# Agenda Item: H

## Date: February 2, 2023

## Title: Report on the Timeline for the Development and Revisions to the Science Standards of Learning

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## Presenter: Dr. Brendon Albon & Dr. Anne Petersen

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## Purpose of Presentation:

For information only: No action required.

## Executive Summary:

The *2018 Science Standards of Learning* were adopted in 2018 and are scheduled for review in 2025. These standards included content and practice expectations for 13 grades/courses to include grades K-6, Life Science, Physical Science, Biology, Chemistry, Earth Science and Physics.

The 2018 *Science Standards of Learning* did not address standards or curriculum frameworks for Virginia Board of Education (Board) approved courses at the secondary level for level II courses and environmental science. These laboratory science courses are listed in the *Board of Education Approved Courses to Satisfy Graduation Requirements for the Standard, Advanced Studies, and Modified Standard Diplomas in Virginia Public Schools*.

The lack of standards or curriculum frameworks for these eleven courses have led to inconsistent content and student expectations in courses offered across the Commonwealth. In addition, teachers have not had support in these courses regarding (a) what is to be taught or (b) how it is to be taught. This has been a particular concern for new teachers.

Currently, the Virginia Department of Education (Department) has in place content guidelines for these courses as intermediate support for divisions. The goal is to transition these content guidelines into standards and provide divisions and teachers instructional support through the development of a curriculum framework.

The eleven courses are as follows:

* Biology II: Anatomy and Physiology
* Biology II: Ecology
* Biology II: Genetics
* Biology II: Advanced Survey of Biology Topics
* Chemistry II
* Physics II
* Earth Science II: Astronomy
* Earth Science II: Geology
* Earth Science II: Oceanography
* Earth Science II: Advanced Survey of Earth Science Topics
* Environmental Science

Although the typical timeline for stakeholders and educators to review and revise the standards is approximately one year, the proposed timeline includes an additional year to develop and review both the standards and curriculum framework for the eleven Board-approved courses for which standards are not currently in place (see Attachment A).

The development and revision of the Science Standards and Curriculum Framework meet Goal 2 of the Board’s Comprehensive Plan: 2018-2023, which calls for the development of rigorous standards to promote college and career readiness through a review of all the Standards of Learning (SOL) on a regular basis.

## Action Requested:

No action requested.

## Superintendent’s Recommendation

The Superintendent of Public Instruction recommends that the Board of Education receive this written report.

## Background Information and Statutory Authority:

The *Code of Virgini*a requires a review of Virginia’s Standards of Learning every seven years.

Section [22.1-253.13:1 B](https://law.lis.virginia.gov/vacode/title22.1/chapter13.2/section22.1-253.13:1/) states, in part, that “[t]he Board of Education shall establish a regular schedule, in a manner it deems appropriate, for the review, and revision as may be necessary of the Standards of Learning in all subject areas. Such review of each subject area shall occur at least once every seven years. Nothing in this section shall be construed to prohibit the Board from conducting such review and revision on a more frequent basis.”

## Timetable for Further Review/Action:

It is anticipated that proposed revisions to the Virginia Science Standards of Learning will be brought to the Board for first review in May 2025.

## Impact on Fiscal and Human Resources:

The Department administers the state standards review process. Funding for the standards development and revision will need to be reflected in the state budget.

# Proposed Timeline for the Review and Revision of the

# Science Standards of Learning and Curriculum Framework Documents

**Standards and Curriculum Framework Development**

**January 2022 through May 2023**

The Virginia Department of Education (Department) will work with educator consultants on the preparation of draft standards and curriculum framework that will be used in the development of standards and curriculum frameworks for the eleven Virginia Board of Education (Board) approved courses that currently do not have standards in place.

**February 2023**

The Department presents the projected timeline for the development and review of the *Science Standards of Learning* and *Science Standards of Learning Curriculum Framework* to the Board.

The Department posts the science development and revision timeline on the web site.

**February 2023 through June 2023**

The Department shares draft initial documents (as completed) with parents, industry, institutes of higher education and educators to review content in standards and curriculum framework for content accuracy and for feedback to inform work of standards development committees composed of science educators.

**April 2023**

The Department garners feedback from educators and Department leadership concerning current structure of the science curriculum frameworks.

The Department requests division superintendents share information about the development process with instructional staff and encourage staff to apply to serve on the 2025 *Science Standards of Learning* development committee to develop draft standards and curriculum framework for Level II courses and Environmental Science.

**May 2023**

The Department will convene a Science Education Advisory Board (SEAB) to review public feedback and support the revision process. The SEAB will be comprised of 35 members to include parent representatives, relevant business and industry/military representatives, higher education staff, school and division level leadership, classroom teachers, and Department staff.

**July 2023**

The science standards development committee meets for five days (two days virtually and three days face-to-face) to:

* Review initial draft standards and curriculum frameworks;
* Review feedback from institutes of higher education and educators;
* Review national and international documents and reports; and
* Make recommendations for potential revisions to the draft standards and curriculum framework for the eleven courses that currently do not have standards or curriculum frameworks.

**August 2023 through December 2023**

Department and Consultants revise Level II and Environmental Science course documents based on feedback from standards development committee.

**2018 Science Standards of Learning Revision**

**October 2023**

The Department prepares for the review process with the creation of public comment feedback forms and collaborated with leadership in creating a timeline and process for submitting public comment on the revision of the 2018 *Science Standards of Learning and Curriculum Framework.*

**November 2023**

The Department publishes a Superintendent’s Memorandum to:

● Announce the schedule of the review process;

● Announce the availability of a review process page posted on the Department’s web site, including a timeline and procedures for submitting public comment on the *Science Standards of Learning and Science Standards* of Learning Curriculum Framework; and

● Request division superintendents to share information about the review process page with instructional staff and encourage staff to apply to serve on the 2025 Science Standards of Learning review committee.

**January-February 2024**

The Department posts the review process page on its web site that includes a timeline and process for submitting public comment on the *Science Standards of Learning and Science Standards of Learning Curriculum Framework*. The public comment period will be from January 2-Feburary 29, 2024.

**March 2024**

Department staff aggregate and conduct a preliminary analysis of the public comments set and received through stakeholder meetings.

**April 2024**

The Department will convene a Science Education Advisory Board (SEAB) to review public feedback and support the revision process.

Department staff identifies science educators to serve on the 2025 *Science Standards of Learning* review committees.

**May 2024**

The steering committee (a subset of the 2025 *Science Standards of Learning* review committee) meets for four days (two days virtually and two days face-to-face) to:

* Review and analyze statewide public comment;
* Review recommendations from SEAB and Department leadership;
* Review and select national and international documents and reports necessary to inform the revision process;
* Receive training on leading grade-band teams through the standards revision process; and
* Make recommendations for potential revisions to the standards.

**July 2024**

The review committee meets for six days (two days virtually and four days face-to-face) to:

* Review a summary of statewide public comment and analysis of the steering committee;
* Review recommendations from SEAB and Department leadership;
* Review national and international documents and reports selected by the steering committee; and
* Make recommendations for potential revisions to the standards and curriculum framework.

**August 2024 – December 2024**

Department staff prepare a draft of the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* based upon the work of the steering and review committees.

**January 2025**

The Department shares a draft of the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* with scientists and science educators in institutions of higher education across Virginia and professional organizations that focus on science education for review and comment.

The Department shares a draft of the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* with representatives of the business community for review and comment.

The Department meets with the Science Education Advisory Board (SEAB) to seek feedback on the draft of the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework*.

**March 2025**

Department staff and the steering committee review comments from higher education staff, business community representatives, and the SEAB on the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* and make revisions.

**April 2025**

The Department meets with Board members to provide overview of the development and revision process, summaries of feedback from stakeholders and public comment, summary of how feedback impacted revisions, and initial draft proposed documents prior to Board meeting.

**May 2025**

The Department Science team introduces the draft of the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* to the Board.

**June 2025**

The Department presents the draft of the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* to the Board for first review.

A Superintendent’s Memorandum announces the schedule for public hearings and process for submitting public comment on the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework*. The public comment period will be active for 90 days due to the high number of documents to be reviewed and to allow flexibility to stakeholders during the summer months.

**August- September 2025**

Public hearings held as prescribed by the Board.

**October 2025**

Department staff reviews statewide public comment and make edits, as necessary.

**November 2025**

The Department meets with the Science Education Advisory Board (SEAB) to seek feedback on the revised proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework*.

**December 2025**

The Superintendent of Public Instruction presents the proposed 2025 *Science Standards of Learning* and 2025 *Science Standards of Learning Curriculum Framework* to the Board for final review and adoption. The Department posts the final documents on its web site.

**May 2026**

Department staff provide a crosswalk between the 2018 *Science Standards of Learning* and the 2025 *Science Standards of Learning*.

**January through July 2026**

School divisions incorporate the new standards into local written curricula for inclusion in the taught curricula during the 2026-2027 school year.

**2026-2027 Crosswalk Year**

2018 *Science Standards of Learning* and 2025 *Science Standards of Learning* included in the written and taught curricula. Standards of Learning (SOL) assessments in spring 2027 measure the 2018 *Science Standards of Learning* and include field test items measuring the 2025 *Science Standards of Learning*.

**2027-2028 School Year Full-implementation year**

Written and taught curricula reflect the 2025 *Science Standards of Learning*. Standards of Learning assessments measure the 2025 *Science Standards of Learning*.