



# The Challenge (Learning Experience #1) Student Procedures



## Overview

The business community in a rural county wants to promote recreational trout fishing in the area, anticipating increased employment and tax revenue from tourism. There is a stream with headwaters in the nearby mountains that flows through a valley lined with dairy farms. When European settlers first arrived in the 1700's, the area was forested and there was a thriving brook trout population all along the stream's length, but now the trout are found only in the headwaters in the nearby mountains. Your team of scientists has been called in to plan and carry out a restoration project that will provide areas of public fishing in easy-to-reach valley sites.

## Essential Question

- How can a rural county restore and maintain a reproducing population of brook trout in a local stream?

## Procedures

1. Working with your team, discuss and record what questions you have that will give you direction as you start on the challenge. Where will you go to find the answers? Complete the *Challenge Questions* sheet. Share your questions and research ideas with the rest of the class by posting them on a large paper chart or a SmartBoard. Additional questions may be added as they come up in discussions with your group.
2. Research the habitat needs of a reproducing population of eastern brook trout. Record this information in your journal. Include the source of your information.
3. Watch video clips #1 and #2. Notice the condition of the stream and its surroundings in each clip. Complete the *Smith Creek Habitat* graphic organizer sheets and answer the questions. Do you think that brook trout can live and reproduce in the headwaters? In the valley floor? Explain your answers.





4. Now that you have visited the creek, it is time to develop a restoration plan. What are the factors that have contributed to the reduction or loss of the native brook trout population, and how might they be corrected? Draw up a plan for correcting factors that have degraded the stream you saw in video #2. Make note of all of your group's ideas, including the ones you decide to discard, because you may want to come back to them. Complete the *Student Project Plan* sheet, including the questions. Your group will present this plan to the community group, which will be role-played by your class. The group should include a description and drawings of the observed problems and your ideas for solving those problems. Add comments and suggestions from your classmates to your plan.