# The Engineering Design Process

## Name: \_\_\_\_\_

## Identify the Problem

### **Directions:**

Look at the descriptions in the lower left corner. Decide which one goes with which step of the engineering design process. Write the appropriate description in each box.

# Explore

Design

Create

Test your solution.

- Research what others have done. Discover what materials are available.
- Use your knowledge and creativity to come up with many solutions. Choose one idea and draw or make a model of it.
- Evaluate how the solution worked and think of how to improve your design.
- Make your solution.
- Describe the challenge to be solved, including limits and constraints.

Make It Better

WERKS

Try It Out

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The engineering design process helps engineers and other problem-solvers come up with creative solutions. You are an engineer. Choose ONE engineering problem below, and follow the steps to invent a solution.

- A. Your new pet kitten is trapped in a ten foot deep hole. You need a contraption to safely rescue your poor animal.
- B. You are going on vacation for a month and can't find anyone to water your plants while you're gone. You need a device that will give your plants the right amount of water not too much and not too little.
- C. You like to read before you go to sleep, but you don't have a bedside lamp. You need a way to turn off the light switch across the room without having to get out of bed.
- 1. What problem did you choose? Brainstorm ways to solve the problem and list several possible solutions.

- 2. Choose one idea. On the back of this page, draw a detailed picture of the solution you chose. Label the drawing to explain what each part is made out of, how the parts fit together, and how it will work.
- 3. Where do you think you will run into problems with your solution? Where do you think the weak parts in your creation will be?