

STATE OF HAWAII
BOARD OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

February 16, 2016

TO: Lance A. Mizumoto
Chairperson, Board of Education

FROM: Patricia Halagao
Student Achievement Committee Chairperson, Board of Education

AGENDA ITEM: Action on Student Achievement Committee recommendations concerning the adoption of Next Generation Science Standards ("NGSS")

I. Background

At its February 2, 2016 meeting, the Student Achievement Committee ("Committee") received a recommendation from the Department of Education ("Department") to adopt the Next Generation Science Standards ("NGSS"). The Department's memorandum, dated February 2, 2016 and attached as **Exhibit A**, provides details on the recommendation and NGSS.

The Committee unanimously agreed with the Department's recommendations to approve NGSS, effective upon the approval of the full Board of Education ("Board"), and for the Department's full compliance and implementation to be completed over a four year period beginning with school year 2016-2017 based on an implementation plan to be presented to the Board at a later date.

II. Recommendation

Your Committee is recommending the adoption of NGSS through the following motion:

"Moved to adopt the Next Generation Science Standards and require the Department of Education to present to the Board for approval a plan beginning in school year 2016-2017 that fully implements the standards within four years."

Exhibit A

Department of Education memorandum to the Board of Education's Student Achievement Committee, dated February 2, 2016, relating to Committee action on the adoption of Next Generation Science Standards

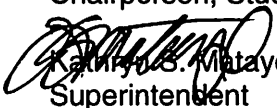


STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

February 2, 2016

TO: The Honorable Patricia Halagao
Chairperson, Student Achievement Committee

FROM: 
Kathryn S. Matayoshi
Superintendent

SUBJECT: **Committee Action on the Adoption of Next Generation Science Standards
("NGSS")**

1. RECOMMENDATION

It is recommended that the Board of Education (Board) Student Achievement Committee (SAC) approve the Next Generation Science Standards (NGSS).

2. RECOMMENDED EFFECTIVE DATE

Upon approval by the full Board.

3. RECOMMENDED COMPLIANCE DATE (if different from the effective date)

It is recommended that compliance with full Board approval (i.e. classroom implementation of the NGSS) be effective over a four year period beginning with school year 2016-2017 based on an implementation plan to be presented to the Board at a later date.

4. DISCUSSION

a. Conditions leading to the recommendation

Twenty-six (26) lead state partners drafted the NGSS based on the National Research Council's *Framework for K-12 Science Education*. The 40-member writing team included experts in elementary school science, middle school science, high school science, students with disabilities, English language acquisition, state level standards and assessment, and workforce development. K-12 teachers played a central role in writing the standards, joined by scientists and engineers, professors of science education, state and district science specialists, and other professionals in science teaching and learning.

The following is the NGSS development timeline:

- July 2011 – Final version of the *Framework for K–12 Education* published.
- Summer 2011 – Lead states and writers identified; writing team begins work.
- Fall 2011 – Draft released to lead states for review.
- Winter 2011 – Writers responded to lead state review.
- Winter 2012 – Draft released to lead states and critical stakeholders for review.
- Spring 2012 – Writers responded to lead state and critical stakeholder review.
- May–June 2012 – First public draft released for review.
- Summer 2012 – Writers responded to first public draft review.
- Fall 2012 – Draft released to lead states and critical stakeholders for review. Writers responded to lead state and critical stakeholder review.
- January 2013 – Second public draft released for review.
- Winter 2013 – Writers responded to second public draft review.
- Winter 2013 – Final draft released to lead states for review.
- April 2013 – NGSS released for adoption; final draft and supporting documents posted at <http://www.nextgenscience.org>.
- June 2013 – Office of Curriculum, Instruction and Student Support (OCISS) briefs Board SAC on the NGSS.
- August 2014 – OCISS presented NGSS discussion to Board SAC.
- September 2015 – OCISS provided NGSS overview and update to Board SAC.

b. Previous action of the Board and Committee(s) on the same or similar matter.

On May 11, 2010, the Board's Curriculum, Instruction and Student Support Committee recommended the adoption of the draft version of the Common Core State Standards for English Language Arts and Mathematics to the full Board.

On May 20, 2010, the Board adopted the draft version of the Common Core State Standards for English Language Arts and Mathematics at its General Business Meeting.

On June 7, 2010, the Board adopted the Common Core Standards for English Language Arts and Mathematics at its General Business Meeting.

c. Other policies affected

None. (Adoption of NGSS will not require any amendments to BOE Policy 102.3, Statewide Content and Performance Standards, approved on October 6, 2015.)

d. Arguments in support of the recommendation

The NGSS are:

- a set of performance expectations that integrate science and engineering core ideas, practices, and crosscutting concepts in a way that reflects the nature of science and engineering as practiced and experienced in the real world.
- internationally benchmarked and designed to prepare students for college, career, and citizenship.
- aligned to the Common Core State Standards in English Language Arts and Mathematics, which creates opportunities for integrated learning experiences and reinforcement of common practices across disciplines.

- an opportunity to proactively work collaboratively across states and to access resources designed using research-based best practices in science teaching and learning.
- supportive of teachers in Hawaii who are already engaged in, or interested in, rigorous and relevant science instruction, including place-based, phenomenon-based, problem-based, and/or integrated STEM (science, technology, engineering, mathematics) approaches.

e. Arguments against the recommendation

None.

f. Other agencies or departments of the State of Hawaii involved in the action

The Department's Office of Strategy, Innovation, and Performance will be involved in the development of NGSS-aligned state assessments and in determining implications of NGSS for accountability systems.

Additionally, discussions regarding NGSS have been held with members of the University of Hawaii System Office of STEM Education, the Office of the Vice President for Research and Innovation (STEM Pre-Academy), the Office of the State Director for Career and Technical Education, the Office of the Vice President for Community Colleges, the John A. Burns School of Medicine, the University of Hawaii at Manoa College of Engineering, the University of Hawaii at Manoa College of Education, Hawaii P-20, and the State Teacher Education Coordinating Committee. The response has been favorable from all parties.

g. Possible reaction of the public, professional organizations, unions, DOE staff and/or others to the recommendations

The NGSS have been shared through a variety of mechanisms with Department teachers and administrators. The general consensus is that the NGSS represent a step forward for science education, and its implementation will require professional development, time, resources, and communication.

Overall reaction to the NGSS is anticipated to be favorable.

h. Educational implications

The NGSS will strengthen students' foundations in scientific content, applications, and practices, thus better preparing Hawaii public school graduates for college, career, and citizenship.

Further, the NGSS will enable the Department to align professional development, curriculum, instruction and assessment to research-based best practices in science teaching and learning. It will support teachers in cultivating their ability to provide science learning opportunities for students that build coherently from kindergarten through twelfth grade and are aligned to Common Core State Standards in English Language Arts and Mathematics.

i. Personnel implications

None.

j. Facilities implications

Facilities needs to conduct a variety of scientific and engineering investigations will differ based on grade and content area.

k. Financial implications

The Department will rely on existing resources and personnel to support schools and teachers with the implementation of NGSS. Existing schools' science instructional materials may align with NGSS, thus reducing the need for schools to purchase new instructional materials. Further, the Department will actively seek grants to support professional development.

5. OTHER SUPPLEMENTARY RECOMMENDATIONS

None.

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Attachment

- c: Board of Education Members
Office of Curriculum, Instruction and Student Support