California Department of Education

Executive Office

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# MEMORANDUM

**DATE:** August 16, 2019

**TO:** MEMBERS, State Board of Education

**FROM:** TONY THURMOND, State Superintendent of Public Instruction

**SUBJECT:** Updates on the California Science Assessments

## Summary of Key Issues

This Memorandum provides updates on the development of the first operational administration of the California Alternate Assessment (CAA) for Science and the upcoming development activities and test format of the 2019–20 California Science Test (CAST) administration.

## California Alternate Assessment for Science—Development Activities

In July 2016, the California State Board of Education (SBE) approved the high-level test design for the CAA for Science. With the approval of this design, the California Department of Education (CDE) and testing contractor Educational Testing Service (ETS) developed the CAA for Science to:

* Provide immediate information or feedback to inform instruction to educators (test examiners), thus allowing them the opportunity to intervene after the administration of the embedded performance task and reteach the student at their discretion.
* Promote and support the implementation of the 2013 California Next Generation Science Standards (CA NGSS) for students with the most significant cognitive disabilities by offering a developmentally appropriate opportunity for students to be assessed using alternate achievement standards derived from the CA NGSS.

With a thoughtful approach, the development of the CAA for Science began with two years of pilot testing during the 2016−17 and 2017−18 school years. The 2016−17 initial pilot test consisted of one performance task. The CDE used the feedback and data collected from this initial pilot to guide the development of the year two pilot test administered in 2017−18, which consisted of three performance tasks. An online CAA for Science field test was administered in 2018−19. The CDE and ETS will use information gathered from both the pilot testing and the field testing (e.g., item and test statistics and test examiner feedback) to guide future development of the CAA for Science embedded performance tasks. In 2019−20, the first online operational assessment will be administered. The CDE and ETS continue to work in collaboration with California educators, national science experts, and other stakeholders to develop the operational CAA for Science.

The CAA for Science is administered to students with the most significant cognitive disabilities whose individualized education program (IEP) indicates the use of an alternate assessment. Eligible students take the CAA for Science in grades five and eight and one time in high school (i.e., grade ten, eleven, or twelve). The CAA for Science is aligned with the Core Content Connectors (Science Connectors), which are derived from the CA NGSS. The Science Connectors align appropriately with the needs of students with the most significant cognitive disabilities and serve as the basis for the state’s CA NGSS alternate summative assessments. The continuum presented in figure 1 displays how the Science Connectors are the bridge to the Performance Expectations of the CA NGSS. The Science Connectors, which can be considered alternate science learning goals, are further refined to assessment targets in the form of Focal Knowledge, Skills, and Abilities (FKSAs), and at its basic level, the Essential Understanding (EU) of the science concept.

Figure 1. CAA for Science Standards Continuum

In accordance with the high-level test design approved by the SBE in July 2016, each embedded CAA for Science performance task aligns with at least two Science Connectors and, therefore, two CA NGSS Performance Expectations. The July 2016 SBE agenda item can be found archived at <https://www.cde.ca.gov/be/ag/ag/yr16/documents/jul16item01.doc>. In January 2018, the SBE approved the CAA for Science test blueprint, which can be found archived at <https://www.cde.ca.gov/be/ag/ag/yr18/documents/jan18item06.docx>.

For the 2019−20 operational CAA for Science, test examiners will administer four embedded performance tasks from each of the three CA NGSS science domains (i.e., Physical Sciences, Life Sciences, and Earth and Space Sciences). Three of the embedded performance tasks, one from each science domain, will be operational. The fourth embedded performance task will be used for field-testing purposes and will be randomly selected from one of the three science domains. Students must attempt all four performance tasks to complete the assessment. On September 3, 2019, the 2019−20 CAA for Science will become available to test examiners to administer to students. It will remain available through the end of the school’s instructional calendar or July 15, 2020, whichever comes first. The CDE recommends that test examiners administer the embedded performance tasks shortly after students have received instruction on the science content.

### Preparation for the First Operational Administration

In preparation for the first operational administration, resources have been developed to assist local educational agencies (LEAs) in the planning and the administration of this innovative assessment. These resources are described in detail in the following sections.

#### Directions for Administration

Beginning September 3, 2019, the *2019−20* *CAA for Science Directions for Administration* (*DFAs*)for grades five and eight and high school will be made available to LEAs as downloadable files in the Test Operations Management System (TOMS) on the California Assessment of Student Performance and Progress (CAASPP) Portal, under “Secure Documents.” The *DFAs* contain performance task-specific information needed by test examiners to prepare for and administer each of the four CAA for Science embedded performance tasks. In addition, the *DFAs* contain preparation information for the orienting activities; the scripts associated with the online test questions for specific performance tasks; and the graphics for the orienting activities, when applicable. In order to field-test additional performance tasks for future administrations, ETS will create four versions for California schools; each school will be assigned the same version for all grades.

#### Orienting Activities

Each embedded performance task assesses two Science Connectors with two corresponding sets of five test questions, each prefaced by an orienting activity. An orienting activity is a nonscorable activity designed to engage and familiarize students with a science concept they were previously taught. Orienting activities may consist of videos or graphics, and hands-on activities. Materials used for the hands-on activity are items that are commonly available in the classroom.

#### Individualization

Individualization is the process of adapting an orienting activity or item to meet an individual student’s needs based on the educator’s knowledge of the student. To maximize student engagement, all items for the CAA for Science may be individualized on the basis of a student’s IEP. In addition, in the *DFA*s, test examiners are provided with guidelines on how to individualize the orienting activities and designated items to assist all students in showing what they know and can do.

#### Administration Planning Guides

The *2019−20 CAA for Science Administration Planning Guides* have been postedon the CAASPP Portal CAAs web page at <http://www.caaspp.org/administration/about/caa/index.html>. These guides provide LEAs and test examiners with the following:

* Basic information on the CAA for Science administration and test security
* The Science Connectors being assessed and what to consider when deciding the best time to administer a CAA for Science performance task to a student
* A schedule planner template to assist in deciding when to administer each performance task

The CDE is providing these *Administration Planning Guides* to LEAs in advance of the 2019−20 instructional year to give teachers and test examiners as much time as possible to plan how best to integrate each of the four embedded performance tasks into their instructional calendars. This document also reminds the LEAs that the embedded performance tasks can be administered to students at any time and in any order.

Schools are assigned a version that they will use for all CAA for Science testing materials, such as the *DFAs* and the *Administration Planning Guides.* Therefore, if a school is assigned version one, they will use version one for both the *DFAs,* the *Administration Planning Guides,* and the embedded performance tasks.

#### Test Examiner Tutorial

The 2019−20 “CAA for Science Test Examiner Tutorial” became available in July 2019 on the CAASPP Portal CAAs web page at <http://www.caaspp.org/administration/about/caa/index.html>. This annually updated tutorial includes important information that test examiners need for administering the operational CAA for Science. Throughout the tutorial, participants are asked to answer key questions in order to proceed through the training. After successfully completing the tutorial, participants receive a certificate of completion and are therefore ready to administer the CAA for Science for the current school year.

### Future Development Activities

The CDE and ETS will convene with California educators for a CAA for Science standard setting meeting scheduled to take place in August 2020. Participants will recommend threshold scores for the three achievement levels, which the CDE will bring before the SBE for approval in November 2020.

In January 2021, LEAs will be provided with individual results in the form of Student Score Reports (SSRs) for the 2020 CAA for Science administration and a downloadable student data file, and the public will be provided with summary results on the CDE public reporting website shortly thereafter.

## California Science Assessment (CAST) Update

In addition to providing updates on the CAA for Science, the purpose of this August 2019 Memorandum is to provide information about the successful first operational administration of the CAST, in the 2018−19 school year, and developments for the 2019−20 CAST administration.

From January 2019 through July 15, 2019, the CAST was administered to 1,476,967 students. The CAST, which aligns with the 2013 CA NGSS, is administered to all eligible students in grades five and eight and once in high school (i.e., grade ten, eleven, or twelve).

In an August 2018 SBE Information Memorandum, the CDE provided the SBE with 2018−19 CAST updates related to the operational administration and a full discussion of the multistage adaptive test (MST) and screener. As stated in that Memorandum, the CDE will provide the results from the MST and screener studies using the 2018−19 operational data to the SBE after the first operational administration. The August 2018 Memorandum is located at <https://www.cde.ca.gov/be/pn/im/documents/memo-pptb-adad-aug18item01.docx>.

### 2019–20 CAST Administration Format

For the 2019−20 administration, the CAST will continue to use the 2018−19 administration format. The completion of the MST and screener studies using the first operational CAST results will not leave sufficient time to create the 2019−20 test forms for a January 7, 2020, launch. Therefore, the CDE will not implement the MST or the screener for the 2019−20 administration.

### Development Activities

The CDE, in collaboration with ETS, will complete the development activities of the 2018−19 administration of the CAST, which include the standard setting, scoring and reporting, and the addition of the CAST and the CAA for Science to the Starting Smarter website, as described below.

Standard Setting

The CDE and ETS recently finished a standard setting meeting on July 31 through August 2, 2019 with California science educators to develop the recommendations for the CAST threshold scores that will be brought before the SBE for approval in November 2019. Prior to the SBE taking this action, the CDE will provide more information on the process used to arrive at the recommended CAST threshold scores in an October 2019 Information Memorandum.

#### Scoring and Reporting

If the SBE approves the CAST threshold scores in November 2019, SSRs will be provided to LEAs using a separate CAASPP SSR specifically for the CAST. A prototype of the 2018−19 CAASPP summative assessment SSR was shared with the SBE in the October 2018 Information Memorandum, which can be found at <https://www.cde.ca.gov/be/pn/im/documents/memo-pptb-adad-oct18item01.docx>. Student results will be available in the student downloadable data-level file in the Test Operations Management System. The statewide-, county-, LEA-, and school-level summary results, by student groups, will be displayed on the CDE Public Web Reporting web site.

#### Starting Smarter Will Include Science

In April 2019, the CDE worked in collaboration with the Smarter Balanced Assessment Consortium and ETS to launch the Starting Smarter website, which was developed to help empower parents/guardians and families to become partners in their children’s academic success. Currently, information about the CAASPP English language

arts/literacy (ELA) and mathematics assessments and the CAAs for ELA and mathematics are included on this site. The CAST will be available on the site in November 2019, and the CAA for Science will be available in November 2020.

## Attachment(s)

None.