

## Culinary Challenge Information

The Culinary Challenge is broken down into three sections. Each of these is an important part of the program. **These sections are the Final Paper, Video, Entrée (Food Prep, Recipe Meeting Astronaut Nutritional Standards)**

### **The Final Paper: (Worth 25%)**

The first part of the program is to learn about Food Processing/Food Science and how the body's response to microgravity affects the nutrition that the astronauts need in space. It is critical that students take the time to do the proper research to learn about different methods of food processing and engineering. Students should also determine based on entrée they have prepared what would be the best method of processing their entrée choice (This is hypothetical based on your research.).

***Preparing food to eat in Space is not an easy task and some foods do not translate well into the microgravity environment. Some of these foods would be most breads. Tortillas are an exception to the rule but are usually used on its own, not within the recipe.***

***It is also important to note the Astronaut Physiology changes that occur due to the microgravity environment. These changes to the body are what drive the nutritional guidelines.***

You may use the following Links to help with some of your research, but **Please look at other resources that you can find on the internet as well.**

JSC Food Lab and Food Science

[Space Food Systems - NASA](#)

[Space Food - NASA](#)

[Eat Like a Martian - NASA](#)

[The Human Body in Space - NASA](#)

[The Menu for Mars: Designing a Deep Space Food System \(nasa.gov\)](#)

[Diet Like an Astronaut - NASA](#)

### **\*Rubric \* Contents of the Paper: (template included on the web page) (25%)**

Date:

Your teachers name:

Your team name (1%)

Your schools name and address (1%)

Please include a picture of your team (2%)

2 paragraphs of what you learned about food science, processing food for microgravity, and physiological changes that cause the astronauts to need additional fiber, low sodium, certain calories, and flavorful foods. (10%)

1 paragraph describing your entree, its contents, how it meets the nutritional requirements, what you did to get your entrée to meet the requirements (describing how you changed or substituted ingredients, and why you chose that meal(5%)

1 paragraph about how your entree should be processed and how you think it would be reconstituted for eating in space. This is hypothetical and is based off of your learning. (2%.)

1 paragraph about what you learned throughout this process of the culinary challenge competition (4%)

**\*\*Attached to the paper should be your recipe and nutritional content\*\* (if you do not put at the back you will lose (10% - 5 for the meal recipe, -5 for the nutritional Content)**

***Your paper is graded on what you provide according to above, but also will be given extra points for going beyond the requirements stated.***

#### **\*Rubric\* The Video: (15%)**

This is a 2 min video showing your work and what you have learned

#### **Requirements:**

You must talk in the video (2%)

Talk about your team and your school (1%)

Talk about the physiological changes that occur in microgravity and how that affects what kind of nutrition the astronauts need. (5%)

Tell about your entrée and why you chose it (Show us your entrée) (5%)

Mention the HUNCH name in your video (1%)

Mention the JSC Food Lab in your video (1%)

**Be CREATIVE**

**Please put your video on youtube and share the link at [Allison.r.westover@nasa.gov](mailto:Allison.r.westover@nasa.gov). Please let me know if you see a problem meeting this request.**

***These videos may be shown to International Space Station Program office***

#### **A Mediterranean Dish ( Entrée 60%)**

***\*Rubric \* Mediterranean Dish (60%)- this is judged on the Sensory Evaluation Sheet***

***Must meet the following Nutritional Standards **per serving*****

***Calories: 150-300***

***Fat: 8 grams or less***

***Saturated Fat: 2 grams or less***

***Sodium: 300 mg or less***

***Dietary Fiber-2 grams or more***

***MUST process well for spaceflight and for use in microgravity***

**Menu items may not contain raw fish or shellfish, raw or undercooked meats and/or desserts, sauces or dressings using raw eggs or egg whites.**

**No alcohol such as cooking wine, brandy, etc.**

***Will be judged off of the Sensory Evaluation Sheet and also food handling and safety practices. (This is ALL part of the total 60 percent)***