



Like most people, astronauts enjoy eating chocolates, especially when they just float into your mouth.

Space Food

From squeeze-tubes to lean cuisine



Space food used to be eaten by being squeezed out of toothpaste-like tubes.

The first astronauts to eat in space found the task of eating fairly easy, but found the menu to be limited.

Astronauts had to endure bite-sized cubes, freeze-dried powders, and semi-liquids stuffed in aluminum tubes. Most agreed the

foods were unappetising and disliked squeezing the tubes. Moreover, freeze-dried foods were hard to rehydrate and crumbs had to be prevented from fouling instruments.

Astronaut complaints led to improvements in preparation and packaging, which allowed for higher food quality and expanded menus. Apollo astronauts were the first to have hot water, which made rehydrating foods easier and improved the taste. These astronauts were also the first to use a plastic container that could be opened and its contents eaten with a spoon.

Space Shuttle astronauts eat foods prepared here on Earth, many commercially available on supermarket shelves. Diets are designed to supply each Shuttle crew member with all the vitamins and minerals necessary to perform in the environment of space.



Thermostabilised & irradiated meals are packaged to kill bacteria and prevent spoilage. Fresh foods are also on the menu, along with snacks.

Shuttle astronauts have an astonishing array of food items to choose from (see the list at right).

A full meal for a crew of four can be set up in about 5 minutes. Reconstituting and heating the food takes an additional 20 to 30 minutes about the time it takes to fix a snack at home, and far less than it takes to cook a complete meal.

Hot or cold water is added to the meals and placed in an oven which heats food and beverages by conduction with a hot plate or by forced convection.

Extract from 'Food for Spaceflight' on NASA's Human Spaceflight website →

ASTRONAUT'S SPACE FOOD MENU

Baseline Shuttle Food List

- Beef, Dried (IM)
- Beef Goulash (T)
- Beef Pattie (R)
- Beef Steak (I)
- Beef Stroganoff w/Noodles (R)
- Beef Tips w/Mushrooms (T)
- Bread (FF)
- Breakfast Roll (FF)
- Brownies (NF)
- Candy**
 - Coated Chocolates (NF)
 - Coated Peanuts (NF)
 - Gum (NF)
 - Life Savers (NF)

Cereal

- Bran Chex (R)
- Cornflakes (R)
- Granola (R)
- Granola w/Blueberries (R)
- Granola w/Raisins (R)
- Grits w/Butter (R)
- Oatmeal w/Brown Sugar (R)
- Oatmeal w/Raisins (R)
- Rice Krispies (R)

Cheddar Cheese Spread (T)

- Chicken**
 - Chicken ala King (T)
 - Chicken Cacciatore (T)
 - Chicken Pattie (R)
 - Chicken Salad Spread (T)
 - Chicken, Sweet 'n Sour (R)
 - Chicken, Sweet 'n Sour (T)
 - Chicken, Teriyaki (R)
 - Chunky Chicken Stew (T)

Cookies

- Butter (NF)
- Chocolate Covered (NF)
- Shortbread (NF)

Crackers

- Butter (NF)
- Graham (NF)

Eggs

- Scrambled (R)
- Mexican Scrambled (R)
- Seasoned Scrambled (R)

Frankfurters (T)

- Fruit**
 - Apple, Granny Smith (FF)
 - Apple, Red Delicious (FF)
 - Applesauce (T)
 - Apricots, Dried (IM)
 - Banana (FF)
 - Cocktail (T)
 - Orange (FF)
 - Peach Ambrosia (R)
 - Peaches, Diced (T)
 - Peaches, Dried (IM)
 - Pears, Diced (T)
 - Pears, Dried (IM)
 - Pineapple (T)
 - Strawberries (R)
 - Trail Mix (IM)

Granola Bar (NF)

Ham (T)

Ham Salad Spread (T)

Jelly

- Apple (T)
- Grape (T)

Macaroni & Cheese (R)

Meatballs/ Tomato Sauce (T)

Noodles and Chicken (R)

Nuts

- Almonds (NF)
- Cashews (NF)
- Macadamia (NF)
- Peanuts (NF)
- Trail Mix (IM)

Peanut Butter (T)

Potatoes au Gratin (R)

Puddings

- Banana (T)
- Butterscotch (T)
- Chocolate (T)
- Tapioca (T)

Vanilla (T)

Rice and Chicken (R)

Rice Pilaf (R)

Salmon (T)

Sausage Pattie (R)

Shrimp Cocktail (R)

Soups

- Chicken Consomme (R)
- Mushroom (R)
- Rice & Chicken (R)

Spaghetti w/ Meat Sauce (R)

Tortillas (FF)

Tuna

- Tuna (T)
- Tuna Creole (T)
- Tuna Salad Spread (T)

Turkey

- Turkey Salad Spread (T)
- Turkey Tetrazini (R)

Vegetables

- Asparagus (R)
- Broccoli au Gratin (R)
- Carrot Sticks (FF)
- Cauliflower w/Cheese (R)
- Celery Sticks (FF)
- Green Beans & Broccoli (R)
- Gr. Beans w/Mushrooms (R)
- Italian (R)
- Spinach, Creamed (R)
- Tomatoes & Eggplant (T)
- Yogurt,
- Blueberry (T)
- Peach (T)
- Raspberry (T)
- Strawberry (T)

Beverages (R)

- Apple Cider
- Cherry Drink w/A/S
- Cocoa

Coffee

- Black
- w/A/S
- w/Cream
- w/Cream & A/S
- w/Cream & Sugar
- w/Sugar

Coffee (Decaffeinated)

- Black
- w/A/S
- w/Cream
- w/Cream & A/S
- w/Cream & Sugar
- w/Sugar

Coffee (Kona)

- Black
- w/A/S
- w/Cream
- w/Cream & A/S
- w/Cream & Sugar
- w/Sugar

Grape Drink

- Grape Drink w/A/S
- Grapefruit Drink

Instant Breakfast

- Chocolate
- Strawberry
- Vanilla

Other Beverages

- Lemonade w/A/S
- Lemon-Lime Drink
- Orange Drink
- Orange Drink w/A/S
- Orange Juice
- Orange-Grapefruit Drink
- Orange-Mango Drink
- Orange-Pineapple Drink
- Peach-Apricot Drink
- Pineapple Drink
- Strawberry Drink
- Tropical Punch
- Tropical Punch w/A/S

Tea

- Plain
- w/A/S
- w/Cream
- w/Lemon
- w/Lemon & A/S
- w/Lemon & Sugar
- w/Sugar

Condiments

- Catsup (T)
- Mayonnaise (T)
- Mustard (T)
- Pepper (Liquid)
- Salt (Liquid)
- Tabasco Sauce (T)
- Taco Sauce (T)

Abbreviations: A/S- Artificial Sweetener (R) - Rehydratable (T) - Thermostabilized (FF) - Fresh Food (IM) - Intermediate Moisture (I) - Irradiated (NF) - Natural Form

For more information:
<http://spacelink.nasa.gov/>
 click the 'S' link, and go to Space Food
<http://spaceflight.nasa.gov/shuttle/reference/factsheets/food.html>