

Professional Learning Community 1.1
Chapter 3 of *Teaching Science is Phenomenal (TSiP)*
Using Phenomena to Initiate Student Performances in Science
How can science phenomena initiate teaching and learning?

Pre-Session and Review

Reading

1. Come to the PLC having read Chapter 3 of *TSiP*.
2. Bring an example of a lesson you currently use to teach a specific science standard, and reflect on how phenomena were used to engage students in science reasoning.
3. Bring an example of a phenomenon that you have observed in the past 24 hours.

A. Round Robin Style Discussion – The full group listens as individuals present their ideas specific to the questions below.

- a) Why is it important that instruction focuses on phenomena that student see in their everyday life?
- b) Why is it important that students develop explanations for causes of phenomena?

B. Whole Group Discussion – Bring science-specific examples and experiences from your teaching to support the discussion of the questions below.

Reflection on Phenomena in Science Teaching and Learning

1. How are statements of student science performances best written to bring the three dimensions together in meaningful ways?
2. Use the procedure below to write a three-dimensional science performance that is initiated with a phenomenon.
 - a. Select a phenomenon.
 - b. Identify practices that help the students make sense of this phenomenon.
 - c. Select crosscutting concepts that focus students on important aspects of the phenomenon.
 - d. Determine the core ideas that students need to learn to make sense of this phenomenon.
 - e. Use the dimensions selected above to write a three-dimensional student science performance.
3. Consider ways you might engage students in asking questions about the phenomenon you identified in the previous question.
4. Use the instructions preceding Figure 3-7 to trace the performance sequence for one of the lessons found in the appendices of the book or online at <https://sites.google.com/3d-grcscience.org/going3d>
5. Reflect on ways three-dimensional performances provide the evidence students need to support their explanations and/or arguments.

C. Individual Reflections – Write in Journal

- a) Reflect on the attributes of well-structured lessons that engage students in making sense of phenomena.
- b) Reflect on why evidence for causes of phenomena is essential for student to construct explanations.

ⁱ Use the back of the page to answer the questions.