

Middle School Physical Science

Life in Outer Space

How Humans Meet Their Needs in Space
Grade 6-7



- Human space history
- The ISS
- Eating in space
- Sleeping in space
- Showering in space
- Experiments in space
- The negative effects of microgravity

TeachWithFergy

Preview File

Please enjoy this preview of your Student Version of the lesson. I've created this PDF for ease of viewing and to decrease the file size but of course, your lesson will be in PowerPoint format.

- Some slides appear blank because they have been removed.

- Student versions have portions of the text removed which is given in the teacher version and appear as

- Other slides may have on them, this represents writing that has been removed.

What have we done so far in Space?

- October 4, 1957: First Artificial Satellite

— _____



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- Soviet Union launches cosmonaut Yuri A. Gagarin on a 108-minute flight.



What have we done so far in Space?

- The lunar module of Apollo 11 touches down on the moon. Neil Armstrong and Edwin "Buzz" Aldrin, Jr., descend to the surface.



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The International Space Station (ISS)

- Collaborative efforts between the U.S., Russia, Canada, Japan, and the participating countries of the European Space Agency
- Price tag of about 100 billion U.S. dollars
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- Is about the size of an American football field
- Solar powered
- Weighs about 1 million pounds
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- Home to 3 astronauts at a time
- _____



Predict (P), Observe (O), and Explain (E)

On the following slides, I want you to create a POE for the following two situations.

1. Make your Prediction, then we will watch the video.
2. While we are watching the video, complete the observation section.
3. Following the video, we will have a discussion where you can complete the Explanation.

What Happens to Tears in Space?

Predict:

Observe:

Explain:

Wringing out a washcloth in Space

Predict:

Observe:

Explain:

What and how astronauts eat?

- Not quite the *Star Trek* food replicator
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- Today, astronauts on the space shuttle eat food in much the same way as they do here on Earth although sometimes it floats away



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How do astronauts sleep in space?

- Each member has their own sleeping area
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- Crew members usually sleep in sleeping bags



What is the main reason for the ISS?

- _____
- The uniqueness of microgravity allows scientists to do many experiments and make discoveries they couldn't do on Earth

Some examples include:

- Discovery of Dark Matter
- Health Effects
-

Microgravity

What do you think it feels like to be on the ISS floating around?

Our bodies in microgravity

The absence of forces
against the muscles (caused
by microgravity)



Interplanetary Travel

Currently, astronauts have a rigorous exercise regime to limit these effects



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