



Pioneer Cornell Notes Page

Topic: Application /Design

I know the engineering method of problem solving
 I can solve a scientific problem through the Design process

Name:	Date:
Class:	Period:
Subject:	Teacher:
Final Score:	

Main ideas/Questions:	Note Taking Column
	I. The design process is a _____ way to solve problems. A. It helps us be _____ problem solvers. B. It teaches us how to solve problems in a step by step _____ way C. It helps us revise our solutions to make them _____ each time.
Think of and write a minor problem that you're facing so we can go through this engineering process and solve it.	II. Step 1: Identify the _____ or the problem. A. Often the success of an innovation or of solving a problem for the engineer is clearly understanding the need or the desired _____. B. This way the engineer is free to design exactly what needs to be done and he/she can _____ solutions that can extend _____ the desired outcome and constraints. C. In other words the engineer can come up with the best solutions without going through a lot of mental _____ trying to _____ out what to do.
Write a person who will give you sound advice. What are 2 constraints facing you with your problem?	Step 2: _____/Research A. Questions you might want to find answers to include: 1. _____ is the identified person/people that will be _____ or impacted? (Who is the _____ population?) 2. Who/ where might you go to for advice? Who has had a similar _____? 3. What are the particular _____ of the person or people? 4. What are the _____ that restrict possible _____ (i.e money, amount of time, amount of technology, the amount of _____ available)?
Make a plan. What's an idea to solve your problem	Step 3 : Design a Model: Develop possible solutions. 1. _____ which plan has the most promising solution. 2. Sketch/ _____ your plans, step by step 3. Explain what materials you'll be _____ and why they would _____ your plan.
Do the Plan!	Step 4: Build or _____ your prototype. Only use the _____ that you listed when you designed your model.
How did that go for you? What went right? What didn't go so well?	Step 5 : Test and _____ your prototype. 1. _____ !! 2. You need to have a step by step process for evaluating your _____. 3. What materials seemed to _____ the best? 4. What data did you collect to prove the success/failure of your design? 5. How will you _____ your design?
Tell your friend about it! What went well and what	Step 6: Communicate design/ _____ solution. 1. Present/demonstrate your model, show the data, explain the

<p>didn't.</p>	<p>success and _____.</p> <p>2. Present your _____.</p>
<p>What could you do differently to solve your problem....</p>	<p>Step 7: If necessary redesign, make adjustments, refine, You might need to start back at Step 1 if your plan _____ flat. If you just need to make adjustments, start at Step 3, redesign and Modify your _____ and try it again. If it still doesn't work, start back at Step 1 again and again and _____ .until you have a marketable solution or the desired outcome.</p>
	<p>Please write a summary of what you understand about the Engineering Design Process.</p>
<p>Scoring Goal for this activity is _____</p> <p>The actual score you think you deserve _____</p> <p>Improvements you could make:</p>	<p>Scale:</p> <p>4= In your summary you actually apply and explain this process to a new or current problem or creative idea you have.</p> <p>3= You can explain the process in your own words</p> <p>2= You get the general idea but you're having trouble writing a thorough summary without help.</p> <p>1= Your summary is incomplete, It is obvious that you put little or no thought or time into this assignment (You may need to attach additional paper to your summary.)</p>