

# What Is Inquiry?

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Good science education requires both learning scientific concepts and developing scientific thinking skills. Inquiry is an approach to learning that involves a process of exploring the natural or material world, and that leads to asking questions, making discoveries, and testing those discoveries in the search for new understanding. Inquiry, as it relates to science education, should mirror as closely as possible the enterprise of doing real science.

**The inquiry process** is driven by one's own curiosity, wonder, interest, or passion to understand an observation or to solve a problem.

**The process begins** when the learner notices something that intrigues, surprises, or stimulates a question—something that is new, or something that may not make sense in relationship to the learner's previous experience or current understanding.

**The next step** is to take action—through continued observing, raising questions, making predictions, testing hypotheses, and creating conceptual models.



**The learner must find** her or his own pathway through this process. It is rarely a linear progression, but rather more of a back-and-forth, or cyclical, series of events.

**As the process unfolds**, more observations and questions emerge, providing for deeper interaction with the phenomena—and greater potential for further development of understanding.

**Along the way**, the inquirer collects and records data, makes representations of results and explanations, and draws upon other resources such as books, videos, and the expertise or insights of others.

**Making meaning from the experience** requires reflection, conversation, comparison of findings with others, interpretation of data and observations, and the application of new conceptions to other contexts. All of these serve to help the learner construct an improved mental framework of the world.

Effective teachers rely on many different ways of teaching science. At the Institute for Inquiry we focus on inquiry learning, a powerful tool in learning science and in keeping wonder and curiosity alive in the classroom.