Student Name: ­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 3: Design**

**Lesson 3: Criteria and Constraints**

File 3.3.1: Extracting Critical Information

When trying to solve a problem, it is critical to extract the important information and not become pre-occupied with the unnecessary details. Read each of the problem scenarios below. Describe what information is important to create a solution to the problem, and any questions you might have to gather more information to help design a solution.

Scenario #1

You have been hired by a manufacturing company to create a new product to be sold in the United States to teenagers. Currently, the manufacturing company produces the Jitterbug cell phone, a cell phone for older people, and the company is looking to enter a new market. The facility for the manufacture of the product is not large and can only employ up to 20 full time employees on the assembly floor.

Scenario #2

Air Jordan sneakers have traditionally done very well selling to teenagers. The company who makes Air Jordan would like to increase their market to cross country runners. You have been brought in as a consultant to recommend an innovative version of the Air Jordan sneakers to be sold to the athletes.

Scenario #3

You have been hired by Mr. Jones to design a launching mechanism to throw school t-shirts into the stands at pep rallies and games. Your launching mechanism must be able to be operated by, at the most, two people. It must also be low-cost in terms of fuel.

Scenario #4

For Valentine’s Day you would like to show your significant other how much you care for him or her. Your significant other has very strict parents, who make sure that any gifts received are appropriate in nature. How will you express your love?

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

Scenario 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Scenario 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Scenario 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Scenario 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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