

Tips for Teaching Inquiry Practices

Effective inquiry practices can be addressed in long-term inquiry projects or through short classroom activities.

Select relevant practices to emphasize.

Almost any inquiry practice can be addressed with any inquiry-based activity. Therefore, selecting appropriate practices to address through instruction and assessment requires careful consideration.

- Target all inquiry practices at some point during the year, even those that students appear to have mastered.
- Teach appropriate inquiry practices based on student assessment.
- Reteach specific practices as necessary.

Provide explicit instruction in inquiry practices.

- **Naming**—Give a skill a specific, memorable name that adds to the vocabulary that teachers and students can use to discuss and monitor their thinking.
- **Describing**—Describe the situations where a skill is important or useful.
- **Modeling**—Using the kind of material students will be using during the work session, do a think-aloud describing your thought processes as you use the skill.
- **Adapting**—Conduct a short discussion about the skill.
- **Practicing**—Ask students to practice the skill while they work on their projects, and provide them with tools, such as checklists, to guide their progress.

Target inquiry practices with assessment.

Students working on inquiry projects and activities should receive frequent feedback on their performance of inquiry practices from the teacher, their peers, and through self-assessment. Assessment of inquiry practices should also be part of summative assessments, such as tests and project rubrics.

Emphasize metacognition.

As with all kinds of thinking, understanding of scientific inquiry practices is a metacognitive process. A classroom where students routinely discuss, write about and analyze how they think, make decisions, solve problems, and conduct scientific inquiry is a classroom where students learn to be more effective scientific thinkers.