

# Space Station Flyby

## **Vocabulary:**

International Space Station, molten, bacteria

## **Sneaky Preview! True or False??**

You can see a spaceship fly over your backyard. T. F.

The International Space Station is as big as a three-bedroom house. T. F.

There are 50 people living in the International Space Station. T. F.

## **You be the scientist!**

The International Space Station is a good place to do low-gravity science experiments. Think of an experiment you would like to do in space. Draw a picture of the experiment. What will you learn floating onboard the space station that you couldn't learn on Earth?

Have you ever gone out at night and seen a spaceship fly by? This week you can. The International Space Station is going to fly over your back yard.

The International Space Station, or "ISS" for short, is a spaceship being built by the United States, Russia, and 14 other countries. It is wider than a 747 airliner, and has 15,000 cubic feet of living space--about the same as a three-bedroom house. Every 90 minutes, the ISS circles the Earth traveling 17,000 mph.

When the ISS flies over your house, it will shine brighter than every star in the sky. You'll get a telephone call when it's time to go outside and look, not long after sunset. The first thing you'll notice, when you go outside, is a very bright light hovering above the western horizon. That's the planet Venus. The space station will appear to the south of Venus. At first the ISS will seem dim, but it will brighten as it glides overhead, taking about 5 minutes to cross the entire sky.

Why is the space station so bright? There are no light bulbs on the outside of the ISS, like the blinking lights on an airplane. Instead, the ISS glows because it reflects sunlight. You see the ISS while its night at your house; there's no sunlight around you. But 250 miles above Earth, where the ISS orbits, there's plenty of sunlight. Sunlight hits the space station--a big reflection!--and bounces down to you in your dark back yard.

People live on the space station. At the moment there are two of them: American astronaut Mike Foale and Russian cosmonaut Alex Kaleri. Like ordinary people they have to cook, clean, wash dishes, exercise, and even take out the garbage. Garbage is stowed inside a Russian supply rocket. When the rocket is full, it plunges into Earth's atmosphere and burns up.

Mike and Alex also work hard on scientific research. Every day they do experiments in physics, biology and medical science. The space station is a wonderful laboratory because things float in mid-air. Astronauts can study floating bacteria, floating flame balls, red-hot floating blobs of molten metal, and so on.

So when the space station glides over your backyard, remember, it's much more than a pretty light in the sky. It's a spaceship, with real people inside, living, working, and doing science that can't be done on Earth. Don't miss it!

**Space Station Math:** The International Space Station goes around the Earth once every 90 minutes (1 ½ hours). It travels fast: 17,000 miles per hour! There are two people onboard. Using these facts, answer the following questions:

1. How many times each day (24 hours) does the space station circle the Earth?
2. An astronaut wakes up at 6 o'clock in the morning. He eats breakfast at 9 o'clock in the morning. He eats lunch at 12 o'clock. How many times, between breakfast and lunch, did he go around the Earth?
3. A bullet travels 2500 miles per hour. How many times faster is the space station, compared to a speeding bullet? (You may use your calculator.)

**Captain Trash!** Why is it that astronauts never do chores in our favorite movies about life in space? Chores can be interesting... especially if they do not get done! Imagine a star ship has a power failure because someone spilled their hot cocoa and did not clean it up! Globbs of brown sticky liquid slip and slide into the warp drive! What will happen? What lazy character was the cause of the trouble?

You can imagine and write your own chore adventure based on a favorite movie or show about space.

First, choose the show you are going to write about. What is its name?

What are the names of the characters in that show?

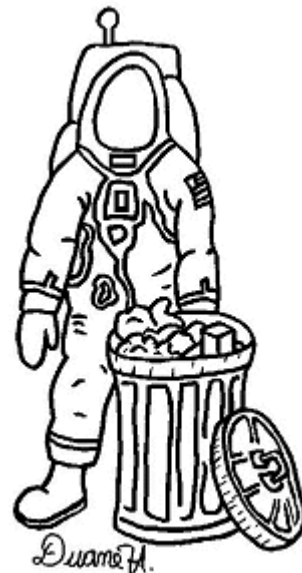
What is the name of the spaceship in that show?

What chores will be part of your adventure?

What disaster will happen because the chores were not done or were badly done?

Who will save the day? How?

*All right, now write it up! Remember, use correct spelling and punctuation!*



# Teacher Lesson Plans

## Captain Trash

### Objective:

The student will rewrite a portion of a favorite science fiction movie, incorporating chores as a problem. The student will complete a pre-writing exercise.

### Materials:

The student will need a copy of the activity sheet and writing materials.

### Estimated Time:

To get to a high-quality finished copy, any writing lesson takes two to three periods.

### Procedure:

1. Ask the students to name some of their favorite movies about space.
2. Ask if there are ever any references to chores in these movies. You may want to read Shel Silverstein's "Sarah Cynthia Sylvia Stout Would Not Take The Garbage Out" from Where The Sidewalk Ends, page 70.
3. Distribute the activity sheet. Read through the instructions. Brainstorm a list of vocabulary words that might appear in this type of science fiction story. Have students share ideas of possible story lines. Have students complete the pre-writing activity before you distribute the writing paper.
4. Monitor students as they write their rough drafts. Ask to read the first paragraph and counsel them at that point before they continue. Read and confer with students as they finish.
5. After meeting with you, they may work on their second rough draft or their final.
6. Read a few to the class.

### Rationale:

This lesson is a motivating way to improve writing skills as well as assimilate concepts about life in space.