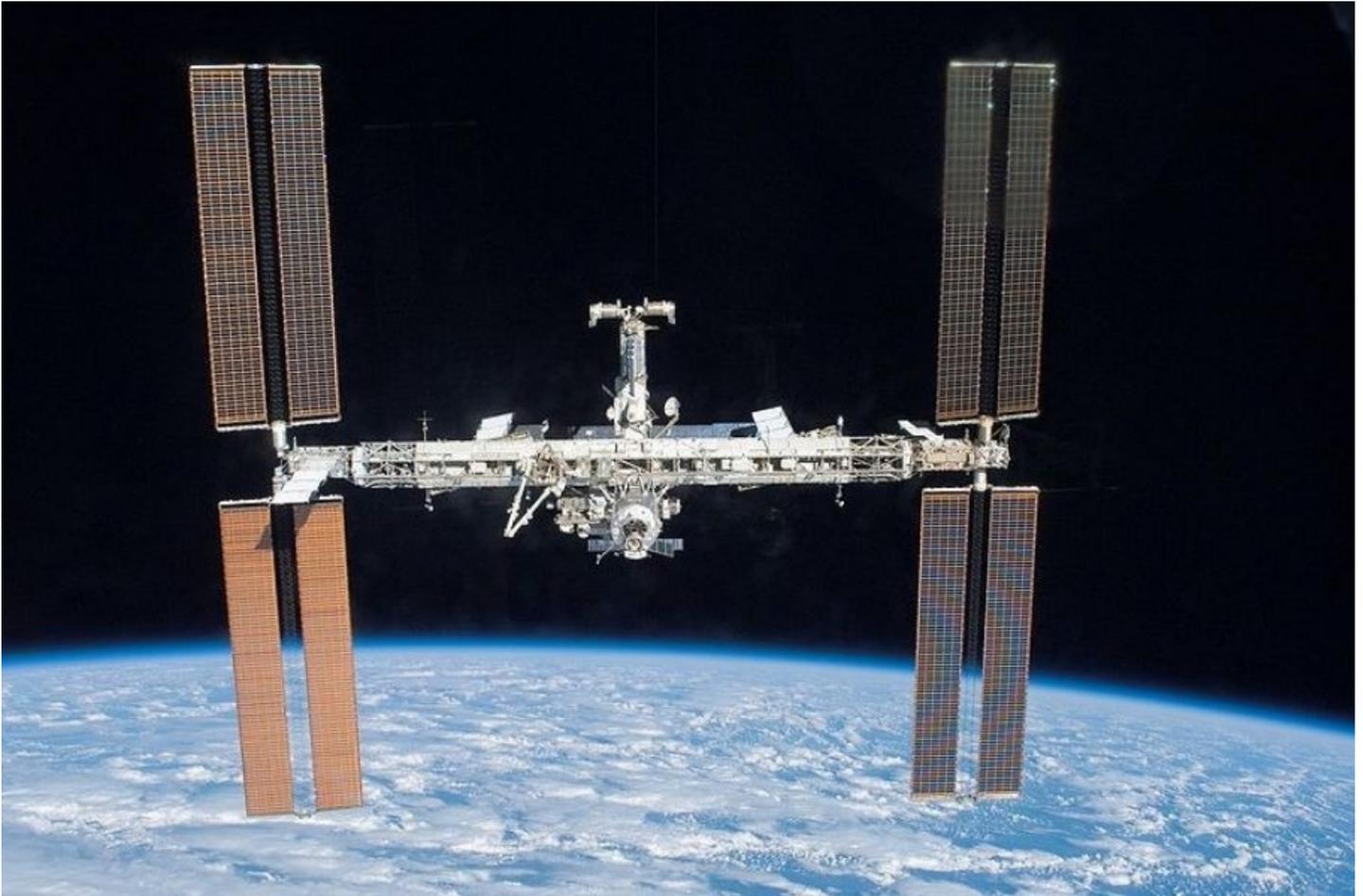


The Most Expensive House in the Universe

by ReadWorks



Do you know where the most expensive house in the universe is located? Some might guess Hollywood, where some of the richest and most famous movie stars have their homes. Others might think of New York City, where a one-bedroom apartment in Manhattan can cost more than a mansion in the suburbs. But they would all be wrong, because this is a trick question. The most expensive house isn't even properly located on Earth. It's the International Space Station (ISS), which is circling in orbit above us right now. The cost to build this engineering marvel, which is roughly the size of a football field, is around 150 billion dollars.

Many different governments cooperated in order to plan and build the ISS, including the USA, Russia, Japan, Canada, and Europe. These entities decided to work together on the project only after developing plans independently for related space projects. By combining forces, they reasoned, they could split the cost of constructing a space station and also share resources while onboard the station.

The countries envisioned three important purposes for their joint project: to support scientific research, to help astronauts continue to explore space, and to educate the public. Thus, the engineering criteria for the space station had to include facilities to support each of these important missions.

Construction began in 1998, after the countries decided to band together and merge their space missions to create the ISS. Many countries used their spacecraft to deliver the parts for the ISS, little by little, into space. First came the operating systems and hardware. Then, two years later, a Russian rocket delivered the living quarters (complete with beds, toilets, and a kitchen) that would make the ISS habitable for humans. The first "residents" of the ISS—two Russian astronauts and one American—arrived on *Expedition 1* in 2000. Over time, more space missions to the ISS added new parts to the space station, such as "docks" for incoming spacecraft that would make it easier for astronauts to come in and out of the station.

Throughout the construction of the ISS, which is partially solar-powered, engineers had to think constantly about the best way to keep the ISS running. They had to build and position the station's parts so that the space station could be powered by light from the sun. They also had to think about ways to protect it from meteoroids (including installing strong shutters on its seven windows). They installed robotic "arms" for the space station that could grab and hold both ships and astronauts securely while docking. And they had to install features that would make it easier to live for long stretches of time in space, such as exercise machines for the astronauts.

Astronauts can come and go on the ISS. They come to perform many of the experiments for which the station was designed, involving biology, physics, astronomy, and meteorology. Others test equipment to be used in missions to the moon and Mars. In a Japanese-built laboratory aboard the ISS called *Kibo* (which means "hope"), they can even grow plants and raise fish. However, most of the astronauts' space food is still delivered in sealed bags, and there isn't much variety. Thus, the crew aboard the ISS often looks forward to visiting shuttles that bring the astronauts fresh, different fruit to eat.

Life aboard the ISS has become relatively more comfortable thanks to technological improvements developed by engineers; however, it has not always been easy for the engineers back home to work on the space station. Space travel and construction of spacecraft are two of the most expensive projects a country can take on, and as the economies around the world shift, some countries have a harder time contributing financially. Sometimes, engineers from different countries will disagree about the best way to build something. And while some people on the space station project think it's a good idea to charge money to space "tourists" in order to provide more funds for the project or to charge companies a lot of money to advertise their business on the rockets that fly to the ISS, others think that these ideas do not align with the original purposes of the ISS. But the fact is, no country or individual can afford the giant price tag for this important space "house" alone, so they must keep working together. And the results—whether they include important new scientific discoveries, easier and more frequent missions to Mars, or better cultural relations between our countries—are sure to benefit us.

Vocabulary

engineering

noun

definition: the study and practice of using scientific and mathematical knowledge to do practical things. Knowledge of engineering is needed to design and build roads, bridges, tools, and machines.

I'm going to study engineering because I want to build robots.

Spanish: ingeniería

install

verb

definition: to put into position and make ready for use.

She installed a new clothes dryer in our home.

Spanish: instalar

forms: installed, installing, installs

merge

verb

definition: When two things merge, they come together and become one thing.

The two highways merge as they enter the city.

The two rivers merge and become one very wide river.

Spanish: unir, juntar, empalmar, fusionarse, fundirse

Name: _____ Date: _____

1. According to the passage, where is "the most expensive house" located?
 - A. on the surface of Mars
 - B. Hollywood, CA
 - C. circling above Earth
 - D. New York City

2. Which of the following sequences shows the construction of the ISS in the correct order?
 - A. Operating systems and hardware were built, then living quarters were delivered, then the first residents arrived, then docks for incoming spacecraft were added.
 - B. Operating systems and hardware were built, then docks for incoming spacecraft were added, then living quarters were delivered, then the first residents arrived.
 - C. Living quarters were built, then operating systems and hardware were delivered, then docks for incoming spacecraft were added, then the first residents arrived.
 - D. Docks for incoming spacecraft were built, then living quarters were delivered, then operating systems and hardware were delivered, then the first residents arrived.

3. The countries that worked together to build the ISS did not originally plan to build a shared space station. What evidence from the passage best supports this conclusion?
 - A. "Many different governments cooperated in order to plan and build the ISS, including the USA, Russia, Japan, Canada, and Europe."
 - B. "By combining forces, they reasoned, they could split the cost of constructing a space station, and also share resources while onboard the station."
 - C. "Many countries used their spacecraft to deliver the parts for the ISS, little by little, into space."
 - D. "These entities decided to work together on the project only after developing plans independently for related space projects."

4. What has helped make the ISS mission successful so far?
 - A. money collected from space tourists
 - B. people from many countries working together
 - C. competition between the United States and Russia
 - D. money donated by America to pay for the ISS

5. What is this passage mostly about?

- A. the construction and mission of the ISS
- B. the most expensive houses in the world
- C. how astronauts can live on this ISS
- D. the financial cost of building the ISS

6. Read the following sentences: "Then, two years later, a Russian rocket delivered the living quarters (complete with beds, toilets, and a kitchen) that would make the ISS **habitable** for humans. The first 'residents' of the ISS—two Russian astronauts and one American—arrived on *Expedition 1* in 2000."

As used in this sentence, what does the word "**habitable**" mean?

- A. dangerous
- B. suitable to live in
- C. warm and cozy
- D. following the rules

7. Choose the answer that best completes the sentence below.

No individual nation could afford to keep the ISS running properly. _____, multiple nations have to work together to fund the ISS.

- A. Meanwhile
- B. For instance
- C. As a result
- D. On the other hand

8. What are the three missions of the ISS?

9. Why did various governments decide to work together to build the ISS?

10. Aboard the ISS, there is a Japanese-built laboratory called *Kibo*, which means "hope." Explain how the ISS and its scientific mission represents or gives hope to people around the world. Support your answer using information from the passage.
