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

## Date: April 25, 2019

## Title: Initial Review of the Proposed 2018 *Science Standards of Learning Curriculum Framework*

## Presenter: Dr. Anne Petersen, Science Coordinator, Office of Science, Technology, Engineering, and Mathematics

## Email: anne.petersen@doe.virginia.gov Phone: (804)225-2676

## Purpose of Presentation:

Review/action required by Board of Education bylaws.

## Executive Summary:

The Standards of Learning are a critical communication with the citizens of the Commonwealth, parents, the business community, and higher education because the Standards convey expectations and intended outcomes for K-12 education. Equally as important, the Standards and the frameworks serve as the key guidance for instructional leaders and teachers of science (elementary, middle, high school) in planning science curricula and science programming.

The Board of Education approved the 2018 *Science* *Standards of Learning* on October 25, 2018. The currentstandards may be viewed online at <http://www.doe.virginia.gov/testing/sol/standards_docs/science/index.shtml>.

The 2018 Science Curriculum Frameworks were developed to support teachers and administrators in the instruction of the *Science Standards of Learning*. This document, constructed with the assistance of teachers and science leaders across the Commonwealth, outlines the expectations of students as they demonstrate mastery of the science content and the skills outlined in the Science and Engineering Practices. The *Science Curriculum Framework* is not intended to encompass the entire curriculum for a given grade level or course. School divisions are encouraged to incorporate the Curriculum Framework into a broader, locally-designed curriculum. The Curriculum Framework delineates in greater specificity the minimum content that all teachers should teach and all students should learn.

In support of *Profile of a Virginia Graduate*, the proposed revisions to the Curriculum Framework strengthen support for teachers and educational leaders through improvements to the Curriculum Framework, strengthen pathways within K-12 science education through a focus on improving the vertical progression of science content, and will better prepare students for college and careers through a greater emphasis on critical thinking and problem solving.

The initial 2018 *Science Standard of Learning Curriculum Framework* construction has changed based on feedback from K-12 science educators. These changes provide teachers further support in the instruction of science through integrating Science and Engineering Practices explicitly into the content, the tie-in of science concepts into big ideas in science that are reflected vertically through the Standards, and providing vertical alignment of concepts for each Standard, thus allowing teachers an easier view of content progression.

**Summary of Major Elements:**

The attached drafts of the proposed *Science Standards of Learning Curriculum Framework* include the following components, as listed.

Proposed 2018 *Science Standards of Learning Curriculum Framework*

* Introductory statements
* K-6 Yearly Themes
* Standards of Learning for the grade level or course
* Central Idea—describes big idea in science that supports the standard.
* Vertical Alignment—central ideas are vertically aligned and references are made to content from prior year of instruction and next steps in instruction.
* Enduring Understandings— information that supports science content knowledge
* Essential Knowledge and Practices—information that provides expectations for student learning.

## Action Requested:

Action will be requested at a future meeting. Specify anticipated date below:

June 20, 2019

## Superintendent’s Recommendation:

Accept the 2018 Science Curriculum Frameworks for first review.

## Previous Review or Action:

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

June 28, 2019 Board of Education accepted the 2018 Science Standards of Learning for first review.

Public Comment on the 2018 Science Standards of Learning:

* August 27, 2018 Roanoke
* September 5, 2018 Stafford
* September 13, 2018 Williamsburg (cancelled: inclement weather)
* Virtual Public Comment Open: June 30-September 20, 2018

October 18, 2018 Board of Education adopted the 2018 Science Standards of Learning.

## Background Information and Statutory Authority:

The Board of Education has made a commitment to maintain rigorous and relevant expectations for student learning that meet or exceed national and international benchmarks for college and career readiness. The proposed revised *Science Standards of Learning* reflect rigorous, concise, and measurable standards for these courses in Virginia.

*Code of Virginia*, Section 22.1-253.13:1-B… “The 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…”

This Board item relates to Priority 1 of the *Virginia Board of Education Comprehensive Plan: 2018-2023* to provide high-quality, effective learning environments for all students.

## Timetable for Further Review/Action:

Following the Board of Education’s acceptance of the Proposed 2018 *Science Standards of Learning Curriculum Framework* for first review, the Department of Education will receive public comment for at least 30 days before bringing the Proposed Revised 2018 *Science Standards of Learning Curriculum Framework* to the Board of Education for final review in June 2019. During the public comment period, feedback will be solicited from stakeholders through an online comment platform and through webinars hosted by the Department of Education. This feedback will inform changes to be made to the document prior to submitting the Curriculum Framework to the Board of Education.

Table 1

2018 Science Standards of Learning Anticipated Implementation Timeline and Communication Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **School Year** | **Date** | **Action** | **Communication** | **Method** |
| 2019 | April | First Review of Proposed 2018 *Science Standards Curriculum Framework* | Announce initial review of the 2018 *Science Standards Curriculum Frameworks* | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Draft version of the 2018 *Science Standards Curriculum Frameworks* open for public comment. | Announce draft curriculum framework open for public comment | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| June | Final Review of the proposed 2018 *Science Standards Curriculum Framework* | Announce final review of the 2018 *Science Standards Curriculum* *Frameworks* and timeline of implementation | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Summer | School divisions begin incorporating 2018 *Science* SOL and CF into written curricula |  |  |
| Summer | Develop additional performance assessment exemplars and common rubrics that align to the 2018 *Science Standards of Learning* and to support VDOE professional development. | Develop and integrate aligned performance assessments into VDOE and support organization performance assessment professional development | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels including direct communication with VDOE partners with PA. |
| Fall | VDOE provides professional development on the changes to the SOL and CF | Announce professional development  | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Fall/Winter | VDOE conducts the textbook review process in accordance with previously approved BOE textbook adoption timeline | Announce the process and call for nominees to serve | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| 2019-2020 | Full year | 2010 *Science* SOL and 2018 *Science* SOL included in the written and taught curricula  | Detail instruction and assessment timeline and expectations | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Fall | VDOE provides professional development on the changes to the SOL and CF | Announce professional development | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Spring | VDOE completes the textbook review process and seeks approval from the Board of Education | Announce completion | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Summer | School divisions continue incorporating 2018 *Science* SOL and CF into written curricula |  |  |
| 2020-2021 | Fall/Winter | VDOE provides SOL Practice Items aligned with the 2018 *Science SOL*  | Announce posting of resource | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Fall and Spring | SOL assessments measure the 2010 *Science* SOLand include field test items measuring the 2018 *Science* SOL |  |  |
| 2021-2022 | Full year | Written and taught curricula reflect the 2018 *Science* SOL | Detail instruction and assessment timeline and expectations | Superintendent’s Memo, VDOE social media, TeacherDirect, and other communication channels |
| Fall and Spring | SOL assessments measure the 2018 *Science* SOL |  |  |

**Impact on Fiscal and Human Resources**:

The Department of Education administers the state standards and curriculum framework review process and the implementation of those standards and curriculum, once approved by the Board. The agency’s existing resources can absorb the standard review responsibility at this time.