Figure 1. Phases and Stages of NGSS Implementation

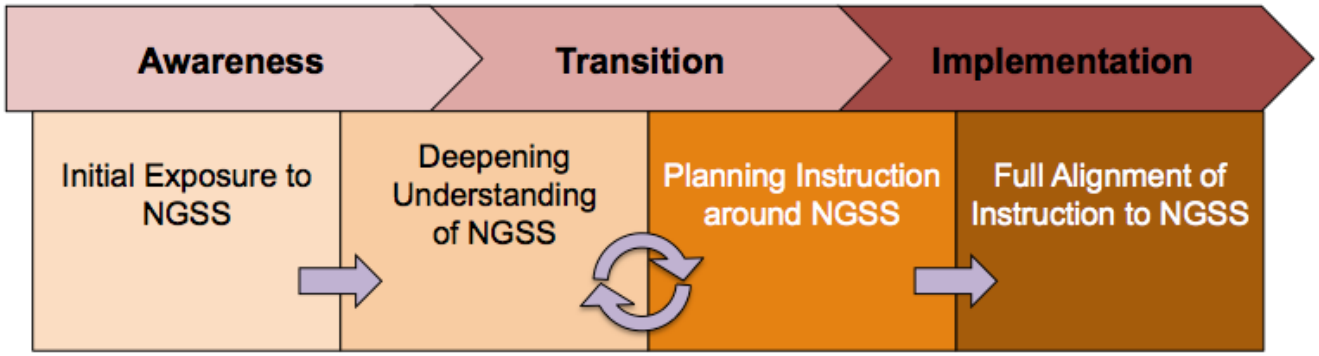

Figure 2. Stages of NGSS Implementation

Initial Exposure to NGSS	Deepening Understanding of NGSS	Planning Instruction around NGSS	Full Alignment of Instruction to NGSS
Teachers are beginning to learn and familiarize themselves with the instructional shifts, the three dimensions of learning, and the performance expectations of the NGSS	Teachers engage in ongoing research and the building of personal understanding of the instructional shifts, the three dimensions of learning, and the performance expectations of the NGSS	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 instructional shifts of the NGSS	Teachers design and plan instruction aligned to NGSS curriculum and assessment
Outcomes might include ● Describe the Conceptual Shifts of the NGSS and the Principles of the Framework ● Identify the three-dimensions of the NGSS ● Explain the anatomy and architecture of a NGSS standard ● Identify NGSS resources for further study and information	*Outcomes might include* ● Express how teaching and learning look different in the NGSS from previous standards ● 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	*Outcomes might include* ● Review grade level or subject area performance expectations ● Using a planning tool, take a lesson/unit you already have and translate that lesson/unit to the NGSS ● Using the BSCS 5E Instructional 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	*Outcomes might include* ● 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 rubrics

J. Spiegel and K. Bess (San Diego County Office of Education), Y. Shimojyo (Riverside County Office of Education), A. Quan (Los Angeles County Office of Education). 2014.

Figure 3. Conceptual Shifts and Guiding Principles

Conceptual Shifts in the NGSS	Guiding Principles of the Framework
• K-12 Science Education Should Reflect the Interconnected Nature of Science as it is Practices and Experienced in the Real World • The Next Generation Science Standards are Student Performance Expectations – NOT Curriculum • The Science Concepts in the NGSS Build Coherently from K-12 • The NGSS Focus on Deeper Understanding of Content as well as Application of Content • Science and Engineering are Integrated in the NGSS, from K-12 • The NGSS are Designed to Prepare Students for College, Career, and Citizenship • The NGSS and Common Core State Standards (English Language Arts and Mathematics) are Aligned	• Children are Born Investigators • Focusing on Core Ideas and Practices • Understanding Develops Over Time • Science and Engineering Require Both Knowledge and Practice • Connecting to Students' Interests and Experiences • Promoting Equity