

Science Lesson Internalization Protocol

Lesson internalization is a core process of intellectual preparation that guides teachers as they prepare to teach a lesson within a high-quality instructional resource (HQIR). Allow 45-60 minutes, collaborating in grade-level teams, to work through the protocol. Specifically, this protocol assists teachers in:

- Understanding the lesson goals;
- Annotating the lesson to plan for all students to meet those goals; and
- Making modifications to the lesson based on student needs and planning pedagogical moves.

This protocol includes more steps and questions than can be fully considered during that time; therefore, consider prioritizing those most aligned to district/school goals and professional learning focuses for the current stage of implementation (launch, early or ongoing). For example, educators could choose to focus only on the “Understand” section of the protocol during launch and early implementation to build initial understanding of the resource. A [note-catcher](#) has been provided as a tool to capture thinking.

While this protocol can be used with any curriculum, check with your HQIR vendor for specific protocols for use with your selected instructional resource.

UNDERSTAND: Internalize Lesson Notes and Complete the Formative Task(s)

- 1. Identify the Standards: “Which of the unit performance expectation(s) (PEs) or part(s) of PEs are addressed in this lesson?”**
 - Identify the Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs) that are integrated into the lesson to support students’ scientific thinking, sense-making and connections across scientific disciplines.
- 2. Complete the Formative Task(s): “What science skills/concepts from the performance expectation(s) are assessed in today’s lesson?”**
 - Complete the formative task(s), applying the knowledge, understandings, skills and strategies students would be expected to use. *(This can be completed prior to the PLC meeting.)*
 - Compare answers and solution strategies to the teacher’s guide. How do the questions require application of the knowledge, understandings and skills called for by the lesson’s performance expectation(s) and learning goal(s)?
- 3. Read and annotate lesson, including any teacher’s notes: “What are students learning?”**
 - Review the lesson learning goal(s) and compare it to the formative task(s) to understand the new learning students will engage in this lesson.
 - How does this lesson build on previous lessons and support upcoming lessons, including alignment of the lesson-level focus question and learning experience to the big ideas of the unit/module and its essential questions?
 - Where are students in the process of finding answers to their questions around the phenomenon/problem? Consider how all three dimensions of the PEs come together to help students work towards figuring out the phenomenon or solving the problem.
 - How will you explain to students why it is important that they learn this?

- What success criteria will provide clear evidence that lesson goals have been achieved?
 - Review new vocabulary. What academic language will students need to acquire?
4. **Read and annotate the lesson, including any teacher's notes: "How are students supported in their learning?"**
- How will you ensure students understand the lesson goal(s), success criteria and what success "looks like" (exemplars, student work samples, rubrics, etc.)?
 - What key instructional practices and routines (posing purposeful questions, providing structured collaboration, facilitating scientific discourse, eliciting and using evidence of student thinking, etc.) engage students and help them move toward mastery?
 - What key instructional practice or routine may need the support of lesson rehearsal?
 - Where will students share and receive feedback on evidence of their thinking?

TAKE STOCK: Identify Learning Gaps and Student Needs

5. **Understand your students, their strengths, and anticipate the challenges they might face.**
- Analyze student data from pre-assessments/tasks leading up to this lesson. Based on your analysis, what supports for differentiation are required during the lesson? For students at lower readiness levels, what relevant data and insights are offered by aligned support from Tier 2?
 - Are there any specific misconceptions students may have about the lesson content? What guidance and supports are provided by the HQIR to address the misconceptions?

TAKE ACTION: Make Adjustments to Lesson

6. **Prioritize and adjust the lesson: "How can I tailor this lesson to the specific needs of my students?"**
(When considering an adjustment, the [Adjusting High-Quality Instructional Resources Tool](#) offers guidance to support doing so effectively.)
- Review or create structures to support English learners and students with learning and thinking differences, including how they can demonstrate what they know in multiple ways. Decide which supports to use universally. Work with inclusion staff (special education, gifted, etc.) on individual supports.
 - Identify local instructional priorities that further support/enhance learning and the student experience (elements of project-based learning, inquiry-based learning, portrait of a learner competencies, cooperative learning, cognitive strategies, standards-based grading, etc.).
 - If needed, make adjustments to tasks within the lesson to ensure students can connect science with relevant/authentic situations in their lives.
 - If needed, adjust timing and/or cut out a portion(s) of the lesson confirmed as non-essential to students attaining the performance expectations(s) or lesson goal(s). Vendors can support confirmation.
7. **Reflect on the planned lesson: "Do the lesson adjustments and added supports align with the performance expectation(s) and the learning goal(s)?"**

- Revisit the standard(s)/learning goals(s) and formative task(s) to ensure they align with any lesson adjustments or added supports.
- Determine what is most important to look for as evidence of student learning and refine lesson success criteria as needed.