

Rutgers Learning Centers

At Camden Campus

SCIENCE: FOUR-STEP STRATEGY TO SOLVE PROBLEMS

Before plunging into calculations, stop and think! A few minutes spent planning will help you avoid false starts and solve problems accurately.

- 1. Analyze the problem:** Visualize the situation described by the problem. Draw a diagram. Fill in the given values and their respective units. Label the unknown.
- 2. Plan a strategy:** Think through the problem. Work backwards from formulas that involve the unknown. Check whether the value you really need can be easily derived from the given information.
- 3. Perform calculations:** Rewrite the formula to isolate the unknown on one side of the equation, then replace variables with the appropriate values. Make sure all units are part of the same unit system.
- 4. Evaluate the answer:** Check your answer against the original problem:
 - ◆ Did you solve for what the problem asked for?
 - ◆ Have you included the appropriate units in answer?
 - ◆ Is answer reasonable in terms of what you know about the world? (If you are solving for the speed of a car, for example, make sure the answer is a realistic speed for a car to be traveling.)
 - ◆ Be sure you have included the proper number of significant figures.

--adapted from *Learning Skills for the Science Student*,
Stephen Bosworth and Marion A. Brisk, H & H Publishing, Clearwater Fl, 1986.

For more information, visit or call your nearest Rutgers Learning Center, or visit our website:<http://rlc.rutgers.edu>

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