

**Task: Greenhouse solutions
Greenhouse Management**

Describe the context of your task here. Separate the parts of the task into A, B, C, etc.

- A. Students will use units of measurements common to the metric system to determine the amount of solution to add to the nutrition tanks.
- B. Students will determine the volume of tanks within the greenhouse using the metric system.
- C. Upon the addition of solution to the greenhouse tanks, students will evaluate and discuss the results of their project over a specific length of time. A graph will be made to show the differences in each groups solution and result.

Common Core State Standards

List the Common Core State Standards (and math practices if applicable) associated with your task.

A/B Common Core 1. Use units as a way to understand problems and to guide the solution of a multi-step problem; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. 2. Define appropriate quantities for the purpose of descriptive modeling.

c. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Essential Understandings

What key insights should students take from participating in this task? Students should be able to understand metric units of measurements, and how to use those units to determine the amount of solution to add to a particular nutrition tank.

Being able to think through and determine the relationship of water to a concentrate and its dilution to filter into the plants watering system is essential, as they will discuss this process.

Reading a graph and being able to explain and discuss it.

Possible Solutions/Solution Paths
<p><i>What solutions or solution paths are acceptable in achieving a correct response for this task? Be sure to address all parts of the task.</i></p> <p><i>Students will be given an overview of how their decisions and actions will affects the entire project from beginning to end. Basic problem solving will be occurring through out the entire process.</i></p> <p><i>Students will be given water to begin with and learn how to properly measure before given actual fertilize or solution. Once this skill is mastered students will then proceed with learning how to measure and then add a particular solution to the water tanks.</i></p> <p><i>Students will record their data and then be able to graph the data to be used to explain their project later.</i></p> <p><i>After the addition of the solution students will monitor and record any changes they see to make the relationship/connection between the solution they added and the success of the plants life and production.</i></p> <p><i>Students will finish up this assignment by discussing and presenting the information to the class.</i></p>
Additional Teacher Information
<p><i>Add any additional notes that will help the teacher execute the task including necessary manipulatives, equipment, etc., and possible students misconceptions that may need to be addressed.</i></p> <p><i>Students will be tested on the proper measuring techniques before allowed to actually measure anything other than water.</i></p> <p><i>Students will be paired up for help if I feel a student is weak in the measuring area.</i></p> <p><i>Students may have a misconception of tools used for measuring so that needs to be addressed on the forefront. Make sure students are very aware that the choices they make will affect the entire project ... following instructions from A to Z in proper order is essential to the success of their project.</i></p> <p><i>Tackle the fear of presenting information to the class... do small things throughout to help combat the fear of speaking up in class. (create a relaxed environment)</i></p>