

1. Define a Problem: **Determine specifically what you are attempting to fix or solve.**
2. Brainstorm: **Unrestrained and spontaneous discussion of all participants to stimulate creative thinking.**
3. Research & Generate Ideas: **Investigate brainstorm results to create more specific options.**
4. Identify Criteria (+) & Specify Constraints (—):**Find the positive criteria and negative constraints for each specific choice available.**
5. Explore Possibilities: **Break down the focused choices to determine the likelihood of success.**
6. Select an Approach: **Choose the top three options and select the best one to try first.**
7. Develop a Design Proposal: **Create a written document or oral presentation that explains what you would like to try to do in order to solve this problem.**
8. Make a Model or Prototype: **Create a stand-still model or a working model, known as a prototype, that can be tested.**
9. Test & Evaluate Design Using Specifications: **Run tests on the model or prototype to see how it performs in specific conditions.**
10. Refine the Design: **Take the results from your experiment and use them to change your design to allow it to be more successful in future tests.**
11. Create or Make your Final Solution: **Once refined design has passed the tests, make real world final versions of your design.**
12. Communicate Processes & Results: **Create a written or oral presentation explaining what you did, what results were gathered from your tests, how well it works, and why it works that way.**