

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

# Quality and Reliability

## Part 1

### Directions:

Watch the video "John Deere: Quality Is Tradition." Use this page to record your answers while watching the video.

1. Quality isn't just a \_\_\_\_\_; it's \_\_\_\_\_.
2. What are three of the testing methods discussed in the video?



3. What are three careers shown in the video?

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4. What are four of the different things that Mitzi tests when conducting her quality check?



Why do you think quality testing is so important to John Deere?

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Part 2

Directions:

In your group, imagine you are performing quality testing on the product you developed in the previous lesson. Create a plan for how you would quality test your product, how you would address certain issues and what careers would be associated with each step of the process.

Quality Assurance Testing Plan

Group Members:

Step 1: Define Quality Testing Goals.

1. What is the purpose of your product?  
(Briefly describe your precision agriculture product and its main function.)
2. What factors need to be tested to ensure quality?  
(Circle or write the key factors your group will focus on testing.)
  - Durability
  - Performance
  - Safety
  - Environmental impact
  - Usability
  - Efficiency (e.g., fuel, energy use)
  - Other: \_\_\_\_\_

Step 2: Identify Testing Procedures.

1. Describe your testing procedures for each factor.  
(For each factor selected above, describe how your group plans to test it.)

Example: "To test durability, we will simulate the equipment operating in extreme weather conditions."

| Factor              | Testing Procedure                                                                                |
|---------------------|--------------------------------------------------------------------------------------------------|
| Example: Durability | Simulate the equipment operating in extreme weather conditions (e.g., heavy rain, extreme heat). |
|                     |                                                                                                  |
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### Step 3: Address Potential Issues

1. What problems might arise during product use? (List at least three potential issues and their possible causes.)
2. How will you address these issues? (Describe solutions or strategies for each issue.)

| Potential Issue                     | Possible Cause                      | Solution                           |
|-------------------------------------|-------------------------------------|------------------------------------|
| <i>Example: Sensor malfunctions</i> | <i>Exposure to dust or moisture</i> | <i>Conduct regular maintenance</i> |
|                                     |                                     |                                    |
|                                     |                                     |                                    |
|                                     |                                     |                                    |

### Step 4: Connect Careers

1. What careers are involved in each step of the testing process?  
(Match careers to the factors being tested or issues being addressed.)

| Testing Step                   | Career                    | Issue Being Addressed       | Career          |
|--------------------------------|---------------------------|-----------------------------|-----------------|
| <i>Example: Safety testing</i> | <i>Safety specialists</i> | <i>Mechanical breakdown</i> | <i>Mechanic</i> |
|                                |                           |                             |                 |
|                                |                           |                             |                 |
|                                |                           |                             |                 |

### Step 5: Reflection

1. What was the biggest challenge your team faced while creating your quality testing plan?
2. How did your team overcome this challenge?
3. Why is quality testing important for the success of your product?