| **Virginia Board of Education Agenda Item** | **Seal of the Commonwealth of Virginia** |
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# **Agenda Item**: D

# **Date:** September 17, 2020

# Title: Final Review of Proposed State Approved Textbooks for K-12 Science

# Presenter: Dr. Anne Petersen, Science Coordinator

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# Purpose of Presentation:

Action required by state or federal law or regulation.

# Executive Summary:

The Virginia Department of Education (VDOE) began the process to review science textbooks following the Board of Education’s approval to do so on July 25, 2019. The Department followed the [Timeline for State Approval Process for Science](http://www.doe.virginia.gov/instruction/textbooks/science/texbook-approval-science.docx) (Word) (contained in Attachment A) and the [Textbook Criteria for Science](http://www.doe.virginia.gov/instruction/textbooks/science/2019/science%20_textbook_evaluation_forms_2019.docx) (Word) (contained in Attachment B) to conduct the textbook review. In November 2019, publishers of the reviewed science textbooks submitted a Publisher’s Certification and Agreement form for each textbook being considered for approval by the Board of Education. VDOE staff members have reviewed the information included in each submitted [Publisher’s Certification and Agreement form](http://www.doe.virginia.gov/instruction/textbooks/review_process/publisher_submission_form.docx) (blank version contained in Attachment C).

In January 2020, committees of Virginia educators received the science textbook samples along with K-12 *Science Standards of Learning* textbook correlations from publishers. Between January 2020 and March 2020, members of these committees conducted individual analyses of the materials using evaluation criteria for Standards of Learning (SOL) correlation, content, bias, and design for instructional planning and support. In March 2020, VDOE staff then aggregated the analyses of committee members and shared consensus evaluations with publishers. Publishers were given an opportunity to respond to the committees’ reviews and recommendations in June 2020. Requests by publishers for reconsideration were examined carefully by VDOE staff, and staff members began preparing the list of proposed approved science textbooks for presentation to the Board.

The list of proposed recommended science textbooks, including the status of the Publisher’s Certification and Agreement forms for each, is included as Attachment E.

Following the Board’s first review of the proposed textbooks, the VDOE conducted a 30-day public comment period. There were 27 comments sent to VDOE concerning textbooks, many of the comments identified preferences to books at different grade levels (Appendix F). There were no negative comments received on the content any of the textbooks reviewed through public comment nor the alignment of these texts to the 2018 *Science Standards of Learning*.

An additional review of the textbooks was requested by the Board of Education on July 23, 2020. This review was conducted to allow stakeholders the opportunity to review the proposed textbooks through an equity lens. The initial review teams were asked to respond to five questions using a Likert scale and were given the opportunity to provide written feedback for each textbook reviewed (Appendix D). Additional reviewers were sought from divisions and institutes of higher education to also review the textbooks using these five questions. The VDOE science team received feedback from 23 people (Appendix G). Most of the feedback was favorable; however, comments from reviewers did indicate that in many textbooks at the secondary level the focus was primarily on content versus a reflection of cultural impacts in the development of scientific theories (the nature of science) or including opportunities for career exploration including the use of scientists from different cultures. The VDOE science team reviewed textbooks as well and determined the texts listed in the Proposed Science Textbook Review list did not yield anything that would prohibit books from being on the Approved Science Textbook list.

### Review and approval of K-12 science textbooks that are aligned to the 2018 *Science Standards of Learning* aligns with Priority 1: Provide high-quality, effective learning environments for all students of the [Board of Education *Comprehensive Plan: 2018-2023*](http://www.doe.virginia.gov/boe/plan/comprehensive-plan.pdf) through having resources that support a system of quality education.

# Action Requested:

Final review: Action requested at this meeting.

# Superintendent’s Recommendation:

The Superintendent of Public Instruction recommends that the Board of Education approve the attached list of recommended textbooks for K-12 science.

# Rationale for Action:

Pursuant to the Constitution of Virginia and the Code of Virginia, Board action is required to approve textbooks and instructional aids and materials for use in K-12 science courses in the Commonwealth.

# Previous Review or Action:

Previous review and action. Specify date and action taken below:

**Date**: July 25, 2019

**Action**: Report outlining the anticipated timeline and the approved process to review and approve textbooks for K-12 science

**Date**: July 23, 2020

**Action**: First Review

# Background Information and Statutory Authority:

The Board of Education’s authority for approving textbooks or other instructional materials is prescribed in the Constitution of Virginia ([Article VIII, § 5](https://law.lis.virginia.gov/constitution/article8/section5/)) and in the [*Code of Virginia*](https://law.lis.virginia.gov/vacode/22.1-253.13:1/) (applicable citations noted in Attachment C). [Virginia’s Textbook Review Process](http://www.doe.virginia.gov/instruction/textbooks/review_process/va_textbook_review_process.pdf) provides a comprehensive overview of the current textbook review process, along with the *Regulations Governing Local School Boards and School Divisions*.

The current list of state-approved science textbooks was approved by the Board in 2012 following revisions to the *Science Standards of Learning* and *Curriculum Framework* in 2010. The Board of Education approved the 2018 *Science Standards of Learning* on October 18, 2018, and the 2018 *Science Curriculum Framework* on June 20, 2019, which then prompted the need to review textbooks for correlation to the revised content. On July 25, 2019, the Board of Education received a report of the anticipated timeline for the review of textbooks to align with the 2018 *Science Standards of Learning* and *Curriculum Framework.*

# Timetable for Further Review/Action:

Upon approval, the Department of Education will publish the list of approved textbooks on its website in accordance with [§22.1-238 of the *Code of Virginia*](https://law.lis.virginia.gov/vacode/title22.1/chapter13/section22.1-238/).

# Impact on Fiscal and Human Resources:

This responsibility can be absorbed by the agency’s existing resources at this time. If the agency is required to absorb additional responsibilities related to this process, other services will be impacted.

## Attachment A

**2019-2020 Approval Process for K-12 Science Textbooks**

**October 2019** The Virginia Department of Education (VDOE) invites publishers to submit textbooks for review.

VDOE seeks nominations for qualified educators and content experts to serve on the textbook review committees.

Publishers indicate their intent to submit textbooks on completed certification and agreement forms that are required by the Board in its state approval process.

**November 2019** Review committees of K-12 educators and content experts with advanced degrees in the field are determined.

VDOE reviews publisher certifications and agreements and works with publishers to address concerns. Incomplete forms may result in the textbook being removed for consideration for review.

**December 2019** VDOE notifies the publishers of the evaluation committee members for the purpose of sending all the textbooks under consideration for approval to these reviewers**.**

**January-**

**February 2020** Committee members use the evaluation criteria to review the textbooks independently for Standards of Learning (SOL) correlations, content, bias, and design for instructional planning and support.

**March 2020** Members of the review committee submit their individual textbook analysis to the VDOE staff for aggregation and consensus.

**April 2020** The consensus evaluations are shared with publishers.

**June 2020** Publishers are given the opportunity to respond to the committee’s reviews and recommendations.

**July 2020** The Board receives the proposed list of textbooks for first review, along with information from the textbook publishers’ certifications and agreements.

**August 2020** During a 30-day public comment period, the public is invited to review copies of the textbooks that have been placed around the state and to provide comment to the Board.

**September 2020** The Board reviews all public comment, considers the list, and approves the textbooks.

VDOE posts a list of approved textbooks with prices and information from the textbook publishers’ certifications and agreements on the VDOE’s website.

**Ongoing** The public may provide ongoing feedback regarding inaccuracies in approved textbooks.

Attachment B

**Evaluation Criteria Used by Textbook Review Committee**

**Section I: Correlation with the Standards of Learning**

|  |  |  |
| --- | --- | --- |
| **Determine the degree to which content found in these textbooks is correlated with the Standards of Learning and the Curriculum Framework for this subject.** | | |
| **Adequate**  **A**  **(Note: Provide examples to support this rating.)** | **Limited**  **L**  **(Note: Provide examples to support this rating.)** | **No Evidence**  **N** |
| Lessons are aligned with the standards.  Content appears accurate, clear, and in sequential order.  Most of the essential understandings, knowledge, and skills are supported.  Many opportunities are provided for students to practice essential skills. | Limited connections between the standards and the lessons are noted.  Content appears to contain some inaccuracies or is not always clear.  Essential understandings, knowledge, or skills are not sufficiently addressed.  There is limited opportunity for students to practice essential skills. | No correlation between the standards and the lessons are noted.  A logical sequence of content cannot be identified and/or there appear to be significant content inaccuracies.  Essential understandings, knowledge, or skills are not addressed.  Opportunities to practice essential skills are not included. |
| Comments or concerns related to content accuracy, bias, or editing: | | |

**Section II: Rubric for Instructional Design and Support**

**(Reported and may be used in correlation and approval considerations.)**

|  |  |  |
| --- | --- | --- |
| **Adequate**  (Note: Provide examples to support this rating.) | **Limited**  (Note: Provide examples to support this rating.) | **No Evidence** |
| 1. Materials emphasize the use of effective instructional practices and learning theory. | | |
| * 1. Students are guided through critical thinking and problem-solving approaches. | | |
| Materials consistently include content promoting use of critical thinking and problem-solving approaches. | Materials inconsistently include content promoting use of critical thinking and problem-solving approaches. | Materials do not include content promoting use of critical thinking and problem-solving approaches. |
| * 1. Concepts are introduced through concrete experiences that incorporate the scientific and engineering practices. | | |
| Materials consistently promote the introduction of concepts through concrete experiences. | Materials inconsistently promote the introduction of concepts through concrete experiences. | Materials do not promote the introduction of concepts through concrete experiences. |
| * 1. Multiple opportunities are provided for students to develop and apply concepts through scientific and engineering practices. | | |
| Materials consistently provide development and application of concepts through appropriate technologies. | Materials inconsistently provide development and application of concepts through appropriate technologies. | Materials do not provide development and application of concepts through appropriate technologies. |
| * 1. Students use a variety of representations (graphical, numerical, symbolic, verbal, and physical) to connect science concepts. | | |
| Materials provide consistent use of a variety of representations of science content and concepts. | Materials provide inconsistent use of a variety of representations of science content and concepts. | Materials do not provide use of a variety of representations of science content and concepts. |
| 1. The science content is significant and accurate. | | |
| * 1. Materials are presented in an organized, logical manner which represents the current thinking on how students learn science. | | |
| Materials consistently support the balanced use of conceptual and procedural approaches. | Materials inconsistently support the balanced use of conceptual and procedural approaches. | Materials do not support a balanced use of conceptual and procedural approaches. |
| * 1. Materials are organized appropriately within and among units of study. | | |
| Materials are consistently organized within and among units of study. | Materials are inconsistently organized within and among units of study. | Materials are inappropriately organized within and among units of study. |
| * 1. Format design includes titles, subheadings, and appropriate cross-referencing for ease of use. | | |
| Materials consistently use formatting that is user-friendly. | Materials inconsistently use formatting that is user-friendly. | Materials do not use formatting that is user-friendly. |
| * 1. Writing style, length of sentences, vocabulary, graphics, and illustrations are appropriate. | | |
| Materials consistently include writing and visuals that are appropriate for the grade level. | Materials inconsistently include writing and visuals that are appropriate for the grade level. | Materials do not include writing and visuals that are appropriate for the grade level. |
| * 1. Level of abstraction is appropriate and practical/real-life examples, including careers, are provided. | | |
| Materials consistently provide the appropriate level of abstraction and appropriate practical/real-life examples. | Materials inconsistently provide the appropriate level of abstraction and appropriate practical/real-life examples. | Materials do not provide the appropriate level of abstraction and appropriate practical/real-life examples. |
| * 1. Sufficient applications are provided to promote depth of application. | | |
| Materials consistently provide sufficient applications to promote depth of application and are appropriate for the grade level. | Materials inconsistently provide sufficient applications to promote depth of application and are appropriate for the grade level. | Materials do not provide sufficient applications to promote depth of application and are not appropriate for the grade level. |
| 1. Materials present content in an accurate, unbiased manner. | | |
| Materials consistently present content in an accurate, unbiased manner. | Materials inconsistently present content in an accurate, unbiased manner. | Materials do not present content in an accurate, unbiased manner. |

**Attachment C**

**Publishers’ Submission Forms for Virginia’s Textbook Approval Process**

Virginia Department of Education

Approved by the Virginia Board of Education

March 24, 2011\*

**\*** Updated to comply with SB4 (2014) Chapter 440 § 1 Uncodified Act of the General Assembly

**Introduction**

The Virginia Board of Education’s authority for approving textbooks and other instructional materials is prescribed in the *Virginia Constitution* and in the *Code of Virginia*.

* *Virginia Constitution, Article VIII, § 5 (d)*

It [the Board of Education] shall have authority to approve textbooks and instructional aids and materials for use in courses in the public schools of the Commonwealth.

* *Code of Virginia*, § 22.1-238

1. The Board of Education shall have the authority to approve textbooks suitable for use in the public schools and shall have authority to approve instructional aids and materials for use in the public schools. The Board shall publish a list of all approved textbooks on its website and shall list the publisher and the current lowest wholesale price of such textbooks.
2. Any school board may use textbooks not approved by the Board provided the school board selects such books in accordance with regulations promulgated by the Board.
3. For the purposes of this chapter, the term "textbooks" means print or electronic media for student use that serve as the primary curriculum basis for a grade-level subject or course.

[SB4 (2014) Chapter 440 § 1](http://law.lis.virginia.gov/uncodifiedacts/2014/session1/chapter440/) was passed as an Uncodified Act of the General Assembly -

Be it enacted by the General Assembly of Virginia:

1. *§ 1. That all textbooks approved by the Board of Education pursuant to § 22.1-238 of the Code of Virginia, when referring to the Sea of Japan, shall note that it is also referred to as the East Sea.*

2. That the provisions of this act shall not affect any textbook approved by the Board of Education prior to July 1, 2014.

This document, including all attachments, provides textbook publishers with the required information and forms for submitting textbooks for review by the Virginia Department of Education (VDOE) and approval by the Virginia Board of Education. By submitting textbooks for evaluation, publishers agree to follow the procedures set forth in this document. Failure to comply with all procedures may result in disqualification of the textbook as a part of the review and approval process.

**Primary Material Submitted for Review**

As noted in Section 22.1-238.C of the *Code of Virginia* above, the term textbook refers to print or electronic media for student use that serves as the primary curriculum basis for a grade-level subject or course.

For the remainder of this document, such instructional media will be referred to as “primary material.” Primary material contains the core curriculum that is the basis for the grade-level subject or course. VDOE review committees will review the material selected by the publisher as the “primary material.” This is typically the student edition of the textbook or the primary material that students will use to gain access to the content, although there may be exceptions according to the content area and grade level of the textbooks (e.g., teacher’s editions may need to be included in the review at elementary grades for English/reading). Ancillary and supplemental materials will not be considered for review.

Submitting primary material in digital format is encouraged. However, publishers may submit primary material in either digital or print format, or in a format combining both media. VDOE review committees will review only the material selected as the primary material by the publisher. If a print program is submitted as the primary material to be reviewed, a digital version of this material must also be available to students. Any duplicate or similar version of the primary material submitted will not be reviewed by the VDOE review committees as a part of the textbook approval process. If a publisher submits digital primary material and this material is also available in print, the review committee will review only the digital version of the primary material. In submitting their materials for review, publishers must provide an explanation of if and how the content in the primary material medium (digital or print) is different from or comparable to that offered in the other medium. Digital primary material may contain items such as embedded video clips or content that is delivered through an interactive format.

**Submission Forms**

Publishers must complete the Textbook Publisher’s Certification and Agreement listing all primary materials submitted for review consideration at the time it signals intent to submit textbooks for review as part of Virginia’s textbook approval process.

***Textbook Publisher’s Certification***

(Date)

(Publishing Company)

Name of Primary Contact:

Phone Number, including area code:

Email Address:

The publishing company indicated above submits the following primary materials to the Virginia Department of Education for consideration in Virginia’s textbook approval process.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Title** | **ISBN** | **Copyright** | **Grade Level or Course** | **Is this primary material submitted as digital, print, or combination?\*** |
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\*Only one version of the primary material will be reviewed by VDOE committees. If the primary material is available in more than one format, provide an explanation of how they differ or are comparable.

The publisher certifies the following:

1. Each textbook has been thoroughly examined and reviewed by at least three qualified content experts for factual accuracy in the subject matter and the textbooks are free from any factual or editing errors. The credentials of the author(s) and/or editor(s) and content review experts are provided on the attached forms.

2. Each textbook has been thoroughly examined and reviewed by qualified editors to identify any typographical errors.

1. Any duplicate version (i.e., print or digital) of the primary material that is available to Virginia school divisions contains at least the same content included in the primary material selected by the publisher for review. Any additional content, above that contained in the primary material reviewed, is accurate and free of errors. If the content of the print and digital versions of the same primary material varies, those variations are outlined in an attachment to the certification.
2. The Quality Assurance and Editing Process described below was followed for all primary materials submitted by the publisher for review.

**Quality Assurance and Editing Process**: Please describe, *in three pages or less*, the internal process used to ensure accuracy and lack of bias including:

* the quality assurance and workflow steps used to ensure accuracy of content;
* the quality assurance and workflow steps used to eliminate editing and typographical errors, including errors in grammar, written expression, spelling, formatting, and other substantive elements that may affect student learning;
* the fact-back-up guidelines (i.e., what is an acceptable source for a fact and what is not) used by the authors, editors, and outside content experts;
* the review by outside content experts, other than the authors, to verify accuracy and ensure freedom from bias; and
* the process used to reach consensus on information with divergent interpretations.

Enter the description here. (Additional information will not be considered or reviewed.)

***Textbook Publisher’s Agreement***

The PUBLISHER agrees to the following:

1. After submission of a textbook to the Department of Education for consideration in the textbook approval process, the PUBLISHER will promptly inform the Department in writing of any changes made in the textbook prior to its approval by the Board of Education.
2. If any factual or editing errors are identified in a PUBLISHER’s textbook following its approval by the Board of Education, the PUBLISHER will submit a corrective action plan to the Department of Education within 30 days of being notified by the Department of the errors. All corrective action plans must be approved by the Board of Education, but the Board hereby delegates the approval of corrective action plans not involving significant errors to the Superintendent of Public Instruction. Each corrective action plan must be tailored to the materiality of the errors identified and must be implemented in the manner most conducive to and least disruptive of student learning. Corrective action plans may include, but are not limited to: a) corrections upon reprinting of the textbook; b) corrective edits to an online textbook; c) electronic errata sheets posted on the PUBLISHER’s and the Department of Education’s websites; d) print errata sheets provided to schools for insertion into textbooks; e) replacement books; and f) return of the textbook and refund of any payment made for the textbook. Upon approval of the corrective action plan, the PUBLISHER will implement the plan at the PUBLISHER’s expense.
3. If, upon being notified by the Department of factual or editing errors in an approved textbook, the PUBLISHER disputes that the textbook contains such errors, the PUBLISHER must submit a written explanation of its position to the Department within 30 days of receiving notice from the Department of the error. Upon request, the PUBLISHER may meet with the Department. The Board of Education reserves to itself the right to make a final determination of whether the textbook contains a factual or editing error. If the Board determines that the textbook contains such an error, the PUBLISHER will submit a corrective action plan to the Department within 15 days after receiving notice of the Board’s determination.
4. If numerous and/or significant errors are identified in a textbook on the Board of Education’s approved list, the Board of Education may, in its sole discretion, withdraw the textbook from the approved list. The Board of Education must notify the PUBLISHER in writing before it removes its textbook from the approved list. The PUBLISHER will have 30 days to respond in writing and the right to meetwith the Department of Education before removal.A “significant error” is a factual or editing error that the Board of Education or Department of Education determines within the context of the intended use of the textbook will substantially interfere with student learning. A change in knowledge that occurs subsequent to publication shall not constitute a significant error.
5. If the PUBLISHER makes updates/revisions to textbooks after they have been approved by the Board of Education, the PUBLISHER will ensure that the updated/revised material has been vetted through the same quality assurance process for accuracy and editing outlined in the signed certification. The PUBLISHER will notify the Department and any school division that has purchased this material of the updates/revisions that have been made.

Please check here if this submission includes an attachment that outlines if and how duplicate versions (print or digital) of primary materials vary.   
(Item #3 in the certification)

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(Signature of President of the Company or Designee) (Date)

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(Printed Name and Title of Person Signing Above)

***Author(s)/Editor(s) and Content Review Expert Information***

This attachment must be completed for each primary material submitted for review. Please insert additional copies for each primary material.

**Primary Material (printed book or digital submission)**

Please list name and edition of the textbook or series submitted as a primary material.

**Publisher:**

**Product Name:**

**Author(s):**

**Edition:** **ISBN:**

**Author/Editor Information**

Please complete the table below. Include each author and/or editorassociated with the development of the primary material. Please insert copies of the table for additional authors/editors.

|  |  |
| --- | --- |
| **Author/Editor:** | **Role of the author/editor in writing the textbook (include references to specific sections, chapters, pages, etc.)** |
| Education and professional background: |  |
| Related published works: |
| Professional qualifications and specific areas of expertise: |
| Did the author/editor review the final copy of his/her work before publication?  \_\_\_ Yes \_\_\_\_ No |

***Content Review Expert Information***

Please include each content review expert associated with the quality assurance process for accuracy and editing for the primary material listed. At least three content review experts must be included with at least 1) two experts with a graduate degree in the content area being reviewed; and 2) at least one teacher with recent experience teaching the content in the appropriate grade level or course. Please insert copies of the table for additional content review experts.

|  |  |
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| **Reviewer:** | **Role the reviewer had in the review process (entire book or include references to specific sections, chapters, pages, etc.)** |
| Education and professional background: |  |
| Related published works: |
| Professional qualifications and specific areas of expertise: |

***Attachment D - Equity Review Questions***

The Virginia Board of Education (BOE) has accepted the initial list of science textbooks and appreciate the efforts that the review teams dedicated to the review process. This review process was conducted to determine the alignment of the proposed textbook content to the 2018 *Science Standards of Learning*. The BOE asked that we also review the textbooks to ensure that these texts align to the BOE's statement on Equity (excerpt included below).

Board remains committed to prioritizing equity in every facet of Virginia’s public education system, to ensure every child receives what they need, when they need it, to access a high-quality public education. This vision of equity extends across race, socioeconomic status, and regional diversity. In October 2019, the Board prescribed revised Standards of Quality, and advocated for their implementation during the 2020 General Assembly, in order for the Commonwealth to make progress towards equity of opportunity and outcome for all of Virginia’s students.

1. There are opportunities in the textbook for students to view themselves, their community, and their cultural backgrounds in science.

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. The textbook provides opportunities for teachers to design instruction that allows for students to engage in authentic science experiences and allows all students the opportunity to "do science" and develop scientific and engineering practices.

Strongly Agree Agree Neutral Disagree Strongly Disagree

3. The Nature of Science reinforces the fact that science is an ongoing, collaborative, and society driven endeavor that leads to the development and revision of scientific theories and laws.  The textbook reflects the diversity of scientists and the impact of cultures involved in the development of scientific theories and laws, particularly those theories that are emphasized in the 2018 Science Standards of Learning.

Strongly Agree Agree Neutral Disagree Strongly Disagree

4. Would you recommend this textbook as a resource that teachers may use to address science content outlined in the 2018 Science Standards of Learning through the lenses of culture, race, gender, and backgrounds of their classroom populations?

Yes No

5. Do you have any comments or concerns with this textbook that you would like us to share with the Virginia Board of Education concerning this text when viewed through an equity lens?

Attachment E - Proposed Science Textbooks Recommended for Approval 2019-2020

July 23, 2020

**Satisfactory Completion of Publisher’s Certifications and Agreements**

| **Grade/Course** | **Publisher** | **Title** | **Yes** | **No** |
| --- | --- | --- | --- | --- |
| **Kindergarten** |  |  |  |  |
| Kindergarten | Accelerate Learning, Inc. | STEMscopes Virginia - Kindergarten | X |  |
| Kindergarten | Delta Education, LLC/ School Specialty, Inc. | Grade K VA FOSS: Animals Two by Two, Trees and Weather, Materials and Motion | X |  |
| Kindergarten | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Grade K | X |  |
| Kindergarten | Five Ponds Press Books, Inc. | Exploring Science All Around Us Level K | X |  |
| Kindergarten | SASC, LLC dba Activate Learning | PRIME: Pushes and Pulls, Plants and Animals, Watching the Sky, | X |  |
| **Grade 1** |  |  |  |  |
| Grade 1 | Accelerate Learning, Inc. | STEMscopes Virginia – Grade 1 | X |  |
| Grade 1 | Delta Education, LLC/ School Specialty, Inc. | Grade 1 VA FOSS: Plants and Animals, Air and Weather, Sound and Light | X |  |
| Grade 1 | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Grade 1 | X |  |
| Grade 1 | Five Ponds Press Books, Inc. | Exploring Science All Around Us Level 1 | X |  |
| Grade 1 | SASC, LLC dba Activate Learning | PRIME: Light and Sound, Examining Living Things, Tracking the Weather, | X |  |
| **Grade 2** |  |  |  |  |
| Grade 2 | Accelerate Learning, Inc. | STEMscopes Virginia – Grade 2 | X |  |
| Grade 2 | Delta Education, LLC/ School Specialty, Inc. | Grade 2 VA FOSS: Insects and Plants, Weather and Seasons, Solids and Liquids, Forces in Action | X |  |
| Grade 2 | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Grade K | X |  |
| Grade 2 | Five Ponds Press Books, Inc. | Exploring Science All Around Us Level K | X |  |
| Grade 2 | SASC, LLC dba Activate Learning | PRIME: Forces in Action; Solids, Liquids, and Gases; Patterns in Life Cycles; Diversity in Habitats; Land, Water, and Wind | X |  |

Proposed Science Textbooks Recommended for Approval 2019-2020

July 23, 2020

**Satisfactory Completion of Publisher’s Certifications and Agreements**

| **Grade/Course** | **Publisher** | **Title** | **Yes** | **No** |
| --- | --- | --- | --- | --- |
| **Grade 3** |  |  |  |  |
| Grade 3 | Accelerate Learning, Inc. | STEMscopes Virginia – Grade 3 | X |  |
| Grade 3 | Delta Education, LLC/ School Specialty, Inc. | Grade 3 VA FOSS: Structure of Life, Water and Climate, VA Motion and Matter | X |  |
| Grade 3 | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Grade 3 | X |  |
| Grade 3 | Five Ponds Press Books, Inc. | Exploring Science All Around Us Level 3 | X |  |
| Grade 3 | SASC, LLC dba Activate Learning | PRIME: Changing Environments, Earth’s Systems, Inheritance and Variation, | X |  |
| **Grade 4** |  |  |  |  |
| Grade 4 | Accelerate Learning, Inc. | STEMscopes Virginia – Grade 4 | X |  |
| Grade 4 | Delta Education, LLC/ School Specialty, Inc. | Grade 4 VA FOSS: Living Systems, VA Environments, Earth and Sun | X |  |
| Grade 4 | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Grade 4 | X |  |
| Grade 4 | Five Ponds Press Books, Inc. | Exploring Science All Around Us Level 4 | X |  |
| **Grade 5** |  |  |  |  |
| Grade 5 | Accelerate Learning, Inc. | STEMscopes Virginia – Grade 5 | X |  |
| Grade 5 | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Grade 5 | X |  |
| Grade 5 | Five Ponds Press Books, Inc. | Exploring Science All Around Us Level 5 | X |  |

Proposed Science Textbooks Recommended for Approval 2019-2020

July 23, 2020

**Satisfactory Completion of Publisher’s Certifications and Agreements**

| **Grade/Course** | **Publisher** | **Title** | **Yes** | **No** |
| --- | --- | --- | --- | --- |
| **Grade 6** |  |  |  |  |
| Grade 6 | Accelerate Learning, Inc. | STEMscopes Virginia – Grade 6 | X |  |
| Grade 6 | Savvas Learning Company LLC | Virginia Elevate Science Grade 6 | X |  |
| **Life Science** |  |  |  |  |
| Life Science | Accelerate Learning, Inc. | STEMscopes Virginia – Middle School Life Science | X |  |
| Life Science | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Life Science | X |  |
| Life Science | Savvas Learning Company LLC | Virginia Elevate Science Life | X |  |
| **Physical Science** |  |  |  |  |
| Physical Science | Accelerate Learning, Inc. | STEMscopes Virginia – Middle School Physical Science | X |  |
| Physical Science | Delta Education, LLC/ School Specialty, Inc. | Grade 8 VA FOSS: Waves, Gravity and Kinetic Energy, Electromagnetic Force, Chemical Interactions | X |  |
| Physical Science | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Physical Science | X |  |
| Physical Science | Savvas Learning Company LLC | Virginia Elevate Science Physical | X |  |
| Physical Science | SASC, LLC dba Activate Learning | PBIScience: Air Quality, Energy, Vehicles in Motion | X |  |

Proposed Science Textbooks Recommended for Approval 2019-2020

July 23, 2020

**Satisfactory Completion of Publisher’s Certifications and Agreements**

| **Grade/Course** | **Publisher** | **Title** | **Yes** | **No** |
| --- | --- | --- | --- | --- |
| **Biology** |  |  |  |  |
| Biology | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Biology | X |  |
| Biology | Savvas Learning Company LLC | Virginia Miller and Levine Biology | X |  |
| **Chemistry** |  |  |  |  |
| Chemistry | Accelerate Learning, Inc. | STEMscopes Virginia – Chemistry | X |  |
| Chemistry | Discovery Education, Inc. | Virginia Discovery Education Science Experience - Chemistry | X |  |
| Chemistry | Lab-Aids Inc. | A Natural Approach to Chemistry | X |  |
| Chemistry | National Geographic Learning/Cengage | World of Chemistry | X |  |
| Chemistry | PASCO Scientific | Essential Chemistry | X |  |
| Chemistry | SASC, LLC dba Activate Learning | Active Chemistry | X |  |
| Chemistry | Savvas Learning Company LLC | Pearson Chemistry | X |  |
| Chemistry | Savvas Learning Company LLC | Virginia Experience Chemistry | X |  |
| **Earth Science** |  |  |  |  |
| Earth Science | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Earth and Space Science | X |  |
| **Physics** |  |  |  |  |
| Physics | Accelerate Learning, Inc. | STEMscopes Virginia – Physics | X |  |
| Physics | Discovery Education, Inc. | Virginia Discovery Education Science Experience – Physics | X |  |
| Physics | PASCO Scientific | Essential Physics | X |  |
| Physics | SASC, LLC dba Activate Learning | Active Physics | X |  |

**Attachment F - Science Textbook Public Comments: General Review**

| **Grade** | **Comment** |
| --- | --- |
| **Elementary** |  |
| K | I am a Kindergarten teacher and have reviewed all of our Science books. In my opinion the best is By Five Ponds- Science All Around Us. This book provides great visuals for the students and is developmentally appropriate in content for Kindergarteners. |
| K | I am an elementary school teacher, teaching Kindergarten. I reviewed the VDOE Science Textbook Adoption for Kindergarten.  The series which I chose was Five Ponds Press Books, Inc. I chose this series because it was visually and auditory accessible, colorful, engaging, text books can be read by or read to in both English and Spanish languages. The directions to access Five Ponds are easily accessible and easy to follow. I think the students would benefit as well as  LOVE this series. |
| K | I highly recommend the STEM scopes Virginia.  It's very organized and easy to follow, it's aligned with our standards, and it has excellent videos to go along with the text materials.  My favorite part is the coding options, which is appropriate at every grade level. |
| 2 | I am a Second Grade teacher for Loudoun County Public Schools. I am going into my seventh year of teaching Second Grade.Having looked through all the options you provided, first I must say, I was overall impressed. They each had lots of great things to offer.While I see the pros and cons to every option. There are definitely some that appear to be better than others.In order of preference: 1, 2, and 3 are somewhat of a tie. They each have great resources and reasons I prefer one over the other. Unfortunately each one is missing something that one (or two) of the other ones have.Delta Education/FOSS- The biggest thing I like about this system are the videos and books in Spanish. I think these will be VERY helpful to have as a resource. I also REALLY like the online activities. This resource offers a great mix of reading and videos. It also has audio options for the textbook.Discovery Education- This platform is aesthetically pleasing and set up nicely. It is user and kid friendly in my opinion. While I like the set up and think it is great for both students and teachers, it lacks a few of the things that made we love the Delta Education textbook, specifically the videos, things in Spanish, and the online activities. I do appreciate the videos, mini assessments, and parent connections/questions that this one offers.Accelerate Learning/STEMscopes- I love how this platform is set up! I also love the teacher resources they have! There are wonderful activities and assessments. While I love this platform as a teacher, what it offers a student does not seem as much as the first two options. So while as a teacher this may be a top choice, for my students, I would prefer the other ones.Five Ponds Press- I have used this textbook in the past. If I was just basing my preference on a textbook, this would have been the winner. I like the way it is set up, with lots of pictures and visually pleasing. The audio option is also great. While normally this would be my favorite, the lack of other things makes it a least favorite. I love the videos and resources all the other options have.SACS/PRIME- There are lots of wonderful diagrams and other resources that I like a lot. While I love a lot of the things offered, the navigation is a lot and confusing. I would be scared to have one of my Second Graders try to navigate this platform. Great things, but not a great set up.Thank you again for looking into these different options and giving the opportunity to hear from people |
| 2 | I am submitting my recommendation for the 2nd grade science textbooks:  Online: Accelerated Learning  Book: Five Pines press I recommend both, to have one digitally and one tangible. But if the district was only given one choice, the tangible Five Pines Press book is preferred. |
| 3 | Hello, I recently explored the Science textbooks for adoption. Two options really stood out to me. The first being the Discovery Education, Inc.  http://www.discoveryeducation.com, I found this textbook to be engaging and would catch the students attention. I am also a fan of the Five Ponds Press Books, Inc. https://sciencestudent1.efiveponds.com, It is very engaging and has many activities for students to participate in. |
| 3 | My vote is for STEMscopes Virginia – Grade 3, it was easy to navigate and could be used online and in person. It had a lot of hands on activities that weren't too intensive. It did a decent job of having math and reading cross curricular aspects. I am not thrilled that it talks mostly about Texas, even though that is my home, Virginia students should learn about places in Virginia. I also liked that many of the hands on had a Math, Science Innovation Center feel to them. I could really appreciate the ease of typing in a strand of study and having EVERYTHING already there, video, vocab, hands on, recording sheets/online place for typing observations, simulation games...all of these are usually needing to be searched for online. |
| 3 | I would like to submit a comment regarding VDOE science textbook adoption. I teach 3rd grade in Prince William County. The 2020-2021 school year presents an unusual challenge to teachers due to Covid-19, combining either virtual or hybrid teaching circumstances with what will hopefully be the absence of end-of-year standardized tests. Therefore, I believe it would be in our students' best interest to invest the money that schools would ordinarily invest in (in elementary schools' case, rarely-used) textbooks into making sure every student has a wide variety of reading material available to them and into delivery of robust virtual teaching instead.   As most of us move to a teaching medium that we are not familiar with, we will need to adjust our teaching to include more individualized work, not less. Textbooks cannot be readily adjusted for students' reading levels, background knowledge, or interests, all things we need to consider especially as we work with students at a distance. Textbooks also usually present learning as a collection of facts to be memorized or as a stagnant, singular perspective which must be accepted. With access to endless information from the Internet as well as the support of county pacing guides for structure, we should not rely on textbooks for our teaching or for our students' learning experiences.  As we learn from home, there is a rich opportunity to explore science through the lens of public health, outdoor observation, review of diverse resources, and more. I would like to suggest instead that textbook adoption funds go toward providing teachers and students with a variety of digital science resources that are up-to-date, reviewed, and can be modified to suit our students' needs. |
| 4 | In order from FAVORITE to LEAST FAVORITE- 1,2, 3, 41- Discovery2-Delta3- Five Ponds4-Accelerate Learning Accelerate Learning- NO- took too long to load the different features; I did like the Scope featureFive Ponds- Great visuals, photos, colors; Love the 5Cs and 5 stories;Love the setting purpose questions and the audio versionHOWEVER- I do not think that Five Ponds is offering enough for the "Virtual Learning" and "Distance Learning" that we have found WE do need resources for........Delta Learning-I honestly just do not like the set up. There is TOO much stuff to keep up with as well- it offers a lot, but it is not as user friendly as it could be. Discovery- IS MY TOP CHOICE Learning at Home, Virtual Field Trips, embedded videos, great break down of concepts, awesome glossary, notebook, share links right there, Science techbook, Stem connect, streaming videos, everything is English or Spanish, tutorials, Virtual Investigations, SCIENCE CENTERED LANGUAGE☺, VERY USER FRIENDLY for STUDENTS, TEACHERS, and VIRTUALLY |
| 4 | I've reviewed the proposed science texts and I would be most interested in the series from Five Ponds Press. Their presentation of the VA SOLs seems very sound and student friendly. I know from previous experience with the history textbooks that I could expect good teacher resources, too. The series would provide a strong foundation from which I could expand my instruction.  While I like the idea behind the Discovery Education option, the material seems dated already. For example, within the fourth grade materials, it states Saturn has around 60 moons and the current count is now 82. Granted, this is a quickly changing field and unit, but the disparity is noteworthy. |
| 5 | I am a 5th Grade teacher in Henrico Public Schools at a Title I school. Many of my students are English Language Learners and Exceptional Education students who qualify for audio accommodations. I am in favor of a textbook that is equitable in that it offers human-voiced audio for the reading portions of the textbook so that all students can access content. 5 Ponds has excellent human-voiced audio; however the textbook lack interactive games, explorations, and videos that students find engaging. My district utilizes Discovery Education for science, and they offer audio for their high quality explorations/interactives. Also, students love to watch engaging videos in science. Discovery Education's videos clearly instruct students on scientific principles and they include closed captions, which reinforces important science vocabulary for students. While it appears that the Science Techbook are not offered with audio, they do have a selection to ease the readability of the text (Reading Level A: harder, Level B: easier). Discovery Education offers virtual fieldtrips that, in addition to allowing students to exciting places, they introduce students to various careers in the sciences. Accelerate Learning's videos do not have closed captioning nor do they offer audio for their texts. They offer virtual investigations but without audio. My vote is for Discovery Education. |
| 5 | Re: Delta FOSS  I noticed that Delta/FOSS is an option for grade 4 science, but not grade 5. Fourth grade science is assessed with the fifth grade SOL. Is there a reason that no Delta/FOSS option is available? It is definitely a top contender for the quality of its content and inquiry based lessons. I am continuing to preview the materials, but this was a noticeable item right away. |
| 5 | There appear to be only three books for fifth grade and, of the three, I much prefer the Five Ponds Press book over the Discovery and Accelerate Learning versions. A few reasons: 1) No one (kids, parents, or teachers) seemed very pleased with what was on our current Discovery website--especially me. I have not had access to the site for two years despite several attempts from my division and Discovery to fix the problem.  2) Honestly, the use of yet another website makes it really difficult for my kids with special needs and kids who lack executive-functioning skills. They want a physical book and I completely understand why. Many parents of these students asked me what book I would recommend that they could use at home and I always told them this one--several of them went online and purchased a copy for home use. 3) To save money, our district could buy one class set that does not go home because they also have a PDF available for us to use with a password.  4) The information is delivered in a very straight-forward manner and includes audio editions.  5) I used Five Ponds Press social studies books when I worked as a middle school ELL teacher. The kids loved the fact that sometimes the picture helped to tell the story. There was a great deal of color and photography that helped me to help them understand what happened in history. The same is true for their science books.  6) The teacher guides are great, the additional printable resources are always strong, and the activities in them have always been helpful.   We are really tired of websites that require us to train not only the students, but parents! No one needs training in how to use a book |
| 5 | Good morning! I teach 5th grade science in Warren County and wanted to chime in on the textbook choices. All three 5th grade choices look really good. The Discovery Education model offers video which is highly engaging to students. The Five Ponds provides a lot of real-life application of science concepts that kids need to make connections and really integrate the reasons for learning, but of the three, I prefer the Accelerate Learning model. With our current situation of having to teach students in person and remotely, the ease of the STEM connection is really important. I am a big believer in hands-on learning, and the simplicity of the STEM connection to concepts in the curriculum makes this my preferred choice.Just my two cents. Thanks for asking!! |
| Multiple grade levels | Elementary overwhelmingly likes Five Ponds  Secondary High school was a mix. One of my teachers really took a lot of time - I'm including her thoughts  ------------------------- Pearson - Miller/Levine textbook - newer version of what we currently use +Build vocabulary additions in text strengthen overall vocabulary and comprehension skills, not science specific  +Case studies are interesting, thought provoking, and can be tied into a whole chapter +Visual summary available on some topics do a good job of integrating a large amount of information. -Visual summary - can be overwhelming with the amount of material on one page -Basically a written textbook with the normal accessories that teachers get. -Labs seem old and out dated -Partnerships listed at the beginning of teacher edition are free and usable by anyone except for Labster which seems very cartoonish and not very student friendly in design and ease of use ?The customizable etext was not available to play with so unsure if it is user friendly or applicable. ?Ease of use with Schoology  Discovery Education  +Virtual field trips (some are more video than field trip) offer a variety of perspectives incorporating many biology topics +More interactive than a traditional textbook with embedded videos, simulations, activities and assessment questions +Reading levels A and B +Built in calculator, unit converter, whiteboard, ability to print, etc. +Science notebook - turns what the student highlights into notes that can be printed or saved -Vertical design of the chapter sections - there can be A LOT of scrolling  ?Can the book be customized (choose which videos, activities, etc., that students see for each section) ?Ease of use with Schoology |
| Multiple grade levels | I am a parent of 3 children enrolled in the VA public school systems. I am writing in support of the Discovery Inc. science text book. I reviewed all of the selections available and believe that the Discovery Inc. materials are higher in quality, concept delivery and engagement at all grades. My children are in elementary school, middle school and high school. Also, the Discovery Inc. options appear directly aligned to the SOLs and provide vivid imagery and multiple ways to explore the concepts. |
| No grade indicated | The Five Ponds Press is so great! |
| **Middle School** |  |
| 6 | I am delighted to see that Pearson's Elevate Science is listed for consideration. I reviewed 3 different texts for Science 6 this spring and this was far above the others. In addition to following the new scope and sequence, I like that it covers all the standards we teach, I like the "Essential Question" at the beginning to get students thinking about what they already know, clear vocabulary, appropriate amount of pictures vs text vs white space, quick but effective mini-labs... I could go on. Thank you for considering new textbook options.   I hope that Chesterfield County will be able to gather funds for print books. As a Title 1 school with a large ELL population, studies show that printed books are more successful than all digital ones. Hopefully once we get back into the building with students, I can find a way to get paper books in the room. |
| 6 | If there is any way you can get STEMscopes statewide for science teachers NOW we need resources such as STEMscopes to build our virtual classrooms and virtual labs. It is beyond exceptional.  Hands down, STEMscopes is/are 21st Century resources delivered virtually and designed for virtual learning. Accelerate Learning and the STEMscopes resources the best I have ever seen provided from a publisher.  This resource is "virtual-ready" and totally online, the way it should be. The lessons and activities are completely prepared and ready to go with more Teacher Toolbox back ground and foundation resource that most any 6th grade teacher will need.  There is no comparison between STEMscopes and anything Pearson has. Pearson is still in the 20th century. |
| Life Science | In looking at the 3 options I liked the Savvas the best -- Virginia Elevate Science 2021 Life. It would work well in my classroom because it has both the tangible textbook and the online accessibility. The other two options did not have a book the students could actually work with and many of the students that attend our school are low income and often do not have the needed devices to access online materials completely. Pearson makes a good product that has met our needs in the past and I believe will continue to. |
| Grades 6-8 | For middles school in Caroline County we liked stem scopes- here is a comment from our lead  I really like the STEMScopes Virginia text for both 6th grade and life science the best. Each unit is already set up in the 5E instructional model for planning purposes. There are also extension and intervention sections to help us meet the needs of all levels of learners for each topic. For students, I like that you can assign them digital assignments from the text directly as well as assessments. The overall layout of the homepage is also more user friendly because it seems really easy to find what I'm looking for on the STEMScopes website. |
| Physical Science | After viewing 4 of the 5 textbooks on-line (log-in did not work for the Delta Ed site), I found the Accelerate Learning, Inc. textbook to be the best of the lot based on the following factors:1. 5E lesson plan design 2. Calendar function is easy to understand, use, and view (important given our current "new normal") 3. Addition of pHet simulations--used in the classroom by many teachers--now available to all students. These are a definite game changer. 4. Picture vocabulary is very well done and students will not need to draw out their own examples; beneficial to ELL and SPED 5. Lessons focus on ELL/SPED 6. Each of the SOLs are listed in the text--allows students to understand what we are expected to teach and what they are expected to understand 7. Quality games are included; however, Adobe player is required (can be added to chromebooks easily)8. links to high quality BBC videos that are around 3-4 minutes in length |
| **High School** |  |
| Multiple Disciplines | Are there more choices for Earth Science?  The National Geographic World of Chemistry link isn’t working.  Do these suggestions have physical textbooks as well? Ease of use with Schoology? Bio Discovery Education: Can the book be customized (choose which videos, activities, etc., that students see for each section)? |
| Biology | Thank you for giving the public a chance to review potential textbooks. I thoroughly enjoyed reviewing both high school Biology textbook candidates. I am in favor of using the Virginia Miller and Levine Biology textbook.  I will graduate this coming May with my MAT in Secondary Education where I will be endorsed in Biology. This textbook offers a plethora of resources for both the students and teachers. This textbook is the perfect resource for me as a new teacher due to all the embedded pedagogy methods, presentations, and experiments (just to name a few). This textbook is engaging and easy for students to understand. I also love how the authors included information pertinent to Virginia such as local ecosystems and the various animals that are native to this region. This makes the content feel more relatable for students.  The other textbook by Discovery Education felt disjointed and I felt myself wanting more content information in the reading.  Again, thank you for giving me this platform to share my thoughts on future textbooks. I look forward to seeing which book is chosen and I look forward to using it in my own classroom soon! |
| Biology | I teach Biology at Harrisonburg High School. We’ve had the Miller and Levine text book since I’ve been there, and they’re great as a physical text book. We piloted the Discovery virtual text book, and I strongly advise against it. It felt clunky, confusing to students and a bit outdated. I would recommend looking at ck12’s virtual text books (I believe they’re free). We found it to be very user friendly for teachers and students, the resources are up to date, and there are a lot of different learning formats (reading, videos, and Plex) the e-text has to offer. I hope this helps. |
| Biology | I am a high school biology teacher located in Newport News. After reviewing both resources I am submitting my support for the textbook from Discovery Education, Inc. As more districts begin to ingrate technology and 1:1 a user-friendly online textbook is crucial. As someone who has used the online resources available through the Miller and Levine textbook in the past the interface and login process can be frustrating.The Science "Techbook" has not only the features offered by the current textbook, but more. I found the website easy to navigate, the information presented in a student-friendly manner, and the modules interactive (TEI and FRQ questions!). Similar to the current textbook you can change the reading level, as well as translate it to Spanish. The inclusion of useful tools (three types of calculators, a unit convertor, whiteboard, notebook...) are all crucial to students and teachers. Another big feature to me is the videos. They're real and relevant. Not just a gimmicky video clip that's exaggerated.I also took the time to review resources from Life Science and Chemistry. The vertical alignment between subjects was evident and again, real. In all of them the STEM Project Starters are a great way to think about ways to start integrating the Engineering Design Process at all levels (that surface tension module is beautiful).Thank you for your consideration. Best of luck with your decision! |

**Attachment G - Science Textbook Public Comments: Equity Review**

| Textbook Name | Q.1 Opportunities for students to view themselves, their community, and their cultural backgrounds in science. | Comment optional | Q.2 Allows all students the opportunity to "do science" and develop scientific and engineering practices. | Comment optional | | Q.3 Reflects the diversity of scientists and the impact of cultures involved in the development of scientific theories and laws | Comment optional | Q.4 Recommend through the lenses of culture, race, gender, and backgrounds of their classroom populations? | Do you have any comments or concerns with this textbook that you would like us to share with the Virginia Board of Education concerning this text when viewed through an equity lens? |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kindergarten** |  |  |  |  | |  |  |  |  |
| Exploring Science All Around Us Level K | Agree | Advantage: Images are diverse and allow the students to relate | Agree | Advantages: Think like a scientist questions in text; “Bid Idea Review”- great study guide; Collaborate, communicate, and Creative Thinking are great engaging activities to incorporate in lessons | | Agree | The textbook does reflect a diversity of scientists. | Yes | I would need to view teacher support resources to better view it through an equity lens. |
| Exploring Science All Around Us Level K | Strongly agree | There is a nice representation of people of all colors. | Agree |  | | Neutral | Children in this book themselves were interacting with the world as scientists. I did notice that 3 of the 4 professional scientists I noticed highlighted were white. I am excited that 2 were women however. | Yes |  |
| Grade K VA FOSS: Animals Two by Two, Trees and Weather, | Strongly agree |  | Agree | the online activities gives students opportunities to have science experiences | | Neutral |  | Yes |  |
| Grade K VA FOSS: Animals Two by Two, Trees and Weather, Materials and Motion | Agree | Advantage: Images are diverse and allow the students to relate | Agree | This textbook connects to Next Generation Science Standards (NGSS) and not VA standards of learning. The textbook integrate reading, writing, and mathematics skills. The lessons are designed so that students learn science by doing science. My concern would be if teachers were not provided the FOSS equipment kits, would they be able to adapt the modules. | | Neutral | I feel that the nature of science is reflected in the textbook but it is not reflective of a diversity of scientists and the impact of cultures involved in the development of scientific theories and laws. | Yes | Concerning equity, the FOSS program offers a hands-on active learning approach, student sheets and assessment pages are offered in Spanish and English, and lessons are built with many modalities of learning integrated. |
| Grade K VA FOSS: Animals Two by Two, Trees and Weather, Materials and Motion | Agree |  | Agree |  | | Agree |  | Yes | The visuals with quick videos are great for student research. |
| PRIME: Pushes and Pulls, Plants and Animals, Watching the Sky | Agree | Advantage: Images are diverse and allow the students to relate | Agree | Students learn to connect what they learn to important things in the world. In the curriculum, phenomena are the starting points. Students build understanding by connecting ideas across disciplines. Students are empowered to seek answers to their own questions. | | Agree | The textbook does reflect a diversity of scientists. | Yes | Readings are audio recorded, “chunked" to make them more understandable for students at all reading levels, and supplemental resources for augmentation or differentiation are included. Built into the digital platform is a database of practices that can supplement or augment your classroom experience. The activities required students to think critically, solve problems, and ask questions, which will support them in becoming a productive citizen. |
| STEM Scopes Kindergarten | Strongly agree | Many images pinpointing different backgrounds and disabilities. All races represented in photos. | Strongly Agree | Activities focused on the use of economical resources. Support videos provided to provide teachers support in conducting activities. | | Neutral | No theories represented in Kindergarten. Collaboration is encouraged in activities but the full Nature of Science is not demonstrated nor are students introduced to the concepts explicitly in Kindergarten. Beyond the scope of the standards. | Yes |  |
| STEMScopes Kindergarten | Strongly agree | On the very first page I saw pictures of people of different genders and races, including one in a wheelchair. Inside, I saw drawings of males and females in which race was not discernable. In terms of photographs, I saw a variety of genders and races. | Agree | STEMScopes’ curriculum helps teachers to plan instruction for students to engage in authentic science experiences and allows all students the opportunity to "do science" and develop scientific and engineering practices. The modules include teacher support manuals, student textbook, and videos in English. There are student materials in Spanish. The teacher support guides include material to help support students who might be struggling with material, as well as additional material for students who might want advanced lessons. | | Neutral | In kindergarten, the curriculum and investigations are designed so that students work collaboratively. The curriculum is aligned to theories that are emphasized in the 2018 Science Standards of Learning. However, kindergarten science typically does not reinforce that fact that science is an ongoing. | Yes |  |
| STEMscopes Virginia - Kindergarten | Neutral |  | Agree |  | | Neutral | There were examples of brown hands make food and flipping burgers but white hands conducting experiments in labs. | No | There are is not enough representation of people of color. |
| STEMscopes Virginia - Kindergarten | Agree | Advantage: Images are diverse and allow the students to relate | Strongly Agree | Advantages: textbook was written aligned to VA standards of learning; curriculum framework is assessable through website and standards are unwrapped; aligned to the 5E lesson plan model; addresses intervention and acceleration | Agree | |  | Yes | This textbook is aligned to Virginia standards and the website is well organized in a way that allow a teacher to effectively plan engaging lessons that will provide learning experiences where students read, write, communicate, think critically, and justify their thinking. The instructional resources support teachers with providing data-driven, differentiated instruction. |
| STEMscopes Virginia - Kindergarten | Neutral |  | Agree |  | Neutral | | Yes |  | VDOE team reviewed book and determined numerous representations of race, gender, and disabilities |
| Virginia Discovery Education Science Experience – Grade K | Agree | Advantage: Images are diverse and allow the students to relate | Agree | Advantages: follows the 5E approach to learning; addresses intervention and acceleration; provides a STEM connection | Agree | | Since it’s a digital textbook, content can be added and refreshed as needed to ensure that both teachers and students have the most up-to-date content and tools, which will allow the text to reflect that science is an ongoing, collaborative, and society driven endeavor that leads to the development and revision of scientific theories and laws. | Yes | This textbook is an excellent solution for science education. It strikes the right balance of content and activities. Its flexibility allows teachers to differentiate and customize instruction. This learning platform not only delivers instruction but also enables teachers to assess student work and give feedback. |
| Virginia Discovery Education Science Experience – Grade K | Agree |  | Strongly Agree | Includes a plethora of videos showing students conducting science experiments to give students examples of how to conduct the experiment themselves. | Agree | |  | Yes |  |
| First Grade |  |  |  |  | |  |  |  |  |
| Exploring Science All Around Us Level 1 | Agree | Images are diverse and allow the students to relate | Strongly Agree | Think like a scientist questions in text; “Bid Idea Review”- great study guide; Collaborate, communicate, and Creative Thinking are great engaging activities to incorporate in lessons | | Agree | The textbook does reflect a diversity of scientists. | Yes | I would need to view teacher support resources to better view it through an equity lens. |
| Exploring Science All Around Us Level 1 | Strongly agree | There is lots of diversity in this text book | Agree | There are not as many opportunities as the other texts books | | Neutral |  | Yes | I feel that book gives students many lenses to look through but not as much chances to engage in scientific inquiry. Teachers would have to supplement this book with extra science experiences. |
| Grade 1 VA FOSS: Plants and Animals, Air and Weather, Sound and Light | Agree | Images are diverse and allow the students to relate | Agree | The textbook integrate reading, writing, and mathematics skills. The lessons are designed so that students learn science by doing science. My concern would be if teachers were not provided the FOSS equipment kits, would the they be able to adapt the modules. | | Neutral | I feel that the nature of science is reflected in the textbook but it is not reflective of a diversity of scientists and the impact of cultures involved in the development of scientific theories and laws. | Yes | Concerning equity, the FOSS program offers a hands-on active learning approach, student sheets and assessment pages are offered in Spanish and English, and lessons are built with many modalities of learning integrated. |
| Grade 1 VA FOSS: Plants and Animals, Air and Weather, Sound and Light | Agree | There are many children of color in the books but it would be nice to see adults of color conducting experiments and different jobs. | Agree | I like the videos embedded in the interactive book | | Neutral |  | Yes |  |
| PRIME: Light and Sound, Examining Living Things, Tracking the Weather | Agree |  | Strongly Agree | Wow! Light and Sound Chapter is completely inquiry based!! Many opportunities to engage in scientific experiences! | | Neutral |  | Yes |  |
| PRIME: Pushes and Pulls, Plants and Animals, Watching the Sky | Neutral |  | Agree |  | | Agree |  | Yes |  |
| STEMscopes Virginia – Grade 1 | Agree | Images are diverse and allow the students to relate | Strongly Agree | Written aligned to VA standards of learning; curriculum framework is assessable through website and standards are unwrapped; aligned to the 5E lesson plan model; addresses intervention and acceleration; provides teacher background | | Agree |  | Yes | This textbook is aligned to Virginia standards and the website is well organized in a way that allow a teacher to effectively plan engaging lessons that will provide learning experiences where students read, write, communicate, think critically, and justify their thinking. The instructional resources support teachers with providing data-driven, differentiated instruction. |
| STEMscopes Virginia – Grade 1 | Agree |  | Strongly Agree |  | | Agree |  | Yes | I really like the Claim-Evidence-Reasoning activity |
| Virginia Discovery Education Science Experience – Grade 1 | Agree | Images are diverse and allow the students to relate | Agree | Follows the 5E approach to learning; addresses intervention and acceleration; provides a STEM connection | | Agree | Since it’s a digital textbook, content can be added and refreshed as needed to ensure that both teachers and students have the most up-to-date content and tools, which will allow the text to reflect that science is an ongoing, collaborative, and society driven endeavor that leads to the development and revision of scientific theories and laws. | Yes | This textbook is an excellent solution for science education. It strikes the right balance of content and activities. Its flexibility allows teachers to differentiate and customize instruction. This learning platform not only delivers instruction but also enables teachers to assess student work and give feedback. |
| Virginia Discovery Education Science Experience – Grade 1 | Neutral |  | Agree | The STEM Projects are engaging | | Neutral |  | YES |  |
| Second Grade |  |  |  |  | |  |  |  |  |
| PRIME: Forces in Action; Solids, Liquids, and Gases; Patterns in Life Cycles; Diversity in Habitats; Land, Water, and Wind | Agree | Images are diverse and allow the students to relate | Agree | Students learn to connect what they learn to important things in the world. In the curriculum, phenomena are the starting points. Students build understanding by connecting ideas across disciplines. Students are empowered to seek answers to their own questions. | | Agree | The textbook does reflect a diversity of scientists. | Yes | Readings are audio recorded, “chunked" to make them more understandable for students at all reading levels, and supplemental resources for augmentation or differentiation are included. Built into the digital platform is a database of practices that can supplement or augment your classroom experience. The activities required students to think critically, solve problems, and ask questions, which will support them in becoming a productive citizen. |
| Exploring Science All Around Us Level 2 | Agree | Images are diverse and allow the students to relate | Agree | Think like a scientist questions in text; “Bid Idea Review”- great study guide; Collaborate, communicate, and Creative Thinking are great engaging activities to incorporate in lessons | | Agree | The textbook does reflect a diversity of scientists. | Yes | I would need to view teacher support resources to better view it through an equity lens. |
| Exploring Science All Around Us Level 2 | Strongly agree |  | Agree | There are some but not as much as the other text books | | Neutral |  | Yes | This is very equitable when looking through and equity lens however, I feel it lacks in science experiences for students. |
| Grade 2 VA FOSS: Insects and Plants, Weather and Seasons, Solids and Liquids | Agree |  | Agree |  | | Neutral |  | Yes |  |
| Grade 2 VA FOSS: Insects and Plants, Weather and Seasons, Solids and Liquids, Forces in Action | Agree | Images are diverse and allow the students to relate | Agree | This textbook connects to Next Generation Science Standards (NGSS) and not VA standards of learning. The textbook integrate reading, writing, and mathematics skills. The lessons are designed so that students learn science by doing science. My concern would be if teachers were not provided the FOSS equipment kits, would they be able to adapt the modules. | | Neutral | I feel that the nature of science is reflected in the textbook but it is not reflective of a diversity of scientists and the impact of cultures involved in the development of scientific theories and laws. | Yes | Concerning equity, the FOSS program offers a hands-on active learning approach, student sheets and assessment pages are offered in Spanish and English, and lessons are built with many modalities of learning integrated. |
| PRIME: Forces in Action; Solids, Liquids, and Gases; Patterns in Life Cycles; Diversity in Habitats; Land, Water, and Wind | Agree | Images are diverse and allow the students to relate | Agree | Students learn to connect what they learn to important things in the world. In the curriculum, phenomena are the starting points. Students build understanding by connecting ideas across disciplines. Students are empowered to seek answers to their own questions. | | Agree | The textbook does reflect a diversity of scientists. | Yes | Readings are audio recorded, “chunked" to make them more understandable for students at all reading levels, and supplemental resources for augmentation or differentiation are included. Built into the digital platform is a database of practices that can supplement or augment your classroom experience. The activities required students to think critically, solve problems, and ask questions, which will support them in becoming a productive citizen. |
| PRIME: Forces in Action; Solids, Liquids, and Gases; Patterns in Life Cycles; Diversity in Habitats; Land, Water, and Wind | Agree |  | Strongly Agree | Many, many opportunities to engage in scientific experiences | | Neutral |  | Yes | I really like the engaging scientific experiences offered in this text. |
| STEMscopes Virginia – Grade 2 | Agree | Images are diverse and allow the students to relate | Agree | Written aligned to VA standards of learning; curriculum framework is assessable through website and standards are unwrapped; aligned to the 5E lesson plan model; addresses intervention and acceleration; provides teacher background | | Agree |  | Yes | This textbook is aligned to Virginia standards and the website is well organized in a way that allow a teacher to effectively plan engaging lessons that will provide learning experiences where students read, write, communicate, think critically, and justify their thinking. The instructional resources support teachers with providing data-driven, differentiated instruction. |
| STEMscopes Virginia – Grade 2 | Neutral | There are some opportunities but I think there needs to be more. Include more diversity in videos. | Strongly Agree | I really like the science experiences and how it guides the teachers as well! | | Neutral |  | Yes |  |
| Virginia Discovery Education Science Experience – Grade 2 | Agree | Images are diverse and allow the students to relate | Agree | Follows the 5E approach to learning; addresses intervention and acceleration; provides a STEM connection | | Agree | Since it’s a digital textbook, content can be added and refreshed as needed to ensure that both teachers and students have the most up-to-date content and tools, which will allow the text to reflect that science is an ongoing, collaborative, and society driven endeavor that leads to the development and revision of scientific theories and laws. | Yes | This textbook is an excellent solution for science education. It strikes the right balance of content and activities. Its flexibility allows teachers to differentiate and customize instruction. This learning platform not only delivers instruction but also enables teachers to assess student work and give feedback. |
| Virginia Discovery Education Science Experience – Grade 2 | Agree |  | Agree | STEM activities are engaging | | Neutral |  | Yes |  |
| Third Grade |  |  |  |  | |  |  |  |  |
| 5 Ponds- All Around Us Grade 3 | Strongly agree | Lots of ethnic backgrounds and disabilities, very nice to see All people being represented | Agree |  | | Neutral |  | Yes |  |
| Discovery Education- Grade 3 | Agree |  | Strongly Agree |  | | Strongly Agree |  | Yes | every person I believe is represented in this book and the science instruction is rigorous enough for all learners |
| Five Ponds - Exploring Science All Around Us Level 3 | Strongly agree | Diversity is displayed by having age-appropriate children (typical third graders), child with special needs, and a variety of races and cultures. | Strongly Agree | Each unit has case studies (experiments) throughout the chapter. Also, at the end of the chapter, students are encouraged to do the 3 C's (communicate, collaborate, and critical thinking) with a partner or group. | | Strongly Agree | The Nature of Science is embedded in the Introduction chapter. | Yes | This textbook also has the audio option, which is beneficial for struggling readers. |
| Foss- 3rd Grade | Strongly agree | So many varieties of cultural backgrounds and people | Agree |  | | Agree |  | Yes |  |
| Grade 3 PRIME: Changing Environments, Earth’s Systems, Inheritance and Variation | Agree | Students have opportunities to see themselves and their community. | Strongly Agree | This textbook is designed to present the concepts and then have students to conduct several experiments to demonstrate their understanding of the concepts. | | Agree | The Nature of Science is integrated throughout the concepts. | Yes | This textbook would be a good additional resource since it is formatted as a science notebook with a variety of activities, videos, and experiments. It does include a View Progress section where students can see their grades for each activity and assessment. |
| Grade 3 VA FOSS: Structure of Life, Water and Climate, VA Motion and Matter | Agree | Students have opportunities to see themselves and their community. | Agree | There are a variety of interactive and hands-on activities for students to discover science. | | Agree | The Nature of Science is usually discussed towards the latter part of the textbook. | Yes | The writers have developed a Module Summary and a Home/School Connection section to ensure that families are abreast of their children's science instruction. |
| PRIME- Grade 3 | Neutral | Limited pictures of people | Agree |  | | Agree |  | Yes |  |
| Stemscopes- 3rd grade | Neutral | The pictures show diverse communities in the backgrounds, but most of the people are white | Strongly Agree |  | | Strongly Agree |  | Yes | just updating some of the people to be different ethnicity. |
| STEMscopes Virginia – Grade 3 | Agree | There are not many pictures in this textbook. However, students are able to view themselves through the videos. | Strongly Agree | Each unit has several activities, videos, and hands-on experiments for students to explore. | | Agree | The Nature of Science is integrated throughout the concepts. | Yes | This textbook would be a good additional resource rather than a main text since it focuses more on activities than information. It does include ELL strategies, intervention strategies, simulation practices, acceleration activities, and teacher and student guides. |
| VA FOSS Grade 3 | Agree |  | Agree |  | | Agree |  | Yes |  |
| Virginia Discovery Education Science Experience – Grade 3 | Strongly agree | Not only are all ages and ethnic groups exploring science, a student with special needs is also included. | Strongly Agree | Each unit has several activities, videos, and hands-on experiments with engineering practices for students to conduct. | | Agree | Instead of designating a chapter on the Nature of Science, it is integrated throughout the units. | Yes | All concepts include Engage, Explore, Explain, Elaborate with STEM, and Evaluate. Within each heading, there are several hands-on activities, videos, leveled passages, and assessments. In addition, tools (such as glossary, calculator, whiteboard, notebook, and audio) are provided to support and clarify. The information is available in different languages (ex. Spanish audio and French translation). |
| Fourth Grade |  |  |  |  | |  |  |  |  |
| Discovery Education- Grade 4 | Agree |  | Strongly Agree |  | | Strongly Agree |  | Yes |  |
| Exploring Science All Around Us Level 4 | Strongly agree | This is the best choice for an equitable science book! | Disagree | This book is not set up for engineering practices. | | Strongly Agree | This book does a fantastic job at delivery NOS and science content. The pictures also better represent my diverse students. | Yes | I love Five Ponds! This is our best bet from the choices provided. I don't think you can achieve equity just by adding pictures, but this book does have a better sampling of the human race. It does lack engineering practices, otherwise this would be my choice!!! |
| Five Ponds - Exploring Science All Around Us Level 4 | Strongly agree | Included student with special needs and people of different cultures and religions with positive expressions on their faces (smiles) | Strongly Agree | Each unit has case studies (experiments) throughout the chapter. Also, at the end of the chapter, students are encouraged to do the 3 C's (communicate, collaborate, and critical thinking) with a partner or group. | | Strongly Agree | The Nature of Science is embedded in the Introduction chapter. | Yes | This textbook also has the audio option, which is beneficial for struggling readers. |
| Five Ponds- All Around Us 4th Grade | Agree |  | Agree |  | | Agree |  | Yes |  |
| Foss Grade 4 | Disagree | Only white people in the eBook, no diversity | Neutral |  | | Neutral |  | Yes | After VDOE team review and discussion with respondent it was determined that the diversity reflected in the careers portion of the text. |
| Foss Grade 4 | Neutral | Although featured scientists represent different cultures, other pictures in the texts were limited to Caucasians. Overall, the number of pictures that featured people were very limited as compared to pictures that reflect organisms in ecosystems aside from humans. | Strongly Agree | Lab opportunities were provided with multiple suggestions for resources. | | Agree | Theories in the grade 4 curriculum are limited; however, the features on scientists as well as some of the reading excepts (journal reading) emphasized the collaborative nature of science discovery. | Yes |  |
| FOSS Grade 4 | Agree | In looking at the student textbook, I see drawings of people that appear generic. The photographs include peoples of various gender and race. In other cases, photographs of people show them blurred and just an arm, so that it is difficult to discern a specific gender and/or race. | Strongly Agree | FOSS has a long history of creating curriculum for teachers to plan for students to engage in authentic science experiences and allows all students the opportunity to "do science" and develop scientific and engineering practices. The modules include teacher support manuals, student textbook, and videos in English and Spanish. The teacher support guides include material to help support students who might be struggling with material, as well as additional material for students who might want advanced lessons. | | Neutral | In grade 4 FOSS, the curriculum and investigations are designed so that students work collaboratively. The curriculum is aligned to theories that are emphasized in the 2018 Science Standards of Learning. However, grade 4 science typically does not reinforce that fact that science is an ongoing. | Yes |  |
| Grade 4 VA FOSS: Living Systems, VA Environments, Earth and Sun | Agree | Students have opportunities to see themselves and their community. | Agree | There are a variety of interactive and hands-on activities for students to discover science. | | Agree | The Nature of Science is usually discussed towards the latter part of the textbook. | Yes | The writers have developed a Module Summary and a Home/School Connection section to ensure that families are abreast of their children's science instruction. |
| Stemscopes- Grade 4 | Agree | More white people than other ethnicities | Strongly Agree |  | | Strongly Agree |  | Yes |  |
| STEMscopes Virginia – Grade 4 | Agree | There are not many pictures in this textbook. However, students are able to view themselves through the videos. | Strongly Agree | Each unit has several activities, videos, and hands-on experiments for students to explore. | | Agree | The Nature of Science is integrated throughout the concepts. | Yes | This textbook would be a good additional resource rather than a main text since it focuses more on activities than information. It does include ELL strategies, intervention strategies, simulation practices, acceleration activities, and teacher and student guides. |
| STEMscopes Virginia – Grade 4 | Neutral | This is an excellent resource I would love to use right now during this pandemic. I don't think by just adding some diverse pictures you will get what you want. | Strongly Agree | This is an excellent science resource I'd love to use right now! | | Strongly Agree | As stated above, this is an excellent resource I would love to use right now during this pandemic. It would be a great resource to have to help create future scientists, theory, and law. | Yes | This is an excellent resource that I would love to have in my science classroom right now! I'm sorry to say that I'm confused thinking someone can add some pictures and make equity appear... Why didn't someone think of that when they wrote it? I'm just glad to see science getting some attention because it ALL GOES TO READING AND MATH!!! |
| Virginia Discovery Education Science Experience – Grade 4 | Strongly agree | All ages and ethnic groups are exploring science. | Strongly Agree | Each unit has several activities, videos, and hands-on experiments with engineering practices for students to conduct. | | Agree | Instead of designating a chapter on the Nature of Science, it is integrated throughout the units. | Yes | All concepts include Engage, Explore, Explain, Elaborate with STEM, and Evaluate. Within each heading, there are several hands-on activities, videos, leveled passages, and assessments. In addition, tools (such as glossary, calculator, whiteboard, notebook, and audio) are provided to support and clarify. The information is available in different languages (ex. Spanish audio and French translation). |
| Virginia Discovery Education Science Experience – Grade 4 | Neutral | There is no community or culture, it’s all animals and nature. DE is an excellent science resource! | Neutral | There is no community or culture, it’s all animals and nature. DE is an excellent science resource, but this isn't gauged for engineering. | | Strongly Agree | This is an excellent resource for teaching science! | Yes | I recommend this because it stays away from human perspectives and leaves it in the natural world (where science should be). I really don't think someone can get equity just by adding some pictures... |
| Fifth Grade |  |  |  |  | |  |  |  |  |
| Exploring Science All Around Us Level 5 | Agree | I don't think you can tap into communities and cultural backgrounds just by adding a few pictures, but by adding diverse pictures of different human races, you are headed in the right direction. | Disagree | Science yes, engineering practices, no. | | Strongly Agree | Five Ponds does a great job with NOS and delivering science content. | Yes | This is your best choice at a book delivering science to my diverse student body. It totally lacks engineering though. |
| Five Ponds - Exploring Science All Around Us Level 5 | Strongly agree | all ages represented (babies to elderly); past and present people in science; different ethnic groups gathered together; and sensitivity to special needs (handicapped child included) | Strongly Agree | Each unit has case studies (experiments) throughout the chapter. Also, at the end of the chapter, students are encouraged to do the 3 C's (communicate, collaborate, and critical thinking) with a partner or group. | | Strongly Agree | The Nature of Science is embedded in the Introduction chapter. | Yes | This textbook also has the audio option, which is beneficial for struggling readers. |
| Five Ponds- World Around Us Grade 5 | Strongly agree | Lots of Women scientists being represented | Agree |  | | Agree |  | Yes |  |
| StemScopes- Grade 5 | Agree | Much better diversity | Agree |  | | Agree |  | Yes |  |
| STEMscopes Virginia – Grade 5 | Agree | There are not many pictures in this textbook. However, students are able to view themselves through the videos. | Strongly Agree | Each unit has several activities, videos, and hands-on experiments for students to explore. | | Agree | The Nature of Science is integrated throughout the concepts. | Yes | This textbook would be a good additional resource rather than a main text since it focuses more on activities than information. It does include ELL strategies, intervention strategies, simulation practices, acceleration activities, and teacher and student guides. |
| STEMscopes Virginia – Grade 5 | Neutral | I think it's a great resource I'd love to have trying to teach through a pandemic. As for what you are trying to achieve, yes there are pictures of diverse human races in it. | Agree | This is a great resource that I would love to have to teach science and engineering principles! | | Neutral | You have to dig around for NOS, t isn't spelled out. As for teaching and developing scientists, theories, and laws, it is an excellent resource. | Yes | I think this is our all-around best choice (5E, technology aspects, STEM). As for equity the pictures added do justice, but it takes more than pictures to get what you are striving for... I think science should be looked at from the natural world (what this series does) so is it equitable, yes. I like its all-around approach. |
| Virginia Discovery Education Science Experience – Grade 5 | Strongly agree | Along with the opportunities for students to view themselves, the scenarios use modern names that children would be familiar with (ex. Layla and Marcus). | Strongly Agree | Each unit has several activities, videos, and hands-on experiments with engineering practices for students to conduct. | | Agree | Instead of designating a chapter on the Nature of Science, it is integrated throughout the units. | Yes | All concepts include Engage, Explore, Explain, Elaborate with STEM, and Evaluate. Within each heading, there are several hands-on activities, videos, leveled passages, and assessments. In addition, tools (such as glossary, calculator, whiteboard, and audio) are provided to support and clarify. The information is available in different languages (ex. Spanish audio and French translation). |
| Virginia Discovery Education Science Experience – Grade 5 | Strongly agree | DE has been at this for so long, they have the equity part down pat. | Strongly Agree | This is an excellent resource. It goes well beyond the SOL's and also gives great stuff for engineering practices. | | Neutral | NOS, not so much (directly), but I'm sure there is stuff about it.... Otherwise, DE has tons to offer with science. | Yes | This is a fabulous science resource. They had equity long before someone asked to add some pictures of diverse human races. |
| Sixth Grade |  |  |  |  | |  |  |  |  |
| Accelerate Learning STEMscopes | Agree | I did not see adequate Asian and Hispanic Male representation | Strongly Agree |  | | Strongly Agree |  | Yes |  |
| Accelerate Learning, STEMscopes VA Grade 6 | Neutral | There is minimal diversity. | Agree |  | | Agree |  | Yes |  |
| CPO MS | Agree |  | Agree |  | | Agree |  | Yes |  |
| Elevate Science | Agree |  | Agree |  | | Agree |  | Yes |  |
| Savvas Learning Company Grade 6 | Strongly agree | Very inclusive | Agree |  | | Agree |  | Yes |  |
| STEMscope Virginia - Grade 6 | Strongly disagree | Images of people are scarce throughout the text. | Strongly Agree | The text is aligned to the 5E lesson model, which promotes inquiry-based instruction. | | Strongly Disagree | When images of scientists are provided, they are limited to Caucasians. | Yes | While this text aligns to the 2018 Science Standards of Learning, images of people are limited to a scope's "Video" and/or "Science Rock." The people portrayed are often Caucasian. |
| Virginia Elevate Science Grade 6 | Strongly disagree |  | Agree |  | | Strongly Disagree |  | Yes | This text aligns well to the 2018 Science SOLs; however, only 4% (12 of 323 pages) of the text displays images to reflect diverse cultures, race, gender, and backgrounds. |
| Life Science |  |  |  |  | |  |  |  |  |
| Discovery Education Life Science | Strongly agree |  | Strongly Agree | Very inclusive | | Strongly Agree |  | Yes |  |
| Discovery Life Science | Agree | As I stated in my previous review, they are definitely showing diversity, but not sure how often students will see themselves, their community, or cultural backgrounds in the process of science. | Agree | As I stated previously, this is largely a text resource. The lessons are focused on reading and do not include much in terms of science process. It does provide opportunities to do scientific reasoning and can provide teachers the ability to build interesting science and engineering projects that are connected to the content. | | Agree |  | Yes |  |
| Discovery Life Science | Agree | As I stated in my previous review, they are definitely showing diversity, but not sure how often students will see themselves, their community, or cultural backgrounds in the process of science. | Agree | As I stated previously, this is largely a text resource. The lessons are focused on reading and do not include much in terms of science process. It does provide opportunities to do scientific reasoning and can provide teachers the ability to build interesting science and engineering projects that are connected to the content. | | Agree |  | Yes |  |
| Elevate Science - Life Science | Agree | Much like the Miller and Levine text, they have intentionally tried to be equitable in portraying both diversity and genders doing science. They also include age appropriate pictures that allow kids seeing themselves doing science. | Agree | There are several quests (PBL) that are embedded in the text to allow students to do science and engineering. | | Agree |  | Yes |  |
| Savvas Learning Company Life Science | Strongly agree | There could be more Asian male representation. | Strongly Agree |  | | Agree |  | Yes |  |
| STEMscopes- Life Science | Neutral | There is very little in way of images or video that include humans from what I could see. | Agree | Each scope includes some type of opportunity to explore science process. I don't know that it has much opportunity for engineering practices. | | Agree |  | Yes |  |
| STEMscopes Virginia - Middle School Life science | Strongly disagree | Images of people are scarce throughout the text. | Strongly Agree | The text is aligned to the 5E lesson model, which promotes inquiry-based instruction. | | Strongly Disagree | When images of scientists are provided, they are limited to Caucasians. | Yes | While this text aligns to the 2018 Science Standards of Learning, images of people are limited to a scope's "Video" and/or "Science Rock". The people portrayed are often Caucasian. |
| Virginia Discovery Education Science Experience - Life science | Agree | Videos include people of diverse backgrounds. | Strongly Agree | The text is aligned to the 5E lesson model - which promotes inquiry-based instruction. | | Agree | Both male and female scientists are regularly displayed, but primarily as Caucasians. | Yes | This text aligns to the 2018 Science Standards of Learning and displays people of diverse backgrounds. |
| Virginia Elevate Life Science | Disagree |  | Agree |  | | Disagree |  | Yes | The content aligns with the 2018 Science Standards of Learning; however, 12% (36 of 280 pages) of the text includes images of diverse culture, race, gender, and backgrounds. |
| Physical Science |  |  |  |  | |  |  |  |  |
| Accelerate Learning Physical Science | Agree |  | Agree |  | | Agree |  | Yes |  |
| Discovery Education Physical Science | Strongly agree |  | Strongly Agree |  | | Strongly Agree |  | Yes |  |
| PBIScience: Air Quality, Energy, Vehicles in Motion | Agree | Images include people of diverse backgrounds. | Disagree |  | | Agree | A variety of STEM careers are displayed by individuals of diverse backgrounds. | Yes | This text aligns to components of the 2018 Science Standards of Learning. Additional textbook resources will be required to ensure students are presented all of the required 2018 Science 8 - Physical science Standards of Learning objectives. |
| Savvas Learning Company VA Elevate Physical Science | Strongly agree | Exceptionally Inclusive Imagery | Strongly Agree |  | | Strongly Agree |  | Yes |  |
| STEMscopes Virginia - Middle School Physical Science | Disagree | Images of people are scarce throughout the text; however, more frequent for this title than grades 6 and life science. | Strongly Agree | The text is aligned to the 5E lesson model, which promotes inquiry-based instruction. | | Strongly Disagree | Images of scientists are limited to Caucasians. | Yes | While this text aligns to the 2018 Science Standards of Learning, images of people are limited to a scope's "Video" and/or "Science Rock." The people portrayed are often Caucasian. |
| Virginia Discovery Education Science Experience - Physical science | Agree | Videos include people of diverse backgrounds. | Strongly Agree | The text is aligned to the 5E lesson model - which promotes inquiry-based instruction. | | Agree | Both male and female scientists are regularly displayed, but primarily as Caucasian. | Yes | This text aligns to the 2018 Science Standards of Learning and displays people of diverse backgrounds. |
| Virginia Elevate Physical Science | Disagree |  | Agree |  | | Disagree |  | Yes | The content aligns with the 2018 Science Standards of Learning; however, 24% (71 of 293 pages) of the text includes images of diverse culture, race, gender, and backgrounds. |
| Biology |  |  |  |  | |  |  |  |  |
| Biology (Miller/Levine) | Strongly agree |  | Strongly Agree |  | | Strongly Agree |  | Yes |  |
| Biology Miller & Levine | Agree | This is a very good and user friendly textbook. It may be a bit challenging for ESL or SPED students but it is easy to break down into more manageable chunks. | Agree |  | | Agree |  | Yes | I actually used a much (much!) earlier edition of this book in college. But I think it will challenge and inform students well and I find it user friendly and with good illustrations, pictures and diagrams to aid in visual learning. |
| Discovery Education | Agree | In my original review, I did not see anything that raised any concerns regarding equity. Upon a second quick more focused review, I saw lots of images that included greater diversity and included women scientists in videos. I do not know if the images and videos of scientists are consistently including diversity though. But it is clear in the other images used in the biology modules that they were considering diversity. | Agree | The book still seems to suggest that there is A scientific method with specific steps, but are trying to sidestep that by saying scientific METHODS instead. I did not see much in way of opportunities built into the textbook that would allow students to "do science" to develop scientific and engineering practices. But I think the teachers can definitely use it as a source of background material to establish research questions or to provide the reasoning for creating a scientific argument from investigations that the teachers or students have designed. | | Agree |  | Yes |  |
| Virginia Discovery Education Science Experience – Biology | Agree |  | Agree |  | | Agree |  | Yes |  |
| Virginia Discovery Education Science Experience – Biology | Agree |  | Agree |  | | Agree |  | Yes |  |
| Virginia Discovery Education Science Experience- Biology | Disagree | Minimal opportunities for students to view themselves, their community, and cultural backgrounds in science. | Strongly Agree | Hands-On Lab activities and interactive simulations offered in the Explore/Teach Component of the lesson. | | Neutral | Online version of text offers a variety of videos and text that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | Yes | Great resource that teachers can use to addresses the science content outlined in the 2018 Science Standards of Learning; however this resource provides minimal examples of diversity in culture, race, gender, and backgrounds of our classroom populations.   Online resources provides notable options for differentiation and interventions through the following features: leveled reading, Spanish language options, skill-builders, calculator tools, checks for understanding throughout the texts, unit assessments, STEM Connections, suggested activities in a 5E learning sequence, detailed glossary with videos and images, whiteboard and notebook options. |
| Virginia Miller and Levine Biology | Strongly agree | There were lots of pictures in the text showing scientists of color and various genders. | Strongly Agree | The teaching is a PBL approach with many performance based assessments that include both science and engineering practices. | | Strongly Agree |  | Yes |  |
| Virginia Miller and Levine Biology | Neutral | More opportunities than other reviewed textbooks for students to view themselves, their community, and cultural backgrounds in science. | Strongly Agree | Variety of Inquiry-based activities explored through Case Studies, Data Analysis, Labs (Quick, In-Depth Chapter, and Virtual) and Science and Engineering projects offered. | | Neutral | Online version of text offers a variety of videos to display the revision and development of scientific theories and laws. Additionally, the text offers opportunities for students to collaborate with peers to develop solutions and consider viewpoints; however, the impact of various cultures is not observed. | Yes | Student and teacher text editions observed outside of online options. Great resource that teachers can use to address the science content outlined in the 2018 Science Standards of Learning; however, this resource provides minimal examples of diversity in culture, race, gender, and backgrounds of our classroom populations.  Text resource provides a specific focus on Virginia environments, page-by-page references and sample EOC questions specific to each Biology standard, and the Biology Test Prep workbook that provides comprehensive End-of-Course Assessment practice. Online resources provide notable options for differentiation and interventions through the following features: offline and online multimedia content, ELL support for every lesson, visual analogies, reading checks, vocabulary support, modified instruction suggestions, videos, animations, and virtual labs. |
| Chemistry |  |  |  |  | |  |  |  |  |
| A Natural Approach to Chemistry | Disagree | Minimal opportunities for students to observe themselves in science. Text and visual presentations are supportive of content. | Strongly Agree | Laboratory investigations text offering investigations for each chapter. | | Neutral | Text offers a variety of resources that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. |  | Resources provide notable options for differentiation and interventions through the following features: section slide presentations, highlight options, differentiated assessments and teaching strategies, and section documents and videos. |
| Active Chemistry | Disagree | Minimal opportunities for students to observe themselves and their culture in science. Text and visual presentations are supportive of content. | Strongly Agree | Cookin’ Chem section provides investigations, Active Chemistry log for ideas and questions, Checking Up questions, and connections to everyday experiences for every section. | | Disagree | Emphasis of text components to support alignment with 2018 Science Standards of Learning, not present. Chem at work section to demonstrate collaborations but minimally reflective of diversity in cultures. | No |  |
| Essential Chemistry | Disagree | Minimal opportunities for students to observe themselves and their culture in science. Text and visual presentations are supportive of content. | Strongly Agree | 2 or more lab options provided for each section | | Neutral | Text offers a variety of resources that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | No | Text is aligned with Next Generation Science Standards; Student text observed. Resources provide notable options for differentiation and interventions through the following features: STEM connections, simulations and interactive equations, videos, homework questions with review summary, and text to speech options. |
| Experience Chemistry | Agree | Very few pictures/diagrams of people in the print material - those present had representations of a variety of ethnic and cultural backgrounds | Agree |  | | Agree |  | Yes | Sort of a maybe on the last question due to a lack of many instances of people working together - some illustrations etc. but mostly focuses on "things" |
| Pearson Chemistry | Strongly agree | examples of various ethnic groups at work in the lab as well as shown in jobs related to chemistry | Strongly Agree | during normal school year - yes | | Strongly Agree |  | Yes |  |
| Pearson Chemistry | Agree |  | Agree |  | | Agree |  | Yes |  |
| Pearson Chemistry | Neutral |  | Strongly Agree | Variety of labs offered online in an editable format and though simulations on the Virtual ChemLab CD-ROM. | | Neutral |  |  |  |
| STEM Scopes | Agree |  | Agree |  | | Agree |  | Yes |  |
| Stemscopes k-12 science chemistry | Agree |  | Neutral | Due to online nature of the resource there may be inequity in students ability to access internet at home due to financial /location constraints | | Agree |  | Yes | Did see obvious cultural or political bias |
| STEMscopes Virginia Chemistry | Agree |  | Strongly Agree |  | | Strongly Agree |  | Yes | I love the platform and I think it would prove to be an ideal way for students to interact with the content/standards. |
| STEMscopes Virginia- Chemistry | Neutral | Visuals observed were used to support instruction. | Strongly Agree | A variety of inquiry opportunities: hands-on “Explore” activities offered for each standard, that provides a Teacher and Student Material guide, pHet simulations, and claim-evidence- reasoning activities. | | Neutral | Online version of text offers a variety of resources that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | Yes | Textbook not observed. Digital access provides very comprehensive resources that teachers can use to address the science content outlined in the 2018 Science Standards of Learning. Teachers are provided with a graph to display components that specifically align with standards. Resources provide notable options for differentiation and interventions through the following features: Activities reflective of the 5E learning model, text to speech options, picture vocabulary pHet Simulations, BBC Learning video stream options, interventions, literacy integration, math connections, assessments and much more! |
| VA Experience Chemistry | Agree |  | Agree |  | | Agree |  | Yes |  |
| VA Experience Chemistry | Neutral | There were opportunities in the text for students to observe themselves in science experiences. | Strongly Agree | Variety of inquiry opportunities offered: inquiry labs in every learning experience, engineering designs, videos to connect and introduce the lab and simulations. | | Neutral | Online version of text offers a variety of videos and text that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | Yes | Student and teacher text editions observed outside of online options. Great resource that teachers can use to address the science content outlined in the 2018 Science Standards of Learning; however, this resource provides minimal examples of diversity in culture, race, gender, and backgrounds of our classroom populations.  Text resource provides a specific focus on Virginia Science Standards of Learning.  Online resources provide notable options for differentiation and interventions through the following features: 3-6 experiences to relate content to everyday phenomena, differentiated instructions, ELD support, remediation suggestions, activities to support 5E learning model, and pre/post assessments. |
| Virginia Discovery Education Science Experience- Chemistry | Disagree | Minimal opportunities for students to view themselves, their community, and cultural backgrounds in science. | Strongly Agree | Hands-On Lab activities and interactive simulations offered in the Explore/Teach Component of the lesson. | | Neutral | Online version of text offers a variety of videos and text that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | Yes | Great resource that teachers can use to addresses the science content outlined in the 2018 Science Standards of Learning; however, this resource provides minimal examples of diversity in culture, race, gender, and backgrounds of our classroom populations.   Online resources provides notable options for differentiation and interventions through the following features: leveled reading, Spanish language options, skill-builders, calculator tools, checks for understanding throughout the texts, unit assessments, STEM Connections, suggested activities in a 5E learning sequence, detailed glossary with videos and images, whiteboard and notebook options. |
| World of Chemistry | Agree |  | Agree |  | | Neutral | not sure about the impact of cultures in development of theories and laws - a variety of ethnic groups and mixed groups were present with no apparent bias culturally or politically | Yes |  |
| Earth Science |  |  |  |  | |  |  |  |  |
| Earth Science Discovery Ed | Agree |  | Agree |  | | Agree |  | Yes |  |
| Discovery Ed-Virginia Science Experience Earth Science | Agree |  | Strongly Agree |  | | Agree |  | Yes | I have no concerns with this textbook and would highly recommend it. |
| Virginia Discovery Education Science Experience- Earth Science | Disagree | Minimal opportunities for students to view themselves, their community, and cultural backgrounds in science. | Strongly Agree | Hands-On Lab activities and interactive simulations offered in the Explore/Teach Component of the lesson. | | Neutral | Online version of text offers a variety of videos and text that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | Yes | Great resource that teachers can use to addresses the science content outlined in the 2018 Science Standards of Learning; however, this resource provides minimal examples of diversity in culture, race, gender, and backgrounds of our classroom populations.   Online resources provides notable options for differentiation and interventions through the following features: leveled reading, Spanish language options, skill-builders, calculator tools, checks for understanding throughout the texts, unit assessments, STEM Connections, suggested activities in a 5E learning sequence, detailed glossary with videos and images, whiteboard and notebook options. |
| Physics |  |  |  |  | |  |  |  |  |
| Active Physics | Agree |  | Agree |  | | Agree |  | Yes |  |
| Essential Physics | Disagree | Minimal opportunities for students to observe themselves and their culture in science. Text and visual presentations are supportive of content. | Strongly Agree | “Let Us Entertain You” section provides investigations, essential questions, and Physics to Go to make connections to everyday experiences for every section. | | Disagree | Physics at work section to demonstrate collaborations but minimally reflective of diversity in cultures. | Yes | VDOE Team: Focus on content |
| STEMscopes Virginia- Physics | Neutral | Minimal opportunities for students to observe themselves and their culture in science. Text and visual presentations are supportive of content. | Strongly Agree | A variety of inquiry opportunities: hands-on “Explore” activities offered for each standard, that provides a Teacher and Student Material guide, pHet simulations, and claim-evidence- reasoning activities. | | Agree | Online version of text offers a variety of resources that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. Clear alignment of activities to support 2018 Science Standards of Learning. | Yes | Textbook not observed. Digital access provides resources that teachers can use to address the science content outlined in the 2018 Science Standards of Learning. Teachers are provided with a graph to display components that specifically align with standards. Resources provide notable options for differentiation and interventions through the following features: Activities reflective of the 5E learning model, text to speech options, picture vocabulary pHet Simulations, BBC Learning video stream options, interventions, and assessments. |
| Virginia Discovery Education Science Experience- Physics | Disagree | Minimal opportunities for students to view themselves, their community, and cultural backgrounds in science. | Strongly Agree | Hands-On Lab activities and interactive simulations offered in the Explore/Teach Component of the lesson. | | Neutral | Online version of text offers a variety of videos and text that reflect collaborations that lead to development and revision of scientific theories and laws however the impact of various cultures is not observed. | Yes | Great resource that teachers can use to addresses the science content outlined in the 2018 Science Standards of Learning; however, this resource provides minimal examples of diversity in culture, race, gender, and backgrounds of our classroom populations.   Online resources provides notable options for differentiation and interventions through the following features: leveled reading, Spanish language options, skill-builders, calculator tools, checks for understanding throughout the texts, unit assessments, STEM Connections, suggested activities in a 5E learning sequence, detailed glossary with videos and images, whiteboard and notebook options. |
| Virginia Science Experience: Physics | Agree |  | Agree |  | | Neutral | some present | Yes |  |
| Multiple Text Reviews |  |  |  |  | |  |  |  |  |
| Discovery All | Agree |  | Agree |  | | Agree |  | Yes |  |
| Discovery Education All | Agree | There are more white families being portrayed, but overall, I see various backgrounds. | Agree | some items: rulers, compasses might not be in every home | | Strongly Agree |  | Yes | N/A |
| STEMscopes Virginia K-8 | Strongly agree |  | Strongly Agree | The extensions and opportunities for acceleration and remediation are incredibly beneficial to all students | | Agree |  | Yes |  |
| VA Foss K-5 | Agree |  | Agree |  | | Neutral |  | Yes |  |