

Name:

Date:

Class:

## Lab Worksheet

### Instructions

You and your team are engineers who are developing a process to assemble four sticker eggs (like Potato Heads) as quickly as possible with all of the right pieces in place in the right positions. You will be given three attempts to streamline your process as much as possible. Your team will need to weigh speed against accuracy.

1. Assign the following positions to each team member.
  - a. Line supervisor: \_\_\_\_\_
  - b. Supplies handler: \_\_\_\_\_
  - c. Assemblers (as many as needed): \_\_\_\_\_
  - d. Quality control inspector: \_\_\_\_\_
2. Calculate the number of opportunities for each of your products. The egg and each sticker procured is an opportunity and the placement of each sticker is another opportunity. Example: One egg and seven stickers and procured, and seven stickers placed, results in 15 opportunities. Record the number of opportunities below.
3. Rules for System 1:
  - Record the time it takes assemble your line's four products.
  - The line supervisor cannot touch any materials except the final product
  - Only the line supervisor can move the product to inventory.
  - All products must be accompanied by the quality control checklist.

### System 1

- a. Record the time it takes to make four products.
- b. Calculate the number of opportunities.
- c. Record the number of defects.
- d. Calculate the ratio of number of defects to total opportunities.
- e. Determine any wasteful steps or problems with the process. List ways in which the process can be improved.

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4. Rules for System 2:

- Record the time it takes assemble your line's four products.
- The line supervisor cannot touch any materials except the final product
- Only the supplies handler can obtain materials for the assemblers.
- All products must be accompanied by the order ticket.
- The supplies handler has an image to assist with procuring the necessary supplies
- Switch product lines!

System 2

- a. Record the time it takes to make four products.
- b. Calculate the number of opportunities.
- c. Record the number of defects.
- d. Calculate the ratio of number of defects to total opportunities.
- e. Determine any wasteful steps or problems with the process. List ways in which the process can be improved.

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5. Rules for System 3:

- Record the time it takes assemble your line's four products.
- Switch product lines!
- The line supervisor cannot touch any materials except the final product
- Only the supplies handler can obtain materials for the assemblers.
- All products must be accompanied by the order ticket.
- The materials handler has an image to assist with procuring the necessary supplies.
- The line supervisor must eliminate at least two workers due to budget cuts!
- The line supervisor can also re-assign roles at this time in an effort to maintain or further streamline the process.

### System 3

1. Record the time it takes to make four products.
2. Calculate the number of opportunities.
3. Record the number of defects.
4. Calculate the ratio of number of defects to total opportunities.
5. Determine any wasteful steps or problems with the process. List ways in which the process can be improved.