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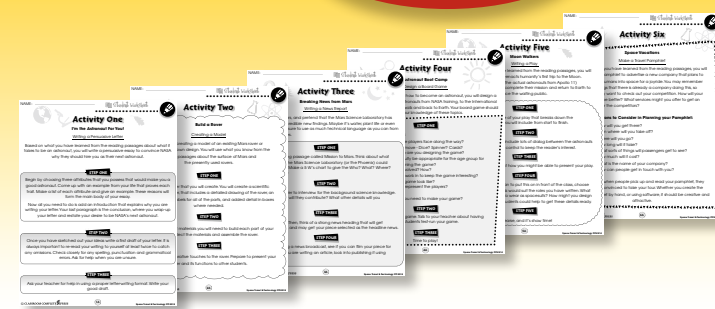
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Living in Space

- You've probably already wondered what it would be like to live in space. In your response notebook, pose five "I wonder" statements about life on a space station. For example, "I wonder what kind of food astronauts eat".
- Complete each sentence with a word from the list. Use a dictionary to help you.

crew	disintegrate	assemble	launch
expensive	monitor	experiment	

- The baseball hat we wanted was far too _____ for what he was willing to spend.
- Her parents did not realize that they would have to _____ all the parts of the remote controlled car themselves.
- The doctor told the nurse to take the patient's temperature, change his bandages and continue to _____ his breathing.
- Each student in the class had to design their own _____ to show the effect that sunlight and water have on the rate of plant growth.
- The designer decided to save his new handbag for the spring _____ of his new line.
- When they got to the site of the wreck, they knew it would take a whole _____ of trained people to clean up the mess.
- The walls of the riverbank seemed to _____ right before her very eyes as the waters rushed in.

- Unscramble the words below. These are the words given in the list for question 2. When you unscramble it, write the letter of the sentence from question 2 beside it.

- _____ HULNAC
- _____ ROTNMIO
- _____ EMLSBAES
- _____ GEDSTTIIRANE
- _____ VSNEEEPXI



Living in Space

In November, 1998, the first part of the **International Space Station (ISS)** was launched into space. It was the control module, **Zarya**. Many more parts continued to be **launched** and attached for the next eight years. Presently, the ISS **orbits** around Earth sixteen times a day at 17 000 miles per hour. That means that the **astronauts** on board get to watch sixteen sunrises and sunsets each day!



Image courtesy of NASA

The ISS looks like a small toy in outer space, but it is quite large. It weighs almost 500 000 pounds, and is bigger than a football field. You may be wondering how we got something so big off the ground and into space. The answer is that the ISS was **assembled** in space. It was launched there in over 100 pieces and astronauts had to construct it while in orbit. You can probably imagine that this is an expensive project, too. It is estimated that the total cost of the ISS will be \$37 billion when it is completed in 2010. This is why many countries have cooperated to make it happen. Canada, Russia, Japan, Brazil, **ESA** (11 European countries) and the United States jointly own the ISS.

Each country contributes and maintains different parts of the ISS. Canada was responsible for the robotic arm, **Canadarm**. Russia has been a very important partner because Russia was the first country to launch a space station, **Salyut**, in 1971. Its other space station, **Mir**, was the first consistently inhabited long-term research facility in space. It was in space from 1986 to 1996. One Russian cosmonaut, Valeriy Polyakov, holds the record for the longest spaceflight. He was aboard Mir for more than fourteen months in one long trip. The ISS **service module**, **Zvezda**, was contributed by the Russians. Zvezda was originally meant to be part of **Mir 2**.

CHECK FOR UNDERSTANDING: Create a chart in your notebook with six columns: Who? What? Where? When? Why? How? Label the chart: *The International Space Station*. Fill in the chart with as much information about the ISS as you can, based on what you have read so far. Notice any blank columns, and see if you can find more information to fill them from the next part of this section.



Living in Space

- Write each word beside its meaning.

expensive	engineer	assemble	disintegrate	microbe
launch	monitor	compartment	experiment	suction

- _____ a) to separate into parts or fragments; to break up
- _____ b) to fit together or put parts together
- _____ c) costly; high-priced
- _____ d) a test done to demonstrate or discover something
- _____ e) to watch or to check on
- _____ f) to hurl or send forth with some force
- _____ g) a microorganism, especially one causing disease
- _____ h) a separate section or category
- _____ i) a sucking pressure
- _____ j) one who operates technical equipment

- Cross out** the names of the countries that were not partners in the ISS project.

Canada Brazil China Russia Japan Australia

- Circle** the words that were not used in this section.

weightlessness exercise swimming shaving orbits toothbrush

- Underline** the words that are names of space stations or parts of space stations.

Zvezda Mir Polyakov Salyut Canadaland



Living in Space

- Answer each question with a complete sentence.

- Why was the International Space Station assembled in space?

- Why would you need a suction fan to shave in space?

- Why was Russia an important partner in the ISS project?

Research & Extension

- It's not all work and no play for astronauts. In the little amount of spare time that they do have, they like to read, watch movies and email their friends and family. Most astronauts agree that watching the view of the Earth from space never gets boring. Think about one of your favorite games to play. Consider the effects of microgravity on the game. How would it change things? What changes to the rules and equipment would you have to make to play your game on the space station? Create a poster-sized report that includes a diagram or drawing of your ISS-version game, and details the rule and equipment adjustments you made.
- It takes a crew of highly trained scientists and astronauts from around the world to do the jobs needed on this ISS. In 2007, the crew of the Expedition 14 were the ones who got the job. Read more about these people and their work at: www.nasa.gov/audience/for_kids/kidsclub/flash/nowinspace/Crew_14_on_ISS.html
Prepare a Who's Who? report of the ISS crew in 2007. Include information about the individuals and their roles on the ISS. Conduct further internet research as needed to gather information. Then, find out who is on board the ISS today.



WEB CONNECTION

To take an interactive spacewalk from the ISS, visit: www.discovery.com/stories/science/iss/i_spacewalk.html
To learn more about spacesuits and what astronauts wear, visit: www.nasa.gov/audience/for_kids/home/F_Best_Dressed_Astronaut.html



Did they actually put a Man on the Moon?... Or was the whole thing one big hoax? You be the judge in...

The Apollo 11 Conspiracy Theory

What the conspiracy theorists say...	What NASA says...	I agree with...

MY ESSAY

My introduction needs to explain what my essay will be about, and just state what my opinion is. I'll be sure to include the following points:

The three strongest points that I will use in my argument (one per paragraph):

- _____
- _____
- _____

In my conclusion, I want to restate my opinion and wrap up the essay.

Remember to write using proper paragraphs and to use linking words.



Word Search

Find all of the words in the Word Search. Words are written horizontally, vertically, diagonally, and some are even written backwards.

- astronauts
- spacecraft
- microgravity
- aeronautics
- flyby
- module
- weightlessness
- orbiter
- laboratories
- mission
- lander
- experiments
- telescope
- rover
- future
- refractor
- satellites
- exploration
- reflector
- space station
- launch



Comprehension Quiz

2. Circle the word **TRUE** if the statement is TRUE or Circle the word **FALSE** if it is FALSE. 5
- Astronauts at the International Space Station get to watch more than a dozen sunrises and sunsets each day.
TRUE **FALSE**
 - Since the ISS is so large and heavy, special launchers were designed to get the unit into space.
TRUE **FALSE**
 - Crews of the ISS rotate in and out about once per year.
TRUE **FALSE**
 - Microgravity provides us an opportunity to conduct experiments that we couldn't do here on Earth.
TRUE **FALSE**
 - Since astronauts need to keep up their strength, they work very short days, and get lots of sleep.
TRUE **FALSE**

3. Answer each question with a complete sentence. 10
- Why is an astronaut an "extraordinary" person?

 - Explain the context of the phrase, "The Eagle has landed."

 - Give an example from this book that proves "If at first you don't succeed, try, try again."

 - Why do so many astronauts and scientists seem so interested in finding evidence of water on other planets and moons?

 - Why is the cooperation of many countries needed on a project like the ISS?

Shuttle Atlantis Docked on the MIR Space Station



Image courtesy of NASA

