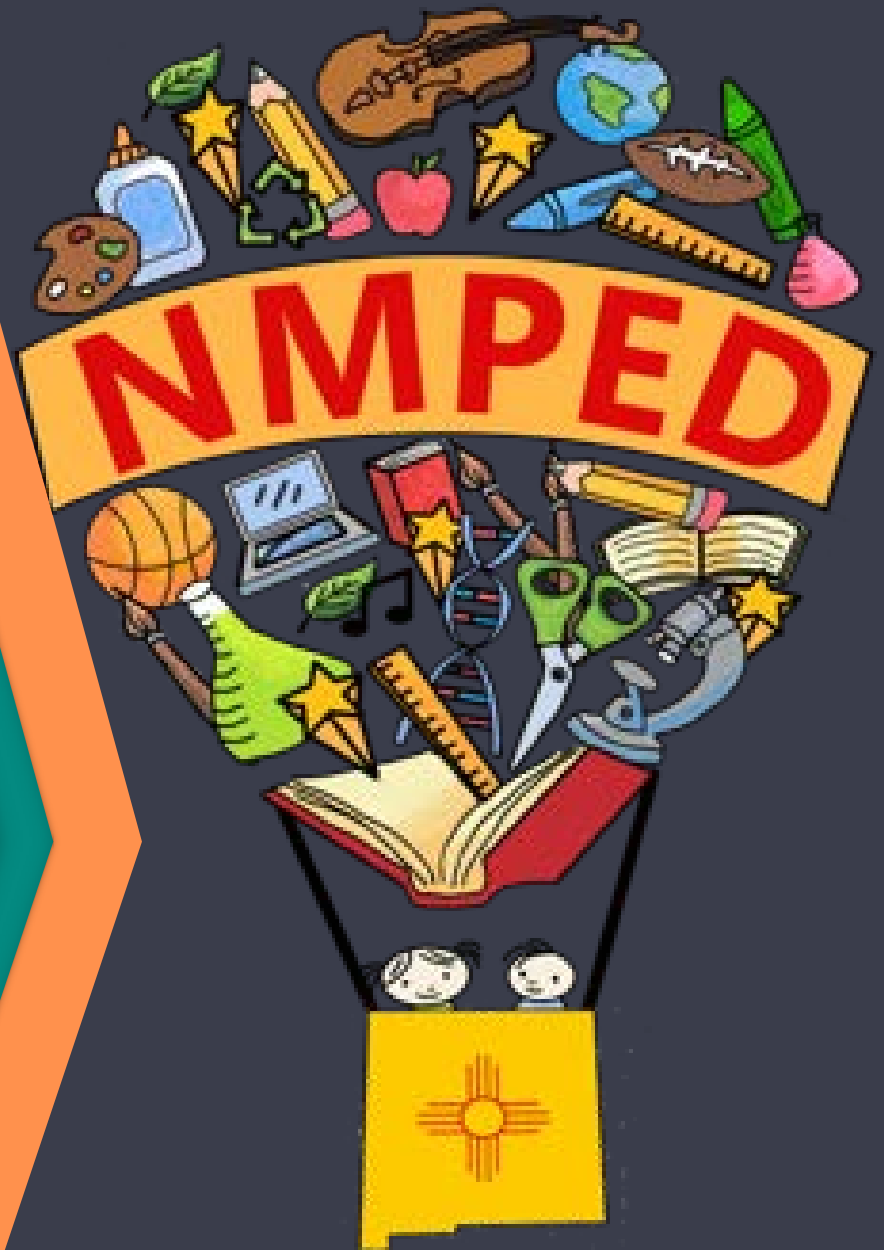


Introduction to Bundling Standards

Science Reentry Support Series

Shafiq Chaudhary, Math & Science Specialist

Investing for tomorrow, delivering today.



Goal

Understand how bundling of NM STEM Ready! Science Standards can be used to create cohesive instruction.

Shifting from “Learning About” to “Figuring Out”

Three key ideas:

1. **Core ideas:** Shift away from breadth of content to *in-depth development of core ideas*.
2. **Practices:** Developing explanations through investigation to make sense of phenomena.
3. **Coherence:** Learning is a *logical progression* in which learners build ideas over time and between science disciplines.

Adapted from Reiser, 2013

Shifting from “Learning About” to “Figuring Out”

- Students using the science and engineering practices are “figuring out” an explanation or solving a problem
 - Application of science knowledge
- Practices mean students should know *why* they are doing what they are doing in each activity
- End goal is putting all information together to help explain phenomena or answer a question

Adapted from Reiser (2013; 2014a,b)

Bundling Standards

What does this mean to you?

Bundling Standards *(continued)*

- Pruitt (2014) describes bundling as a “set of PEs that provide students with coherent connections among concepts within and across disciplines” (p. 151).
- These ten steps “guide teachers in developing a sequence of lessons to build student proficiency in a bundle of PEs” (Krajcik et al., 2014, p. 163).

Bundling Standards

Overview

1. Select standards that work together—a bundle (Bybee, 2013; Krajcik, 2014; Pruitt 2014).
2. Inspect the performance expectations, their clarification statements, and assessment boundaries.
3. Examine DCI(s), SEP(s), and CCC(s) and identify implications for instruction.
4. Explore closely the DCI(s) and PE(s).

Adapted from Krajcik (2014)

Bundling Standards

Overview (continued)

5. Identify the SEP(s) that support instruction.
6. Develop lesson-level, target PEs.
7. Determine acceptable evidence of learning.
8. Connect to related Common Core State Standards for Math and English Language Arts.

Adapted from Krajcik (2014)

Bundling Standards

Overview (continued)

9. Construct a storyline.

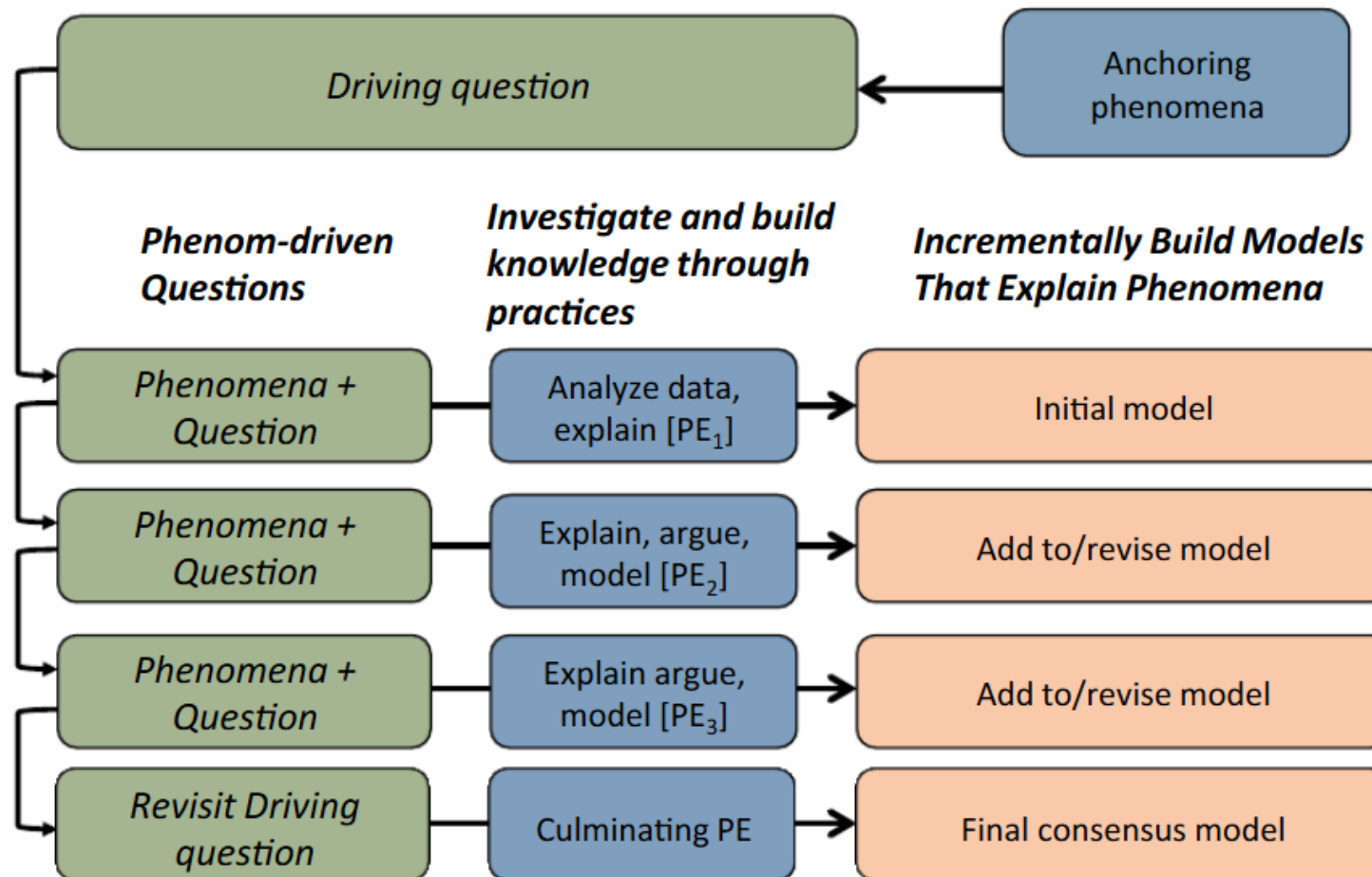
- “Shows how the DCIs, SEPs, and CCCs develop over time. It should also show how students build sophisticated ideas from prior learning, using evidence that build to the understanding described in the standards as student engage in the practice to explain phenomena” (Krajcik, 2014, 170).

Adapted from Krajcik (2014)

Storylines

- A coherent sequence of lessons that is driven by students' questions with a goal of explaining phenomena or solving a problem.
- A storyline provides a coherent path toward building disciplinary core ideas and crosscutting concepts, piece by piece, anchored in students' own questions.

Storylines *(continued)*



Bundling Standards

Overview (continued)

10. Ask yourself, “How do the tasks(s) and lesson(s) help students’ understanding towards the targeted standards?”

Resources

- [Reentry Guidance and Professional Learning page](#)
- [NM STEM Ready! Science Resources page](#)
 - Curriculum Development
 - ✓ Phenomena
 - ✓ Bundling Standards/Storylines
 - Implementation
- [NGSS In Practice—Tools and Processes](#) (Appendices A– E)

Next Steps



CANVAS

[Science Reentry Support Series: Elementary Bundling of NM STEM Ready! Science Standards](#)

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Thank You!

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