



Challenger's Morning Science Segment:

July 27, 2015

Topic: Space Food

Build: A picnic lunch fit for space travel

Credit: <http://spaceflight.nasa.gov/shuttle/reference/factsheets/food.html>

<http://spaceflight.nasa.gov/living/spacefood/>

<http://spaceflight.nasa.gov/spaceneeds/factsheets/pdfs/food.pdf>

Ingredients: Tortilla / Peanut Butter / Jelly / Instant Drink Mix / Sandwich Bag / Straw / Vanilla Wafers / Dehydrated Strawberries / Whipped Cream

Astronaut Picnic: Packaging alone makes it hard to tell what an astronaut might be eating. Soup comes in a bag, salt and pepper in squirt bottles and there isn't a refrigerator on the International Space Station. Plates and trays have Velcro attachments so food and utensils don't "float" away. Crumbs must be avoided at all costs (a danger to sensitive equipment on board the ISS).

To prepare a summer picnic lunch that we could also enjoy in space, tortillas will replace crumbly bread for our PB&J sandwich. Our drink will need to be rehydrated (coffee or tang), and for dessert, we finish with a variation on astronaut Dr. Karen Nyberg's strawberry shortcake treat [dehydrated strawberries, vanilla wafers and whip cream].

The science: [Credit NASA] "Foods are individually packaged and stowed for easy handling in microgravity. All food is precooked or processed so it requires no refrigeration and is either ready to eat or can be prepared simply by adding water or by heating. The only exceptions are fresh fruit and vegetables. Without refrigeration, fresh foods must be eaten within the first few days of arrival or they will spoil. Once astronauts select their menu, about five months before flight, the menus are analyzed for nutritional content and recommendations are made to correct any nutrient deficiencies. The menus are finalized and provided to the food contractor in Houston three months before launch. "

This activity ties into the Challenger's Camp: Astronaut Academy, August 3-7, 2015, Grades 6-8

Astronaut Academy campers prepare food "mostly" appropriate for one day in space. They have to be mindful of calories required, weight, hydration, packaging, and the overall planning that is required, even for just one day! They also become familiarized with daily meal procedure in space and the types of packaging used for space travel.