Rocket Fuel

The Space Race was an important part of the Cold War. It was a competition between the United States and the Soviet Union in the 1950s and 60s over who would become the first country to send humans into space. But before human beings could travel the cosmos, there were a lot of problems to solve – including how to make food astronauts could eat in space!

There are five criteria for good astronaut food:

1. Be easy to eat in microgravity.
2. Provide a healthy and balanced diet.
3. Last a long time without going bad.
4. Be light and easy to store.
5. Taste good!

Microgravity is the very weak gravity that exists in space. In microgravity, things – and people – float around instead of falling to the ground!

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Astronaut Food from the Space Race to Now

From the start of the Space Race all the way to the International Space Station today, NASA scientists have worked hard to create astronaut food that does all these things. Check out how astronaut food has changed throughout the years:

Project Mercury 1958-1963

Mercury astronauts mostly ate liquified food from tubes and bite-sized dehydrated food cubes.

Project Gemini 1965-1966

Gemini astronauts ate bite-sized cubes coated in gelatin, freeze-dried foods, and drink powders in plastic packages. They used a special water gun to rehydrate their food.

Apollo Program 1961-1975

Apollo astronauts still ate mostly dehydrated food, but now they could use hot water to prepare it, and the packages opened up so they could eat with a spoon.

The International Space Station 1998-Now

ISS astronauts eat dehydrated food, but also “natural form” foods just like what we eat on earth and fresh foods delivered by the space shuttle. ISS astronauts have even grown vegetables and baked cookies in space!

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Make your own Straw Rocket

What you'll need:

- Pencil
- Scissors
- Tape
- Drinking Straw
- Rocket Template

Step one
Cut out the rectangular rocket body. Wrap the rectangle around your pencil lengthwise and tape it closed so it forms a long tube.

Step two
Cut out the tail fins. Line up the edge of the rectangle between the pointed ends of the first fin with the end of your paper tube and tape it in place. Do the same on the other side to make a fin sandwich.

Step three
Bend each of the fins to make a right angle with the body tube. When you look at your rocket from the bottom, the fins should make a plus sign (+).

Step four
Form the nose cone by pinching and twisting the top of your paper tube around the point of your pencil. Put a piece of tape over the tip of your nose cone so no air can escape through it.

Step five
Remove the pencil and replace it with your drinking straw. Make sure there are no people or objects in the way of your flight path. Then, blow into the straw to launch your rocket!

Bonus Challenge:
Make a new rocket with one of these modifications and see how it changes your rocket's flight distance!

1. Change the length of your body tube
2. Change the shape of your tail fins
3. Launch your rocket at a different angle

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Rocket Template