Forward Thinking Leadership for AI

Moving Beyond Policing: How to Communicate, Support, and Implement AI-Enabled Science Learning

Purpose. This handout gives science leaders a concise framework for communicating about AI, supporting teachers, and implementing AI-enabled science learning in ways that protect sensemaking, productive struggle, and the Science and Engineering Practices.

Why?

Why this approach makes sense now. AI can make work easier, but science education must still make thinking necessary. Students need productive struggle, discussion, evidence-based reasoning, and opportunities to revise ideas.

Why we suggest a leadership shift. The goal is not to police AI. The goal is to design learning where student reasoning remains indispensable. Leadership must move systems from control and detection toward communication, support, and purposeful design.

Why SEPs matter in the age of AI. The Science and Engineering Practices build habits of mind that AI cannot develop for students: questioning, analyzing evidence, constructing explanations, argument from evidence, and revision through reasoning.

What is at stake. When leaders protect these practices, they help build critical thinkers, scientifically literate citizens, and evidence-based decision-makers who are prepared to reason well beyond school.

Leadership messages to communicate

Say this clearly

- To teachers: You are not being asked to police everything.
- To students: AI does not replace your thinking.
- To families: This shift is about protecting learning, not lowering expectations.
- To communities: The goal is stronger reasoning, scientific literacy, and responsible AI use.

Use these planning questions

- What thinking must remain human?
- Where could AI support without substituting?
- What evidence of reasoning should be visible?
- How will students verify, revise, or defend ideas?
- What teacher support is needed for strong implementation?

What leaders must provide

Clarity

Set clear expectations for purposeful AI use. Explain that AI may support learning, but it cannot replace student sensemaking, reasoning, or evidence use.

Support

Provide time and support for instructional redesign. Give teams examples of AI-resilient tasks, routines, and look-fors aligned to the SEPs.

Confidence

Build professional learning, reflection, and consistency. Help teachers pilot, discuss, revise, and communicate with families from a shared vision.

Look-fors in classrooms and teams

In strong AI-enabled science learning

- Tasks require students to critique, justify, compare, revise, or defend.
- Evidence matters more than polished wording.
- Student thinking is visible through talk, writing, annotations, or revision trails.
- AI is positioned as an imperfect reasoning partner, not an answer source.
- Scaffolds support diverse learners without removing the core thinking.

Warning signs to notice

- Final products are emphasized, but reasoning remains invisible.
- AI is used mainly to generate finished explanations or reports.
- Students can complete the task without evidence evaluation or revision.
- Teachers receive expectations without examples, time, or support.
- Communication focuses on detection more than learning design.