

Figure 3. Stages in the NGSS Implementation Pathway Model

Stage 1 Initial Exposure to NGSS	Stage 2 Deepening Understanding of NGSS	Stage 3 Planning Instruction around NGSS	Stage 4 Full Alignment of Instruction to NGSS
<p>Teachers are beginning to learn and become familiar with the Conceptual Shifts (Innovations), the three dimensions of learning, and the performance expectations of the NGSS</p>	<p>Teachers engage in on-going research and the building of personal understanding of the Conceptual Shifts (Innovations), the three dimensions of learning, and the performance expectations of the NGSS</p>	<p>Teachers begin planning lessons and units aligned to the three dimensions and performance expectations of the NGSS, returning to the previous stage as needed to ensure coherence with the Conceptual Shifts (Innovations) of the NGSS</p>	<p>Teachers design and plan instruction aligned to NGSS curriculum and assessment</p>
<p><i>Outcomes might include</i></p> <ul style="list-style-type: none"> ● Describe the Conceptual Shifts⁵ (Innovations) of the NGSS and discuss implications for teaching and learning. ● Identify the three-dimensions of the NGSS⁶ ● Explain the anatomy and architecture of a NGSS standard ● Identify NGSS resources for further study and information 	<p><i>Outcomes might include</i></p> <ul style="list-style-type: none"> ● Express how teaching and learning look in the NGSS ● For any standard, identify each of the dimensions connected to the performance expectation ● Describe what a Science and Engineering Practice and Crosscutting Concept would look like in their classroom, providing examples of how they might engage students in these dimensions ● For a performance expectation, identify a possible performance task that would assess student learning around the performance expectation 	<p><i>Outcomes might include</i></p> <ul style="list-style-type: none"> ● Review grade level or subject area performance expectations ● Take a current lesson/unit and translate it to the NGSS ● Using the BSCS 5E Instructional Model or similar model, plan a learning cycle that integrates the three dimensions of the NGSS ● Identify and describe a performance task that could be used in the classroom to assess student performance and understanding around a performance expectation or multiple performance expectations 	<p><i>Outcomes might include</i></p> <ul style="list-style-type: none"> ● Implement formative and summative assessments aligned to NGSS ● Create curriculum maps or implement district curriculum guides ● Implement NGSS adopted curriculum that is aligned to AIM, EQuIP, or similar rubrics

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⁵ The Conceptual Shifts (Innovations) are found in *Appendix A: Conceptual Shifts in the Next Generation Science Standards* at www.nextgenscience.org.

⁶ The Three Dimensions of Learning are found in Appendix E, F, and G at www.nextgenscience.org and Chapters 3-8 from *The Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* (NRC, 2012). can be found at www.nap.edu/catalog.php?record_id=13165.