Solve-It Series

The work you put into your research for these projects should be kept in your Engineering Notebook, clearly labeled and added to the Table Of Contents at the front.

Every cycle, you will be presented with a problem or challenge and then asked to design a solution. The main focus of this activity will be to follow the design process. It is possible that some of these will ask you to complete an actual prototype, while others will include background research and proposals.

Challenge #1

I am tired of seeing students lounging around the building, crowding around the outlets with countless charging wires hanging everywhere. Our campus should be more attractive and even globally aware. I need you to design charging stations that could be installed in several locations, the first needs to be solar powered and placed near seating near a bench or table. I will need a list of the next 6 different locations to follow. The solar source is important, but so is the actual usability and appearance of the stations. I'm sure you'll have more questions when we begin.

	Expectations In your engineering notebook, or within class discussion	**Complete** Well Done	**Incomplete** anything in between	**Missing** Did not meet
Define	Clearly state the goal of the project.	3		0
Identify	The expectations of the project, constraints on your solution (time, money, materials) and criteria for success	5		0
Brainstorm	Multiple possible solutions including sketches and descriptions.	5		0
Select	Narrow your focus to one option.	3		0
Research	Specific options for materials, purchasing locations, cost and other specific details.	15		0
Prototype	For THIS challenge, a scale drawing of your solution and a wiring diagram.	15		0
Test				
Communicate	Present your ideas to the class. Be able to answer their questions. Accept feedback and ideas from the teacher as well as your peers.	15		0
Iterate	Modify your original plans according to the class discussion if necessary.	10		0