

very different ways than we do here on Earth.

astronauts from all over the world live together

The ISS (International Space Station) is where



Space noodles

These packets also have a long shelf life and they do not need refrigeration.

> They are great for transporting into outer

space and are easily

* * *

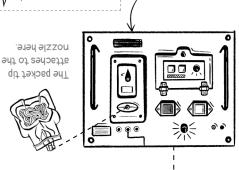
When astronauts travel to the ISS they have to bring food with them from Earth. Most space food is freeze-dried and vacuum-sealed into packets. Removing water and air makes these packets lightweight and small.

GETTING FOOD INTO OUTER SPACE

PREPARING FOOD ON THE ISS

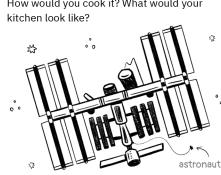
No ovens or stoves on the ISS!

a water dispenser. hot water, which comes from a machine called Instead, astronauts heat their tood by adding



water onboard. recyles 90% of the water, too! The ISS with their drinking provides astronauts I pis machine 0

.(idfod 10) fi efelbyden. tood inside to heat of And of here sold the to the .1920 on the water dispenser. the Rehydration Station Of host attach to



If you lived on a spacecraft, what would you eat? Where would your food come from? How would you cook it? What would your

Welcome to Space!

clings onto tood in in a gel torm that Salt and pepper come Seasonings must stick!

environment of the ISS. the microgravity



working on how to make in space. They're also easier to prepare tood new tools to make it Scientists are inventing

♢

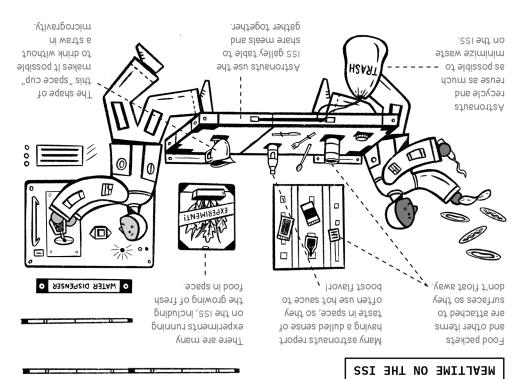
air fitters or equipment.

conid get stuck in the

sugcks, like chips, Crumbs from crunchy Watch out for crumbs!

°°,

eating more enjoyable!



SPACE

FOOD

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NASA RESOURCES

ABOUT THE ZINE

This zine was written and

Coblentz (Media Lab Space

Exploration Initiative).

plix.media.mit.edu

Learn more at:

created by the MIT Media Lab **Public Library Innovation** Exchange (PLIX) and Maggie

nasa.gov/content/space-food-systems

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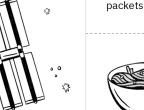
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v1.0.0

PLIX

Zine







Considerations for Dining in Space



Microgravity affects **the way fluids behave**, so you can't pour or drink easily in space.



Space environments **alter human physiology**, dulling astronauts' sense of taste.



Food **cannot produce crumbs**, which can stray into air filtration systems and damage costly equipment.



Standard kitchen equipment used to **store and heat food** (like ovens & freezers) aren't available due to storage and power (electricity) constraints.



Because it is so costly to ship cargo into space, foods must have a **very long shelf-life**.



Weightlessness affects the ability to **combine ingredients**, so even salting a meal is impossible!



There **isn't much room for storage** on-board the ISS, so meals are often vacuum-sealed, freeze-dried, and flat-packed to take up less space.



Processes that require microbial activity, like **fermentation**, are impossible on the ISS because the microorganisms required aren't permitted.

PLIX Space Food v0.01

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