

Understanding CAST Item Specifications



The California Science Test (CAST) item specifications are used by item writers to develop new test questions. The item writers use these documents to

- ensure items align with the California Next Generation Science Standards (CA NGSS); and
- develop multidimensional items which assess Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts.

The item specifications identify the three-dimensional assessment targets for each of the CA NGSS Performance Expectations (PEs). These targets guide the development of assessment items on the CAST summative and interim assessments. The item specifications also provide examples of potential student tasks, possible scientific phenomena, common misconceptions, and additional resources.

Example: 3-ESS2-1 Earth's Systems

Potential Student Task	Possible Phenomena	Common Misconceptions
<ul style="list-style-type: none">• Identify patterns in weather and climate data and make predictions about expected weather conditions	<ul style="list-style-type: none">• Temperature or precipitation (types, amount)• Wind direction and speed	<ul style="list-style-type: none">• Weather events are random and cannot be predicted• Weather conditions are the same everywhere at the same time of the year

CAST Item Specifications Are Also Available for Classroom Educators

Along with the *2016 Science Framework for California Public Schools*, the CAST item specifications help educators to

- understand the three-dimensional nature of CAST;
- anticipate the types of tasks students might encounter on CAST;
- explore examples of phenomena and common misconceptions; and
- develop questions for classroom formative and summative science assessments.

Note that neither CAST nor item specifications are intended to guide instruction.

Where to Find Them

- Item specifications are written for all PEs assessed on CAST and can be found on the [California Department of Education \(CDE\) CAST Item Specifications web page](#).
- Sample CAST items can be found on the [CAASPP and ELPAC Practice and Training Tests web page](#).
- Information about *2016 Science Framework for California* can be found on the [CDE 2016 Science Framework for California Public Schools web page](#).