

GOAL Problem-solving Template

Gather information: (3 pts.)

What is known? What are you looking for?

Predict a reasonable answer with units. (Consider limiting cases.)

Organize your approach: (3 pts.)

Draw a diagram(s) labeled with variables from **G** step.

Classify the problem according to the general physics principle(s) used.

Describe how you will use the general principle(s) to solve the problem.

Analyze the problem: (2 pts.)

Identify and show general physics equations.

Add constraints that specify condition that restrict the problem.

Solve for the unknown variable in terms of the known variables.

Substitute known values, calculate answer, round appropriately.

Learn from your efforts: (2 pts.)

Check your answer. Does the answer agree with the prediction in **G** step? Correct units?

Does the algebraic result make sense for limiting cases?

If the problem were modified, how would the result change?

Why was this particular problem assigned?