Science Observation Protocol

The Science Observation Protocol[11] articulates the vision for skillful science teaching and learning. Purposes for use include: 1) preparing lessons; 2) reflecting on instructional practices; 3) developing professional learning on standards-aligned practice; and 4) providing feedback on classroom practice.

Culture of Learning: Are all students engaged in the work of the lesson from start to finish?

- Students complete instructional tasks, volunteer responses, and/or ask appropriate questions.
- Students follow behavioral expectations and directions.
- Students execute transitions, routines, and procedures in an orderly and efficient manner.
- Students are engaged in the work of the lesson from start to finish; there is a sense of urgency about how time is used.
- Students and their teacher demonstrate a joy for learning through positive relationships and strong classroom culture.

Not Yet	Somewhat	Mostly	Yes

High-Quality Scientific Content: Does the content of the lesson reflect the key instructional shifts required by college and career ready science standards?

- **Phenomena / Design Problems**: The purpose and focus of the lesson support students in making sense of a phenomenon and/or designing solutions to problems.
- **Science and Engineering Practices and Disciplinary Core Ideas**: The lesson leverages grade-appropriate elements of the Science and Engineering Practices (SEPs) to deepen students' understanding of grade-appropriate Disciplinary Core Idea(s) (DCI) of the lesson.
- **Crosscutting Concepts:** The lesson leverages grade-appropriate elements of the Crosscutting Concepts (CCC) to support students with making connections within and across scientific disciplines.

Not Yet	Yes

High-Quality Instructional Practices: Does the teacher employ instructional practices that allow all students to learn the content of the lesson?

- The teacher intentionally and explicitly leverages students' prior knowledge and experience in order to support understanding of phenomena or to solve design problems.
- The teacher supports students to make sense of disciplinary core idea(s) through the use of relevant phenomena, explanations, representations, tasks, examples and/or models.
- The teacher facilitates a summary of the learning to reinforce the purpose of the lesson using references from student work or discussion.
- The teacher deliberately checks for understanding throughout the lesson and adapts the lesson according to student understanding.

Not Yet	Somewhat	Mostly	Yes

Student Ownership: Are all students responsible for doing the scientific thinking in this classroom?

- Students do the majority of the work of the lesson.
- Students express, clarify, justify, interpret, explain, and represent their ideas.
- Students talk about and ask questions about each other's thinking, in order to clarify or improve their own understanding.
- Students share their developing thinking about the content of the lesson.
- Students evaluate and revise their thinking as understanding develops.
- Students use scientific language appropriate to the content in their explanations and discussions.

Not Yet	Somewhat	Mostly	Yes

[1] This tool draws heavily from Student Achievement Partners' Instructional Practice Guide Coaching Tools (IPGs) and the Culture of Learning competency of the TNTP Core Teaching Rubric.