

## The Engineering Design Process Worksheet

**Directions:** Use this worksheet to ensure you complete every step in the Design Process. Use the spaces provided to show your work. If you need more room, you may attach additional pieces of paper. You must have the check and sign each completed step before you begin the next one.

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Step	Write your responses in these blocks.
1. ASK What is the problem?	
1. ASK What are the requirements?	
1. ASK What are the constraints?	

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Step							
2. IMAGINE Brainstorm ideas.	Write a short description of each of the ideas you came up with in this box.						
2. IMAGINE Choose the best one.	<p>Select the two best designs from your ideas above. Write each one in the appropriate space and then fill in the chart.</p> <table border="1" style="width: 100%;"> <tr> <td colspan="2">Option 1-</td> </tr> <tr> <td style="width: 50%;">List the things that are good about this design.</td> <td style="width: 50%;">List the things that are not so good about this design.</td> </tr> <tr> <td style="height: 100px;"></td> <td style="height: 100px;"></td> </tr> </table>	Option 1-		List the things that are good about this design.	List the things that are not so good about this design.		
Option 1-							
List the things that are good about this design.	List the things that are not so good about this design.						

<p>2. IMAGINE Choose the best one.</p>	<p>Option 2-</p>	
<p>2. IMAGINE Choose the best one.</p>	<p>List the things that are good about this design.</p>	<p>List the things that are not so good about this design.</p>
<p><i>***Additional Charts are available if you have more than 2 options to choose between.</i></p>		
<p>Based on the information you have provided in the charts, decide which option is most likely to be successful. Which one did you choose? What factor was the most important in helping you decide?</p>		

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<p>3. PLAN Draw your design.</p>	<p>Draw a neat and detailed sketch of your design. (You can attach a separate sheet if needed.)</p>
<p>3. PLAN Gather necessary materials.</p>	<p>List the materials and supplies you will need for your design. I will give you your materials when you show me this step is completed.</p>

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<p>4. CREATE Follow your plan.</p>	<p>In this box, write any problems you have and any changes you made to your design and why.</p>
<p>4. CREATE Test it out.</p>	<p>How did it work?</p>

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<p>5. IMPROVE Does it meet requirements?</p>	<p>Compare your design to the requirements you listed in Step 1. Does it meet all of the requirements? If not, what didn't it meet and why not?</p>
<p>5. IMPROVE Does it meet constraints?</p>	<p>Compare your design to the constraints you listed in Step 2. Does it meet all of the constraints? If not, what didn't it meet and why not?</p>
<p>5. IMPROVE Start again to improve your design.</p>	<p>What changes can you make to improve your design?</p>

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## Step 2- Choose the Best Option

### Additional Comparison Charts

Option -	
List the things that are good about this design.	List the things that are not so good about this design.

Option -	
List the things that are good about this design.	List the things that are not so good about this design.

Option -	
List the things that are good about this design.	List the things that are not so good about this design.

Option -	
List the things that are good about this design.	List the things that are not so good about this design.