



DC Science Assessment Overview

An Assessment of the Next Generation Science Standards (NGSS)

The Office of the State Superintendent of Education (OSSE) is pleased to introduce the nation's first statewide assessment of the [Next Generation Science Standards](#) (NGSS). In 2013, the District of Columbia adopted the NGSS as its state learning standards and NGSS are based on the National Research Council's [Framework for K-12 Science Education](#). The NGSS integrate content and application and reflect how science and engineering are practiced in the real world. To adequately assess the new standards, the new DC Science Assessment uses interrelated questions set in real-world contexts or scenarios to engage students and assess three-dimensional science learning.

Every NGSS standard has three dimensions: Disciplinary Core Ideas (DCI), Scientific and Engineering Practices (SEP) and Crosscutting Concepts (CCC). These key dimensions define three-dimensional learning: describing what students must know, do, and understand in order to show proficiency in science.

Dimensions of the NGSS

Dimensions	Description
Disciplinary Core Ideas (DCI)	Students are expected to learn specific core content in Physical Science, Life Science, Earth Science and Engineering Design
Science and Engineering Practices (SEPs)	Students are expected to learn and understand core content through eight practices replicating the methods used by scientists and engineers.
Crosscutting Concepts (CCCs)	Connect and bridge disciplinary boundaries and unite core ideas in the disciplines of science and in engineering.

Currently, most state standards express these dimensions as separate standards, leading to isolated treatment in both instruction and assessment. The integration of content (DCI) and application (SEP and CCC) reflects how science and engineering are practiced in the real world. To adequately assess the three dimensions advocated by the NGSS, new assessments require sets of interrelated questions focusing on DCIs, SEPs and CCCs to support inferences about students' three-dimensional science learning and understanding. The sets of interrelated questions are set in real-world contexts or scenarios to engage students.





District of Columbia Office of the State Superintendent of Education

Transition to NGSS Assessment

The OSSE is engaged in the process of transitioning from a traditional science assessment to a new NGSS-aligned science assessment. A statewide field test will be administered in Spring 2015 for all students in grades 5, 8, and High School Biology. The field test will be administered online in the same TestNav 8 platform used for the PARCC assessments.

In Spring 2015, the OSSE will field test a DC Science Assessment that reflects the District's transition to NGSS. Since the implementation of NGSS-aligned instruction and curriculum is still on a transitional pathway in the District, the new DC Science Assessment is also being developed and field-tested with this in mind. Within this transitional model, the field test integrates technology-enhanced NGSS-based items with science item formats used previously in Districtwide assessments.

The Spring 2015 field test will consist of 16 new scenario-based items (two events, 8 items per event) and 10 District of Columbia Comprehensive Assessment System (DC CAS) items at each grade level. The new items will consist of real-world scenarios that address the dimensions of the NGSS standards: DCIs, SEPs and CCCs. The DC CAS items have been cross-walked to the NGSS, and only NGSS-aligned DC CAS items will be included in the test design. A third eight-item scenario will be released for each grade-level prior to test administration as a sample test. Each scenario-based event will contain the following item types: technology-enhanced items (e.g., students may drag and drop pictures to create models); constructed response items (e.g., students may be asked to use evidence to construct an explanation); and selected-response items (e.g., students may be asked to select all the answer choices that apply, providing a better picture of student understanding of content).

In Fall 2015, the OSSE will field test additional technology-enhanced NGSS-aligned items as an optional formative assessment. Results from the Fall 2015 field test will be made available to schools to guide instruction.

Content and Bias Review

The OSSE, in collaboration with WestEd, will conduct a content and bias review in Fall 2015. At the review, teachers and curriculum coordinators representing LEAs within the District will review items and offer feedback.

