Engineering Design Process



1

Identify the Problem

2

Brainstorm





3

Design

4

Build

Test & Evaluate

Redesign

5

Share Solution



Identify the problem

What is the goal of the challenge?

List the constraints:

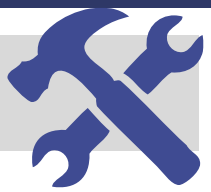
List available materials and how they may be used to solve the problem.



Design

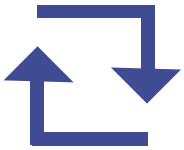
How will you solve the challenge? Sketch the “best” design from the design map(4 quadrants) below. Label all parts and materials.

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. Picking up objects		
2.Typing on keyboard		
3. Others tasks or challenges		

Solution

Sketch your final design and label materials used.

4		
Final Testing Results:		

Reflect & Share

Answer the following questions. Then share design results with your family/class!

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

2. *How does this challenge relate to a STEM career?*