



Sample Agenda for 6-Hour Project 2061 Workshop

Exploring the Use of Project 2061 Tools to Analyze Instruction

Workshop Summary

This workshop is designed for a group of middle and high school science teachers, many of whom do not think there is a problem with science teaching and learning. Convinced that motivated and able students are learning quite well, these teachers question the need for change.

Using clips from the *Lessons Pulled From Thin Air*, program 2 in the Annenberg/CPB Project's new Private Universe Workshop Series Videos, this workshop demonstrates that even some graduates of the nation's finest schools do not understand some basic ideas in science. Then, through a variety of activities and reflection, participants learn that the science literacy goals in *Science for All Americans (SFAA)* and the learning goals in *Benchmarks for Science Literacy (Benchmarks)* can be used first to analyze instruction, and then to consider how to improve instruction to help all students achieve the science literacy goals recommended by Project 2061. The estimated time shown for each option is the minimum required.

WORKSHOP AGENDA

Opening

INTRODUCTION — OPTION C: TEACHING VERSUS LEARNING CARTOON

Estimated Time: 10 minutes.

Overview: A cartoon is used to focus participants' attention on the gap between what teachers believe they have taught and what students have actually learned. This option can be used to set the stage for a workshop that focuses on exploring the use of Project 2061 Tools to assess student learning or to design instruction.

NEED FOR CHANGE — OPTION C: VIDEO ON PHOTOSYNTHESIS MISCONCEPTIONS

Estimated Time: 15 minutes.

Overview: Videotaped interviews are used to show that graduates from the best universities do not understand the idea in the grade 6-8 benchmark, "Plants use the energy from light to make sugars from carbon dioxide and water." This option is particularly appropriate for workshops addressing the *SFAA* and *Benchmarks* section: Flow of Matter and Energy.

WORKSHOP GOALS — OPTION B: WORKSHOP ON TEACHING

Estimated Time: 5 minutes.

Overview: The presenter shares with the group specific workshop goals, which are appropriate for an introductory workshop for teachers. These include making the case that science education is not working well for most students, even in the best schools; understanding that effective teaching should include understanding of science literacy goals; and that study of *SFAA* and *Benchmarks* can improve teaching.

WHAT PARTICIPANTS KNOW — OPTION A: PARTICIPANT QUESTIONS ABOUT PROJECT 2061

Estimated Time: 10 minutes.

Overview: Participants list questions they have about Project 2061, *SFAA*, and *Benchmarks*. The sophistication of their questions indicates to the presenter the extent of their knowledge of Project 2061 and reminds participants that there is a wide range of questions among them.

TOOLS AVAILABLE FROM PROJECT 2061 — OPTION C: PROJECT 2061 PRINCIPLES, STRATEGY, AND TOOLS

Estimated Time: 20 minutes.

Overview: Using transparencies and handouts, the presenter provides a brief history of Project 2061 and an overview of its existing products and products to come. The focus is on the systemic, long-term nature of Project 2061 reform. This option works well with short time frames and audiences who have very little knowledge of Project 2061. However, if the audience includes more sophisticated users of *Benchmarks*, this option might serve as a quick reminder that Project 2061's broad vision for science education reform encompasses much more than curriculum reform. For workshops of a day or more in length, this option can be combined with Options D or G to provide more detail about *SFAA* and *Benchmarks*.

EXPLORING THE USE OF PROJECT 2061 TOOLS, 4: TO ANALYZE INSTRUCTION

OPTION B: INSTRUCTION AIMED AT BENCHMARK 5E Flow of Matter and Energy (6-8)#1

Estimated Time: 3.5 hours.

Overview: Participants study components of *SFAA*, *Benchmarks*, and *Benchmarks on Disk* to enhance their understanding of the meaning of the benchmark.

Benchmark 5E Flow of Matter and Energy (6-8)#1

Food provides molecules that serve as fuel and building materials for all organisms. Plants use the energy from light to make sugars from carbon dioxide and water. This food can be used immediately or stored for later use. Organisms that eat plants break down the plant structures to produce the materials and energy they need to survive. Then they are consumed by other organisms.

Participants then read several scenarios describing instruction and evaluate how effectively the instruction seems to address the benchmark. If time permits, participants consider how the instruction could be improved to address the benchmark better.

This option is appropriate for groups that include middle and high school teachers who teach the topic. The strand map shows the importance of precursor benchmarks to this benchmark, and the scenarios give participants an opportunity to apply their understanding of the benchmark to the analysis and improvement of instruction.

Closing

SUMMARY — OPTION C: PARTICIPANTS REFLECT ON PROGRESS

Estimated Time: 20 minutes.

Overview: Participants identify one workshop goal statement they now believe is true and consider what workshop activities contributed to their conviction. This option is appropriate for any workshop.

EVALUATION — OPTION A: USING PROJECT 2061 WORKSHOP EVALUATION FORM

Estimated Time: 15 minutes.

Overview: Participants consider three opinions about *Benchmarks*, choose the one they agree with most, and explain their reasoning. This helps the presenter determine whether participants think *Benchmarks* will be useful to their own reform efforts.