



FOUR-PART FRAMEWORK FOR *NEEDED MATH PROJECT* SCENARIOS

NSF AWARD # 2100062 – For More Information see www.neededmath.org or write us at neededmath@gmail.com

1. Problem Statement (these problems would come from industry).

A succinct statement describing the problem presented to the technician.

2. Scenario Description and Specific Example

A description of the context within which the technician is working, and a short explanation of the processes involved. This can be considered to be a use case. The description clarifies what the technician must do to address the presented problem given specific requirements (e.g., temperature levels, tolerances, volumes).

3. Issues to be addressed in the lesson (specific issues that might be confronted by technicians in the workplace could be raised).

These might include additional information necessary or useful to enhance understanding of the task and thus its performance after being presented to the technician. Issues might flag common misconceptions, attractive but erroneous approaches that might lead to mistakes being made, and issues to which particular attention should be paid.

4. Mathematics

Mathematics competencies technicians possess and use to solve the presented problem.

Supporting materials that might come from educators or industrialists could include:

Questions to Address

These questions would stimulate discussion, clarify ways in which the problem might be approached, explain conclusions, and interpret data.

Teacher Resources and Notes

These could include pedagogical hints, related videos, annotations, and sample problem solutions.