

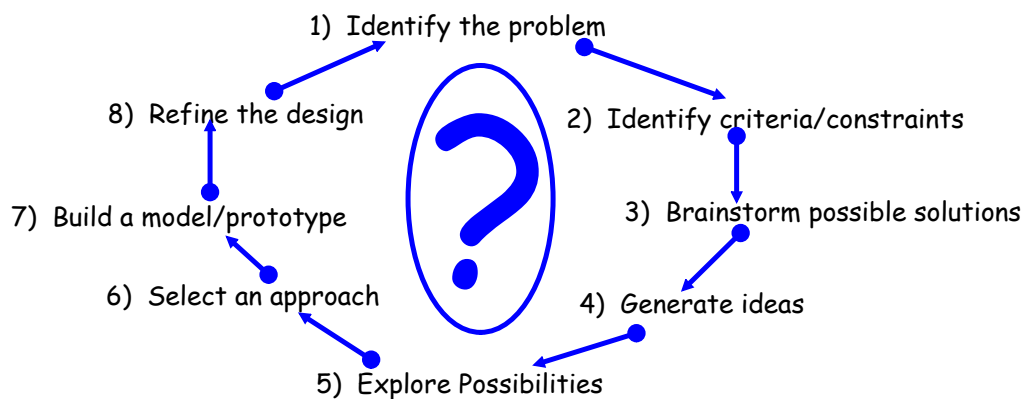
Engineering Notebook...AKA 'Journal'

- record ideas, inventions, experiments, observations and all work details.
- detailed notebooks can be used in a patent process.
- include details with dates...methods, designs, troubleshoots, observations.
- * someone should be able to read and understand your thought process.
- only you can write in your notebook.
- do not erase errors...just draw a single line through the entry with your initials.

In YOUR / GROUP journal...

- brainstorm, sketch, troubleshoot your project
- provide a summary and reflect each time you work on the project...make sure to date each entry!
- BETTER TO TRY ON PAPER THAN BUILD
- part of the Final Project Documentation

Engineering Design Process...



- 1) State the challenge in your own words.
- 2) Specify the design requirements.
- 3) **Sketch your ideas to solve the problem.** Labels and arrows identify parts and how they move. These drawings should be quick and brief.
- 4) Develop two or three ideas more thoroughly. Create new drawings in 3D and be neat.
- 5) Share ideas among team members...discuss pros/cons and make note on your drawings.
- 6) Identify the best design to solve the problem and write a statement to justify your choice.
- 7) Construct a full size or scale model.
- 8) Evaluate the design based on criteria/constraints. Changes may be needed and identify any problems. Propose a solution by beginning at step (1) again!

EACH time you work on the project...

- make sure you have all needed materials
- be on task...be productive!
- make note of errors and troubleshoot
- research and explore possible solutions
- make use of available resources
- document...pictures & videos
- complete a journal entry
- return all equipment...leave as found

TASK #3 - Become Familiar with Technology

- 1) LEARN the technology
- 2) EXPLORE the technology
- 3) APPLY the technology

***Opportunity to expand on proposal

NOTE: Must plan to get ALL needed materials now and load all necessary software!