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Load a Dishwasher

Step 1 - Identify the problem

a. The initial request was to “load a dishwasher”. After review, I have determined the actual problem is, how can i maximize the amount of utensils cleaned in 1 cycle and optimize water and detergent use, reducing overall energy consumption

Step 2 - What do I need to know

- a. Beginning point: Why are you washing dishes?
- b. We are washing dishes because we have no clean forks, knives or plates. The kitchen sink is compiling more dishes and also there is an odor coming from the sink

Step 3 - Identify things I need to find

- a. Utensils needing to be washed
- b. Detergent
- c. What dishwasher you have (identify cycle time, sanitation level, heat level)
- d. Understanding rack layout (for item placement)
- e. Briefly scan items to determine if pre-rinse is needed

Step 4 - Organize the data

- a. I have evaluated the problem as “how can I maximize the amount of utensils cleaned in 1 cycle and optimize water and detergent use, reducing overall energy consumption.”
- b. In order to solve this problem the necessary data points that need evaluation are the items being washed, detergent, type of dishwasher, rack layout, and preview of items.

Step 5 - Identify Relationships

- a. What type of dishwasher you have will be directly related to the rack layout and the amount of space in the dishwasher. Identifying the type of dishwasher will let you know how to place items to maximize space. The amount of utensils being washed is related to the amount of detergent needed. The amount of detergent needed can also be linked to how dirty the utensils are and if you had to prewash them

#### Step 6 - Find a solution

- a. Work backwards - You want to use your knives, plates and forks to eat dinner. You want to eat dinner with clean utensils that haven't been marinating in the sink with food, you use the dishwasher and examine the rack layout so you don't overcrowd the dishwasher. You need to put detergent in the dishwasher to clean and sanitize the utensils

#### Step 7 - Presentation

The question we were initially asked was to "Load a dishwasher". After review, I decided the actual question being asked was "how can i maximize the amount of utensils cleaned in 1 cycle and optimize water and detergent use, reducing overall energy consumption ."

To make sure we reduce overall energy consumption and maximize clean utensils, the data presented several factors we must account for when loading a dishwasher. First, identify what items need to be washed and if they need a pre-rinse to remove any excess debris. Next, you determine the type of dishwasher you have that will answer questions such as how many items can fit, cycle temperature, and detergent needed. Then you make sure to add the detergent and pre-wash. Next, we load the items into the dishwasher and try to optimize space by putting larger items in the back and smaller items on top with silverware in the front, making sure no items are on top of each other. Lastly, you choose the designated cycle and click wash.