**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)** |
| --- | --- | --- |
| Pearson Education Inc. | California Elevate Science | K–6 |

## Program Summary:

California Elevate Science includes: Student Edition (SE), Teacher Edition (TE), Additional Resources (AR), California Engineering Design Notebook, (CA EDN).

## Recommendation:

California Elevate Science is recommended for adoption for K–6 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: Grade K, SE/TE pp.50-55, California Spotlight: Instructional Segment 2: How Can People Throw Away Less Food?; Grade 1, SE/TE p.140, uConnect Lab: What do you need to see objects?; Grade 2, SE/TE p.199, uInvestigate Lab: How can you model how animals spread seeds?; Grade 3, SE/TE pp.250-253, Lesson 2, Seasonal Weather Changes; Grade 4, SE/TE pp.340-341, Quest Check-In Lab: How can you send a message with light?; Grade 5, SE/TE 52, STEM uConnect Lab: What happens to mass when objects are mixed?  
    
  These are exemplars of SEPs, CCCs, and DCIs being integrated to meet the PEs as expressed in the CA NGSS for kindergarten through grade five.

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* Criterion #4: Grade 1, SE pp.94-129, TE pp.94A-129, Topic 3: Sound. This exemplar is evidence of instructional resources that progressively build students’ abilities to meet the performance expectations.
* Criterion #9: Grade 5, SE/TE pp.198-203, California Spotlight: Instructional Segment 3: How Can Scientists Solve Water Storage Problems? This exemplar illustrates the use of authentic and meaningful real-world applications and scenarios.
* Criterion #13: Grade 1, SE/TE p.56, Life Cycle of a Plant. This curriculum provides support for students to develop discipline-specific vocabulary through their use in context in classroom discourse around science phenomena.
* Criterion #20: Grade K, TE p.61, p.83; Grade 3, SE p.216, p.252, p.296; Grades K-5, TE Connect to Nature of Science sections and SE Reflect sections. These provide opportunities for reflection on the nature and history of science.

## Criteria Category 2: Program Organization

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

**Citations:**

* Criterion #1: Grade K, SE pp.vi-x; Grade 1, SE pp.vi-x; Grade 2, SE pp.vi-xi; Grade 3, SE pp.vi-xi; Grade 4, SE pp.vi-xiii; Grade 5, SE pp.xi-xiv. The examples provide evidence in all grades where the sequential organization of the material provides structure concerning what students should learn each year and allows teachers to convey the science content incorporating the three-dimensional learning expressed in the CA NGSS.
* Criterion #3: Grade K, Additional Resources> Assessment> Topic 1> Diagnostic Test, TE 140E-140F, 140 (Storyline); Grade 2, Additional Resources> Assessment> Topic 4> Diagnostic Test, TE 130 (Storyline); Grade 4, Additional Resources> Assessment> Topic 1> Diagnostic Test, TE pp.6E-6F (Topic 1 Next Generation Learning Progressions, 6 (Storyline); Grade 5, Additional Resources> Assessment> Topic 1> Diagnostic Test, TE pp.48E-48F (Topic 2 NGSS Learning Progression). The examples show instructional resources that explicitly state which knowledge and skills learned in prior grades or units are applied and extended to accommodate new knowledge and skills.
* Criterion #4: Grade K, TE pp.2-3 (Promote Collaborative Conversations), p.109 (Differentiated Instruction), p.124 (Jumpstart Discovery); Grade 1, TE p.58, p.T117, Additional Resources> Assessment> Performance Based Assessment 4, Additional Resources> Digital Activities and Videos> PD Modeling Video Sky and Earth, 102 (Scaffolded Questions), p.177 (Promote Student Discourse), p.102 (Preconceptions); Grade 3, TE pp.298-299 (Focus on Mastery for #2, #3), p.T17, Additional Resources> Assessment> Performance Based Assessment 3, Additional Resources> Digital Activities and Videos: PD Modeling Video Living Things and Their Environments. The examples provide evidence that teacher resources provide support to engage students in three-dimensional learning and suggests research-based strategies to elicit student thinking and support student discourse.
* Criterion #9: Grade 1, Additional Resources> Digital Activities and Videos> Topic 1 Lesson Video Animal Parts, Topic 1 Lesson Video Where Plants and Animals Live, Additional Resources> Probeware Labs> Elementary Science with Vernier, Grade 1 Sample Probeware Labs; Grade 3, Additional Resources> Virtual Labs: Topic 1 Chart a Safe Course, Topic 2 Make It Move, Topic What Will It Look Like?, Additional Resources> Probeware Labs: Elementary Science With Vernier Probeware Labs, TE 52 (Professional Learning), TE p.138 (Using Phenomena); Grade 4, Additional Resources> Virtual Labs: Topic 1 Propeller Speed and Thrust, Topic 4 Withstanding Earth’s Natural Hazards, Topic 6 Layers of Time, Additional Resources> Probeware Labs: Elementary Science with Vernier, Grade 4 Sample Probeware Labs. There is evidence in Grades K-5 resources that encourage the meaningful use of technologies such as video clips or computer simulations to investigate phenomena that cannot be directly experienced in the classroom. In these contexts, the materials support teachers as they introduce students to computational thinking and provide guidance to teachers on how science instruction may be improved by the effective use of library media centers and information literacy skills.
* Criterion #10: Grade K, Additional Resources> Digital Activities and Videos: Topic 1 uEngineer It! Interactivity Build an Animal Shelter, Topic 3 Quest Findings Interactivity Keep it Cool; Grade 2, SE pp.26-27, p.109, p.134, TE p.115 (Address Applications of Science), pp.226-227, p.235; Grade 4, TE p.302, p.144, p.369, Additional Resources> Virtual Labs: Topic 7 Call the Galactic; Grade 5, Additional Resources> Quests> Topic 2 Quest: Find the Right Mix and Step On It!, TE p.60, p.102. The examples provide evidence of resources that suggest appropriate engineering design tasks in varied contexts as a path to understanding and applying the science ideas being learned.

## 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 provide guidance for teachers on how to use scoring rubrics and interpret assessment results to guide instruction.

**Citations:**

* Criterion #1: Grade 1, SE pp.126-127, Additional Resources> Assessment> Performance Based Assessment 1 What can people learn from plants and animals to solve problems?, Performance Based Assessment 2 How do sounds made from different materials compare?; Grade 4, SE pp.52-53, Additional Resources> Performance Based Assessment 1 Does height affect final speed of a falling object?, Performance Based Assessment 2 Does the steepness of a hill affect erosion?; Grade 5, SE pp.98-99, Additional Resources> Assessment: Performance Based Assessment 2 Where does the matter that builds plants come from?, Performance Based Assessment 3 Can processes that provide freshwater affect the environment?  
    
  The resources provide evidence of assessments in the instructional resources that reflect the three-dimensional nature of the CA NGSS and CA Science Framework. Assessment tools measure what students know and are able to do, as defined by the PEs in the CA NGSS. Assessments stress performance tasks rather than rote memorization.
* Criterion #3: Grade K, TE p.16, p.66, p.118 (Scaffolded Questions), Additional Resources> Assessment: Topic 3 Lesson 1 Quiz The Sun, Topic 5 Lesson 1 Quiz Change in Movement; Grade 1, TE p.14, p.56, p.102, Additional Resources> Assessment: Topic 5 Lesson 3 Quiz Daylight Changes and Seasons; Grade 3 TE p.255, p.199, p.114 (Scaffolded Questions), Additional Resources> Assessment: Topic 3 Lesson 1 Quiz Life Cycles; Grade 4, TE p.277, p.255, p.387 (Scaffolded), Additional Resources> Assessment: Topic 4 Lesson 1 Tectonic Hazards.  
    
  The resources provide evidence that includes teacher materials that provide support to engage students in tasks that afford both learning and formative assessment opportunities at the same time and provide guidance to teachers on how to embed formative assessment activities in the broader learning activity.
* Criterion #6: Grade K, Additional Resources> Assessment: Diagnostic Test 1, 2, and 3, TE p.16, p.66, p.118 (Scaffolded Questions); Grade 3, TE p.137, p.185 (Activity Card Extension) Topic 6 What can barometric pressure tell you?, Topic 4 How well will the rabbit survive?, Additional Resources> Assessment: Diagnostic Test 5; Grade 4 TE p.163, p.267, p.407 (Activity Card) Topic 3 How can you identify minerals?  
    
  The examples provide evidence of teacher resources that supply a differentiated path for diverse students to build toward the PEs of the CA NGSS. In particular, formative assessment tasks are designed to support teachers in collecting and analyzing data about student conceptual understanding.
* Criterion #10: Grade K, SE pp.26-27, pp.154-155, pp.210-211 (engineering design), SE p.94, p.132, p.222 (open-ended), TE p.69 (Quest Check-In), SE p.91 (oral presentations); Grade 3, SE pp.26-27, pp.60-61, pp.114-115, Additional Resources> Performance Based Assessment 3 How can an animal survive?, Additional Resources> Assessment: End of Year Assessment. The examples provide evidence that contains assessment tools that include multiple measures of student performance as addressed in the assessment chapter in the CA Science Framework, including, but not limited to, engineering design and lab practical tasks; performance-based tasks; open-ended, short-answer and essay responses; lab reports; research projects; computational simulations; 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 #1: Grade K, Additional Resources> UDL Rubric; SE pp.12-13, p.84, p.164, TE p.20, p.50, p.185. The instructional resources reflect the goals of access and equity outlined in Chapter 10 of the CA Science Framework.
* Criterion #2: Grade 1, TE p.12, p.158, p.189; Grade 5, TE p.12, p.223, p.272. The resources address the needs of English Learners consistent with the CA ELD Standards.
* Criterion #3: Grade 2, TE p.12 (Jumpstart Discovery!); p.244 (Show What You Learned); p.2, p.45, p.135, p.203 (Differentiated Instruction). These instructional resources incorporate instructional strategies to address the needs of students with disabilities in lessons, assessments, and teacher resources, as appropriate.
* Criterion #4: Grade 3, TE pp.T20-T27, p.166, p.284; Grade 4, TE pp.T20-T27, p.18, p.138. These resources supply a differentiated path for all students. They include guidance to support students with special needs, including: standard English learners, English learners, long term English learners, students living in poverty, foster youth, girls and young women, advanced learners, students with disabilities, and students below grade level in science skills, three-dimensional learning, literacy skills, or mathematical skills.

## 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 #1: Grade 1, TE pp.T38-T39 (Scope and Sequence), pp.T40-T41 (Pacing Guide), pp.12A-12B, pp.18A-18B, pp.26A-26B, pp.32A-32B (Lesson Planner). These program resources include a curriculum guide for the academic instructional year for teachers to follow when planning for 180 days of instruction.
* Criterion #4: Grade 2, TE pp.6E-6F, pp.48E-48F, pp.90E-90F (Learning Progressions), Additional Resources> Assessment> Diagnostic Test 1, Diagnostic Test 2, Diagnostic Test 3. The program resources address three-dimensional learning by identifying the knowledge and skills learned in prior grades and prior grade level units. In addition, they address how to connect and build on these learnings to help students develop increasingly sophisticated ideas.
* Criterion #8: Grade 2, TE pp.T8-T13, pp.T14-T37. Teacher resources include a planning guide describing the relationship between the components of the program and how to use all of the components to meet all of the CA NGSS.
* Criterion #15: Grade 4, TE p.57 (Focus on California), p.83 (Notable Californians), p.113 (Focus on California), p.295 (Focus on California), p.186 (Notable Californians). These teacher resources provide background information about important events, diverse people, places, ideas, and scientific principles appearing in, but not limited to, the CA NGSS and the CA Science Framework.
* Criterion #21: Grade 5, TE pp.T18-T19, p.90, p.266 (Interpersonal and Collaborative Skills). The teacher resources provide guidance and support for engaging students in collaborative conversations using grade level appropriate academic vocabulary using scientific discourse.

## Edits and Corrections:

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

| # | Grade Level | Component | Page number(s) | Current text | Proposed corrected text | Reason for edit |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | TE | 112 | Under “Understanding the Science Practice” it reads:  “different sounds ,carry it out…” | Should read:  “different sounds, carry it out…” | Comma should be after “sounds” and then a space. |
| 2 | 1 | SE, TE | 132 | Photograph of cabins near trees in San Bernardino National Forest is confusing. | Replace with a photograph with a more accurate depiction of a shadow. | Clarity |
| 3 | 2 | SE, TE | 187 | Under Guiding Inquiry:  “Plant D: No sunlight and water” | “Plant D: No sunlight and no water.” | Accuracy |
| 4 | 2 | SE, TE | 225 | Number 3 under “Analyze and Interpret Data” sample answer reads:  “Plants with waxy leaves live in drier places because they need to save water. Plants without waxy leaves absorb water and may live in wet places.” | “Plants in drier places have waxy leaves to reduce loss of water through leaves. Plants without waxy leaves may live in wet places.” | Accuracy |
| 5 | 3 | TE | T44 | “Asking Questions and Defining Problems” | Constructing Explanations and Designing Solutions | Incorrect practice labeled |
| 6 | 4 | SE | 66-67 | Diagram is missing text | TE contains the text but the SE is missing text on these pages | Misprint |
| 7 | 3 | SE | 54 | Under “Understanding the Science Practice” it reads:  “affect” | Should read: effect | Misspelling |
| 8 | 5 | SE, TE | 18 | “Many refrigerator doors are made from steel, which is magnetic.” | “Many refrigerator doors are made from magnetic steel.” | Accuracy |
| 9 | 5 | SE, TE | 34 | Illustration displayed under states of matter for solid is currently drawn in a cube structure. | Illustration should be an irregular mass (i.e. deformed clump, tightly packed) | Accuracy |
| 10 | 5 | SE, TE | 168 | “The final link in the food chain is usually an animal that is rarely in danger of being eaten.” | “The final link in the food chain can be an animal that is rarely in danger of being eaten.” | Misconception that the word “usually” creates; Accuracy |
| 11 | 5 | TE | 126 (Check Point) | Traspiration | Transpiration | Misspelling |
| 12 | 5 | TE | 126 | Transpirtion | Transpiration | Misspelling |
| 13 | 5 | TE | 126 (Check Point) | enouogh | enough | Misspelling |

## Social Content Citations:

The panel identified the following social content violations:

| # | SC Code | Grade Level | Component | Page number(s) | Current text | Proposed corrected text | Reason for citation |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | D.2 | K – 5 | SE | n/a | Almost all adults depicted are relatively young. | Replace some of the illustrations with older people. | Proportion of Portrayals |
| 2 | B.2 | 3 | SE | n/a | Almost all children depicted, with the exception of one child, are white. | Include a mixture of children from different ethnic backgrounds. | Proportion of Portrayals |
| 3 | A.1 | 1 | SE | 68 | Two boys are depicted playing video games. | Include a girl to avoid further stereotyping that only boys play video games. | Adverse Reflection |
| 4 | B.2 | 1 | SE | 100, 128 | In both scenarios depicted, the same white teacher appears. | Add some variance in depicting teachers from diverse backgrounds. | Proportion of Portrayals |
| 5 | E-2 | K-5 | SE | n/a | The majority of children depicted seemed to have no disabilities. | Include images of children with disabilities | Proportion of portrayals |

California Department of Education, August 2018