

Advance Math: Problem Solving (1st Semester) Science Lab 1 (Sourou)

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Textbook: *Problem Solving Strategies: Crossing the River with Dogs and Other Mathematical Adventures*, Key Curriculum Press. 2001

Needs: Folder, notebook (for class notes), lab notebook (quad. ruled paper), graphing calculator, pen or pencil.

Goals and Objectives:

1. Learn, choose, and implement various strategies in solving problems.
2. Use technology and other tools to illustrate, construct, and present problem solving strategies.
3. Apply mathematical reasoning.

Problem Solving Strategies:

1. Draw Diagrams
2. Systematic Lists
3. Eliminate Possibilities
4. Matrix Logic
5. Look for a Pattern
6. Guess and Check
7. Sub-problems
8. Unit Analysis
9. Solve an Easier Related Problem
10. Physical Representations
11. Work Backwards
12. Venn Diagrams
13. Algebra
14. Finite Differences
15. Organize Information
16. Change Focus
17. Spatial Organization

Assessment:

Participation
Journaling

Oral Presentations
Lab Investigations

Homework Problems

Grading: A rubric will be used to grade the weekly journal problem. Homework is to be completed and turned in the following class period. No late work will be accepted. The grading scale used for this class can be found in the student handbook. A password will be given to check your grade on ***Edline***. Be sure to check your grades often throughout the semester.

Final Exam: The final exam will be broken down into three parts. One problem will be given ahead of time to be turned in the day of the exam. A second problem will be completed with a group of students. Finally, a third problem will be completed individually during the remaining exam time.

Student Behavior

Students are expected to respect the rights of other's learning, failing to do so will result in disciplinary action. (See ISO's Code of Conduct.)