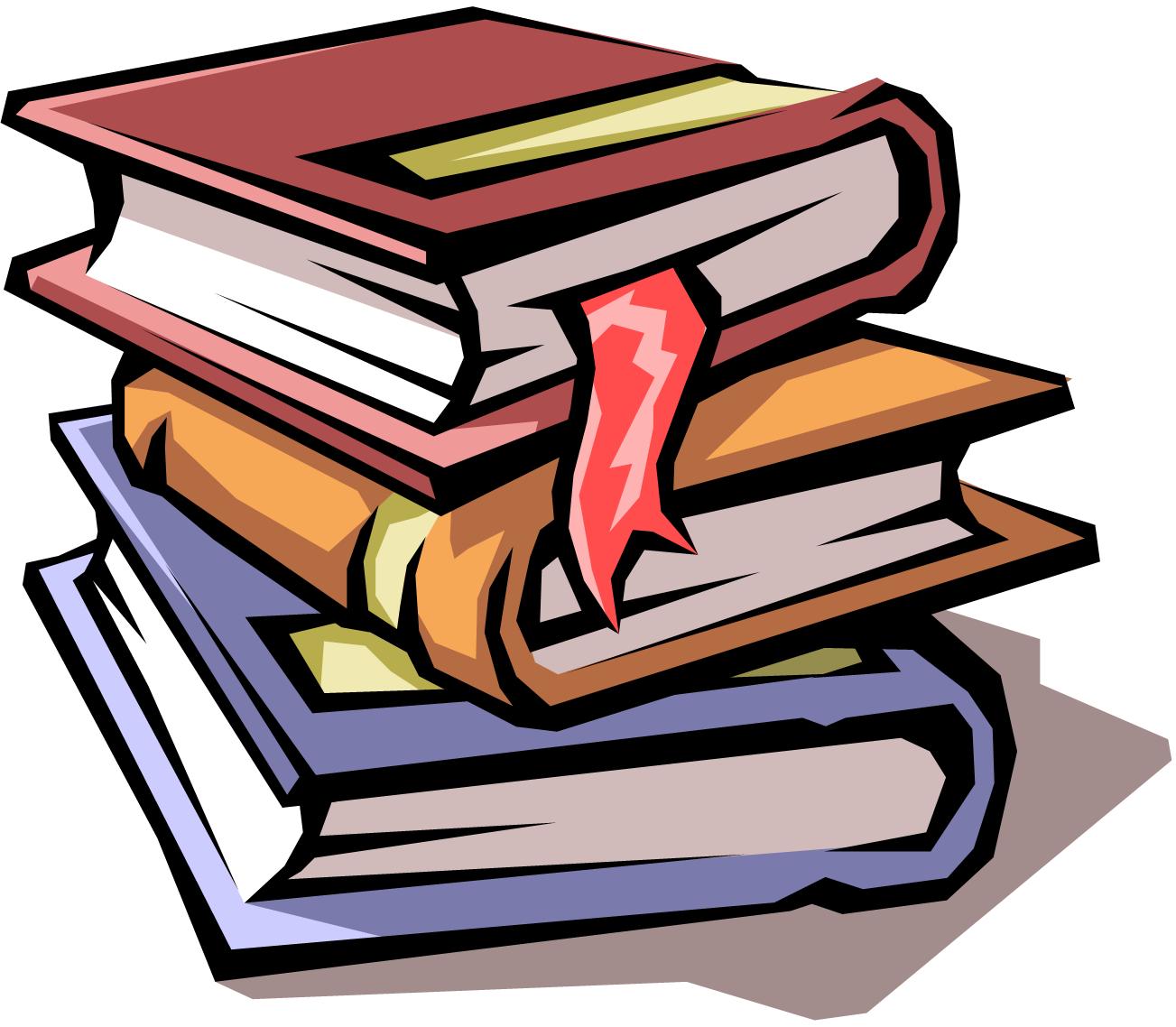
# 2018 SCIENCE ADOPTION REPORT



California Department of Education

Sacramento, 2018

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## Preface

California’s 2018 Science Instructional Materials Adoption represents the culmination of a great endeavor to bring the California Next Generation Science Standards (CA NGSS) to kindergarten through grade eight (K–8) classrooms around the State. Beginning with the adoption of the CA NGSS in 2013 and the subsequent development and adoption of the CA NGSS-based Science Framework for California Public Schools Kindergarten through Grade Twelve (Framework) in 2016, this current instructional materials adoption will recognize and recommend instructional materials programs that meet fully the grade-level CA NGSS and rigorous evaluation criteria.

This report recounts the events and activities that constituted the 2018 Science Adoption and provides individual program reports and adoption actions. The principal work of curriculum framework development and instructional materials evaluation was performed under the auspices of the Instructional Quality Commission (IQC), with the approval of the SBE, and involved panels of reviewers that included classroom teachers, administrators, parents, and university professors. Commissioners and panel members alike were volunteers, and we are most grateful for the many valuable hours of dedicated service they contributed to this work.

## Acknowledgements

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## Introduction

The California State Board of Education (SBE)-adopted instructional programs utilized by local educational agencies will place directly into the hands of educators and students the knowledge and skills presented within the standards and the instructional support and recommended practices of the Framework. The approved programs then represent the frontline launch pad for scientific intellectual development of our State’s greatest resource—our students.

The instructional programs adopted by the SBE are a vast departure from California’s past K–8 science education. The CA NGSS, to which these instructional programs align, represent a 21st century approach to scientific inquiry, built upon a three-dimensional learning strategy based in Disciplinary Core Ideas (DCIs), utilizing science and engineering practices (SEPs), connected by and unified through crosscutting concepts (CCCs). And to implement this strategy, instruction is focused on real-world phenomena in order to engage and captivate students fully. This new approach—along with the new content—represents a significant instructional shift from the past and holds the promise for a renewed and greatly expanded scientific literacy.

## Adoption Process

### EVALUATION CRITERIA

The SBE-adopted criteria for evaluating K–8 instructional materials is found within the Framework. The criteria serve as the evaluation instrument for determining whether instructional materials align to the content standards, *Framework*, and the other requirements established by the SBE, California *Education Code* (*EC*), and State regulations*.* The criteria require that publisher-submitted instructional materials cover at least one full-year course of study.

The criteria for the evaluation of science instructional resources for kindergarten through grade eight are organized into five categories:

1. **Alignment with CA NGSS Three-Dimensional Learning:** Instructional resources include content as specified in the *CA NGSS*. Programs must include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations to be eligible for adoption.
2. **Program Organization:** Instructional resources support instruction and learning of the *CA NGSS* and include such features as the organization, coherence, and design of the program; chapter, unit, and lesson overviews; and glossaries.
3. **Assessment:** Instructional resources include 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.
4. **Access and Equity:** Instructional resources should include suggestions for teachers on how to differentiate instruction to meet the needs of all students. In particular, instructional resources should provide 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, gifted learners, students below grade level in reading comprehension or mathematics skills and knowledge, and students below grade level in science skills and knowledge.
5. **Instructional Planning and Support:** Information and resources suggest coherent guidelines for teachers to follow when planning three-dimensional instruction and are designed to help teachers provide effective standards-based instruction.

Resources that fail to meet the criteria in Category 1, content alignment with the standards, were not considered suitable for adoption; all criteria statements in Category 1 must be met for a program to be adopted. The criteria for Category 1 must be met in the core resources or via the primary means of instruction, rather than in ancillary components. In addition, programs must have strengths in each of Categories 2 through 5 to be suitable for adoption. Extraneous resources should be minimal and clearly purposeful.

(See Appendix A for the complete evaluation criteria.)

The SBE-approved standards maps and evaluation criteria map were developed by the California Department of Education (CDE) to help publishers identify where their instructional materials are aligned with each standard for the appropriate grade level and each evaluation criteria statement. Publishers completed the maps with citations to their programs and submitted them with their sample materials. Review panels used the maps to evaluate a program’s alignment with the content standards and evaluation criteria.

### PREPARATION FOR PUBLISHERS

The CDE conducted the instructional materials adoption process pursuant to a Schedule of Significant Events adopted by the SBE in March 2017, adhering to all applicable State laws and regulations. The complete Schedule of Significant Events can be found on the CDE website at <https://www.cde.ca.gov/ci/sc/im/sciadoptiontimeline.asp>.

During the summer of 2017, the CDE hosted four webinars for the purpose of familiarizing publishers with the contents of the standards, Framework, evaluation criteria, and the expectations for successful publisher participation in the adoption process. Primarily during the fall of 2017, the CDE posted online the documents necessary for publisher participation, including various submission forms and guiding documents. In January 2018, the CDE held a Publishers Invitation to Submit meeting which again covered the evaluation criteria but focused more on the technical aspects of timely and appropriate publisher participation. Additionally, the CDE routinely provided individual guidance to inquiring publishers and posted online regular updates to a list of frequently asked questions. The complete 2018 Science Instructional Materials Adoption website is located at <https://www.cde.ca.gov/ci/sc/im/>.

### PUBLISHER PARTICIPATION

The adoption process required that interested publishers submit an initial Intent to Submit form by February 12, 2018, and to file additional submission documents by March 8, 2018. Copies of complete publisher programs were due by May 4, 2018. In the end, 19 publishers submitted 34 instructional materials programs for consideration of SBE-adoption.

### PUBLISHER FEES

Pursuant to EC Section 60213, and in accordance with the California Code of Regulations, Title 5 (5 CCR), Section 9517.3, this adoption was financed through fees paid by participating publishers. State regulations established the fee at $8,000 per program per grade level submitted.

The legislation also included the provision that, upon the request of a small publisher or small manufacturer, the SBE might reduce the fee for participation in the adoption. *EC* Section 60211 states that a "small publisher" and "small manufacturer" mean an independently owned or operated publisher or manufacturer that is not dominant in its field of operation and that, together with its affiliates, has 100 or fewer employees, and has average annual gross receipts of ten million dollars ($10,000,000) or less over the previous three years. Six participating publishers received SBE approval for small publisher fee reductions.

### REVIEWER APPOINTMENT AND TRAINING

In November 2017, the SBE appointed 109 Instructional Materials Reviewers and 11 Content Review Experts (Reviewers). The IQC divided Reviewers into 16 review panels assigned one or more programs to review.

Pursuant to 5 CCR Section 9512, the a majority of Reviewers included classroom teachers with a “professional” credential who teach students in kindergarten or grades 1–12, and who have experience with, and expertise in, standards-based-educational programs and practices in science. Some of the Reviewers had experience in providing instruction to English Learners, and in providing instruction to students with disabilities. Most panels included a reviewer holding a doctoral degree in science or a related field.

Utilizing SBE-approved training materials, CDE staff and members of the IQC trained Reviewers at the DoubleTree Hilton Hotel in Sacramento April 16–20, 2018, to prepare them for their independent review and subsequent deliberations. The training included sessions on the content standards, curriculum framework, evaluation criteria, social content requirements, and the overall adoption process. Publishers made scheduled formal presentations to their respective program review panels on the final day of the training and answered reviewer questions.

The CDE conducted the training in accordance with the Bagley-Keene Open Meeting Act. Various publisher representatives and interested members of the public attended the training, and each day at a pre-determined time, trainers paused the session to invite public comment.

### REVIEW PANEL DELIBERATIONS AND REPORTS OF FINDINGS

Within two weeks following the training session, participating publishers delivered complete copies of their programs to all Reviewers and select Learning Resource Display Centers (LRDC). Reviewers conducted their independent reviews of the submitted instructional materials during May through early July.

The Reviewers met in their assigned review panels at the DoubleTree Hilton Hotel in Sacramento for deliberations held on July 16–20, 2018. Reviewers discussed their findings, recorded via individual notes and citations developed while conducting their independent reviews. A member of the IQC or CDE staff approved by the SBE facilitated each panel while additional CDE staff provided administrative support to the panels. In addition to daily public comment periods during deliberations, publishers had the opportunity to provide a brief presentation Wednesday morning in response to three to five formal questions posed by the panel members Tuesday evening.

As Reviewers discussed each program and sought consensus on their findings for each evaluation criterion, they worked collaboratively to produce a Report of Findings for each program. The reports include findings for each category of the criteria and exemplary (not exhaustive) citations to support those findings.

By the end of deliberations, review panels recommended 29 programs of 34 submitted for consideration of adoption, with some recommendations contingent upon satisfactory completion of specified edits and corrections and/or social content citations.

Edits and corrections are defined as inexact language, imprecise definitions, mistaken notations, mislabeling, misspellings, and grammatical errors. Edits and corrections do not include rewrites, including revisions of sections, chapters, or entire pages, or adding new content to a program; rewrites are not allowed during the adoption process (pursuant to 5 CCR sections 9510 and 9519). The review panels also provided citations for social content violations when those were found in the programs (pursuant to 5 CCR Section 9518).

The panel deliberations were conducted in accordance with the Bagley-Keene Open Meeting Act. Various publisher representatives and interested members of the public attended the deliberations. At least twice each day, the deliberations process included an opportunity for public comment.

### PUBLIC COMMENT AND REVIEW

During the adoption process, instructional materials submitted for consideration of adoption were displayed for public review and comment at 10 Learning Resource Display Centers (LRDCs) throughout the state (see Appendix B). Additionally, the CDE posted at the science adoption website links to the student materials of submitted programs (pursuant to 5 CCR Section 9523[b]).

The IQC hosted a meeting to take public comment on the 2018 Science Instructional Materials Adoption on August 13, 2018, in Sacramento (pursuant to 5 CCR Section 9524). Publisher representatives and members of the public attended and submitted comments to the IQC for consideration. All members of the IQC were not present at that meeting, but all members received copies of comments that were submitted in writing.

Pursuant to 5 CCR Section 9521, The CDE forwarded for consideration any public comments received by specific deadlines to the relevant review panels, the IQC, and the SBE. All comments received by July 2, 2018, were forwarded to the review panels; all comments received by September 19, 2018, were forwarded to the IQC; all comments received by November 1, 2018, will be forwarded to the SBE.

As described below, prior to making its recommendations to the SBE, the IQC held two additional public hearings, one during the Science Subject Matter Committee meeting on September 20, 2018, and one during the full IQC meeting on September 21, 2018.

The SBE will hold a final public hearing at that meeting prior to taking action on the IQC’s recommendations.

### INSTRUCTIONAL QUALITY COMMISSION REVIEW AND DELIBERATIONS

IQC members also had the option of receiving all or partial submitted programs. On September 21, 2018, the members of the IQC considered the review panel recommendations, public comments, and reports from individual Commissioners to determine whether each program satisfied or did not satisfy the SBE-adopted evaluation criteria for this adoption.

On September 20, 2018, the IQC science subject matter committee held a public hearing and discussed in depth the review panel Report of Findings for each program. The committee heard testimony from three members of the public before taking action to recommend programs to the full IQC. Members of the committee initiated individual program-specific motions and voted on each of the 34 programs submitted by publishers. Each motion was stated in the affirmative. A majority vote from the science committee was required for any program to be recommended to the full IQC for adoption. The committee recommended for SBE adoption 29 of the 34 programs.

On September 21, 2018, after receiving comment from two members of the public in a second open hearing, the full IQC engaged in an extended discussion of the science subject matter committee’s recommendation before it took action to recommend programs to the SBE. Nine members of the IQC had to vote in the affirmative for any program to be recommended to the SBE. The IQC recommended 29 of the 34 programs.

### REQUIREMENT OF NUMBER OF ADOPTED PROGRAMS

EC Section 60200(e) requires specific findings related to the number of programs adopted by the SBE. In this adoption, the total number of recommended programs provides five or more basic instructional materials programs for each K–8 grade level.

SBE Liaisons were present at all meetings of the IQC related to this adoption, and at the training and deliberations of Reviewers, and can attest to the extent to which the process was aligned to the SBE-adopted framework.

### EDITS AND CORRECTIONS

When the SBE adopts instructional materials programs, it often stipulates as a condition of adoption that publishers make various edits and corrections. These edits and corrections are often identified by the review panels and included within their Reports of Findings, but they may also arise from publisher-submitted errata.

In developing its Advisory Report to the SBE during its September meeting, the IQC determined final lists of recommended edits and corrections to be made by publishers. In its adoption motion of science programs, the SBE included the IQC-recommended edits and corrections without amendment.

Following SBE adoption of programs, the CDE, in conjunction with members of the IQC, will schedule meetings with individual publishers to confirm remedies for the edits and corrections required by the SBE. The procedures for processing edits and corrections is specified in 5 CCR Section 9525, titled “Post Adoption Edits and Corrections Procedures,” and includes a 60-day timeline for publishers to submit proposed compliance remedies, and following CDE and IQC review as necessary, another 60-day timeline to submit final editions. The lists of edits and corrections are not included with this report; however, they are available upon request.

### ADOPTED PUBLISHERS’ RESPONSIBILITIES

According to the provisions of EC sections 60061 and 60061.5, publishers must comply with a number of very specific provisions that ensure that they sell instructional materials at the lowest or same price offered to other districts in this state or any other state in the nation. Following SBE adoption, the CDE will apprise fully each publisher regarding the statutory and regulatory requirements related to state-adopted materials, post-adoption timelines, requirements regarding sales and marketing, alternate formats, pricing, and other associated issues.

### FUNDING

Districts receive funding to purchase instructional materials as part of their basic funding under the Local Control Funding Formula (LCFF). More information about the LCFF can be found on the CDE website at <http://www.cde.ca.gov/fg/aa/lc/>. There is no requirement to purchase SBE-adopted materials nor is there any timeline by which districts must implement new programs.

If a district elects to purchase instructional materials that are not SBE-adopted, any local review panel must include a majority of classroom teachers who are assigned to the subject area or grade level of the materials in their local review process (pursuant to EC Section 60210).

Instructional materials sufficiency requirements (EC Section 60119) remain in effect. Districts must certify each year that they have instructional materials in English language arts/English language development, mathematics, history–social science, and science for all students in kindergarten through grade twelve to use in class and take home. But while the law stipulates that materials must be aligned to the SBE-adopted standards, it allows that such standards may be current or prior standards as old as 1998.

## Summary of State Board of Education Action

November 8, 2018

**These Programs Are Adopted**

| **Publisher** | **Program Title** | **Grade Level(s)** |
| --- | --- | --- |
| Accelerate Learning | STEMscopes CA NGSS 3D | K–5 |
| Accelerate Learning | STEMscopes CA NGSS 3D | 6–8i |
| Accelerate Learning | STEMscopes CA NGSS 3D | 6–8d |
| Activate Learning | IQWST California Edition | 6–8i |
| Amplify Education | Amplify Science: California Discipline Specific Course Model | 6–8d |
| Amplify Education | Amplify Science: California Integrated Course Model | K–8i |
| Carolina Biological Supply Company | Building Blocks of Science 3D | K–5 |
| Delta Education | FOSS Next Generation Elementary | K–5 |
| Delta Education | FOSS Next Generation Middle School | 6–8d |
| Discovery Education | Discovery Education Science Techbook for California NGSS | K–8i |
| Great Minds | Great Minds Science | 4 |
| Green Ninja | Green Ninja Integrated Middle School Science | 6-8i |
| Houghton Mifflin Harcourt Publishing Company | California HMH Science Dimensions | K–6 |
| Houghton Mifflin Harcourt Publishing Company | California HMH Science Dimensions | 6–8i |
| Impact Science Education | Impact Science: Integrated Middle School Program for CA NGSS | 6–8i |
| Impact Science Education | Impact Science: Middle School Program for CA NGSS | 6–8d |
| Lab-Aids | Issues and Science | 6–7i |
| Learning Bits | SMART NGSS by Science Bits | 6–8d |
| McGraw-Hill School Education | California Inspire Science | K–6 |
| McGraw-Hill School Education | California Inspire Science | 6–8d |
| McGraw-Hill School Education | California Inspire Science | 6–8i |
| National Geographic Learning, a division of Cengage Learning | National Geographic Exploring Science | K–6i |
| Pearson Education | California Elevate Science | K–6 |
| Pearson Education | California Elevate Science, Integrated | 6–8i |
| Pearson Education | California Elevate Science 6–8 Discipline Specific | 6–8d |
| Teachers' Curriculum Institute | Bring Science Alive! California Integrated Program 6–8 | 6–8i |
| Teachers' Curriculum Institute | Bring Science Alive! California Program 6–8 | 6–8d |
| Teachers' Curriculum Institute | Bring Science Alive! California Program K–5 | K–5 |
| Twig Education | Twig Science | K–6i |

**These Programs Are Not Adopted**

| **Publisher** | **Program Title** | **Grade Level(s)** |
| --- | --- | --- |
| Carolina Biological Supply Company | STCMS (Science and Technology Concepts Middle School) | 6–8 |
| Knowing Science | Knowing Science Curriculum: Physical, Life, Earth & Space | K–6 |
| TPS Publishing | Creative Science Curriculum K–8 | K–8 |
| TPS Publishing | STEAM Exploration K–8 | K–8 |
| TPS Publishing | STEAM into NGSS K–8 | K–8 |

## Basic Grade Level Programs

### Accelerate Learning, Inc.*,* STEMscopes CA NGSS 3D*, Grades* K–5

#### Program Components:

STEMscopes CA NGSS 3D includes: a digital subscription; student notebook; STEMscopedia, and Teacher Planning Companion (TPC).

#### Summary:

STEMscopes CA NGSS 3D was adopted by the SBE for K–5 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Accelerate Learning, Inc., STEMscopes CA NGSS 3D, Grades 6–8 (integrated)

#### Program Components:

STEMscopes CA NGSS 3D includes: STEMscopes CA NGSS 3D includes: a digital subscription; student notebook; and STEMscopedia.

#### Summary:

STEMscopes CA NGSS 3D was adopted by the SBE for 6–8i 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 well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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 Criterion #3.10: Grade 6, Segment 3: Causes & Effects of Regional Climates: Scope: Sensory Receptors Acceleration: PBL Energy Drinks. The program’s PBL lesson on energy drinks is an exemplar of assessment that uses multiple measures of student performance and guides teachers through detailed rubrics.

#### 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.

#### 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.

### Accelerate Learning, Inc., STEMscopes CA NGSS 3D, Grades 6–8 (discipline specific)

#### Program Components:

STEMscopes CA NGSS 3D includes: STEMscopes CA NGSS 3D includes: a digital subscription; student notebook; and STEMscopedia.

#### Summary:

STEMscopes CA NGSS 3D was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Activate Learning, *IQWST California Edition*, Grades 6–8 (integrated)

#### Program Components:

IQWST California Edition includes: Student Edition (SE), Teacher Edition (TE), Activity (A), Reading (R), Overview (OV), Teacher Portal (TP), Student Portal (SP).

#### Summary:

IQWST California Edition was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Amplify Education, Inc., Amplify Science: California Discipline Specific Course Model, Grades 6–8 (discipline specific)

#### Program Components:

Amplify Science: California Discipline Specific Course Model includes: Amplify Science California: Discipline Specific Course Model includes: Digital Teacher’s Guide (DTG), Digital Student Library.

#### Summary:

Amplify Science: California Discipline Specific Course Model was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Amplify Education, Inc., Amplify Science: California integrated Course Model, Grades K–8 (integrated)

#### Program Components:

Amplify Science: California integrated Course Model includes: Amplify Science California: Integrated Course Model includes: Digital Teacher’s Guide, Digital Student Library.

#### Summary:

Amplify Science: California integrated Course Model was adopted by the SBE for K–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Carolina Biological Supply Company, *Building Blocks of Science 3D*, Grades K–5

#### Program Components:

Building Blocks of Science 3D includes the following: Teacher’s Guide (TG); AOS- Assessment Observation Sheet; AP- Anchoring Phenomenon; AS- Assessment Strategies; EXT- Extensions; INV- Investigations; IP- Investigative Phenomenon; LA- Literacy Article; L&S- Literacy and Science; SIS- Student Investigation Sheet; SA- Summative Assessment; TMM- Tell Me More; Student Edition: LR- Literacy Reader; Digital Review: SIM- Simulation, ISS- Innovators in Science, IWB- Interactive Whiteboard, SBA- Scenario-Based Assessment, Video-Phenomena Video.

#### Summary:

Carolina Biological Supply Company was adopted by the SBE for K–5 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Carolina Biological Supply Company, *STCMS (Science and Technology Concepts Middle School)*, Grades 6–8 (discipline specific)

#### Program Components:

STCMS (Science and Technology Concepts Middle School) includes: Teacher Edition (TE), Student Guide (SG).

#### Summary:

STCMS (Science and Technology Concepts Middle School) was not adopted by the SBE for grades 6–8 because the instructional materials do not include content as specified in the Next Generation Science Standards for California Public Schools (CA NGSS) and do not meet all the Criteria in Category 1 or have strengths in Category 4.

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

The program does not include content as specified in the CA NGSS and does not include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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.

#### Criteria Category 4: Access and Equity

Program materials do not ensure universal and equitable access to high-quality curriculum and instruction for all students and do not provide teachers with suggestions for differentiation for students with special needs.

#### 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.

### Delta Education LLC, *FOSS Next Generation Elementary*, Grades K–5

#### Program Components:

FOSS® Next Generation includes Investigations Guide (IG), Science Resource Book (SRB), Digital-Only Resources (DOR), Teacher Resources (TR), Science Notebook Masters (SNM), Teacher Masters (TM), Assessment Coding Guide (ACG), Assessment Charts (AC), Interim Assessment Master (IAM).

#### Summary:

Delta Education LLC was adopted by the SBE for K–5 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### Criteria Category 5: Instructional Planning and Support

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

### Delta Education LLC, *FOSS Next Generation Middle School*, Grades 6–8 (integrated)

#### Program Components:

FOSS Next Generation Middle School includes: FOSS® Next Generation Middle School includes: Investigations Guide (IG), Science Resources Book (SRB), Digital-Only Resources (DOR), Teacher Resources (TR), Science Notebook Masters (SNM), Teacher Masters (TM), Assessment Coding Guide (ACG), Assessment Charts (AC).

#### Summary:

FOSS Next Generation Middle School was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Discovery Education, Inc., Discovery Education Science Techbook for California NGSS, Grades K–8 (integrated)

#### Program Components:

Discovery Education Science Techbook for California NGSS includes: Digital Core Resource; Optional: Core Text Companion; abbreviations include Technology Enhanced Item (TEI), Hands-On Activity (HOA), Hands-On Lab (HOL), Core Interactive Text (CIT), Reading Passage (RP), STEM Project Starter (STEM PS), Performance Based Assessment (PBA), Video (V).

#### Summary:

Discovery Education, Inc., Discovery Education Science Techbook for California NGSS was adopted by the SBE for K–8 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Great Minds LLC, *Great Minds Science*, Grade 4

#### Program Components:

Great Minds Science includes: Teacher Editions (Modules 1-4), Student Edition Science Logbook Set (Modules 1-4), Science Teacher Online Implementation Support Materials.

#### Summary:

Great Minds Science was adopted by the SBE for 4 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Green Ninja, *Green Ninja Integrated*, Grades 6–8 (integrated)

#### Program Components:

Green Ninja Integrated includes: Green Ninja Integrated Middle School Science includes: digital subscription to Climate: Scientific Principles and Communication (Grade 6); Resources: Investigative Methods and Conservation (Grade 7); Living Systems: Computational Thinking and Design Solutions (Grade 8).

#### Summary:

Green Ninja Integrated was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Houghton Mifflin Harcourt Publishing Company, *California HMH Science Dimensions*, Grades K–6

#### Program Components:

California HMH Science Dimensions includes: California Student Edition Interactive Worktext (SE); California Student Online Interactive Digital Curriculum; California Teacher Edition (TE); California Teacher Digital Management Center; California Assessment Guide (AG)

#### Summary:

California HMH Science Dimensions was adopted by the SBE for K–5 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Houghton Mifflin Harcourt Publishing Company, *California HMH Science Dimensions*, Grades 6–8 (integrated)

#### Program Components:

California HMH Science Dimensions includes: California Student Edition (SE) Interactive Worktext; California Student Online Interactive Digital Curriculum; California Teacher Edition (TE); California Teacher Digital Management Center; California Assessment Guide (AG).

#### Summary:

California HMH Science Dimensions was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Impact Science Education Inc., Impact Science: Integrated Middle School Program for CA NGSS, Grades 6–8 (integrated)

#### Program Components:

Impact Science: Integrated Middle School Program for CA NGSS includes: Impact Science Middle School Program for CA NGSS includes: (U) = Unit, (L) = Lesson.

#### Summary:

Impact Science: Integrated Middle School Program for CA NGSS was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Impact Science Education Inc., *Impact Science: Middle School Program for CA NGSS*, Grades 6–8 (discipline specific)

#### Program Components:

Impact Science: Middle School Program for CA NGSS includes: Impact Science Middle School Program for CA NGSS includes: (U) = Unit, (L) = Lesson.

#### Summary:

Impact Science: Middle School Program for CA NGSS was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Knowing Science LLC, Knowing Science Curriculum-Physical, Life, Earth & Space, Grades K–5

#### Program Components:

Knowing Science Curriculum-Physical, Life, Earth & Space includes: Knowing Science K-5 Curriculum includes: Physical Science (PS), Life Science (LS), Earth & Space Science (ESS) Teacher Manuals (TE).

#### Summary:

Knowing Science Curriculum-Physical, Life, Earth & Space was not adopted by the SBE for K–5 because the instructional materials do not include content as specified in the Next Generation Science Standards for California Public Schools (CA NGSS) and do not meet all the Criteria in Category 1 or have strengths in Category 4.

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

The program does not include content as specified in the CA NGSS and does not include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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.

#### Criteria Category 4: Access and Equity

Program materials do not ensure universal and equitable access to high-quality curriculum and instruction for all students and do not provide teachers with suggestions for differentiation for students with special needs.

#### 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.

### Lab Aids, *Issues and Science*, Grades 6–7 (integrated)

#### Program Components:

Issues and Science includes: Issues and Science for California includes: Student book (SB); Teacher Edition (TE), includes Student Sheets (SS) and Visual Aids (VA); and Teacher Resource (TR).

#### Summary:

Issues and Science was adopted by the SBE for 6–7i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Learning Bits, *SMART NGSS by Science Bits*, Grades 6–8 (discipline specific)

#### Program Components:

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

#### Summary:

SMART NGSS by Science Bits was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### McGraw-Hill School Education, California Inspire Science, Grades K–6

#### Program Components:

California Inspire Science includes: SE: Student Edition; TE: Teacher’s Edition; SRA: Read Aloud; OL: Online

#### Summary:

California Inspire Science was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### McGraw-Hill School Education, California Inspire Science, Grades 6–8 (discipline Specific)

#### Program Components:

California Inspire Science includes: California Inspire Science includes: SE: Student Edition; TE: Teacher’s Edition; OL: Online for Earth and Space (grade 6), Life (grade 7), and Physical Science (grade 8).

#### Summary:

California Inspire Science was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### McGraw-Hill School Education, California Inspire Science, Grades 6–8 (integrated)

#### Program Components:

California Inspire Science includes: California Inspire Science includes: SE: Student Edition; TE: Teacher’s Edition; OL: Online.

#### Summary:

California Inspire Science was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### National Geographic Learning, a division of Cengage Learning, Inc., *National Geographic Exploring Science*, Grades K–6 (integrated)

#### Program Components:

National Geographic Exploring Science includes: Earth Science Big Book (EBB); Life Science Big Book (LBB); Physical Science Big Book (PBB); Let’s Do Science Big Book (DBB); Teacher’s Edition (TE); Student Edition (SE). Additional components include the Assessment Handbook, Science Notebook Companion, and the Exploring Science Through Literacy Readers. The program is available in print and digital formats.

#### Summary:

National Geographic Exploring Science was adopted by the SBE for K–6i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### Criteria Category 4: Access and Equity

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

#### 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.

### Pearson Education Inc., *California Elevate Science*, Grades K–6

#### Program Components:

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

#### Summary:

California Elevate Science was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Pearson Education Inc., *California Elevate Science*, Grades 6–8 (integrated)

#### Program Components:

California Elevate Science includes: California Elevate Science, Integrated includes: Student Edition (SE), Teacher Edition (TE), California Instructional Segment 1-4 (IS1-4), Additional Resources (AR), California Engineering Design Notebook (CA EDN), AR: Teacher Support: Performance Based Assessment 1 (PBA1).

#### Summary:

California Elevate Science was adopted by the SBE for 6–8i 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 provide a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Pearson Education Inc., *California Elevate Science*, Grades 6–8 (discipline specific)

#### Program Components:

California Elevate Science includes: Student Edition (SE), Teacher Edition (TE), California Instructional Segment 1-4 (IS1-4), Additional Resources (AR), California Engineering Design Notebook (CA EDN).

#### Summary:

California Elevate Science was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### TCI, Bring Science Alive! California Integrated Program 6–8, Grades 6–8 (integrated)

#### Program Components:

TCI includes: Bring Science Alive! California Program 6-8 includes: Lesson Guide (CLG), Interactive Student Notebook (ISN), Interactive Tutorial (IT), Performance Expectations (PEs), Reading Challenge (RC), Segment (Seg), Lesson (L), Student (S), Teacher (T), Table of Contents (TOC), English Language Learners (ELs)

#### Summary:

Bring Science Alive! California Integrated Program 6–8 was adopted by the SBE for 6–8i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### TCI, Bring Science Alive! California Program 6–8, Grades 6–8 (discipline specific)

#### Program Components:

Bring Science Alive! includes: Lesson Guide (CLG), Interactive Student Notebook (ISN), Interactive Tutorial (IT).

#### Summary:

Bring Science Alive! California Program 6-8 was adopted by the SBE 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### TCI, Bring Science Alive! California Program K–5, Grades K–5

#### Program Components:

Bring Science Alive! California Program K–5 includes: Lesson Guide (CLG), Interactive Student Notebook (ISN), Interactive Tutorial (IT).

#### Summary:

Bring Science Alive! California Program K–5 was adopted by the SBE for K–5 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### TPS Publishing, *Creative Science Curriculum*, Grades K–8 (discipline specific)

#### Program Components:

Creative Science Curriculum includes: Creative Science Curriculum K-8 includes: Combined TEACHER Textbook (CTE); Combined Student Textbook (CSE); STEM project edition (SPE); interactive assessment tool (TA); assessment generator (AD); intervention focus tutorial (FT); Crosscutting Concepts Digital Library (CCD); safety reasoning library (SSE); reader activity book series (RABS); blackline master (BM); Science, ELA, Arts, Engineering and Mathematics library (STEAM); Digital Frog (DF); Archway phonics program (AW); Alaska suite of products (Alaska); Really Good Stuff kit (RGS); reteach and alternate library (RAL); Team Up Math Game (TU); advanced learner and gifted and talented library (ALGT); parent library (PL); picture glossary cards (PGC); Nest Family DVDs (NEST); KL is kit library; Instructional Support Library (IS); Online Menu (OM); Educational Paper Craft Packs (EPC); Science Maker Assessments (CSM).

#### Summary:

Creative Science Curriculum was not adopted by the SBE for K–8d because the instructional materials do not include content as specified in the Next Generation Science Standards for California Public Schools (CA NGSS) and do not meet all the Criteria in Category 1 or have strengths in Category 4.

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

The program does not include content as specified in the CA NGSS and does not include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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.

#### Criteria Category 4: Access and Equity

Program materials do not ensure universal and equitable access to high-quality curriculum and instruction for all students and do not provide teachers with suggestions for differentiation for students with special needs.

#### 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.

### TPS Publishing, *STEAM Exploration*, Grades K–8 (integrated)

#### Program Components:

STEAM Exploration K–8i includes: STEAM Exploration K-8 includes: Combined TEACHER Textbook (CTE); Combined Student Textbook (CSE); STEM project edition (SPE); interactive assessment tool (TA); assessment generator (AD); intervention focus tutorial (FT); Crosscutting Concepts Digital Library (CCD); safety reasoning library (SSE); reader activity book series (RABS); blackline master (BM); Science, ELA, Arts, Engineering and Mathematics library (STEAM); Digital Frog (DF); Archway phonics program (AW); Alaska suite of products (Alaska); Really Good Stuff kit (RGS); reteach and alternate library (RAL); Team Up Math Game (TU); advanced learner and gifted and talented library (ALGT); parent library (PL); picture glossary cards (PGC); Nest Family DVDs (NEST); KL is kit library; Instructional Support Library (IS); Online Menu (OM); Educational Paper Craft Packs (EPC).

#### Summary:

STEAM Exploration K–8i was not adopted by the SBE for K–8 because the instructional materials do not include content as specified in the Next Generation Science Standards for California Public Schools (CA NGSS) and do not meet all the Criteria in Category 1 or have strengths in Category 4.

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

The program does not include content as specified in the CA NGSS and does not include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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.

#### Criteria Category 4: Access and Equity

Program materials do not ensure universal and equitable access to high-quality curriculum and instruction for all students and do not provide teachers with suggestions for differentiation for students with special needs.

#### 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.

### TPS Publishing, *STEAM into NGSS*, Grades K–8 (integrated)

#### Program Components:

Steam into NGSS K-8 includes: STEAM into NGSS K-8 includes: Combined TEACHER Textbook (CTE); Combined Student Textbook (CSE); STEM project edition (SPE); interactive assessment tool (TA); assessment generator (AD); intervention focus tutorial (FT); Crosscutting Concepts Digital Library (CCD); safety reasoning library (SSE); reader activity book series (RABS); blackline master (BM); Science, ELA, Arts, Engineering and Mathematics library (STEAM); Digital Frog (DF); Archway phonics program (AW); Alaska suite of products (Alaska); Really Good Stuff kit (RGS); reteach and alternate library (RAL); Team Up Math Game (TU); advanced learner and gifted and talented library (ALGT); parent library (PL); picture glossary cards (PGC); Nest Family DVDs (NEST); KL is kit library; Instructional Support Library (IS); Online Menu (OM); Educational Paper Craft Packs (EPC); Science Maker Assessments (CSM).

#### Summary:

Steam into NGSS K-8 was not adopted by the SBE for K–8i because the instructional materials do not include content as specified in the Next Generation Science Standards for California Public Schools (CA NGSS) and do not meet all the Criteria in Category 1.

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

The program does not include content as specified in the CA NGSS and does not include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

### Twig Education, Inc., *Twig Science*, Grades K–6 (integrated)

#### Program Components:

Twig Science includes: Twig Science includes: Twig Science Teacher Editions (TE), Twig Science Student Twig Books (TB), Leveled Readers (LR) (On-, Above, Below and English Learner Levels), www.twigscience.com, www.twigsciencetools.com, www.twigsciencereporter.com.

#### Summary:

Twig Science was adopted by the SBE for K–6i 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.

#### Criteria Category 2: Program Organization

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

#### 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.

#### 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.

#### 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.

## Appendix A: Evaluation Criteria

**Chapter 13––2016 Science Framework for California Public Schools Kindergarten through Grade Twelve**

### Criteria for Evaluating Instructional Resources for Kindergarten Through Grade Eight

The adoption of new science instructional resources will be guided by the criteria described below. To be adopted, resources must meet Category 1, Alignment with CA NGSS Three-Dimensional Learning, in full. Resources will be evaluated holistically for strengths in the other categories of Program Organization, Assessment, Access and Equity, and Instructional Planning and Support. This means that while a program may not meet every criterion listed in those categories, they must on balance meet the intent stated in the introductory paragraph of each category to be eligible for state adoption. Programs that do not meet Category 1 in full and do not show strengths in each one of the other four categories will not be adopted. These criteria are designed to be a guide to publishers in developing their instructional resources and to local educational agencies when selecting instructional resources for their students. To assist in the evaluation of instructional resources, publishers will use SBE-approved standards map and evaluation criteria map templates, developed and supplied by the California Department of Education (CDE), to provide evidence that the program provides students a path to meet the appropriate grade-level performance expectations of the CA NGSS by the end of the year.

It is the intent of the SBE that these criteria be seen as neutral on the format of instructional resources. Print-based, kit-based, digital, interactive online, and other types of programs may all be submitted for adoption as long as they are aligned to the evaluation criteria. Any gross inaccuracies or deliberate falsification revealed during the review process may result in disqualification; any found during the adoption cycle may subject the program to removal from the list of state-adopted instructional resources. Gross inaccuracies and deliberate falsifications are defined as those requiring changes in instructional content. All authors listed in the instructional program are held responsible for the content. Beyond the title and publishing company’s name, the only name to appear on a cover and title page shall be the actual author or authors.

The criteria for the evaluation of science instructional resources for kindergarten through grade eight are organized into five categories:

1. **Alignment with CA NGSS Three-Dimensional Learning:** Instructional resources include content as specified in the CA NGSS. Programs must include a well-defined sequence of instructional opportunities that provides a path for all students to become proficient in all grade-level performance expectations to be eligible for adoption.
2. **Program Organization:** Instructional resources support instruction and learning of the CA NGSS and include such features as the organization, coherence, and design of the program; chapter, unit, and lesson overviews; and glossaries.
3. **Assessment:** Instructional resources include 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.
4. **Access and Equity:** Instructional resources should include suggestions for teachers on how to differentiate instruction to meet the needs of all students. In particular, instructional resources should provide 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, gifted learners, students below grade level in reading comprehension or mathematics skills and knowledge, and students below grade level in science skills and knowledge.
5. **Instructional Planning and Support:** Information and resources suggest coherent guidelines for teachers to follow when planning three-dimensional instruction and are designed to help teachers provide effective standards-based instruction.

Resources that fail to meet the criteria in Category 1: Science Content/Alignment with the Standards, will not be considered suitable for adoption. All criteria statements in Category 1 must be met for a program to be adopted. The criteria for Category 1 must be met in the core resources or via the primary means of instruction, rather than in ancillary components. In addition, programs must have strengths in each of categories 2 through 5 to be suitable for adoption. Extraneous resources should be minimal and clearly purposeful.

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

All programs must include the following features:

1. Instructional Resources, as defined in EC Section 60010(h), must align to the CA NGSS, adopted by the SBE in September 2013 for kindergarten through grade five and resources from grades six through eight must be aligned either to the Integrated Learning Progression Courses for Middle Grades Six through Eight adopted in November 2013 found in chapter 5 of the CA Science Framework or, alternatively, the Discipline Specific Courses for Grades Six through Eight found in chapter 6 of the CA Science Framework. Alignment shall be determined by assessing a full year’s program, not unit by unit. When developing Discipline Specific courses, the publisher should consider which disciplinary core ideas, if any, from the other science domains would need to be introduced in specific grade-level courses in order to facilitate students’ full understanding of each performance expectation by the end of the year. For this reason, some units of the Discipline Specific Course model contain supplemental Disciplinary Core Ideas (DCIs) from other domains.
2. Instructional resources engage students in using text, discourse, and experiential learning to develop mastery of the three integrated dimensions of the CA NGSS: the Science and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), and DCIs.
3. Instructional resources reflect the full content of the CA Science Framework allowing teachers to engage students in using each of the SEPs in multiple contexts and to use and apply the CCCs to connect ideas across science topics.
4. Instructional resources progressively build students’ abilities to meet all grade-level Performance Expectations (PEs) through a three-dimensional instructional sequence.
5. Teacher resources support instructional opportunities and assessments that engage students in three-dimensional learning.
6. Instructional resources shall use proper grammar and spelling (EC Section 60045).
7. Use of primary sources, such as scientific research, case studies, and photographs, are integrated into the three-dimensional learning, as grade-level appropriate.
8. Instructional resources introduce real-world phenomena and systems that students can investigate, model, and explain using the targeted DCIs and CCCs.
9. Instructional resources focus on the application of science to be learned (e.g., medicine, engineering, environmental science) using authentic and meaningful real-world applications and scenarios that are specific to California when appropriate.
10. The science curriculum is enriched with opportunities for students to access informational texts, literature, simulations and other media related to science and engineering and it presents diverse examples of notable scientists and engineers.
11. Resources include examples of people and groups who used their context, learning, and intelligence to make important contributions to society through science and technology from different demographic groups: Native Americans; African Americans; Mexican Americans and other Latino groups; Asian Americans; Pacific Islanders; European Americans; lesbian, gay, bisexual, and transgender Americans; persons with disabilities; women; and members of other ethnic and cultural groups. Resources emphasize the importance of science education to all members of our society in a way that is culturally and socially authentic [EC Sections 51051, 60040(b), and 60044(a)].
12. Student assignments make linkages and are consistent with the grade-level appropriate expectations in the California Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects (CA CCSS for ELA/Literacy), the California English Language Development Standards: Kindergarten through Grade 12 (CA ELD Standards), and California Common Core State Standards: Mathematics (CA CCSSM) and are consistent with the guidance in the CA Science Framework.
13. The materials provide support for students to develop grade-level appropriate academic language and discipline-specific vocabulary through their use in context in classroom discourse around science phenomena (science talk), and through well-written and grade-level appropriate text resources.
14. Teacher resources provide guidance to support all students, including language learners and non-standard English speakers, to develop their science-related language and reading abilities, and to coordinate the multiple elements (text, diagrams, graphs and charts, etc.) that occur in science textual materials.
15. Instructional resources, where appropriate, examine humanity’s place in ecological systems and the necessity for the protection of the environment (EC Section 60041). Resources include instructional content based upon the Environmental Principles and Concepts developed by the California Environmental Protection Agency and adopted by the SBE (Public Resources Code Section 71301) in context and aligned to the CA NGSS, as exemplified in Appendix 2.
16. Instructional resources include explanations about human organ and tissue donation, as age and grade-level appropriate, aligned to the relevant standards and related science research (EC Section 33542).
17. Instructional resources, as age and grade-level appropriate, discuss trends and research in science, including medical research, neuroscience and neurological diseases (such as Amyotrophic Lateral Sclerosis, or Lou Gehrig’s disease) and inform students about career pathways in science.
18. Instructional resources support students to address the applications of science in the development of technologies and in fields such as agriculture, medicine, engineering, and environmental protection. Resources support students to reflect on the interconnections between science, engineering and technology, and to discuss ethical and regulatory issues that can arise when new science and technology allow new capabilities.
19. Instructional resources engage students in the SEPs. Teacher resources will include discussion of expendable and permanent equipment and materials necessary to conduct activities, guidance on obtaining those materials inexpensively, recycling or disposing of materials, and explicit instructions for organizing and safely conducting instruction, labs and activities. (Aligned to the Science Safety Handbook for California Public Schools, California Department of Education [CDE] 2014).
20. Instructional resources include opportunities for reflection on the nature and history of science and on their science learning as indicated in the CA Science Framework.

#### Category 2: Program Organization

Sequential organization and a coherent instructional design of the science program provide structure for what students should learn each year and allow teachers to facilitate exposure to the content efficiently and effectively, incorporating the three dimensions of the CA NGSS. Instructional resources must have strengths in these areas to be considered for adoption:

1. 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.
2. Instructional resources support teacher questioning strategies as a tool to assess students' knowledge and skills, promote student-to-student discourse, and guide student learning.
3. Instructional resources explicitly state which knowledge and skills learned in prior grades or units are applied and extended to accommodate new knowledge and skills.
4. Teacher resources provide support to engage students in three-dimensional learning and suggest research-based strategies to elicit student thinking and support student discourse.
5. The instructional resources are grade-level specific and provide instructional content for 180 days of instruction for at least one daily class period, including an estimate of the necessary instructional time.
6. The content is well organized and presented in a manner consistent with providing all students an opportunity to achieve the essential knowledge and skills described in the CA NGSS and the CA Science Framework.
7. Resources include explanations to teachers regarding how the SEPs, DCIs, and CCCs work together to support students in making sense of phenomena and/or to design solutions to problems and build toward the PEs of the CA NGSS. Teacher resources support understanding of how PEs are developed within units and across units throughout a year.
8. Topics selected for in-depth study are developed through their role in explaining selected phenomena, chosen to support students in building the knowledge and abilities needed to achieve proficiency in a bundle of PEs.
9. Resources encourage the meaningful use of technologies such as video clips or computer simulations to investigate phenomena that cannot be directly experienced in the classroom; effective measuring tools (computer linked thermometer or range-finder, digital scales, etc.); and spreadsheets and other software to record, display, and analyze data, etc. 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.
10. Resources suggest appropriate engineering design tasks in varied contexts as a path to understanding and applying the science ideas being learned. Where appropriate, resources suggest computational tools and software to support the design process and allow students to model or simulate their designed products.
11. Teacher resources include references to where related supplemental open educational resources may be found.
12. Ancillary and support resources are an integral part of the instructional program and are clearly aligned with the CA NGSS.
13. Course descriptions are aligned to a specific progression of courses across each grade band so that students completing the course sequence can meet all grade band CA NGSS PEs. The progression builds ideas in a planned sequence, so that each unit builds progressively on prior learning. The logic of the progression is described and explained in teacher resources.
14. Suggested student tasks, including end-of-chapter or culminating problems and exercises, are three-dimensional in nature and build in complexity throughout the year and across years.

#### Category 3: Assessment

The program provides teachers with assistance in using both formative and summative assessment tasks for planning and modifying instruction, and for measuring the effectiveness of instruction through progress monitoring. Instructional resources must have strengths in these areas to be considered suitable for adoption:

1. Assessments in the instructional resources reflect the three-dimensional nature of the CA NGSS and the 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.
2. Entry-level assessments for each unit are provided to help teachers elicit students’ prior knowledge and preconceptions and gauge their facility for using the SEPs and CCCs. Information is provided to teachers to help them use the results of those assessments to guide instruction and to determine modifications for specific students or groups of students.
3. Teacher materials 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.
4. Brief formative assessment tools and practices at key stages in the unit of instruction are designed to elicit current understandings and preconceptions and to provide evidence of students’ progress toward mastering the three-dimensional learning called for in the *CA NGSS* and the *CA Science Framework*. In addition to providing formative assessment tools, instructional materials must also provide teachers with strategies of how to address preconceptions during instruction. These strategies are to be differentiated for different age levels.
5. Assessments should yield information teachers can use in planning and modifying instruction to help all students meet or exceed the standards.
6. Teacher resources 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.
7. Summative assessments designed to provide valid, reliable and fair measures of students' progress and attainment of three-dimensional learning after a period of instruction (for example at the end of a chapter, unit, or course) should involve multi-component tasks including, but not limited to: hands-on or simulation-based performance tasks, open-ended constructed response problems, and scoring of portfolios of student work collected over the course of instruction. Selected-response items, if used, should require analysis and reasoning to answer them, rather than simply memorized responses.
8. Students’ progress toward meeting the three-dimensions of the CA NGSS is assessed through both writing and performance tasks. Student written responses are consistent with the grade-level writing and mathematics requirements in the CA CCSS for ELA/Literacy and the CA CCSSM.
9. Resources include student work expectations and analytical rubrics for scoring performance tasks and, where possible, examples of student work at each scoring level. Resources include an explanation of the use of rubrics by teachers and students to evaluate the progress of students’ models, projects, writing, and progression toward understanding.
10. Assessment tools 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.
11. Assessment tools include guidance on measuring students’ ability to apply information literacy skills when obtaining and evaluating information about science topics.

#### Category 4: Access and Equity

The goal of science programs in California is to ensure universal and equitable access to high-quality curriculum and instruction for all students (all standards, all students) so they can meet or exceed the PEs as described in the CA NGSS. To reach the goals of access and equity, instructional resources must provide teachers with the necessary content and pedagogical tools to teach all students the CA NGSS. In particular, the instructional resources provide support for differentiated instruction for 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, gifted learners, students with disabilities and students below grade level in science skills, three-dimensional learning, literacy skills or mathematics skills. Resources should incorporate recognized principles, concepts, and research-based strategies to meet the needs of students and provide equal access to learning, which could include Universal Design for Learning, Response to Intervention and Instruction, and Multi-tiered System of Supports, as outlined in chapter 10 on access and equity, in the CA Science Framework. Instructional resources must have strengths in these areas to be considered for adoption:

1. The instructional resources should reflect the goals of access and equity outlined in chapter 10 of the CA Science Framework.
2. At every grade level, suggested lessons and teacher resources will include research-based strategies to address the needs of English learners consistent with the CA ELD Standards.
3. Instructional resources incorporate instructional strategies to address the needs of students with disabilities in lessons, assessments, and teacher resources, as appropriate, at every grade level.
4. Teacher resources supply a differentiated path for all students. In particular, instructional resources should provide 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 mathematics skills.

#### Category 5: Instructional Planning and Support

The resources present explicit guidance to help teachers plan instruction. The resources should be designed to help teachers provide instruction that ensures opportunities for all students to learn the essential skills and knowledge specified in the CA NGSS. The resources must have strengths in these areas of instructional planning and teacher support to be considered suitable for adoption:

1. Program resources include a curriculum guide for the academic instructional year for teachers to follow when planning for 180 days of instruction.
2. The teacher resources provide an estimated instructional time for each activity, lesson, chapter, and unit which allows for student engagement in the SEPs and engineering design projects.
3. The teacher resources provide guidance in daily lessons and units of instruction with appropriate opportunities for checking for understanding and adjusting lessons, if necessary, to ensure three-dimensional learning.
4. Program resources address the articulation of three-dimensional learning by identifying the knowledge and skills learned in prior grades and prior grade-level units, and address how to connect and build on these learnings to help students develop increasingly sophisticated ideas.
5. Teacher resources provide background knowledge about the SEPS, DCIs, and CCCs and discuss the desired level of SEPs in which students will engage, including how the three dimensions are integrated into units and lessons.
6. All suggested student tasks, including classroom activities, end-of chapter tasks, suggested out-of-school activities, and assessment tasks are supported with guidance for the teacher on how to implement and, where appropriate, grade the task. Assessment keys and rubrics are provided.
7. Teacher and student resources have correlating page numbers in print resources or corresponding references in electronic resources.
8. Teacher resources include a planning guide describing the relationships between the components of the program and how to use all the components to meet all of the CA NGSS.
9. Instructional objectives for three-dimensional learning are explicitly stated and clearly identifiable in the teacher resources. Teacher resources include guidance on explaining these objectives to parents.
10. While learning goals may be explicitly stated in the teacher materials, student resources will provide experiences that clearly build to the development of those learning goals without explicitly stating those goals prior to the instruction. In most cases, prior to instruction, introduce a phenomenon or guiding question or the end result of the lesson series.
11. Lessons include instructional strategies aligned to the CA NGSS, the CA Science Framework and based on current and confirmed research (e.g., teacher facilitated student-led conversations, as well as hands-on activities and laboratories). Resources are clearly connected to and support the goals of the CA CCSSM and CCSS for ELA/Literacy.
12. Instructional resources should include a list of consumable and non-consumable equipment and materials required for each lesson and address safety issues included in the Science Safety Handbook for California Public Schools (CDE 2014).
13. Terms from the CA NGSS and CA Science Framework are used appropriately and accurately in the instructions.
14. Electronic learning resources, including technology-based assessments, support instruction that is connected explicitly to the CA NGSS, have a well-designed user interface, provide technical support, and include suggestions for appropriate and differentiated use.
15. The 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 CA Science Framework.
16. Teacher resources discuss and identify preconceptions typical at a grade span (such as inaccurate explanations based on everyday experiences or vernacular conflicts between the everyday use of a term and the meaning of the term in a scientific context) and provide guidance to help students build more accurate understandings of the scientific concept or process.
17. Suggested homework, if included, extends and reinforces classroom instruction. Homework should also provide opportunities to support student learning through shared experiences with family. Opportunities may include projects, journaling, reflection, or interviews with parents around a concept or activity such as family history used in genetics, decomposition in gardening, or chemistry in cooking.
18. The program should include resources that teachers can use to inform families about the CA NGSS and student progress.
19. Resources provide teachers with instructions on how outside resources (e.g., guest speakers; museum visits; electronic field trips, informal science education providers including state parks, nature parks, science centers, local organizations, school gardens or schoolyard open spaces, local parks, etc.) can be incorporated into a three-dimensional learning, standards-based science program.
20. Using guidance from the Model School Library Standards for California Public Schools, resources provide information for teachers on the effective use of library and media resources that best complement the standards.
21. The teacher resources provide guidance and support for engaging students in collaborative conversations using grade level appropriate academic vocabulary for scientific discourse.

## Appendix B: Learning Resources Display Centers

Learning Resource Display Centers (LRDCs) are sites where instructional materials programs submitted for the 2018 Science Adoption are on public display. Please call for hours, as staffing varies.

**Fresno County Office of Education**Instructional Technology Services  
Brigeen Radoicich   
1111 Van Ness   
Fresno, CA 93721  
559-497-3711

**Humboldt County Office of Education**Colby Smart  
901 Myrtle Avenue   
Eureka, CA 95501   
707-445-7088

**Kern County Superintendent of Schools Office**The Learning Center  
Teresa Twisselman   
2020 K Street  
Bakersfield, CA 93301  
661-636-4645

**Sacramento County Office of Education**David Chun/Parrish Chavez  
Bradview Warehouse  
3735 Bradview Drive, Suite 200  
Sacramento, CA 95827  
916-228-2574

**San Diego County Office of Education**

Oscar Ramirez  
5304 Metro Street, Suite C  
San Diego, CA 92110  
619-718-4987

**Stanislaus County Office of Education**Debra Boggs  
Director 1, K–12 Literacy   
1100 H Street  
Modesto, CA 95354   
209-238-1305

**Tulare County Office of Education**Educational Resource Services  
Kim Rice   
7000 Doe Avenue, Suite A   
Visalia, CA 93291   
559-651-3031

**University of California, Riverside**Rivera Library  
Christina Cicchetti   
900 University Ave   
Riverside, CA 92521  
951-827-3715

**University of California, Santa Barbara**Davidson Library, Curriculum Lab  
Lorna Lueck   
Santa Barbara, CA 93106-9010   
805-893-7111

**Ventura County Office of Education**  
Rene Hohls  
5100 Adolfo Road   
Camarillo, CA 93012  
805-437-1340