



## PD Provider Institute 2: NGSS Science and Engineering Practices 4, 6, and 7

BSCS Science Learning September 22-25, 2026

### Goals and Outcomes

- Enhance knowledge of research and literature underpinning the NGSS and increase ability to support teachers as they translate research into the classroom.
- Increase capacity to support teachers in using routines, strategies, tools, and processes for enacting three-dimensional phenomena-driven teaching and learning for next generation science.
  - Analyzing and interpreting data
  - Constructing explanations
  - Engaging in argument from evidence
- Strengthen ability to design and lead professional learning programs that foreground the use of high-quality instructional materials to support teachers in taking on the instructional shifts called for in NRC's *Framework* and the NGSS.
- Increase understanding of and abilities to lead change for sustained improvement.

### Essential Questions

- What will teaching and learning look like when the *Next Generation Science Standards* (NGSS) are being translated into practice, especially three-dimensional learning?
- Why do we need to help students and teachers effectively use the science and engineering practices?
- How can we help students analyze and interpret data, construct explanations, and engage in argument from evidence related to figure out and explain natural phenomena?
- What critical actions can leaders take to lay a foundation for using high-quality instructional materials to support teachers in understanding and supporting student learning in ways consistent with the vision set forth in *the Framework for K-12 Science Education*?

## Week-at-a-Glance Agenda

Time	Tuesday	Wednesday	Thursday	Friday
8:15 a.m.	<i>Opening</i>	<i>Opening</i>	<i>Opening</i>	<i>Opening</i>
	<p>Overview of Week</p> <p>Science teaching and learning</p> <p><i>A Study of Changes in Populations</i> highlighting Practices 4, 6, and 7</p> <ul style="list-style-type: none"> <li>▪ Set-up</li> <li>▪ Common experience with tools, strategies, and processes in Lessons 1 &amp; 2</li> <li>▪ Follow-up               <ul style="list-style-type: none"> <li>○ Analysis of Classroom Video</li> <li>○ Unit Storyline</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Follow-up               <ul style="list-style-type: none"> <li>○ Analysis of Science &amp; Engineering Practices</li> <li>○ Analysis of Practice</li> </ul> </li> </ul>	<p>Connections to research and literature</p> <ul style="list-style-type: none"> <li>▪ Curriculum-Based Professional Learning</li> </ul>	<p>Leading Learning and Change</p> <ul style="list-style-type: none"> <li>▪ Adaptive Leaders</li> <li>▪ Concerns-Based Adoption Model (CBAM)</li> </ul>
Lunch				Working lunch
	<p><i>A Study of Changes in Populations</i> highlighting Practices 6, 7, and 8</p> <ul style="list-style-type: none"> <li>▪ Set-up</li> <li>▪ Common experience with tools, strategies, and processes in Lesson 6</li> </ul>	<p>PD session design</p> <ul style="list-style-type: none"> <li>▪ Components</li> <li>▪ Give it a go!</li> </ul>	<p>Connections to research and literature</p> <ul style="list-style-type: none"> <li>▪ Curriculum-Based Professional Learning: Supporting Implementation Over Time</li> </ul>	<p>Planning Session</p> <p>Closing</p> <p>Session ends at approximately 2:00 p.m.</p>
4:30 p.m.	<i>Closing</i>	<i>Closing</i>	<i>Closing</i>	