



Chicken by the Millions (Scenario B: Learning Experience #1) Opportunities for Student Assessment



Opportunities for ongoing formative assessment are embedded throughout the learning experience in questions that spark class discussions. Student worksheets, journal entries and class presentations also serve as formative assessments as the students work through the learning experience. The summative assessment for each learning experience may be the students' answers to the learning experience essential question, supported by specific data and discoveries the student made while carrying out the assignments in that learning experience. Each student in the team should be involved in the research, writing and presentation of team answers.

Suggested Student Journal Rubric, *Chicken by the Millions* (LE#1)

Criteria	N/A	Missing	Below Expectations	Meets Expectations	Exceeds Expectations
Scenario Essential Question					
Learning Experience Essential Question					
Questions: Class and school chicken meal percent					
Strategy: Chicken meals eaten in state strategy					
Reflection: environmental impacts of raising chickens					
Mitigation of one negative impact					

The Science Journal

Journaling is an important part of a practicing scientist's day to day work. Student-scientists should reflect, write and draw in their journals or notebooks as they answer questions and plan next steps in the problem solving process. Entries should be labeled with names of team contributors, dates and where the team is in the planning process. An occasional look at journals by the teacher provides an informal assessment of students' progress and their understanding of the content. Sharing the rubric with the students when you introduce the learning experience will help them meet your expectations for quality work.



Chicken by the Millions (LE#1) Cross-Curricular Connections

Literacy Connections

- This scenario may be completed, in part, as an English assignment.
- During the scenario, students are asked to research the composition and source of the tons of feed that fuel our appetite for chicken meat.
- Additional research questions for student research could include:
 - the extent to which animal feed is regulated by state and federal regulations
 - reasons that state and federal controls on animal feed exist

Social Studies Connections

- Farmers must follow state and federal guidelines for composition of animal feed, growing conditions, health and safety of workers and animals, and disposal of wastes. Today we Americans assume that our food is raised and packaged in a sanitary manner, but that was not always the case. Students could look into conditions described in novels such as *The Jungle*, written by Upton Sinclair, an undercover journalist. Written in 1904, *The Jungle* is credited in part with the passage of the first Pure Food and Drug Act in 1906. How do your students feel about eating food that was raised and marketed with no legal standards, as is the case in most of the world?

Math Connections

- Much of the problem solving in *Chicken by the Millions* (LE # 1) requires the use of simple arithmetic to calculate the amount of chicken consumed by the students' classmates, based on an informal survey, as well as data about yearly chicken consumption by residents of the Chesapeake Bay watershed. This lesson could lead to a discussion about how statistics are gathered, interpreted and communicated in the students' everyday lives.
- Units of measure are given in metric as well as English measurements. Teachers are encouraged to use metric without conversion, since this is the system of measurement used by all scientists.

