

Name \_\_\_\_\_

# PLAN YOUR DESIGN

Ready to continue the **engineering design process**? It's time to create a prototype, or working model, of your solution.

## PART A: Design a Prototype

- 1. What **criteria** (requirements) does your solution need to meet to be successful?
- 2. What **constraints** (limitations) do you have?
- 3. As a team, brainstorm prototype ideas. Be specific about how each one would work. Then copy and complete the below chart to decide whether each idea meets your criteria and constraints.



	MEETS REQUIREMENT 1	MEETS REQUIREMENT 2	MEETS REQUIREMENT 3
Prototype Idea 1			
Prototype Idea 2			

Now choose the prototype idea that best meets your team's requirements.

## PART B: Prepare to Build

- 1. **Sketch a diagram** of your team's design and discuss how it will function. Label each part carefully.
- 2. **Identify all of the materials** you will need to build a working model of your solution. Don't forget to list any tools you will use.

**TIP:** Remember that the engineering design process is a cycle—you'll be able to revise your design after you start building!

**MEET THE FOOD WASTE WARRIORS!** For their eCYBERMISSION entry, Richie, Deja, and Monica are building a device that will alert people when food is about to spoil. They brainstorm a few ideas for how to build their prototype using different materials and approaches. Then they compare their ideas with their requirements list (criteria for success as well as constraints). One prototype idea meets all the requirements, so they get to work sketching it and gathering their materials.