

Engineering Design Process



1

Identify the Problem

2

Brainstorm



3

Design

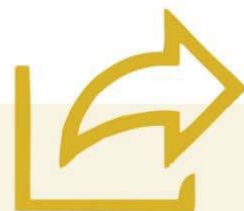
4

Build
Test & Evaluate
Redesign

A blue flowchart showing the iterative design process. It starts with 'Build' at the top, followed by 'Test & Evaluate' at the bottom right, then 'Redesign' at the bottom left, and finally 'Build' again at the top. Arrows connect 'Build' to 'Test & Evaluate', 'Test & Evaluate' to 'Redesign', and 'Redesign' back to 'Build', forming a loop.

5

Share Solution



Identify the problem



What is the goal of the challenge? WRITE YOUR ANSWER here.

ROP CADD & Engineering class: Make something TINY, picture examples here: <https://www.instructables.com/contest/tiny2020/>

Design Drafting class: Make something,
Examples:
Make and cook something
Organize your bedroom/office/classroom
Show/teach me (Ms. Castillo) how to...

The definition of a constraint is something that imposes a limit or restriction or that prevents something from occurring. An example of a constraint is the fact that there are only so many hours in a day to accomplish things.

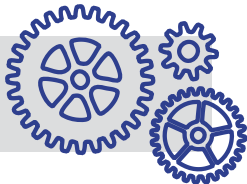
List the constraints:

Brainstorm

List available materials and how they may be used to solve the problem.



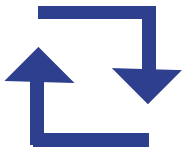
Design



How will you solve the challenge? Sketch your design solution below. Label all parts and materials.

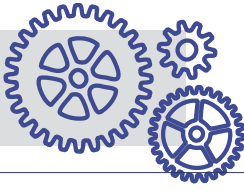
Build

Time to build your solution! Keep in mind that materials may not work as you predicted. Engineers often have to make several modifications to their original design before they are successful. List any challenges you experience during the building phase.

**Test & Evaluate**

Test your design and record results below. Circle if the challenge was a success. Remember that failure is an important part of the engineering process! After each trial, review the results and make changes to improve your design.

Trial	Test Results	Ideas for Improvement
1		
2		
3		
4		
Final Testing Results:		

Solution

Sketch your final design and label materials used.

Reflect & Share

Answer the following question. Then share design results with your family and me!

1. What challenges did you face during the design process?

2. What are the SEVEN steps of the Engineering Design Process? Yes there are SEVEN, Google it!