

Name: _____

ENGINEERING DESIGN

Directions: Using the attached PowerPoint to complete the notes below.

Slides 20-26

DESIGNING SOLUTIONS

- Once you have chosen your _____, you must _____ it. Designing a _____ to a problem is a _____ process. It requires _____ and _____ but also _____ and _____.
- What are three skills important to designing and developing a solution?
 1. _____
 2. _____
 3. _____

PRIORITIZING CRITERIA

- It is possible that your solution will _____ address ALL of the _____ associated with the problem.
- Your solution should address the most _____ needs associated with the problem. Making sure your _____ addresses the most _____ is called _____.
- To _____ the needs of the solution:
 1. Determine the most _____ criteria or _____ of the solution. Ask yourself, what _____ (s) _____ this solution have?
 2. Make sure your solution possesses design _____ that address the most _____ needs first.
 3. Anything else that helps address the needs of the problem is an "added _____."

MAKING TRADE-OFFS

- What is a trade-off?

- When designing solutions, you often have to choose between different _____ because the solution cannot have them _____. In other words, you will have to make _____ in the features of the solution so that the solution _____ solves the problem.
- In order to make a _____, you will have to use _____. Determine what features of the solution are most _____.
- When you have to _____ between features - because your solution cannot have _____ - choose the _____ that will address the most _____ associated with the problem.

TEST, REVISE, RETEST

- _____, _____ and _____ is important to _____ the solution.
- Once you have _____ and built the _____ version of the solution - called the _____ - you will _____ the solution.
- When testing, pay attention to what works _____ and what doesn't. Write down the _____ and _____ aspects of the solution's design.
- After the first test, _____ and _____ your prototype.
- Make _____ that will _____ the effectiveness of the solution. After making changes, _____ the solution.
- As you _____ and retest, you might develop _____ or make revisions that lessen the _____ of the solution. Don't let _____ weigh you down! Correct the _____ and _____ again.
- You should _____ revising and retesting until you are _____ with the final solution or until you _____ the solution any further.