

**BIRDEE UNIT 1
DIGITAL PORTFOLIO**

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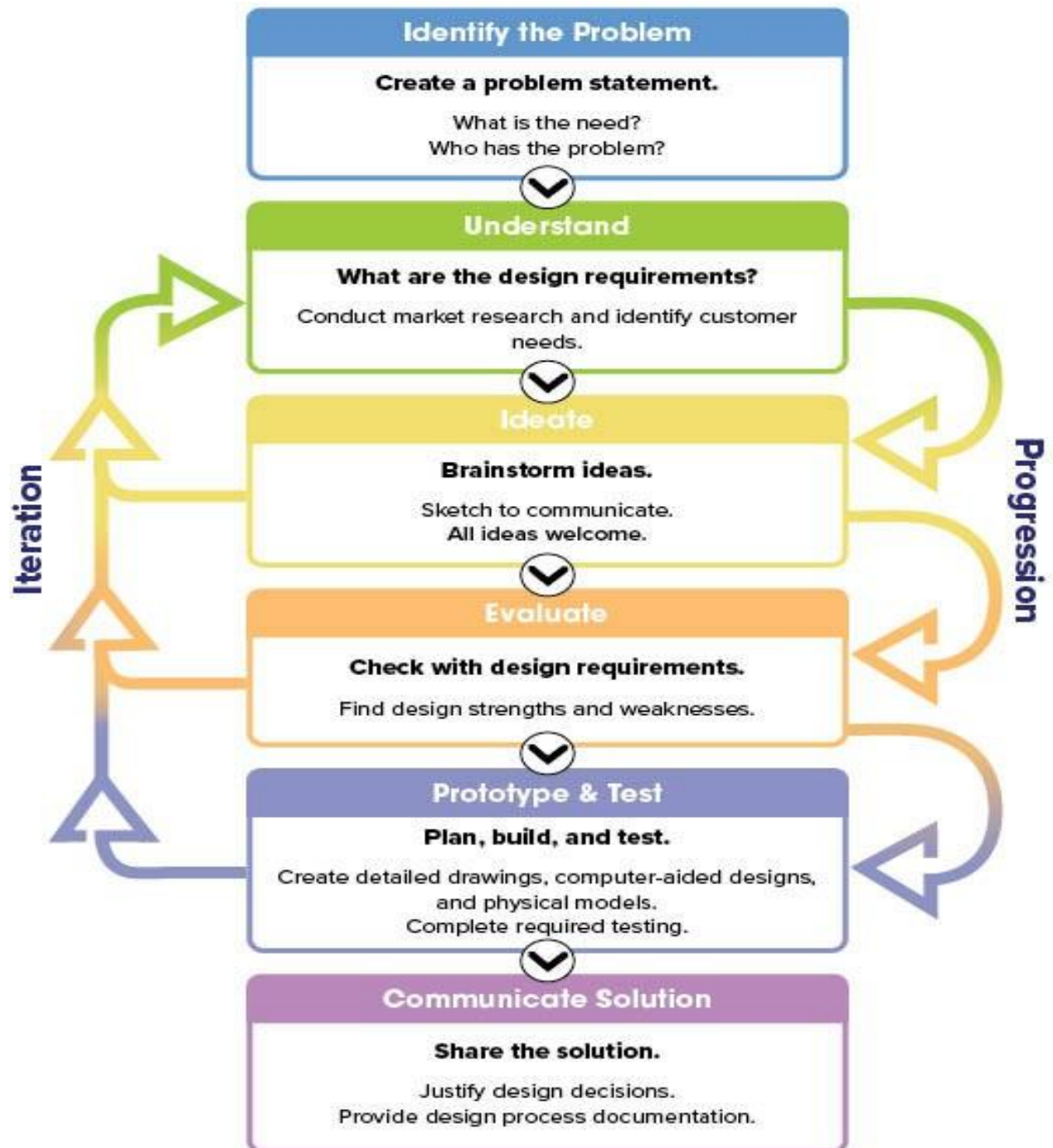
MODULE 3

Name:

Date



Engineering Design Process



1.3.1. Identify and Define the Client's Problem

Group: _____

Date: _____

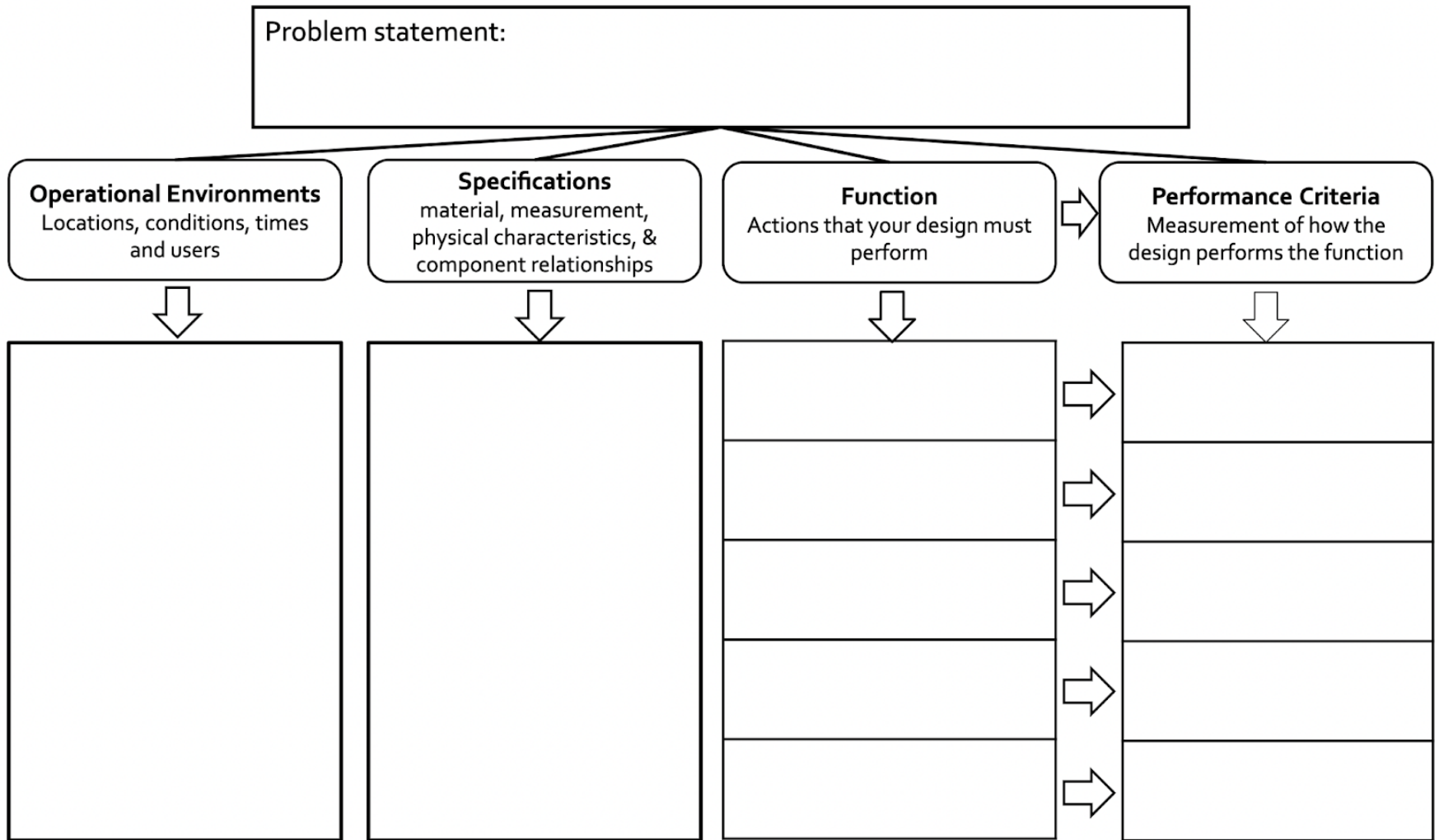
Part 1:

1. **Who is the client?**
2. **What is the client's problem?**
3. **Who are the "users" of the food delivery system? Is there more than one?**
4. **Write a problem statement. The problem statement should have a *user* and a *need*.**
5. **What are your initial thoughts on what you should design for the client?**
6. **What are the design requirements for the client's problem? Look at the client memo.**
7. **What other information do you need to know? How could you get this information?**

Part 2:

Write down notes from the additional materials provided that relate to requirements and customer feedback and opinions.

Based on your analysis of the client memo and additional materials, fill out the four-box organizer below to *identify* and *define* the client's problem. Think about the dirty shoes and stapler examples we have explored previously. You will follow the same procedure for EatEZ's design problem.

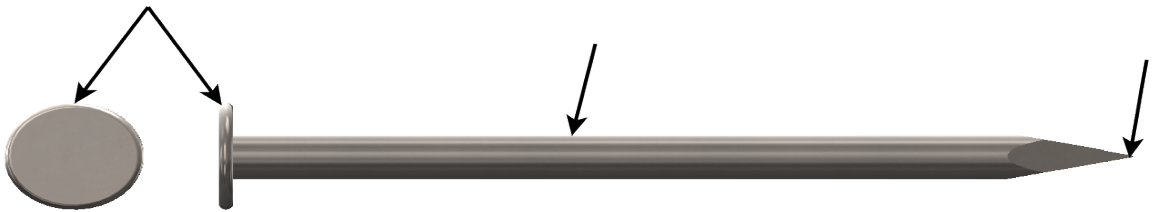


1.3.3. SFM Analysis of a Nail

Name: _____ Date: _____

Hypothesis: What is the primary function of the nail?

Label the parts of a nail:



List the components of the nail and their Structures. Then, describe the Function of each component.

Structure	Function
<i>Components of the System</i>	<i>What does each component do?</i>



Describe the mechanism of the system.

Adjust the hypothesis of the Primary Function of the system if needed.

1.3.3. SFM Analysis of Thermal Regulation Systems

Name: _____

Date: _____

Choose 2 examples of thermal regulation systems from the Thermal Regulation Systems slides. For each example, fill out the organizer below with the structure, function, and mechanism. After completing your own SFM analysis of two thermal regulation systems, discuss with your elbow partner and add to your SFM notes.



System: _____		
PRIMARY FUNCTION:		
Structure		Function

Mechanism:

Group: _____ Date: _____

1.3.4. Existing Solutions Analysis

Part 1: Product Analysis

Considering the client's problem and needs, analyze an existing solution.

Existing Solution # __: _____

OVERALL SOLUTION: What does this solution do?

COMPONENTS

Structure	Function

**Highlight the components that play important roles, and you are considering using in your design.*

SOLUTION ANALYSIS

What are the strengths of this solution?	What are the weaknesses of this solution?

UNDERSTAND: Add to Requirements (R) or Research Notes (RN)

How does your analysis affect your understanding of the client's problem?	R or RN

**Highlight the components that play important roles, and you are considering using in your design.*

SOLUTION ANALYSIS

What are the strengths of this solution?	What are the weaknesses of this solution?

DESIGN ANALYSIS: What would you design differently?

#	Function	How would you redesign it?
1.		
2.		
3.		
4.		
5.		



