**Purpose of the Evidence Statements**

The evidence statements, as described here, describe what teachers or assessors would observe (not infer) from successful student performance of each performance expectation (PE). The evidence statements can serve as supporting materials for the design of curriculum and assessments. In the NGSS, each PE is accompanied by a foundation box with associated practice, core idea, and crosscutting concept. The evidence statements expand this initial structure to include specific, observable components of student performance that would ***demonstrate integrated proficiency by using all of the necessary tenets of the practice to demonstrate understanding of the disciplinary core ideas (DCIs) through the lens of the crosscutting concepts (CCC)***. We hope that by providing these links among the practice, DCI, and CCC for each PE, educators and assessors will have a clearer idea about 1) how these dimensions could be assessed together, rather than in independent units or sections; 2) the underlying knowledge required for each DCI; 3) the detailed approaches to science and engineering practices; and 4) how crosscutting concepts might be used to deepen content- and practice-driven learning.

The evidence statements can be viewed as a magnification of the NGSS performance expectations. Imagine sliding a plant cross-section under a microscope; this will allow you to see greater detail and to develop a deeper understanding about how the component parts work together to make up the full plant. However, seeing this magnified view does not change the fundamental properties of the plant, nor does it give the plant new functions. Similarly, these evidence statements provide more detail about the PEs and their associated foundation boxes, but the evidence statements do not go beyond the scope of the PEs themselves. Therefore, the statements are more detailed guidelines that can be helpful for guiding assessment, describing what students should be able to demonstrate at the end of instruction. They are not curricula, and would not suffice as such; indeed, to achieve the proficiency described in the statements, students will need rich experiences with each of the three dimensions in multiple real-world contexts. The evidence statements are not intended to put limits on student performance or instructor design; instead, the statements detail the minimum proficiency requirements for student understanding and performance described in each PE. The methods and resources used to help students build toward proficiency and beyond are left to educators’ discretion.

It is important to note that “minimum proficiency” on the NGSS PEs looks different than did proficiency on most previous sets of standards. The NGSS PEs were designed to be very cognitively demanding, so student proficiency will require a higher level of rigor (for example, a higher Depth of Knowledge [DOK] or Bloom’s Taxonomy Level) than did most previous sets of state science standards. Minimum proficiency on each NGSS PE is described by the associated evidence statement.

**Limitations of the Evidence Statements**

Evidence statements are a guide for and can inform instruction and assessment. While they provide guidance for how the material in the foundation boxes are combined to define proficiency of student performance on the PEs, they do not provide or proscribe the contexts through which the PEs may be taught or assessed, the rubrics on which levels of student success would be measured, the sequence of instruction or assessment, or the limits on student learning.

The vision of the NRC Framework as well as the NGSS is that students develop critical science and engineering skills and knowledge to effectively interact with and explain phenomena they encounter within the context of the real world. To really demonstrate the vision and spirit of the NGSS, the PEs alone (and therefore, the evidence statements) are not enough, because they do not specify a thematic or phenomenon-based context. In other words, they do not give students a specific reason or application for the knowledge, leaving that up to specific curricular and assessment contexts. For example, we can consider HS-PS1-1; although the PE itself demands a rigorous and sophisticated knowledge base across all three dimensions, there is no mention of why or in what type of specific situation students would need to explore patterns in the periodic table. Without this context, it would be difficult to understand the value of being able to demonstrate that knowledge, and indeed, there are many diverse contexts in which the PE could be applied. Because the evidence statements are written to provide more clarity about what the PEs ask students to demonstrate, these statements are not sufficient to replace lesson plans or assessment items; asking students to simply perform the PEs verbatim would not be useful for instruction or assessment. Specific contexts allow for diversification and ingenuity in instruction and assessment, and allow students to be able to demonstrate their knowledge across multiple PEs, using the appropriate practices, DCIs, and CCCs that the situation calls for.

Although evidence statements could serve as the starting point for creating rubrics to assess student responses, they are not complete scoring rubrics themselves. For example, some criteria are not specified in the statements but are assumed for all proficient student performance and would be specified in grading rubrics, such as that the student responses should be scientifically accurate (at a grade-appropriate level) and should be clearly communicated with complete sentences where appropriate. Other rubric performance levels also are not included, such as what student responses would look like at an “advanced” level or at a level below proficiency. Additionally, assessment rubrics would need to be contextualized to the actual prompts or examples used in the question or task.

Like the NGSS performance expectations themselves, the evidence statements are not limits on student coursework. They merely describe student proficiency on the NGSS PEs. Students may be taught material that goes beyond the evidence statements, and they are encouraged to take courses that go beyond the NGSS expectations. Another resource, the Accelerated Model Course Pathways, will soon be released to describe how courses can be arranged in middle and high school to ensure that students have myriad opportunities to take advanced and Advanced Placement (AP) science coursework in high school. For more information, see [www.nextgenscience.org/resources](http://www.nextgenscience.org/resources).

It also is important to note that, although the evidence statements are numbered, the numbers do not indicate a sequence to instruction or assessment, and they also do not indicate different **DOK** levels. The numbers only serve to provide labels for each line for easy reference, e.g., to be able to name MS-PS1-1 evidence statement 2.a.i.

1. Discuss and describe the intended purposes of the evidence statements.

Notes:

1. Discuss and identify what items are included in the evidence statements that are not directly observed within the PEs?

Notes:

1. Discuss and explain what is meant by this statement: “However, seeing this magnified view does not change the fundamental properties of the plant, nor does it give the plant new functions”?

Notes:

1. Discuss and explain what is meant by the statement: “they do not give students a specific reason or application for the knowledge.”

Notes:

1. Discuss and explain what is meant by the statement: “they are not complete scoring rubrics themselves.”

Notes:

1. Discuss and explain what is meant by the statement:” the evidence statements are not limits on student coursework.”

Notes:

1. Discuss and explain what is meant by the statement:” the numbers do not indicate a sequence to instruction or assessment, and they also do not indicate different **DOK** levels.”

Notes:

1. Discuss and describe the how the evidence statements might best be used in your classes.

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