

# STUDENT GUIDE

## EXPLORE LESSON 22



### Part 1: Our Motivation

Record the next steps we will take in the engineering design process.

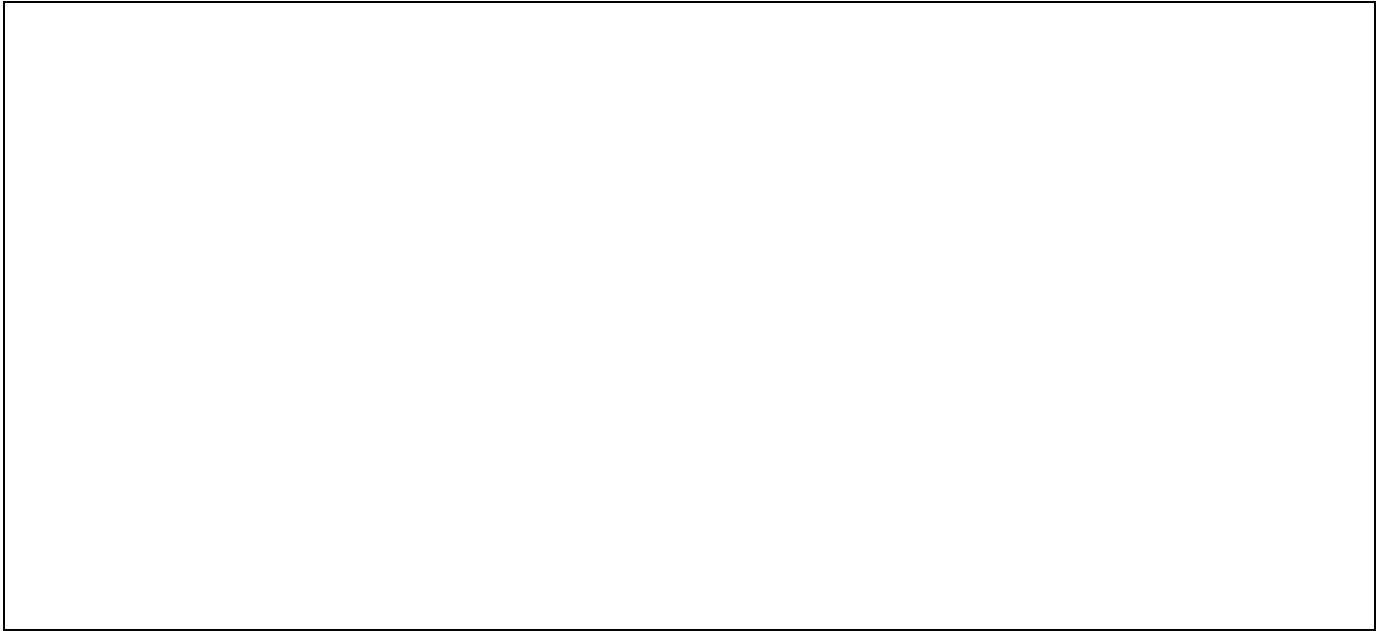


### Part 2: Brainstorming Criteria and Constraints

Generate a list of criteria that successful designs should meet. Be sure to consider criteria that will best meet the needs of multiple stakeholders, such as dairy farmers, consumers of dairy products, and the environment.



Next, brainstorm possible examples of constraints on our solutions. Be sure to consider the needs of multiple stakeholders.

A large, empty rectangular box with a thin black border, intended for students to brainstorm and list constraints on their solutions. The box is currently blank.



### Part 3: Developing Specific Criteria and Constraints

Classify the criteria and constraints the class generated into the categories below.

Considerations in a proposed solution	Criteria	Constraints
Scientific Needs		
Social Needs		
Cultural Needs		
Economic Needs		
Environmental Needs		

From the class list, choose three criteria and three constraints that you think will be best to evaluate the problem you chose.

Criteria	Constraints

If your solution was successful according to the criteria you chose, what new tasks would it accomplish? How would you know it was successful?

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