

World Project Example Format

Engineering design and thinking skills provides the glue (engagement, ownership, fun, innovation & collaboration) that connects Mathematics, Language Arts, Science, Social Studies, and Soft-Skills for learning that enhances the school year.

Design Process	Example of problems									
<p>Implementation Design Process: <i>Areas of discussion ...can be tailored to local needs such as the local community food needs.</i></p> <table border="1" data-bbox="207 890 662 1230"> <tr><td>See the problem/Bug</td></tr> <tr><td>Frame it</td></tr> <tr><td>Research</td></tr> <tr><td>List possible solutions</td></tr> <tr><td>Pick a few</td></tr> <tr><td>Select</td></tr> <tr><td>Test</td></tr> <tr><td>Reflection</td></tr> <tr><td>Present solution</td></tr> </table> <p><i>Make the world/community a better place</i></p>	See the problem/Bug	Frame it	Research	List possible solutions	Pick a few	Select	Test	Reflection	Present solution	<p>The course will be done with hands on learning using methods from WPI/engineeringlens.org</p> <ul style="list-style-type: none"> <input type="radio"/> Feed the World <input type="radio"/> Heal the World <input type="radio"/> Clean the World / Recycle <input type="radio"/> Power the World <input type="radio"/> Respect the World <input type="radio"/> Connect the World <input type="radio"/> Entertain the World <input type="radio"/> Sports of the World <input type="radio"/> Music of the World <input type="radio"/> Record the World ...activites <input type="radio"/> Dance of the World
See the problem/Bug										
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Pick a few										
Select										
Test										
Reflection										
Present solution										

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How are we going to organize ourselves?

Setting the environment for the students:

- •Imagination
- •Have doubt and wonderment
- •Testing / failure
- •Consultation / collaboration
- •Extensions, refinements and elaboration
- •Synthesis
- •Thinking skills development (creative, critical, questions and meta-cognitive reflection)
- Guidelines for working together (TEAM)
- Students are viewed as **active authors** of their own development

What is the Essential Question to work on?

What is the problem we are going to solve?

Frame the problem and write it down	Your frame is how you narrow and pinpoint what you choose to solve. Better framing leads to better solutions.
What facts do we know?	<ul style="list-style-type: none">● What are the constraints / requirements?● Areas of discussion and inclusion● How do we integrate social skills, emotional skills and thinking skills into this project?
What do we need to know more of?	
What are the Requirements for our design?	
Finding lots of options	Reflection. Creative thinking



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<p>Narrowing the choices Shaping ...</p> <ul style="list-style-type: none"> • Ordinary • Innovative • Magical 	<ul style="list-style-type: none"> • Critical thinking • How are we going to test our approach? • What requirements do we have to achieve?
<p>How do we know we are successful?</p>	<ul style="list-style-type: none"> • Develop rubrics and review requirements
<p>Map the best fits</p>	<p>Decision making</p>
<p>Update the possible solution</p>	<p>Review other approaches, Test and reflect</p>
<p>Report</p>	<p>Reflection</p>
<p>NEED</p>	<ul style="list-style-type: none"> • Students are bored with the factory model of learning. • Home-schooner's/Drop-out students need an environment for collaborative-interdisciplinary learning. • A growing number of students are finding it difficult to manage the complexities of life relating to the interface of society, schools and business.