

The Engineering

Design Process

Worksheets to use with
any challenge

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- Claire & Natasha, The Vivify Team

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ABOUT THESE ACTIVITIES

The following pages are worksheets to be used during any engineering design challenge activity. Find out more about the engineering design process and Stage 2 STEM challenges by visiting www.VivifySTEM.com.


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?

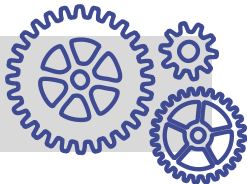
List the constraints:

Brainstorm

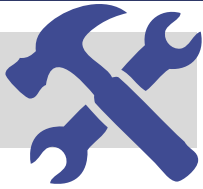
List available materials and how they may be used to solve the problem.



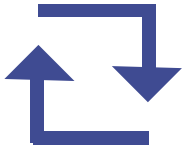
Design



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

Build

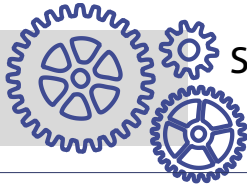
Time to build your solution! Keep in mind that materials may not work as you predicted. Engineers often have to make several modifications to their original design before they are successful. List any challenges you experience during the building phase.

**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 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?