

Name: _____

ENGINEERING DESIGN

DIRECTIONS: Using the PowerPoint "Engineering Design" and slides identified, complete the notes below.

Slides 1-10

WHAT IS ENGINEERING?

- What is engineering?
- _____

- Engineering is essential to improving _____, _____, _____ devices, _____ and _____ important to society.
- Scientists who use engineering to solve problems are called _____.
- How is engineering different from conducting an experiment?

ENGINEERING PROCESS

- The process of solving problems through engineering is called the engineering _____. The _____ design process is a _____ process that engineers use to solve _____.
- What are the five steps to the engineering design process?
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____

STEP 1: Define the problem.

- The first step is to identify the _____.
- A _____ is a difficulty or _____ that must be overcome or solved.

STEP 2: Brainstorm possible solutions to the problem.

- _____ is the process of generating _____ and _____ to the problem.
- You should brainstorm _____ ways to solve the problem. You can brainstorm _____ or with a _____ of people.

STEP 3: Choose the best solution.

- Once you have come up with multiple ways to _____ the _____, choose the _____ solution.
- The _____ solution has the _____ chance of _____ the problem while being _____ as well.
- It's important to consider _____, _____, _____, and _____ when choosing the best solution.

STEP 4: Build and test the solution.

- The first or preliminary model of the solution is called a _____.
- Next, you test the _____ to see how well it _____ the problem.

STEP 5: Improve and Retest the Solution.

- After testing the _____, you should try to _____ the prototype so it better _____ the problem or is more _____.
- Then _____ the solution. Keep making _____ until you are _____ with the final result or until you cannot _____ the solution any further.