### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/S</td>
<td>Artificial Sweetener</td>
</tr>
<tr>
<td>B</td>
<td>Beverage</td>
</tr>
<tr>
<td>FF</td>
<td>Fresh Food</td>
</tr>
<tr>
<td>IM</td>
<td>Intermediate Moisture</td>
</tr>
<tr>
<td>I</td>
<td>Irradiated</td>
</tr>
<tr>
<td>NF</td>
<td>Natural Form</td>
</tr>
<tr>
<td>R</td>
<td>Rehydratable</td>
</tr>
<tr>
<td>T</td>
<td>Thermostabilized</td>
</tr>
</tbody>
</table>

### Appendix A: Baseline Space Shuttle Food and Beverage List

- **Beef w/BBQ Sauce (T)**
- **Beef, Dried (IM)**
- **Beef Patty (R)**
- **Beef Steak (I)**
- **Beef Stroganoff w/Noodles (R)**
- **Beef, Sweet n Sour (T)**
- **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, Grilled (T)
  - Chicken Salad Spread (T)
  - Chicken, Sweet n Sour (R)
- **Cookies,**
  - Butter (NF)
  - Shortbread (NF)
- **Crackers, Butter (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 and Cheese (R)**
- **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 Patty (R)  

Shrimp Cocktail (R)  

Soups,  
Chicken Consomme (B)  
Mushroom (R)  
Rice and Chicken (R)  

Spaghetti w/Meat Sauce (R)  

Tortillas (FF)  

Tuna,  
Tuna (T)  
Tuna Salad Spread (T)  

Turkey,  
Turkey Salad Spread (T)  
Turkey, Smoked (I)  
Turkey Tetrazzini (T)  

Vegetables,  
Asparagus (R)  
Broccoli au Gratin (R)  
Carrot Sticks (FF)  
Cauliflower w/ Cheese (R)  
Celery Sticks (FF)  
Green Beans and Broccoli (R)  
Green Beans/Mushrooms (R)  
Italian (R)  
Spinach, Creamed (R)  
Tomatoes and Eggplant (T)  

Beverages (B)  

Apple Cider  

Cherry Drink w/A/S  

Cocoa  

Coffee,  
Black  
w/A/S  
w/Cream  
w/Cream and A/S  
w/Cream and Sugar  
w/Sugar  

Coffee (Decaffeinated),  
Black  
w/A/S  
w/Cream  
w/Cream and A/S  
w/Cream and Sugar  
w/Sugar  

Coffee (Kona),  
Black  
w/A/S  
w/Cream  
w/Cream and A/S  
w/Cream and Sugar  
w/Sugar  

Grape Drink  
Grape Drink w/A/S  

Grapefruit Drink  

Instant Breakfast,  
Chocolate  
Strawberry  
Vanilla  

Lemonade  
Lemonade w/A/S  

Lemon-Lime Drink  

Orange Drink  
Orange Drink w/A/S  
Orange-Grapefruit Drink  
Orange Juice  
Orange-Mango Drink  
Orange-Pineapple Drink
Peach-Apricot Drink
Pineapple Drink
Strawberry Drink
Tea,
  Plain
  w/A/S
  w/Cream
  w/Lemon
  w/Lemon & A/S
  w/Lemon & Sugar
  w/Sugar

Tropical Punch
Tropical Punch w/A/S

Condiments

  Catsup (T)
  Mayonnaise (T)
  Mustard (T)
  Pepper (Liquid)
  Salt (Liquid)
  Tabasco Sauce (T)
  Taco Sauce (T)
# Appendix B: International Space Station Daily Menu Food List

## Refrigerated

### Dairy
- Cheese
- Cheese slices
- Cream cheese
- Sour cream
- Yogurt, fruit

### Fruits
- Apple
- Grapefruit
- Kiwi
- Orange
- Plum

### Frozen

#### Meat and Eggs

**Beef:**
- Beef, brisket, BBQ
- Beef, enchilada with Spanish rice
- Beef, fajita
- Beef, patty
- Beef, sirloin tips with mushrooms
- Beef, steak, bourbon
- Beef, steak, teriyaki
- Beef, stir fried with onion
- Beef, stroganoff with noodles
- Luncheon meat
- Meatloaf with mashed potatoes and gravy

**Lamb:**
- Lamb, broiled

**Poultry:**
- Chicken, baked
- Chicken, enchilada with Spanish rice
- Chicken, fajita
- Chicken, grilled
- Chicken, oven fried
- Chicken, pot pie
- Chicken, stir fried with diced red pepper
- Chicken, teriyaki with spring vegetables
- Duck, roasted
- Meatball, porcupine (turkey)

**Bacon:**
- Bacon
- Bacon, Canadian
- Ham, baked with candied yams
- Pork, chop, baked with potatoes au gratin
- Pork, sausage, patties
- Pork, sweet and sour with rice

### Seafood:
- Fish, baked
- Fish, grilled
- Fish, sautéed
- Lobster, broiled tails
- Scallops, baked
- Seafood, gumbo with rice
- Shrimp, cocktail
- Tuna, noodle casserole

**Eggs:**
- Egg, omelet, cheese
- Egg, omelet, vegetable
- Egg, omelet, ham
- Egg, omelet, sausage
- Egg, omelet vegetable and ham
- Egg, omelet, vegetable and sausage
- Eggs, scrambled with bacon, hash browns sausage
- Quiche, vegetable
- Quiche, lorraine

**Pasta mixtures:**
- Lasagna, vegetable with tomato sauce
- Noodles, stir fry
- Spaghetti with meat sauce
- Spaghetti with tomato sauce
- Tortellini with tomato sauce, cheese
Other:

- Egg rolls
- Enchilada, cheese with Spanish rice
- Pizza, cheese
- Pizza, meat
- Pizza, vegetable
- Pizza, supreme

Fruit

- Apples, escalloped
- Peaches, sliced with bananas, blueberries
- Peaches with bananas, grapes, strawberries
- Strawberries, sliced

Soups

- Beef, stew
- Broccoli, cream of
- Chicken, cream of
- Chicken noodle
- Mushroom, cream of
- Won ton

Grains

- Biscuits
- Bread
- Cornbread
- Dinner roll
- Garlic bread
- Sandwich bun, wheat/white
- Toast, wheat/white
- Tortilla

Breakfast items:

- Cinnamon roll
- French toast
- Pancakes, buttermilk
- Pancakes, apple cinnamon
- Waffles

Pasta:

- Fettuccine alfredo
- Macaroni and cheese
- Spaghetti

Rice:

- Fried
- Mexican/ Spanish
- White

Starchy Vegetables

- Corn, whole kernel
- Potato, baked
- Potatoes, escalloped
- Potatoes, oven fried
- Potatoes, mashed
- Yams, candied
- Succotash
- Squash corn casserole

Vegetables

- Asparagus tips
- Beans, green
- Beans, green with mushrooms
- Broccoli au gratin
- Broccoli
- Carrot coins
- Cauliflower au gratin
- Chinese vegetables, stir fry
- Mushrooms, fried
- Okra, fried
- Peas
- Peas with carrots
- Squash, acorn with apple sauce and cinnamon
- Zucchini, spears, fried

Desserts

- Cakes:
  - Angel food cake
  - Brownie, chocolate
  - Chocolate fudge
  - Shortcake
  - Yellow cake with chocolate frosting

Dairy:

- Ice cream, chocolate
- Ice cream, strawberry
- Ice cream, vanilla
- Yogurt, frozen
Pies and Pastry:
- Cheesecake, chocolate
- Cheesecake, plain
- Cobbler, peach
- Pie, apple
- Pie, coconut cream
- Pie, pecan
- Pie, pumpkin

Beverages
- Apple juice
- Grape juice
- Grapefruit juice
- Lemonade
- Orange juice

Condiments
- Margarine
- Grated cheese

Cereals
- Hot cereal:
  - Oatmeal
  - Cream of wheat
  - Grits

Thermostabilized

Fruit
- Applesauce
- Fruit cocktail
- Peaches
- Pears
- Pineapple

Salads
- Chicken salad
- Tuna salad
- Turkey salad

Vegetable:
- Bean salad, three
- Pasta salad
- Potato salad, German
- Sauerkraut

Soups
- Chili
- Clam chowder
- Egg drop
- Miso, Japanese
- Vegetable

Desserts
- Pudding, butterscotch
- Pudding, chocolate
- Pudding lemon
- Pudding, tapioca
- Pudding, vanilla

Condiments
- Barbecue sauce
- Catsup
- Chili con queso
- Cocktail sauce
- Cranberry sauce
- Dill pickle chips
- Dips, bean
- Dips, onion
- Dips, ranch
- Honey
- Horseradish sauce
- Jelly, assorted
- Lemon juice
- Mayonnaise
- Mustard
- Mustard, hot Chinese
- Orange marmalade
- Peanut butter (chunky, creamy, whipped)
- Picante sauce
- Sweet and sour sauce
- Syrup, maple
- Taco sauce
- Tartar sauce

Beverages
- Fruit juices:
  - Cranberry
  - Cranberry apple
  - Cranberry raspberry
  - Gatorade, assorted
  - Pineapple
  - Pineapple grapefruit
  - Tomato
  - V-8
Milk:
- Skim
- Low fat
- Chocolate (low fat or skim)
- Whole

**Natural Form**

*Fruit*
- Apples, dried
- Apricots, dried
- Peach, dried
- Pear, dried
- Prunes
- Raisin
- Trail mix

*Grains*
- Animal crackers
- Cereal, cold
- Chex mix
- Crackers, assorted
- Baked chips, tortillas
- Baked chips, potato
- Pretzels
- Goldfish
- Tortilla chips
- Potato chips
- Rye krisp, seasoned

*Desserts*
- Cookies:
  - Butter
  - Chocolate chip
  - Fortune
  - Rice krispies treat
  - Shortbread

*Snacks*
- Beef jerky

**Nuts:**
- Almonds
- Cashews
- Macadamia
- Peanuts

**Candy:**
- Candy-coated chocolates
- Candy-coated peanuts
- Lifesavers
- Gum (sugar free)

**Eva Food**
- In-suit fruit bar

**Rehydratable**

*Beverages*
- Apple cider
- Cherry drink
- Cocoa
- Coffee (assorted)
- Grape drink
- Grapefruit drink
- Instant breakfast, chocolate
- Instant breakfast, vanilla
- Instant breakfast, strawberry
- Orange drink
- Orange mango drink
- Orange pineapple drink
- Tea (assorted)
- Tropical punch

**Irradiated Meat**
- Beef steak
- Smoked turkey
### Appendix C: Gemini Standard Menu (4-day cycle)

<table>
<thead>
<tr>
<th>Day 1, 5, 9</th>
<th>Day 2, 6, 10</th>
<th>Day 3, 7, 11</th>
<th>Day 4, 8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meal A</strong></td>
<td><strong>Meal A</strong></td>
<td><strong>Meal A</strong></td>
<td><strong>Meal A</strong></td>
</tr>
<tr>
<td>Peaches</td>
<td>Fruit Cocktail</td>
<td>Peaches</td>
<td>Fruit Cocktail</td>
</tr>
<tr>
<td>Bacon Squares (8)</td>
<td>Sugar-Coated Cornflakes</td>
<td>Bacon Squares (8)</td>
<td>Bacon Squares (8)</td>
</tr>
<tr>
<td>Cinnamon Toast Bread</td>
<td>Bacon Squares (8)</td>
<td>Strawberry Cubes (4)</td>
<td>Sugar-Coated Cornflakes</td>
</tr>
<tr>
<td>Cubes (4)</td>
<td>Grapefruit Drink</td>
<td>Cocoa</td>
<td>Bacon Squares (8)</td>
</tr>
<tr>
<td>Grapefruit Drink</td>
<td></td>
<td>Orange Drink</td>
<td>Cocoa</td>
</tr>
<tr>
<td>Orange Drink</td>
<td></td>
<td></td>
<td>Grape Drink</td>
</tr>
<tr>
<td><strong>Meal B</strong></td>
<td><strong>Meal B</strong></td>
<td><strong>Meal B</strong></td>
<td><strong>Meal B</strong></td>
</tr>
<tr>
<td>Salmon Salad</td>
<td>Potato Soup</td>
<td>Cream of Chicken Soup</td>
<td>Potato Soup</td>
</tr>
<tr>
<td>Chicken and Rice</td>
<td>Chicken and Vegetables</td>
<td>Turkey and Gravy</td>
<td>Pork and Scalloped</td>
</tr>
<tr>
<td>Sugar Cookie Cubes (4)</td>
<td>Tuna Salad</td>
<td>Butterscotch Pudding</td>
<td>Potatoes</td>
</tr>
<tr>
<td>Cocoa</td>
<td>Pineapple Fruitcake (4)</td>
<td>Brownies</td>
<td>Applesauce</td>
</tr>
<tr>
<td>Grape Punch</td>
<td>Orange Drink</td>
<td>Grapefruit Drink</td>
<td>Orange Drink</td>
</tr>
<tr>
<td><strong>Meal C</strong></td>
<td><strong>Meal C</strong></td>
<td><strong>Meal C</strong></td>
<td><strong>Meal C</strong></td>
</tr>
<tr>
<td>Beef and Potatoes</td>
<td>Spaghetti and Meat</td>
<td>Pea Soup</td>
<td>Shrimp Cocktail</td>
</tr>
<tr>
<td>Cheese Cracker</td>
<td>Sauce</td>
<td>Beef Stew</td>
<td>Chicken Stew</td>
</tr>
<tr>
<td>Cubes (4)</td>
<td>Ham and Potatoes</td>
<td>Chicken Salad</td>
<td>Turkey Bites (4)</td>
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<tr>
<td>Chocolate Pudding</td>
<td>Banana Pudding</td>
<td>Chocolate Cubes (4)</td>
<td>Dry Fruitcake (4)</td>
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<tr>
<td>Orange-Grapefruit Drink</td>
<td>Pineapple-Grapefruit Drink</td>
<td></td>
<td>Orange-Grapefruit Drink</td>
</tr>
</tbody>
</table>
Appendix D:
Space Shuttle Standard Menu
(4 days of a 7-day menu)

Day 1

Meal A
Dried Peaches
Cornflakes
Orange-Pineapple Drink
Cocoa

Meal B
Ham
Cheese Spread
Tortilla x2
Pineapple
Cashews
Strawberry Drink

Meal C
Chicken a la King
Turkey Tetrazzini
Cauliflower w/Cheese
Brownie
Grape Drink

Day 2

Meal A
Dried Pears
Beef Patties
Scrambled Eggs
Vanilla Instant Breakfast
Orange Juice

Meal B
Peanut Butter
Apple or Grape Jelly
Tortilla x2
Fruit Cocktail
Trail Mix
Peach-Apricot Drink

Meal C
Frankfurters
Macaroni and Cheese
Green Beans w/Mushrooms
Peach Ambrosia
Tropical Punch

Day 3

Meal A
Dried Apricots
Breakfast Roll
Chocolate Instant Drink
Grapefruit Drink

Meal B
Turkey Salad Spread
Tortilla x2
Peaches
Granola Bar
Lemonade

Meal C
Spaghetti w/Meat Sauce
Italian Vegetables
Butterscotch Pudding
Orange Drink

Day 4

Meal A
Dried Peaches
Bran Chex
Orange-Mango Drink
Cocoa

Meal B
Dried beef
Cheese Spread
Applesauce
Peanuts
Tropical Punch

Meal C
Teriyaki Chicken
Rice and Chicken
Green Beans and Broccoli
### Appendix E: International Space Station Standard Menu (4 days of a 30-day menu)

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meal A</strong>&lt;br&gt;Eggs Scrambled w/Bacon, Hash Browns, Sausage Toast&lt;br&gt;Margarine Jelly, Assorted Apple Juice Coffee/Tea/Cocoa</td>
<td><strong>Meal A</strong>&lt;br&gt;Cereal, cold Yogurt, fruit Biscuit Margarine Jelly, assorted Milk Cranberry Juice Coffee/Tea/Cocoa</td>
<td><strong>Meal A</strong>&lt;br&gt;French Toast Canadian Bacon Margarine Syrup Orange Juice Coffee/Tea/Cocoa</td>
<td><strong>Meal A</strong>&lt;br&gt;Cereal, hot Cinnamon Roll Milk Grape Juice Coffee/Tea/Cocoa</td>
</tr>
<tr>
<td><strong>Meal B</strong>&lt;br&gt;Chicken, oven-fried Macaroni and Cheese Corn, whole kernel Peaches Almonds Pineapple-Grapefruit Juice</td>
<td><strong>Meal B</strong>&lt;br&gt;Soup, cream of broccoli Beef Patty Cheese Slice Sandwich Bun Pretzels Cried Apples Vanilla Pudding Chocolate Instant Breakfast</td>
<td><strong>Meal B</strong>&lt;br&gt;Cheese Manicotti w/Tomato Sauce Garlic Bread Berry Medley Cookie, shortbread Lemonade</td>
<td><strong>Meal B</strong>&lt;br&gt;Quiche Lorraine Seasoned Rye Krisp Fresh Orange Cookies, Butter</td>
</tr>
<tr>
<td><strong>Meal C</strong>&lt;br&gt;Beef Fajita Spanish Rice Tortilla Chips Picante Sauce Chili con Queso Tortilla Lemon Bar Apple Cider</td>
<td><strong>Meal C</strong>&lt;br&gt;Fish, sautéed Tartar Sauce Lemon Juice Pasta Salad Green Beans Bread Margarine Angel Food Cake Strawberries Orange-Pineapple Drink</td>
<td><strong>Meal C</strong>&lt;br&gt;Turkey Breast, sliced Mashed Sweet Potato Asparagus Tips Cornbread Margarine Pumpkin Pie Cherry Drink</td>
<td><strong>Meal C</strong>&lt;br&gt;Soup, won ton Chicken Teriyaki Chinese Vegetables, stir-fry Egg Rolls Hot Chinese Mustard Sweet n Sour Sauce Vanilla Ice Cream Cookies, fortune Tea</td>
</tr>
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</table>
Appendix F: Space Tortilla Formulation (Recipe)

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% by Mass</th>
</tr>
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<tbody>
<tr>
<td>Wheat</td>
<td>61.79</td>
</tr>
<tr>
<td>Water</td>
<td>26.58</td>
</tr>
<tr>
<td>Glycerin</td>
<td>4.02</td>
</tr>
<tr>
<td>Shortening</td>
<td>3.71</td>
</tr>
<tr>
<td>Mono/Diglycerides</td>
<td>1.24</td>
</tr>
<tr>
<td>Salt</td>
<td>0.99</td>
</tr>
<tr>
<td>Baking Powder</td>
<td>0.87</td>
</tr>
<tr>
<td>Dough Conditioner</td>
<td>0.31</td>
</tr>
<tr>
<td>Fumaric Acid</td>
<td>0.19</td>
</tr>
<tr>
<td>Potassium Sorbate</td>
<td>0.15</td>
</tr>
<tr>
<td>Carboxymethyl Cellulose</td>
<td>0.12</td>
</tr>
<tr>
<td>Calcium Propionate</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

**Preparation:**
1. Dry ingredients are combined in a mixer using the wire beater attachments on a stir setting for 1 minute.
2. Shortening and mono/diglycerides are then added and blended to cornmeal consistency. Mix about 3—5 minutes using the wire beater attachment on speed 2.
3. Fumaric acid and potassium sorbate are weighed separately, added to 100 ml water, and set aside.
4. Glycerin and the remainder of water are combined and added to the mix using the dough hook attachment.
5. The fumaric acid and potassium sorbate solution is added to the dough and mixed on speed 2. Mix for about 10 minutes.
6. After mixing, allow the dough to rest 5 minutes, and then divide into 32 equal portions using a dough divider.
7. Round each individual piece by hand, place into muffin pans, and cover with plastic wrap.
8. Place into a 35.5-degree Celsius proofing chamber for 1 to 2 hours.
9. Dust each dough ball lightly with flour, and then form in a tortilla press.

**Cooking:**
10. Place pressed tortilla in a preheat frying pan (190—204 degrees Celsius).
11. When uncooked surface begins to bubble, flip tortilla to cook the other side.
12. After both sides are baked, remove tortillas to a cool surface lined with waxed paper and allow to cool. Turn the tortillas to prevent condensation from forming between the waxed paper and the tortilla.

**Packaging:**
13. After cooling to room temperature, two tortillas are folded in half and placed in a three-ply foil laminate pouch (outside diameter: 6 1/2 X 8 1/8 ).
14. Insert an oxygen absorber into each pouch before the sealing operation.
15. Place the filled pouch in a vacuum seal chamber and back-flush with nitrogen three times and seal at 10 in. Hg vacuum.
Appendix G: USDA Food Guide Pyramid

Fats, Oil & Sweets
USE SPARINGLY

Milk, Yogurt & Cheese Group
2-3 SERVINGS

Meat, Poultry, Fish, Dry Beans,
Eggs & Nuts Group
2-3 SERVINGS

Vegetable Group
3-5 SERVINGS

Fruit Group
2-4 SERVINGS

Bread, Cereal,
Rice & Pasta
Group
6-11 SERVINGS

KEY
Fat (naturally occurring and added)
Sugars (added)
These symbols show fats and added sugars in foods.

Source: U.S. Department of Agriculture/Department of Health and Human Services
References


Visit [http://www.jsc.nasa.gov/pao/factsheets/#NP](http://www.jsc.nasa.gov/pao/factsheets/#NP) to download the following NASA Publication and Fact Sheet:


NASA, Living in the Space Shuttle, NASA Facts, FS-1995-08-001-JSC, Johnson Space Center, Houston, TX, June 1996.

Please visit [http://spacelink.nasa.gov/space.food](http://spacelink.nasa.gov/space.food) for a wealth of information on the NASA space food program. Also visit NASA Spacelink ([http://spacelink.nasa.gov](http://spacelink.nasa.gov)) to find the following food lists as well as other information related to the NASA space food program:

- Apollo Food and Beverage List
- Skylab Food and Beverage List
NASA Resources for Educators

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- NASA CORE
  - Lorain County Joint Vocational School
    15181 State Route 58
    Oberlin, OH 44074-9799
  - Phone: (440) 775-1400
  - Fax: (440) 775-1460
  - E-mail: nasaco@leeca.esu.k12.oh.us
  - Home Page: http://spacelink.nasa.gov/CORE

**Educator Resource Center Network**

To make additional information available to the education community, the NASA Education Division has created the NASA Educator Resource Center (ERC) network. ERCs contain a wealth of information for educators: publications, reference books, slide sets, audio cassettes, videotapes, telelecture programs, computer programs, lesson plans, and teacher guides with activities. Educators may preview, copy, or receive NASA materials at these sites. Because each NASA Field Center has its own areas of expertise, no two ERCs are exactly alike. Phone calls are welcome if you are unable to visit the ERC that serves your geographic area. A list of the centers and the regions they serve includes:

- **AK, AZ, CA, HI, ID, MT, NV, OR, UT, WA, WY**
  - NASA Educator Resource Center
    Mail Stop 253-2
  - NASA Ames Research Center
    Moffett Field, CA 94035-1000
    Phone: (650) 604-3574

- **CT, DE, DC, ME, MD, MA, NH, NJ, NY, PA, RI, VT**
  - NASA Educator Resource Laboratory
    Mail Code 130.3
  - NASA Goddard Space Flight Center
    Greenbelt, MD 20771-0001
    Phone: (301) 286-8570

- **CO, KS, NE, NM, ND, OK, SD, TX**
  - JSC Educator Resource Center
    Space Center Houston
  - NASA Johnson Space Center
    1601 NASA Road One
    Houston, TX 77058-3696
    Phone: (281) 483-8696

- **FL, GA, PR, VI**
  - NASA Educator Resource Laboratory
    Mail Code ERL
  - NASA Kennedy Space Center
    Kennedy Space Center, FL 32899-0001
    Phone: (407) 867-4090

- **KY, NC, SC, VA, WV**
  - Virginia Air and Space Museum
  - NASA Educator Resource Center
  - NASA Langley Research Center
    600 Settler’s Landing Road
    Hampton, VA 23669-4033
    Phone: (757) 727-0900 x 757

- **IL, IN, MI, MN, OH, WI**
  - NASA Educator Resource Center
    Mail Stop 8-1
  - NASA Educator Resource Center for NASA Marshall Space Flight Center
    P.O. Box 070015
    Huntsville, AL 35807-7015
    Phone: (205) 544-5812

- **AJ, AR, IA, LA, MO, TN**
  - U.S. Space and Rocket Center
  - NASA Educator Resource Center for NASA Johnson Space Center
    1601 NASA Road One
    Houston, TX 77058-3696
    Phone: (281) 483-8696

- **MS**
  - NASA Educator Resource Center
    Building 1200
  - NASA John C. Stennis Space Center
    Stennis Space Center, MS 39529-6000
    Phone: (228) 688-3338

- **CA cities near the center**
  - NASA Educator Resource Center
  - NASA Jet Propulsion Laboratory
    4800 Oak Grove Drive
    Pasadena, CA 91109-8099
    Phone: (818) 354-6916

- **CA cities near the center**
  - NASA Dryden Flight Research Center
    45108 N. 3rd Street East
    Lancaster, CA 93535
    Phone: (805) 948-7347
Regional Educator Resource Centers (RERCs) offer more educators access to NASA educational materials. NASA has formed partnerships with universities, museums, and other educational institutions to serve as RERCs in many states. A complete list of RERCs is available through CORE, or electronically via NASA Spacelink at http://spacelink.nasa.gov

NASA’s Education Home Page
NASA’s Education Home Page serves as a cyber-gateway to information regarding educational programs and services offered by NASA for educators and students across the United States. This high-level directory of information provides specific details and points of contact for all of NASA’s educational efforts and Field Center offices.

Educators and students utilizing this site will have access to a comprehensive overview of NASA’s educational programs and services, along with a searchable program inventory that has cataloged NASA’s educational programs. NASA’s on-line resources specifically designed for the educational community are highlighted, as well as home pages offered by NASA’s four areas of research and development (including the Aero-Space Technology, Earth Science, Human Exploration and Development of Space, and Space Science Enterprises).

Visit this resource at the following address: http://education.nasa.gov

NASA Spacelink
NASA Spacelink is one of NASA’s electronic resources specifically developed for the educational community. Spacelink is a virtual library in which local files and hundreds of NASA World Wide Web links are arranged in a manner familiar to educators. Using the Spacelink search engine, educators can search this virtual library to find information regardless of its location within NASA. Special events, missions, and intriguing NASA web sites are featured in Spacelink’s Hot Topics and Cool Picks areas.

Spacelink is the official home to electronic versions of NASA’s Educational Products. NASA educator guides, educational briefs, lithographs, and other materials are cross-referenced throughout Spacelink with related topics and events. Spacelink is also host to the NASA Television Education File schedule. NASA Educational Products can be accessed at the following address: http://spacelink.nasa.gov/products

Educators can learn about new NASA Educational Products by subscribing to Spacelink EXPRESS. Spacelink EXPRESS is an electronic mailing list that informs subscribers quickly by e-mail when new NASA educational publications become available on Spacelink.

Spacelink may be accessed at the following address: http://spacelink.nasa.gov

Join the NASA Spacelink EXPRESS mailing list to receive announcements of new NASA materials and opportunities for educators. Our goal is to inform you as quickly as possible when new NASA educational publications become available on Spacelink: http://spacelink.nasa.gov/xh/express.html

NASA Television (NTV)
NASA Television (NTV) features Space Shuttle mission coverage, live special events, interactive educational live shows, electronic field trips, aviation and space news, and historical NASA footage. Programming has a 3-hour block Video (News) File, NASA Gallery, and Education File beginning at noon Eastern and repeated three more times throughout the day.

The Education File features programming for teachers and students on science, mathematics, and technology, including NASA... On the Cutting Edge, a series of educational live shows. Spacelink is also host to the NTV Education File schedule at: http://spacelink.nasa.gov/NTV/News/

These interactive live shows let viewers electronically explore the NASA Centers and laboratories or anywhere scientists, astronauts, and researchers are using cutting-edge aerospace technology. The series is free to registered educational institutions. The live shows and all other NTV programming may be tapped for later use.
**NTV Weekday Programming Schedules**

(Eastern Times)

<table>
<thead>
<tr>
<th>Time</th>
<th>Video File</th>
<th>NASA Gallery</th>
<th>Education File</th>
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<tr>
<td>12—1 p.m.</td>
<td>1—2 p.m.</td>
<td>2—3 p.m.</td>
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<td>3—4 p.m.</td>
<td>4—5 p.m.</td>
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<td>6—7 p.m.</td>
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<td>9—10 p.m.</td>
<td>10—11 p.m.</td>
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Live feeds preempt regularly scheduled programming. Check the Internet for program listings at:

http://www.nasa.gov/ntv/

NTV Home Page

http://www.nasa.gov/ Select Today at NASA and

What's New on NASA TV?

http://spacelink.nasa.gov/NASA.News/—Select

TV Schedules

Via satellite GE-2 Satellite, Transponder 9C at 85 degrees West longitude, vertical polarization, with a frequency of 3880.0 megahertz (MHz) and audio of 6.8 MHz or through collaborating distance learning networks and local cable providers.

For more information on NTV, contact:

NASA TV
NASA Headquarters
Code P-2
Washington, DC 20546-0001
Phone: (202) 358-3572

For more information on the educational live shows, contact:

**NASA . . . On the Cutting Edge**

NASA Teaching From Space Program
308-A, Watkins CITD Building
Oklahoma State University
Stillwater, OK 74078-8089
E-mail: edge@aesp.nasa.okstate.edu

**How to Access NASA’s Education Materials and Services, EP-1998-03-345-HQ**

This brochure serves as a guide to accessing a variety of NASA materials and services for educators. Copies are available through the ERC network, or electronically via NASA Spacelink. NASA Spacelink can be accessed at the following address: http://spacelink.nasa.gov

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**Space Food and Nutrition**
An Educator’s Guide With Activities in Science and Mathematics, EG-1999-02-115-HQ • 49