



California Assessment of  
Student Performance and Progress

# **California Alternate Assessment for Science 2016–17 Pilot Summary Report**

**Contract No. CN150012**

**Prepared for the California Department of Education by  
Educational Testing Service**

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## Section 1: 2016–17 Pilot Test Elements

According to the California Assessment of Student Performance and Progress (CAASPP) contract awarded to Educational Testing Service (ETS) in 2015, ETS was charged with the development of the new summative assessment of the California Next Generation Science Standards (CA NGSS) for students with the most significant cognitive disabilities. This assessment offers a developmentally appropriate opportunity for these students to be assessed on their science knowledge, skills, and abilities while providing meaningful information about academic performance to both students and teachers.

The first pilot test for the California Alternate Assessment (CAA) for Science was administered in the spring of 2017 as part of the CAASPP 2016–17 administration.

The 2016–17 pilot of the CAA for Science involved four components:

1. an embedded performance task,
2. a brief student survey,
3. an optional test examiner survey, and
4. an optional training performance task.

A description of each component is provided in the next subsection.

### 1A. Embedded Performance Tasks

An embedded performance task (PT) introduces teachers and students to the model of assessment known as curriculum-embedded PTs. The intent behind this assessment is to have educators embedding PTs as summative assessments following classroom instructional activities. The guiding principles adopted for the CAA for Science are that these assessments will:

- Support and promote teachers' implementation of the CA NGSS;
- Embed summative assessment into instructional practice;
- Offer a developmentally appropriate opportunity for students with the most significant cognitive disabilities to be assessed on their science knowledge, skills, and abilities; and
- Provide meaningful information about academic performance to both parents/guardians and teachers.

For the 2016–17 CAASPP administration, three PTs were developed for the CAA for Science: one each for grade five, grade eight, and the assigned grade in high school (i.e., grade ten, eleven, or twelve).<sup>1</sup>

A notable feature of the 2016–17 embedded PTs is that test examiners had the option to individualize certain elements of the assessment. Each PT contains an example, or

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<sup>1</sup> In the 2016–17 administration year, local educational agencies (LEAs) were to administer the science tests to students in grades five, eight, and an assigned high school grade. LEAs were randomly assigned grade ten, eleven, or twelve.

High school students in an ungraded program whose calculated grade was the one assigned to their high school took this assessment. Grades were calculated by subtracting five from the student's chronological age on September 1, 2016.

exemplar, of each item. The activities that are part of each item are almost all designed to allow test examiners to substitute different materials, as long as the required activity is administered. Test examiners are permitted to substitute different objects based on available materials and needs of the student, as long as the format of the activity was followed and the scoring rubric used. Potential individualizations were designed so that the premise of the item and the scientific principles tested would remain the same. PTs often involved the use of objects to scaffold (i.e., make easier to understand) the administration.

For example, in the grade eight PT, before test questions regarding erosion, weathering, and sedimentation were asked, test examiners were instructed to administer an “exemplar” activity in which soil, sand, gravel, and limestone rock were used to demonstrate changes to layers of the earth by wind and water over time. Test examiners had the option of substituting the exemplar materials with other materials listed (e.g., “small beans” in place of gravel; “coarse cornmeal” in place of soil).

Test examiners also had the option to substitute the script in specified places. For example, in another activity within the grade eight embedded PT, test examiners were instructed to push together three pieces of construction paper to demonstrate what happens when the Earth’s crust forces two parts of the crust against one another. Test examiners had the option of using an individualized script different than the suggested exemplar script. Test examiners were instructed to individualize the terms used in the exemplar introduction to be appropriate for the student’s mastery of science vocabulary, because the vocabulary used should not be an impediment to the student’s understanding of an item.

The secure embedded PTs were delivered to local educational agencies (LEAs) in PDF format as a downloadable file within the Test Operations Management System. Test examiners were instructed to print these documents, record student responses on the printed documents, and store student responses in a secure location. LEA CAASPP coordinators were directed to store student results locally for one year.

## **1B. Student and Test Examiner Surveys**

Student and test examiner surveys were developed by members of the ETS validity research team who had extensive experience in designing and developing student and teacher surveys.

### ***Student Survey***

During the 2016–17 administration year, student survey responses were the only mandatory element collected from LEAs. After the task was administered to the student, test examiners would then administer a short student survey. The purposes of the student survey were as follows:

1. Provide electronic documentation of student participation, and
2. Collect basic information about students’ experiences with the assessment process.

This survey was included as the last section of the downloadable embedded PT document. After marking responses to the student surveys, test examiners would then enter each student’s survey responses into the test delivery system.

The results of the student survey are elaborated upon in Section Two.

## ***Test Examiner Survey***

An optional survey was presented to test examiners to obtain teachers' feedback on the pilot administration and assessment processes in order to guide the implementation of each respective assessment. This survey was linked on the CAASPP Portal at <http://www.caaspp.org/> and hosted on SurveyGizmo.com, a Web site with survey-creation and hosting services.

The process of development of this survey is described in subsection 2.A Survey Design and Questionnaire Development.

## **1C. Training Sample**

A training embedded PT was provided to LEAs for anyone wanting to gain familiarity with the new assessment format.

Like the embedded PTs, the training PT contained an answer key and scoring rubric that could be used to allow teachers or parents/guardians to score student responses.

While the training PT was created for a grade five performance expectation and knowledge, skills and abilities, the training sample could be used for any grade. This sample was made available on [caaspp.org](http://caaspp.org).

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## Section 2: Student and Test Examiner Survey Results

This section describes the development and administration of the California Alternate Assessment (CAA) for Science surveys for students and test examiners and the results of analyses of their responses.

### 2A. Survey Design and Questionnaire Development

The student and test examiner surveys for the CAA for Science were developed to solicit information about the student test-taking experience from both the student and test examiner perspectives. The two surveys were developed in consultation with the California Department of Education, which provided guidelines in terms of the length of the surveys and the number and focus of the questions. Both the student and test examiner surveys are included in Appendix A.

### 2B. Survey Administration

Student surveys were administered by the test examiner after the student had completed the assessment. All students received the same set of questions regardless of grade level. The test examiners completed their survey via SurveyGizmo. The test examiner survey was the same regardless of the grade level administered.

Results from the full population of test-takers—5,217 students in grade five, 4,808 students in grade eight, and 4,651 students in high school grades ten, eleven, and twelve—are summarized in this section. For test examiners, of the 3,812 surveys that were returned, 3,254 were completed by test examiners. The other 558 responses indicated that the respondent had not been a CAA for Science test examiner, which ended the survey.

In the 2016–17 administration year, there were 5,003 active test examiners, indicating a 65.04 percent response rate to the test examiner survey of all available test examiners.

#### ***Student Survey Results***

Table 1 and Table 4 summarize the results for the student surveys, with the specific number of students who responded to both items presented in the tables. For 11 percent of students in grade five, 10 percent of students in grade eight, and 8 percent of students in high school, test examiners began the survey but no responses were entered into the survey for one or both questions. Each table reports on one question and shows the frequency of responses, excluding these blanks.

#### **Distribution of Responses**

In terms of how students felt about the assessment, the modal student response was that they felt happy; approximately one third of students felt confused or did not respond (Table 1 through Table 3).

**Table 1. Distribution of Student Survey Responses to Question 1, Grade Five**

<b>How do you feel about the test your teacher gave you?</b>	<b>N</b>	<b>%</b>
Happy	3,126	67%
Sad	313	7%
Confused	599	13%
No Response	618	13%
<b>Total:</b>	<b>4,656</b>	<b>100%</b>

**Table 2. Distribution of Student Survey Responses to Question 1, Grade Eight**

<b>How do you feel about the test your teacher gave you?</b>	<b>N</b>	<b>%</b>
Happy	2,830	65%
Sad	219	5%
Confused	687	16%
No Response	610	14%
<b>Total:</b>	<b>4,346</b>	<b>100%</b>

**Table 3. Distribution of Student Survey Responses to Question 1, High School**

<b>How do you feel about the test your teacher gave you?</b>	<b>N</b>	<b>%</b>
Happy	2,541	59%
Sad	225	5%
Confused	815	19%
No Response	739	17%
<b>Total:</b>	<b>4,320</b>	<b>100%</b>

The majority of students, between 76 and 80 percent, reported having enough time to complete the assessment. Approximately 5 percent of students indicated that they did not have enough time, and between 15 percent and 19 percent of students did not respond (Table 4 through Table 6). Note that percents do not sum up to 100 percent due to rounding.

**Table 4. Distribution of Student Survey Responses to Question 2, Grade Five**

<b>Did you have enough time to complete the test?</b>	<b>N</b>	<b>%</b>
Yes	3,676	79%
No	252	5%
No Response	701	15%
<b>Total:</b>	<b>4,629</b>	<b>99%</b>

**Table 5. Distribution of Student Survey Responses to Question 2, Grade Eight**

<b>Did you have enough time to complete the test?</b>	<b>N</b>	<b>%</b>
Yes	3,475	80%
No	191	4%
No Response	661	15%
<b>Total:</b>	<b>4,327</b>	<b>99%</b>

**Table 6. Distribution of Student Survey Responses to Question 2, High School**

<b>Did you have enough time to complete the test?</b>	<b>N</b>	<b>%</b>
Yes	3,263	76%
No	218	5%
No Response	812	19%
<b>Total:</b>	<b>4,293</b>	<b>100%</b>

Overall, the student survey responses suggest that the experience was reasonable and that students had sufficient time to complete the assessment.

### ***Test Examiner Survey Results***

Seven questions were asked in the test examiner survey. Users were allowed to proceed to the last six questions of the survey only if they indicated that they were a test examiner for the CAA for Science. Of the total of 3,821 responses received, 3,254 survey respondents indicated that they were test examiners. Survey respondents were permitted to skip questions.

Overall, the test examiner responses suggest that students were engaged with the assessment and understood the directions for administration. More than 70 percent of test examiners found the test directions to be very clear or somewhat clear and more than 65 percent of test examiners utilized exemplars.

Table 7 through Table 12 provide the results for the test examiner surveys over all grade levels. Figure 1 through Figure 7 present these data graphically.

## Responses to Background Questions

Table 7 displays the distribution of grades for which test examiners administered the CAA for Science test in response to the question, “What was the grade(s) of the student(s) for whom you administered the CAA for Science? (Select all that apply).” Note that because the test examiner could select multiple grades, the percentage of respondents exceeds 100 percent.

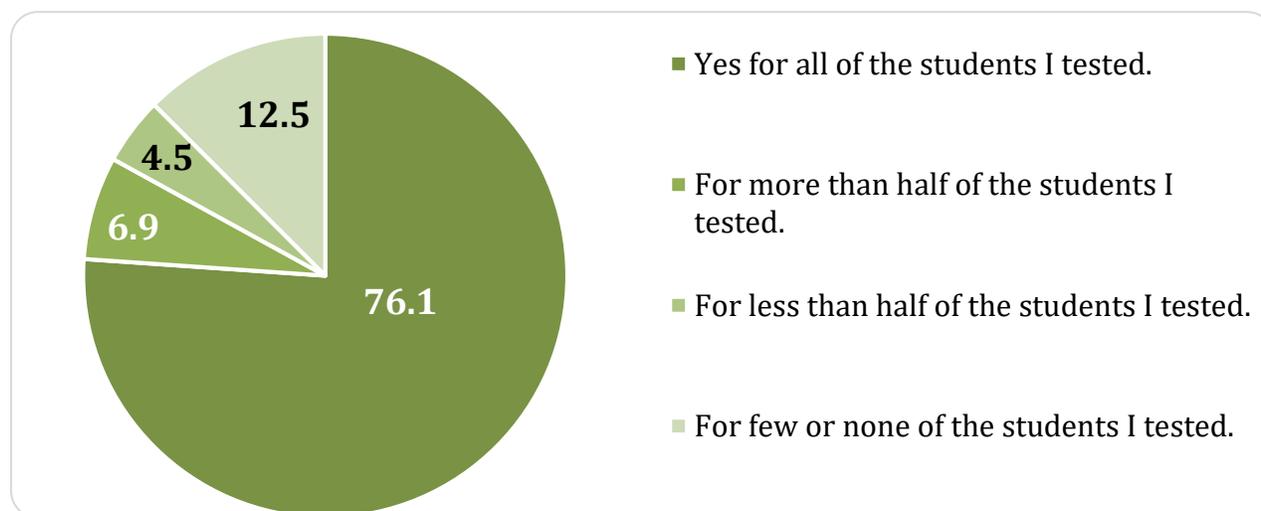
**Table 7. Grades Administered**

Grade Administered	Percentage of Respondents
Grade 5	46.9%
Grade 8	30.9%
Grade 10	22.0%
Grade 11	7.0%
Grade 12	5.8%

Table 8 and Figure 1 display responses to question 2, “For the student(s) for whom you administered the CAA for Science, are you also the student’s teacher?” Data show that just over three quarters of the test examiners, 76 percent, were the teachers of all the students they tested.

**Table 8. Distribution of Test Examiner Responses to Question 2**

For the student(s) for whom you administered the CAA for Science, are you also the student’s teacher?	N=3,239 test examiners
a. Yes for all of the students I tested.	76.1%
b. For more than half of the students I tested.	6.9%
c. For less than half of the students I tested.	4.5%
d. For few or none of the students I tested.	12.5%



**Figure 1. Distribution of Test Examiner Responses to Question 2**

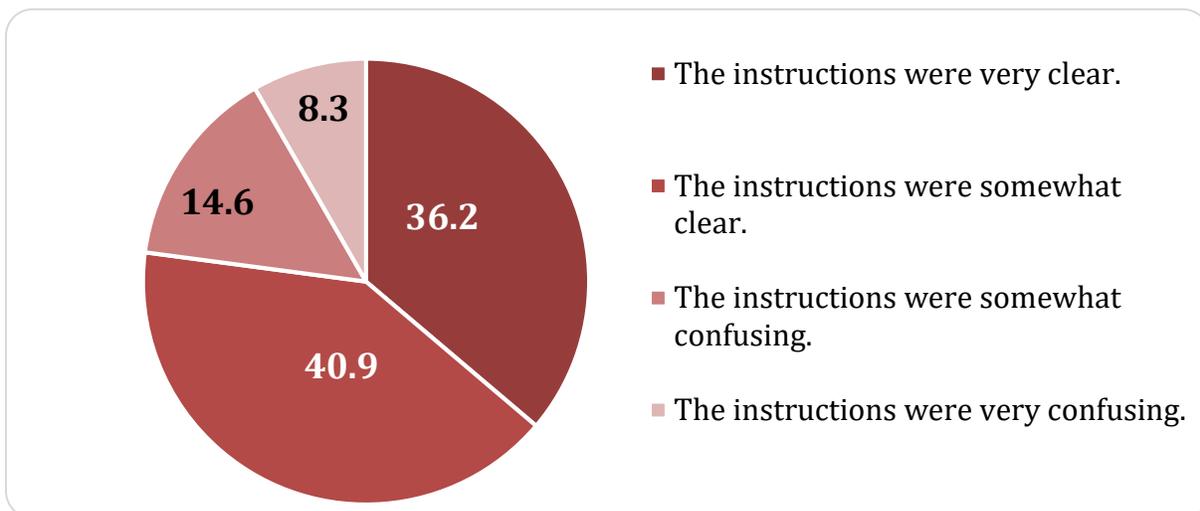
## Responses Regarding Clarity of Instructions Provided

Test examiners were asked to rate the clarity of instructions provided in the embedded PT both to their students as well as to themselves.

Seventy-seven percent of respondents indicated that the instructions provided to test examiners were either very clear or somewhat clear. Twenty-three percent of the test examiners reported that the instructions provided to them were somewhat or very confusing. Results are shown in Table 9 and Figure 2.

**Table 9. Distribution of Test Examiner Responses to Question 4**

Which of the following statements best describes the instructions provided to you, the test examiner, for the pilot CAA for Science?	N=3,227 test examiners
a. The instructions were very clear.	36.2%
b. The instructions were somewhat clear.	40.9%
c. The instructions were somewhat confusing.	14.6%
d. The instructions were very confusing.	8.3%



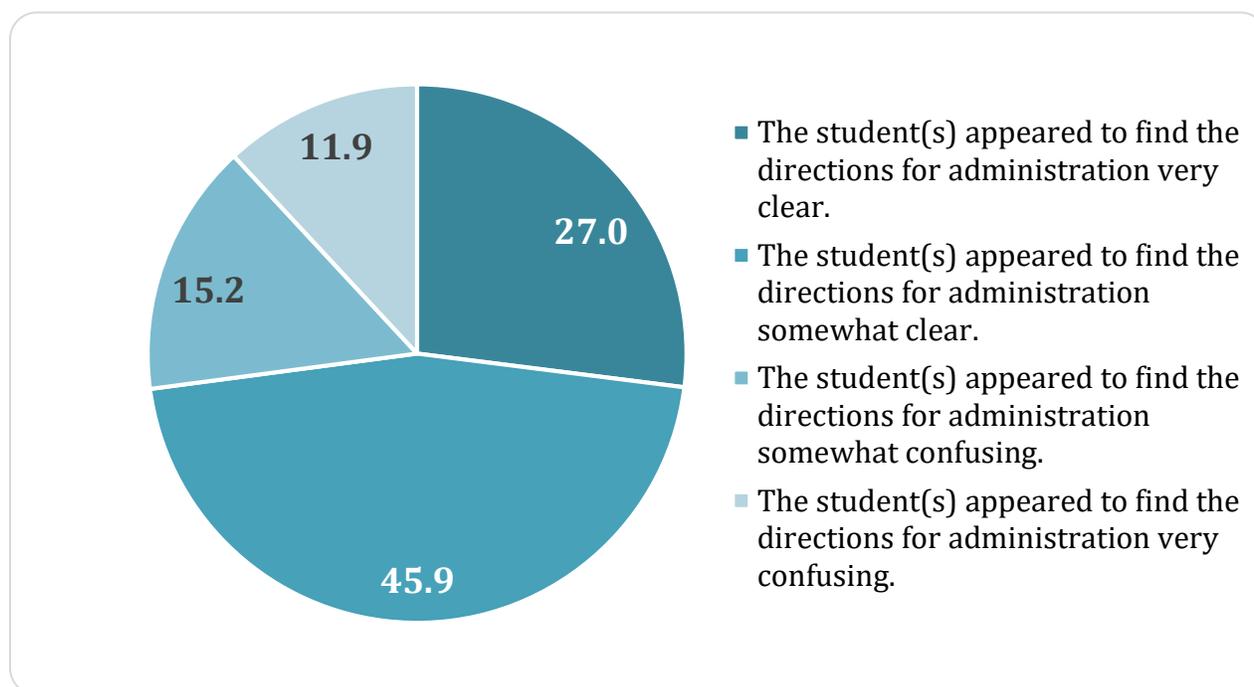
**Figure 2. Distribution of Test Examiner Responses to Question 4**

The 23 percent of test examiners who responded with “somewhat confusing” or “very confusing” regarding PT instructions were asked to explain further in a text box. Common responses indicated confusion about individualizing the embedded PTs, cutting out graphics, downloading the PTs, understanding lengthy instructions, and differentiating between the PT’s instructional aspect and the actual test questions. Additionally, responses often called for a clearer materials checklist, an answer recording sheet, and a clear scoring rubric. This feedback was used to inform the year two pilot test design of the CAA for Science. For example, an answer recording sheet was developed for the 2017–18 pilot test.

In addition, test examiners were queried on the clarity of the directions for administration from a student perspective. A majority of respondents indicated that the students found the instructions to the test to be at least somewhat clear, with 27 percent of students finding the instructions very clear. These results are shown in Table 10 and Figure 3.

**Table 10. Distribution of Test Examiner Responses to Question 5**

<b>Which of the following statements best describes the directions for administration provided to student(s) during the embedded performance task?</b>	<b>N=3,223 test examiners</b>
a. The students appeared to find the directions for administration very clear.	27.0%
b. The students appeared to find the directions for administration somewhat clear.	45.9%
c. The students appeared to find the directions for administration somewhat confusing.	15.2%
d. The students appeared to find the directions for administration very confusing.	11.9%



**Figure 3. Distribution of Test Examiner Responses to Question 5**

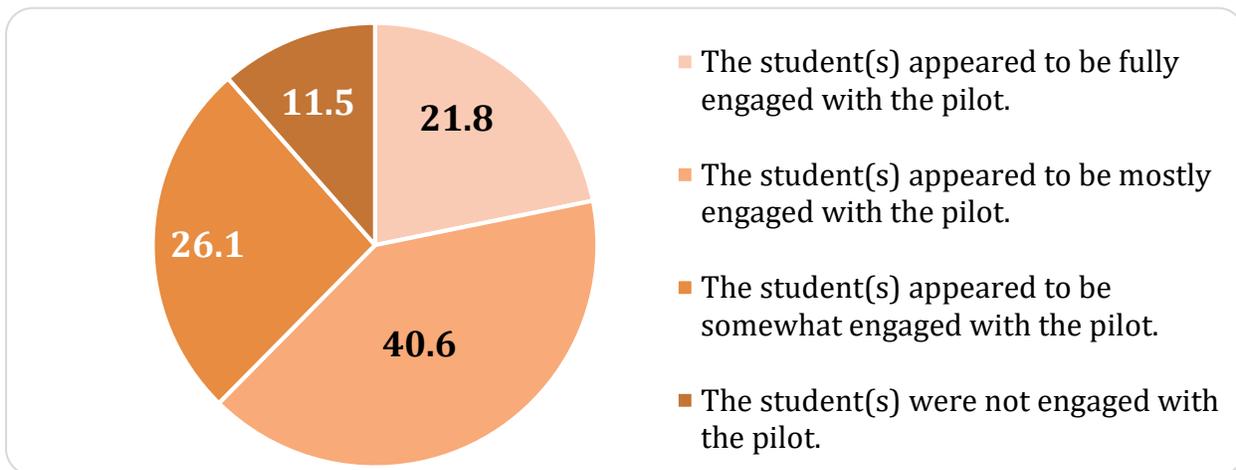
The other 27.1 percent of the respondents who selected “somewhat confusing” or “very confusing” were asked to explain further in a text box. A common response was that the test questions may have been too complex for the students with severe cognitive disabilities, that the terminology and concepts were new to students and too academically complex. One suggestion was that the embedded PTs might have more visual elements to help students process concepts. Other responses indicated that it was confusing for students to differentiate between their graphics and words and the instructions for the test examiner.

## Regarding Student Engagement with Performance Task

Sixty-two percent of respondents indicated that the students were either fully engaged or mostly engaged with the pilot (Table 11 and Figure 4).

**Table 11. Distribution of Test Examiner Responses to Question 6**

Which of the following statements best describes your student's(s') engagement with the pilot?	N=3,230 test examiners
a. The student(s) appeared to be fully engaged with the pilot.	21.8%
b. The student(s) appeared to be mostly engaged with the pilot.	40.6%
c. The student(s) appeared to be somewhat engaged with the pilot.	26.1%
d. The student(s) were not engaged with the pilot.	11.5%



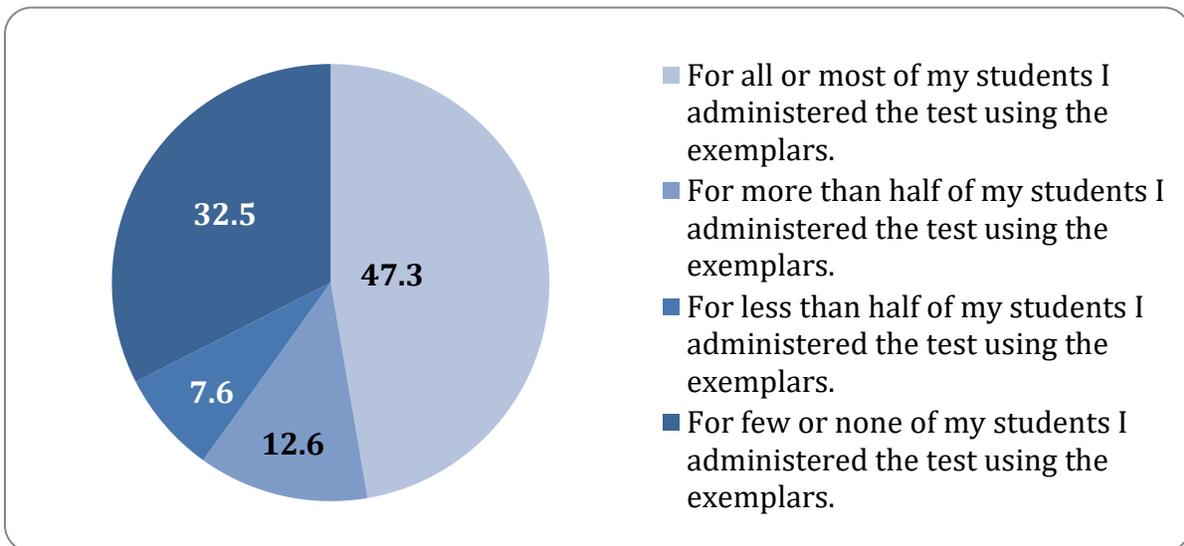
**Figure 4. Distribution of Test Examiner Responses to Question 6**

## Regarding Use of Exemplars

Test examiners were queried regarding whether or not the exemplars within the performance tasks were used. Results, shown in Table 12 and Figure 5, indicate that fewer than half of respondents used exemplars for all or most of their students and that 32 percent of respondents indicated that they used exemplars for few or none of their students.

**Table 12. Distribution of Test Examiner Responses to Question 7**

Which of the following statements best describes the use of exemplars when you administered the pilot CAA for Science?	N=3,104 test examiners
a. For all or most of my students I administered the test using the exemplar.	47.3%
b. For more than half of my students I administered the test using the exemplar.	12.6%
c. For less than half of my students I administered the test using the exemplar.	7.6%
d. For few or none of my students I administered the test using the exemplar.	32.5%



**Figure 5. Distribution of Test Examiner Responses to Question 7**

## Section 3: Pilot One Observations

In May 2017, California Department of Education and Educational Testing Service staff observed the administration of the pilot test at five school sites in the Sacramento area to observe pilot testing as administered to students. Around 20 testing instances of students being administered an embedded PT were observed.

A recording sheet was prepared for entry of observations, which asked questions regarding instances of individualizations to the script or materials and observed level of engagement. Some of the observations that were requested on this recording sheet include the following:

- Describe any changes in the wording of the task.
- Does the student require the use of assistive technology on this task?
- Which part(s) of the task seemed to be most engaging?
- If there is scaffolding used beyond what is used in the task instructions, please describe what is being used by the test examiner to assist the student.

After the one-on-one testing occurred, test examiners were asked a series of questions regarding improvements that could be made to the task and methods used to teach the topic.

The summary of observations noted that while many students appeared to orient and respond to the test, over time, a student was more likely to be less engaged with the content and to start making random responses. Students seemed to be more engaged with items involving tactile materials than multiple-choice questions read aloud. In addition, test examiners seemed to prefer to use exemplars with hardcopy materials and only minor local adjustments. Test examiners often repeated and simplified instructions verbally. Observers also found that the student survey was often given in an online form as opposed to in paper form for later transcription.

Observers also noted that it would be beneficial to provide specific guidance to test examiners as to when to pause or stop testing when it is clear the student has stopped engaging with the content of the task.

One suggestion received from a test examiner was for the option of using videos to present content, for example, a video demonstrating natural phenomena.

On the whole, both educators and observers regarded one-on-one engagement between student and test examiner to be beneficial.

## Appendix A: Surveys

### California Alternate Assessment (CAA) for Science Student Survey

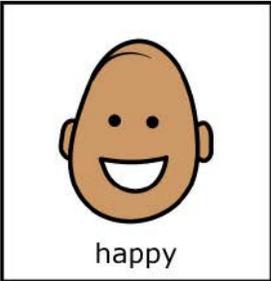
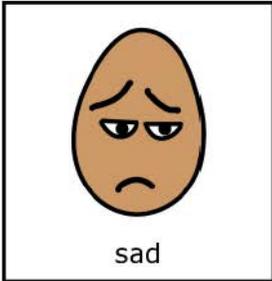
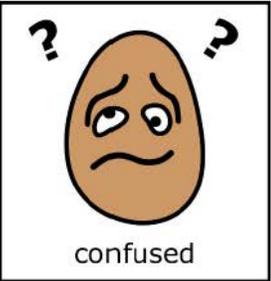
Immediately after students finished testing, they answered a two-question survey to report on their experience with the CAA for Science. The survey, estimated to take less than five minutes, was to be administered as soon as possible after testing to elicit the most authentic reaction to the embedded PT from the student. Student survey questions were included in the embedded PT document.

The test examiner either entered student survey responses directly into the test delivery system or transcribed responses externally, for later entry into the test delivery system. Each question had both a single-word and pictographic response option.

Figure 6 shows the first question in the student survey. Students were asked, “How do you feel about the test your teacher gave you?” The four possible responses were:

- a. happy
- b. sad
- c. confused
- d. No response

1. How do you feel about the test your teacher gave you?

 <p>a. happy</p>	 <p>b. sad</p>	 <p>c. confused</p>
<p>d. No response</p>		

**Figure 6. How do you feel about the test your teacher gave you?**

Figure 7 shows the second question in the student survey. Students were asked, “Did you have enough time to complete the test?” The three possible responses were:

- a. Yes
- b. No
- c. No response

2. Did you have enough time to complete the test?

a. Yes 

b. No 

c. No response

**Figure 7. Did you have enough time to complete the test?**

## CAA for Science Test Examiner Survey

Test examiners were asked to respond to a general online survey found on a Web site outside of the test delivery system, to be completed at any time after administering the CAA for Science to students. Because the test examiner survey asked general questions and was not student-specific, the test examiner responded to the survey only once. Designed to take fifteen minutes to complete, seven total questions were asked on this survey.

For questions four and five, if the test examiner selected “somewhat confusing” or “very confusing,” a short text query was solicited that asked the respondent to explain further. The questions asked on the survey follow.

### Question 1. Were you a test examiner for the CAA for Science?

*(The rest of the survey only appeared if this question is answered “Yes.”)*

- Yes
- No

**Question 2. For the student(s) for whom you administered the CAA for Science, are you also the student's teacher?**

- Yes for all of the students I tested.
- For more than half of the students I tested.
- For less than half of the students I tested.
- For few or none of the students I tested.

**Question 3. What was the grade(s) of the student(s) for whom you administered the CAA for Science? (Select all that apply.)**

- Grade 5
- Grade 8
- Grade 10
- Grade 11
- Grade 12

**Question 4. (Part 1) Which of the following statements best describes the instructions provided to you, the text examiner, for the pilot CAA for Science?**

- The instructions were very clear.
- The instructions were somewhat clear.
- The instructions were somewhat confusing.
- The instructions were very confusing.

**(Part 2) Please explain your answer to the previous question.**

*(This question appeared only if "somewhat confusing" or "very confusing" was selected for question 4.)*

**Question 5. (Part 1) Which of the following statements best describes the test directions in the embedded performance task provided to student(s) for the pilot CAA for Science?**

- The student(s) appeared to find the instructions very clear.
- The student(s) appeared to find the instructions somewhat clear.
- The student(s) appeared to find the instructions somewhat confusing.
- The student(s) appeared to find the instructions very confusing.

**(Part 2) Please explain your answer to the previous question.**

*(This question appeared only if “somewhat confusing” or “very confusing” was selected for question 5.)*

**Question 6. Which of the following statements best describes your student’s(s’) engagement with the pilot CAA for Science?**

- The student(s) appeared to be fully engaged with the pilot.
- The student(s) appeared to be mostly engaged with the pilot.
- The student(s) appeared to be somewhat engaged with the pilot.
- The student(s) were not engaged with the pilot.

**Question 7. Which of the following statements best describes the use of the exemplar when you administered the pilot CAA for Science?**

- For all or most of my students I administered the test using the exemplar.
- For more than half of my students I administered the test using the exemplar.
- For less than half of my students I administered the test using the exemplar.
- For few or none of my students I administered the test using the exemplar.