

The International Space Station



The International Space Station orbits the earth just like the satellites that handle your cell phone calls or transmit satellite television signals. Unlike these unmanned satellites, the International Space Station is home to a crew of two or three human astronauts. Each astronaut will live there for several months at a time while performing construction tasks to build the

space station and monitoring a variety of scientific experiments under weightless conditions.

The space station expands one module at a time. When completed, the space station will be comprised of eight modules. The original schedule expected that the space station would be complete in 2006 but there have been a variety of problems. The space station began as an international endeavor with the United States and the Soviet Union as the primary partners.

In the late 1990s funding of the Soviet portion was a problem when the Soviet Union dissolved, causing delays in the development of the space station. Russia became an independent country and assumed responsibility for the former Soviet portion. Meanwhile, the United States experienced a national tragedy when the space shuttle Columbia disintegrated while returning to earth in 2003, killing the seven astronauts who were onboard. The United States stopped sponsoring any shuttle flights until it could be sure of keeping the crew safe. The United States resumed space shuttle flights in 2005.

Shuttle flights are critical to the development of the space station. Just like daily commuter shuttles such as ferry boats or airline flights between major cities, space shuttles are designed to carry crew and supplies to and from the space station while it remains permanently in orbit around the earth. All supplies needed by the crew are sent up to the space station by shuttle flights. New modules for increasing the size of the space station are carried up by a space shuttle flight as well. In 2001, three of the eight modules were sent to the space station.

The space station is powered by eight solar panels, one for each module. The last solar panel is scheduled to be delivered in 2009 by the U.S. space shuttle Discovery.

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. Which countries are the major supporters of the International Space Station today?
 - a. United States and the Soviet Union
 - b. Russia and the United States
 - c. United States and Canada
 - d. Russia and the Soviet Union

2. How long do individual astronauts remain aboard the space station?
 - a. One month
 - b. Four or five months
 - c. One year
 - d. More than one year

3. How many modules are there in the space station?
 - a. One
 - b. Four
 - c. Eight
 - d. Twelve

4. The development of the International Space Station is
 - a. Ahead of schedule
 - b. On schedule
 - c. Behind schedule
 - d. Not concerned about schedule

5. What major achievement for the space shuttle is scheduled for delivery by space shuttle Discovery in 2009?
 - a. The last solar panel
 - b. A module for housing seven astronauts
 - c. The last space station module
 - d. An unmanned satellite

6. Which of the following statements is true?
 - a. Both the space shuttle and the space station are manned
 - b. The space shuttle is unmanned and the space station is manned
 - c. The space station is unmanned and the space shuttle is manned
 - d. Neither the space shuttle nor the space station is manned

Name: _____ Date: _____

Short Answer Questions

1. Explain how the space station differs from the space shuttle.
2. What tasks do astronauts aboard the space station perform?
3. Explain two major events that have delayed progress on the International Space Station.
4. What is the purpose of solar panels on the International Space Station?
5. Compare the space shuttle to other forms of transportation on earth.
6. In 2003, the space shuttle Columbia disintegrated while on a mission. Do you think it is safe for trained people to fly on space missions? Explain why or why not.
7. Would you want to live in space on something like the International Space Station? Explain why or why not.

Answer Key

Multiple Choice

1. b.
2. b.
3. c.
4. c.
5. a.
6. a.

Short Answer

1. The space station orbits the earth while the space shuttle travels between the earth and the space station bringing components and supplies.
2. Astronauts perform construction tasks to build the space station and monitor a variety of scientific experiments under weightless conditions.
3. In the late 1990s funding of the Soviet portion was a problem when the Soviet Union dissolved, causing delays in the development of the space station. Russia became an independent country and assumed responsibility for the former Soviet portion. Meanwhile, the United States experienced a national tragedy when the space shuttle Columbia disintegrated (broke up) while returning to earth in 2003, killing the seven astronauts who were onboard. The United States stopped shuttle flights until 2005.
4. Solar panels are used to generate electricity to power the International Space Station.
5. Just like daily commuter shuttles such as ferry boats or airline flights between major cities, space shuttles are designed to carry crew and supplies to and from the space station. Or it's like a truck hauling goods.
6. Individual response
7. Individual response