

## Introduction

The purpose of the Next Generation Science Standards (NGSS) Task Screener is **1)** to determine whether classroom assessment tasks are high quality, designed to elicit evidence of three-dimensional performances, and designed to support the purpose for which they will be used, and **2)** to provide a group of reviewers with a common set of features to ground conversations about what it “looks like” for students to demonstrate the kinds of performances expected by three-dimensional standards. This Screener builds off the criteria in Category III of the [EQuIP Rubric for Science](#) by more clearly specifying features for the assessment tasks embedded in lessons and units.

The directions for using the Task Screener assume an understanding of *A Framework for K–12 Science Education* and the NGSS, including how the NGSS are different from past standards as outlined in [Appendix A](#) of the NGSS and the [Innovations of the NGSS](#). The Task Screener focuses on determining whether what is new and different about three-dimensional expectations are accurately represented in the tasks being evaluated. For more information about how the Task Screener was developed and fits into the EQuIP suite of tools, please see these [Frequently Asked Questions](#).

## Task Screener Overview

The Task Screener is organized around four criteria:

- A.** Tasks are driven by **high-quality scenarios that focus on phenomena or problems.**
- B.** Tasks require **sense-making using the three dimensions.**
- C.** Tasks are **fair and equitable.**
- D.** Tasks support their **intended targets and purpose.**

Each criterion includes:

- 1.** A set of indicators to help reviewers determine whether the criterion is met.
- 2.** A set of response forms for gathering and analyzing evidence, providing suggestions for improvement, and rating the task.

To use the Task Screener effectively, users should use the indicators and response forms to collect specific and detailed evidence from the task under review. Then, users should consider the body of evidence to determine how well each criterion is addressed within the task.

While it is possible for the Screener to be applied by an individual, the real power of the Task Screener lies in the meaningful conversations it can drive among a team of reviewers as part of a collaborative process. Just as when using other resources in the EQuIP suite of tools, collaborative teams of users should:

- 1.** Individually record criterion-based evidence using the provided response forms;
- 2.** Individually make suggestions for improvement; and then
- 3.** Collaboratively discuss findings with team members before checking one of the boxes under the “Evidence of Quality?” section included at the end of the screening process. As part of these discussions, reviewers should address any differences in how they interpreted the criteria and indicator language, as well as the evidence they found, to support a common understanding of the task, the expectations outlined in the screener, and how well the task met those expectations. A rating of “Adequate” means that the task meets the criterion. If the collaborative feedback is being used to improve the task or make decisions about how it should be used, use a blank set of response sheets to capture the consensus feedback.

# Science Task Screener

**Using the Task Screener.** Use this tool to evaluate tasks designed for three-dimensional standards. For each criterion, record your evidence for the presence or absence of the associated indicators. After you have decided to what degree the indicators are present within the task, revisit the purpose of your task and decide whether the evidence supports using it.

**Before you begin:** Complete the task as a student would. Then, consider any support materials provided to teachers or students, such as contextual information about the task and answer keys/scoring guidance.

<b>A. Tasks are driven by high-quality scenarios that are grounded in phenomena or problems.</b>	<b>B. Tasks require sense-making using the three dimensions.</b>
<ul style="list-style-type: none"><li>i. Making sense of a phenomenon or addressing a problem is necessary to accomplish the task.</li><li>ii. The task scenario—grounded in the phenomena and problems being addressed—is sufficient, engaging, relevant, and accessible to a wide range of students.</li></ul>	<ul style="list-style-type: none"><li>i. Completing the task requires students to use reasoning to sense-make about phenomena or problems.</li><li>ii. The task requires students to demonstrate grade-appropriate:<ul style="list-style-type: none"><li>a. SEP element(s)</li><li>b. CCC element(s)</li><li>c. DCI element(s)</li></ul></li><li>iii. The task requires students to integrate multiple dimensions in service of sense-making and problem-solving.</li><li>iv. The task requires students to make their thinking visible.</li></ul>
<b>C. Tasks are fair and equitable.</b>	<b>D. Tasks support their intended targets and purpose.</b>
<ul style="list-style-type: none"><li>i. The task provides ways for students to make connections of meaningful local, global, or universal relevance.</li><li>ii. The task includes multiple modes for students to respond to the task.</li><li>iii. The task is accessible, appropriate, and cognitively demanding for all learners, including students who are English learners or are working below or above grade level.</li><li>iv. The task cultivates or explicitly builds upon students' interest in and confidence with science and engineering.</li><li>v. The task focuses on performances for which students' learning experiences have prepared them (opportunity to learn considerations).</li><li>vi. The task uses information that is scientifically accurate.</li></ul>	<ul style="list-style-type: none"><li>i. The task assesses what it is intended to assess, and supports the purpose for which it is intended.</li><li>ii. The task elicits student artifacts that provide evidence of how well students can use the targeted dimensions together to make sense of phenomena and design solutions to problems.</li><li>iii. Supporting materials include clear answer keys, rubrics, and/or scoring guidelines that are connected to the targeted three-dimensional standards and provide the necessary and sufficient guidance for interpreting student responses relative to all three dimensions and the target as a whole.</li><li>iv. The task's prompts and directions provide sufficient guidance for the teacher to administer it effectively and for the students to complete it successfully while maintaining high levels of students' analytical thinking as appropriate.</li></ul>

## Criterion A.

Tasks are driven by high-quality scenarios that are grounded in phenomena or problems.

Tasks designed for the NGSS include clear and compelling evidence that:	What was in the task, where was it, and why is this evidence?				
i. Making sense of a phenomenon or addressing a problem is necessary to accomplish the task.	<p>1) <i>Is a phenomenon and/or problem present?</i></p> <p>2) <i>Is information from the scenario necessary to respond successfully to the task?</i></p>				
ii. The task scenario is engaging, relevant, and accessible to a wide range of students.	<b>Features of engaging, relevant, and accessible tasks (Check the appropriate box, then describe rationale with evidence)</b>				
	Features of scenarios	Yes	Somewhat	No	Rationale
	Scenario presents real-world observations				
	Scenarios are based around at least one specific instance, not a topic or generally observed occurrence (e.g., observations related to a specific hurricane rather than “hurricanes” in general)				
	Scenarios are presented as puzzling/intriguing				
	Scenarios create a “need to know”				
	Scenarios are explainable using grade-appropriate SEPs, CCCs, DCIs				

## Criterion A. *continued*

	Features of scenarios	Yes	Somewhat	No	Rationale
	Scenarios effectively use at least 2 modalities (e.g., images, diagrams, video, simulations, textual descriptions)				
	If data are used, scenarios present real/well-crafted data				
	The local, global, or universal relevance of the scenario is made clear to students <sup>2</sup>				
	Scenarios are comprehensible to a wide range of students at grade-level				
	Scenarios use as many words as needed, no more				
	Scenarios are sufficiently rich to drive the task				

Across all indicators, there is \_\_\_\_\_ evidence of quality of this criterion (choose one).

No

Inadequate

Adequate

Extensive

1. When considering whether the scenario creates a need to know for students, consider whether the scenario makes the uncertainty associated with explaining a phenomenon or solving a problem central, in ways that are likely to 1) connect with students' own experiences or knowledge, and 2) connect to disciplinary core ideas (regardless of whether those ideas are explicitly named or required by the task).

2. Consider whether an authentic stakeholder group is interested in the outcome of the scenario, and/or whether students are given enough information to answer the question "why should I care?".

## Criterion A. *continued*

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**Suggestions for improvement of the task for Criterion A:**

**Criterion B.**  
Tasks require sense-making using the three dimensions.

Tasks designed for the NGSS include clear and compelling evidence that:	What was in the task, where was it, and why is this evidence?	
i. Completing the task requires students to use reasoning to sense-make about phenomena or problems.	<i>Consider in what ways the task requires students to use reasoning to engage in sense-making and/or problem solving.</i>	
ii. The task requires students to demonstrate grade-appropriate: <ul style="list-style-type: none"> <li>• SEP element(s)</li> <li>• CCC element(s)</li> <li>• DCI element(s)</li> </ul>	Evidence of <b>SEPs</b> (which element [s], and how does the task require students to demonstrate this element in use?)	
	Evidence of <b>CCCs</b> (which element [s], and how does the task require students to demonstrate this element in use?)	
	Evidence of <b>DCIs</b> (which element [s], and how does the task require students to demonstrate this element in use?)	
iii. The task requires students to integrate multiple dimensions in service of sense-making and/or problem-solving.	<i>Consider in what ways the task requires students to use multiple dimensions together to sense-make and/or problem-solve.</i>	
iv. The task requires students to make their thinking visible.	<i>Consider in what ways the task explicitly prompts students to make their thinking visible. Look for evidence of how the task surfaces current understanding, abilities, gaps, and problematic ideas.</i>	

## Criterion B. *continued*

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Across all indicators, there is \_\_\_\_\_ evidence of quality of this criterion (choose one).

No

Inadequate

Adequate

Extensive

**Suggestions for improvement of the task for Criterion B:**

## Criterion C. Tasks are fair and equitable.

Tasks designed for the NGSS include clear and compelling evidence of the following:	What was in the task, where was it, and why is this evidence?																				
i. The task provides ways for students to make connections of local, global, or universal relevance.	<i>Consider specific features of the task that enable students to make local, global, or universal connections to the phenomenon/problem and task at hand. Note: This criterion emphasizes ways for students to find meaning in the task; this does not mean “interest.” Consider whether the task is a meaningful, valuable endeavor that has real-world relevance--that some stakeholder group locally, globally, or universally would be invested in.</i>																				
ii. The task includes multiple modes for students to respond to the task.	<i>Describe what modes (written, oral, video, simulation, direct observation, peer discussion, etc.) are expected/possible for student responses.</i>																				
iii. The task is accessible, appropriate, and cognitively demanding for all learners, including students who are English learners or are working below or above grade level.	<p style="text-align: center;"><i>Consider how the task supports all learners, including:</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f4a460;"> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">Somewhat</th> <th style="text-align: center;">No</th> <th style="text-align: center;">Rationale</th> </tr> </thead> <tbody> <tr> <td>Task includes appropriate scaffolds</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td>Tasks are coherent from a student perspective</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td>Tasks respect and advantage students’ cultural and linguistic backgrounds</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	Somewhat	No	Rationale	Task includes appropriate scaffolds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Tasks are coherent from a student perspective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Tasks respect and advantage students’ cultural and linguistic backgrounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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3. For more information about culturally and linguistically responsive classroom assessments, please see [this resource](#).



Criterion C. continued

Tasks designed for the NGSS include clear and compelling evidence of the following:	What was in the task, where was it, and why is this evidence?				
iii. (continued)		Yes	Somewhat	No	Rationale
	Tasks provide both low- and high-achieving students with an opportunity to show what they know				
	Tasks use accessible language				
iv. The task cultivates students' interest in and confidence with science and engineering.	<i>Consider how the task cultivates students interest in and confidence with science and engineering, including opportunities for students to reflect their own ideas as a meaningful part of the task; make decisions about how to approach a task; engage in peer/self-reflection; and engage with tasks that matter to students.</i>				
v. The task focuses on performances for which students' learning experiences have prepared them (opportunity to learn considerations).	<i>Consider the ways in which provided information about students' prior learning (e.g., instructional materials, storylines, assumed instructional experiences) enables or prevents students' engagement with the task and educator interpretation of student responses.</i>				

## Criterion C. *continued*

Tasks designed for the NGSS include clear and compelling evidence of the following:	What was in the task, where was it, and why is this evidence?
vi. The task presents information that is scientifically accurate.	<i>Describe evidence of scientific inaccuracies explicitly or implicitly promoted by the task.</i>

Across all indicators, there is \_\_\_\_\_ evidence of quality of this criterion (choose one).

No

Inadequate

Adequate

Extensive

**Suggestions for improvement of the task for Criterion C:**

## Criterion D.

### Tasks support their intended targets and purpose.

#### Before you begin:

1. Describe what is being assessed. Include any targets provided, such as dimensions, elements, or PEs. :

2. What is the purpose of the assessment? (check all that apply)

Formative (including peer and self-reflection)

Summative

Determining whether students learned what they just experienced

Determining whether students can apply what they have learned to a similar but new context

Determining whether students can generalize their learning to a different context

Other (please specify) \_\_\_\_\_

Tasks designed for the NGSS include clear and compelling evidence that:	What was in the task, where was it, and why is this evidence?
<p>i. The task assesses what it is intended to assess and supports the purpose for which it is intended.</p>	<p><i>Consider in what ways:</i></p> <ol style="list-style-type: none"> <li>1) <i>The assessment target is necessary to respond to the task.</i></li> <li>2) <i>Any ideas, practices, or experiences <b>not</b> targeted by the assessment are necessary to respond to the task. Consider the impact this has on students' ability to complete the task and interpretation of student responses.</i></li> <li>3) <i>The student responses elicited support the purpose of the task (e.g., if a task is intended to help teachers determine if students understand the distinction between cause and correlation, does the task support this inference?).</i></li> </ol>

## Criterion D. continued

<p><b>Tasks designed for the NGSS include clear and compelling evidence that:</b></p>	<p><b>What was in the task, where was it, and why is this evidence?</b></p>
<p>ii. The task elicits artifacts from students as direct, observable evidence of how well students can use the targeted dimensions together to make sense of phenomena and design solutions to problems.</p>	<p><i>Consider what student artifacts are produced and how these provide students the opportunity to make visible their 1) sense-making processes, 2) thinking across all three dimensions, and 3) ability to use multiple dimensions together[note: these artifacts should connect back to the evidence described for Criterion B].</i></p>
<p>iii. Supporting materials include clear answer keys, rubrics, and/or scoring guidelines that are connected to the three-dimensional target. They provide the necessary and sufficient guidance for interpreting student responses relative to the purpose of the assessment, all targeted dimensions, and the three-dimensional target.</p>	<p><i>Consider how well the materials support teachers and students in making sense of student responses and planning for follow up (grading, instructional moves), consistent with the purpose of and targets for the assessment. Consider in what ways rubrics include:</i></p> <p><i>1) Guidance for interpreting student thinking using an integrated approach, considering all three dimensions together as well as calling out specific supports for individual dimensions, if appropriate:</i></p> <p><i>2) Support for interpreting a range of student responses, including those that might reflect partial scientific understanding or mask/misrepresent students' actual science understanding (e.g., because of language barriers, lack of prompting or disconnect between the intent and student interpretation of the task, variety in communication approaches):</i></p> <p><i>3) Ways to connect student responses to prior experiences and future planned instruction by teachers and participation by students:</i></p>

## Criterion D. continued

Tasks designed for the NGSS include clear and compelling evidence that:	What was in the task, where was it, and why is this evidence?
iv. The task’s prompts and directions provide sufficient guidance for the teacher to administer it effectively and for the students to complete it successfully while maintaining high levels of students’ analytical thinking as appropriate.	<i>Consider any confusing prompts or directions, and evidence for too much or too little scaffolding/supports for students (relative to the target of the assessment—e.g., a task is intended to elicit student understanding of a DCI, but their response is so heavily scripted that it prevents students from actually showing their ability to apply the DCI).</i>

Across all indicators, there is \_\_\_\_\_ evidence of quality of this criterion.

No

Inadequate

Adequate

Extensive

**Suggestions for improvement of the task for Criterion D:**

## Overall Summary

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Consider the task purpose and the evidence you gathered for each criterion. Carefully consider the purpose and intended use of the task, your evidence, reasoning, and ratings to make a summary recommendation about using this task. While general guidance is provided below, it is important to remember that the intended use of the task plays a big role in determining whether the task is worth students' and teachers' time.

### Final recommendation

Use this task (all criteria had at least an “adequate” rating)

Modify and use this task

Do not use this task