of Education.**

# REVIEW PANEL ADVISORY RECOMMENDATION 2018 SCIENCE ADOPTION OF INSTRUCTIONAL MATERIALS

| **Publisher** | **Program** | **Grade Level(s)** |
| --- | --- | --- |
| Learning Bits Inc | SMART NGSS by Science Bits | 6–8d |

## Program Summary:

SMART NGSS by Science Bits includes: Smart NGSS by Science Bits includes: digital license to Earth & Space Science; Life Science; Physical Science.

## Recommendation:

SMART NGSS by Science Bits is recommended for adoption for 6–8d because the instructional materials include content as specified in the Next Generation Science Standards for California Public Schools (CA NGSS) and meet all the criteria in Category 1 with strengths in categories 2–5.

## Criteria Category 1: Alignment with the CA NGSS Three-Dimensional Learning

The program includes content as specified in the CA NGSS and includes a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

**Citations:**

* Criterion #1.1: Grade 6, My Library, Content, Middle School Earth and Space Sciences, Access, The Sun-Earth-Moon System, Explore p.1; Grade 7, My Library, Content Middle School Life Sciences, Access Cells, Click snowflake icon, concept map; Grade 8, My Library, Content Middle School Physical Sciences, Access Forces, Click compass icon, Standards. In every lesson there are Disciplinary Core Ideas from the other domains.
* Criterion #1.2: Grade 7, My Library, Middle School Life Sciences, Access, Biodiversity of an Ecosystem. Each content piece was the 5E learning sequence, and includes videos, text, and discourse to engage students in the three dimensions of the Next Generation Science Standards.

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* Criterion #1.7: Grade 6, My Library, Content, Middle School Earth and Space Sciences, Access, History of the Earth, Explain, p. 1. Use of primary sources, data, scientific research, case studies, and photographs are integrated throughout the program.
* Criterion #1.13: Grade 8, My Library, Content, Physical Science, Access, Energy, Explain, pp. 1–19. The materials provide support for students to develop appropriate grade-level academic language and discipline-specific vocabulary through the use of the vocabulary in context.
* Criterion #1.15: Grade 7, My Library, Middle School Life Sciences, Access, Ecosystems. We found evidence that supports the Environmental Principles and Concepts in the Explain section, Elaborate section (pp.1–3), and the embedded activity.
* Criterion #1.18: Grade 8, My Library, Content, Physical Science, Access, The Structure of Matter, Elaborate, pp.1–4. Instructional Resources support students in addressing the applications of science in the development of technologies.

## Criteria Category 2: Program Organization

The organization and features of the instructional materials support instruction and learning of the CA NGSS.

**Citations:**

* Criterion #2.3: Grade 8, My Library, Middle School Physical Sciences, Access, Changes in Matter, Click on the Compass icon, Before We Begin. The Teacher’s Guide of all units outline prior knowledge and skills in the “Before We Begin” section.
* Criterion #2.7: Grade 6, My Library, Middle School Earth and Space Sciences, Access, The Earth in the Universe, Click the Compass icon, Standards. The Teacher’s Guide of all units includes a “Standards” section explaining the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts addressed by the unit.
* Criterion #2.10: Grade 8, My Library, Middle School Physical Sciences, Access, Energy, Explore, p.7. Evidence includes many resources that encourage the meaningful use of technology.
* Criterion #2.13: Grade 7, My Library, Middle School Life Sciences, Access, Cells, Click Compass icon, Learning Objectives. The Teacher’s Guide of all units describes required prior knowledge and learning objectives.

**Criteria Category 3: Assessment**

The program includes multiple models of both formative and summative assessment tasks for measuring what students know and are able to do and provides guidance for teachers on how to use scoring rubrics and interpret assessment results to guide instruction.

**Citations:**

* Criterion #3.1: Grade 6, My Library, Content, Middle School Earth and Space Sciences, Access, Earth’s Internal Processes, Evaluate, pp.1–20. Assessment tools are present in all content areas that measure what students know and are able to do as defined by the Performance Expectations in the California Next Generation Science Standards. Assessments included are pre-assessments, formative assessments, and summative assessments.
* Criterion #3.2: Grade 8, My Library, Content, Middle School Physical Sciences, Access, Waves, Engage, pp.1–5. Teachers are able to elicit student’s prior knowledge and preconceptions to gauge their facility for using the Science and Engineering Practices and the Crosscutting Concepts.
* Criterion #3.8: Grade 8, My Library, Content, Middle School Physical Sciences, Access, Forces, Explain, p.11, Click the Pencil icon, “The Fakir and the Bed of Nails”. Activities combine the assessment of both writing and performance tasks.
* Criterion #3.10: Grade 7, My Library, Content, Middle School Life Sciences, Access, Ecosystems. There are numerous exemplars found in all stages of the 5E including Engineering Design, labs, performance-based tasks, and oral presentations.

## Criteria Category 4: Access and Equity

Program materials ensure universal and equitable access to high-quality curriculum and instruction for all students and provide teachers with suggestions for differentiation for students with special needs.

**Citations:**

* Criterion #4.1: Grade 6, 7, 8, in all units the instructional resources reflect the goals of access and equity outlined in Chapter 10 of California Science Framework. Evidence includes lessons in Spanish and English, 5 E model of instruction, close captioning, braille (HTML5).
* Criterion #4.2: Grade 6, 7, 8, Homepage, English or Spanish. At every grade level language can be changed to Spanish with all videos in Spanish with the option of Spanish subtitles.
* Criterion #4.3: Grade 7, My Library, Middle School Life Sciences, Access, Cells. There are numerous materials that support the needs of students with disabilities including the ability to change complexity levels of assignments, click to speech option, and closed caption.
* Criterion #4.4: Grade 6, 7, 8, Home, Introductory Resources for Teachers, How to Use Science Bits in the Classroom – Best Practices, Annex 1 (pp.9–17). The Annex/Appendix provides evidence of instructional strategies for supporting students with special needs. Additionally, each unit has Click to Speech language options, and subtitles for videos.

## Criteria Category 5: Instructional Planning and Support

The instructional materials provide coherent guidelines for teachers to follow when planning three-dimensional instruction and are designed to help teachers provide effective standards-based instruction.

**Citations:**

* Criterion #5.3: Grade 6, 7, 8, My Library, Middle School Earth and Space Sciences, Access, Minerals and Rocks, Select the Compass Icon, Misconceptions. All sections in a lesson include guidelines and suggestions that are specific to the activity.
* Criterion #5.6: Grade 6, 7, 8, My Library, Middle School Life Science, Access, Nutrition, Explore p.1, Select the Compass Icon, Guidelines. Tasks, classroom activities, and exercises are provided with guidance.
* Criterion #5.9: Grade 7, My Library, Middle School Life Sciences, Access, Cells, Select the Compass Icons. Instructional objectives for three dimensional learning are provided. These include learning objectives, misconceptions, and learning sequence.
* Criterion #5.10: Grade 8, My Library, Middle School Physical Sciences, Access, Forces. We found evidence of learning goals on the cover p. using the “bullseye” icon. Additionally, the 5E learning sequence provides opportunities for students to develop their understanding.

## Edits and Corrections:

The following edits and corrections must be made as a condition of adoption:

| # | Grade Level | Component (Digital pathway) | Page Number(s) | Current Text | Proposed Corrected Text | Reason for Edit |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 6 | My Library, The Sun-Moon-Earth System, Access, Explore | p. 12 | n/a | The text does not identify which is A and which is B. | Clarity |
| 2 | 8 | My Library, MS Physical Science, Access, Thermal Energy, Heat, and Temperature, Explain | p. 2 | …all matter possesses energ | …all matter possesses energy | Typo |
| 3 | 8 | My Library, Middle School Physical Sciences, Access, Energy, Explain | p. 9 | In this this way the balloon… | In this way the balloon… | Typo |

## Social Content Citations:

The panel identified the following social content violations: none

California Department of Education, August 2018