

Product Development Scenario
New Mexico Food Science Career Development Event – 2017

To: Mac and Cheese Experts Anonymous
From: Bob's Burgers and More!
Subject: Product Development of Macaroni and Cheese (Food Service)

Task: Using the ingredients, supplies, pricing and nutritional information provided, design a recipe and small test batch of macaroni and cheese that can be sold frozen to restaurants and quickly heated to serve.

Bob's Burgers and More serves burgers, fries, and mac and cheese. Their mac and cheese is world famous; they cannot afford to get rid of it. The only problem is that the company that supplies them with their easy to make mac and cheese is going out of business. Bob's Burgers and More would love to make their own mac and cheese but are more focused on making their burgers fresh and ordering their mac and cheese from a food service supplier. Bob's Burgers and More has decided to hire your team to come up with a recipe similar, if not better, than the previous recipe.

Bob's Burgers and More wants this new mac and cheese to be very similar to the old mac and cheese out of fear of losing their huge customer base. They think that by adding maybe one or two "fancy" ingredients to their mac and cheese though it might disguise any minute differences. Bob's Burgers and More was able to get most of the old mac and cheese recipe from the company that is closing. It was:

- 8 oz elbow macaroni noodles
- 2 Tbsp butter
- 2 ½ cups milk
- 2 Tbsp flour
- ¼ - ½ lb cheeses (mixture unknown)

The previous mac and cheese company did not share their special blend of cheeses their recipe called for. It's up to your team to match their flavor profile which is a rich, creamy, and only slightly salty. The only directions given were for the sauce:

- the butter needs to be melted, then flour added and stirred. Next, add milk and bring to a light boil over medium low heat (be very careful not to burn the milk). Add cheese and heat slowly until all cheese is melted.

The guidelines you must follow in developing this meal are as follows:

- 1) the meal must be palatable and appealing to the consumer;
- 2) your recipe must contain the ingredients listed above, it is up to your team to decide the types and quantities of cheeses;

3) the cost of your ingredients for your small scale recipe must cost less than \$3.50 (does not include the markup or profit) to be competitive with the food service pricing the old company was able to offer;

4) your team must be able to communicate how you will package your product. The front label of course does not need to be eye catching because it won't be picked off a shelf by a consumer. However, the front and back labels must have at least the basic legal requirements. Also specify what size package you will sell this product as.

5) Bob's Burgers and More must be able to cook the meal when it is microwaved or cooked in a pot straight out of the freezer. Your package will need to have simple cooking instructions;

6) your recipe must be prepared using food safety and sanitation practices since the judges will be sampling your recipe.

In order for your product to be manufactured, the company must make a 5% profit; it must also include at least an 18% wholesale mark-up to account for production, marketing and distribution costs. This will be on top of the ingredient and packaging costs.

Additional challenges include defining production methods and cost, quality control requirements, approach to distribution plan, and cost analysis. Remember that this product is frozen and will be sold to a food service market. You need to state how the product will be distributed to Bob's Burgers while maintaining food safety and the equipment and transportation required. You must present this frozen meal in a manner that explains how your team will accomplish each of the elements necessary to bring this new product from concept to the plates at Bob's Burgers and More as well as meeting all the requirements listed.