

# SPACE

A JOURNEY TO OUR FUTURE



3-5

## 16 FLAGS IN SPACE

Sixteen different countries, working together helped bring the ISS into reality. Their flags are a symbol of hope and exploration. The United States, Canada, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom, Japan, Russia, and Brazil have all joined in the hopes of gaining a better understanding of space and a better understanding of each other. Plan and build a space station of your own. Explore the world and see that borders are invisible from space.

**Grade Level: 3 - 5**

**Duration:** 1 Hour

**Group Size:** Pairs or small groups

**Standards:** Social Studies SS.B.1.2, Visual Arts VA.E.1.2

### Material

pictures or images of each of the 16 countries

5 x 8 index cards

markers or crayons

map or globe

geography and world history resources

### Procedure

1. Draw or recreate the 16 flags on individual index cards. Put the image of the flag on one side of the card and the name of the country on the back of the card.
2. Find the countries on a map or globe.
3. Play a flash card game. Hold up a flag and try to guess what country it represents and then point to its location on a map or a globe.
4. Create a flag that would represent you and your friends or your school.

### Evaluation

How many countries can you locate on the map just by seeing their flag?

### Extension

The American flag represents many things to many people. Throughout history citizens have used a protocol or rules of how to handle, hang and fold the flag. Find out how to care for our nations flag.

Find out the history behind each of the country's flag.

Source - <http://www.earthkam.ucsd.edu/public/iss/Countries.shtml>



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## THE NAME GAME

Relying on the scientific expertise of 16 nations and thousands of scientists, the International Space Station (ISS), man's greatest achievement in space is in orbit above Earth. The various countries working together, speaking different languages, and living vastly different lives could cause problems when you are 220 miles up traveling at 17,500 miles per hour. Astronauts must have a respect for other cultures. It also helps if you can speak other languages.

**Grade Level:** 3 - 5

**Duration:** 30 minutes

**Group Size:** Pairs or groups

**Standards:** Foreign Language FL.E.1.2, Language Arts LA.D.2.2

### Material

Model or pictures of the International Space Station

Foreign Language Dictionaries i.e. English to French, English to German etc...

### Procedure

1. Identify the parts or modules of the ISS in the order in which they were built.
2. Use the dictionaries to translate the names of the parts of the ISS that are not in English.
3. Break into teams and come up with a name for your team.
4. Translate your team name into the different languages. Can you pronounce each one?

### Evaluation

Create a glossary of words that will help you work and communicate with members of the team from other countries. You are creating a mini dictionary of foreign languages. Use the translation dictionaries to help you create your own. What words would you need to know on a space station?

### Extension

Can you give instructions to a partner on how to build an object without using written or spoken word? What are other ways of communicating to someone? If you have a friend that doesn't speak English, how do you communicate with them? How would you work together as a team? Try to instruct a partner on how to build an object like a LEGO house using no words.

Source - <http://spaceflight.nasa.gov/gallery/images/station/index.html>



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## SHOPPING LIST IN SPACE

Have you ever played the game where you had to choose what you would take on an island? What if you were building a space station 220 miles above the Earth and had to live there for months at a time, what would you bring with you? The ISS started with a control module and eventually added living quarters and a laboratory. As construction continued more modules were added. Start construction of your station by creating a list of everything you will need.

**Grade Level: 3 - 5**

**Duration:** 30 Minutes

**Group Size:** Pairs or groups

**Standards:** Language Arts LA.C.1.2, Science SC.H.1.2

### Material

book or magazine articles on the International Space Station

flip chart

markers

paper

### Procedure

1. Read a brief article on the ISS to learn the purpose of each module.
2. Make a list of what you would need in or on a space station to survive and fulfill your mission as space explorers. Focus on what compartments and equipment would help you fulfill your mission and live comfortably.
3. Compare the lists with the other students and alter your list as necessary.
4. Design a Space Station on paper, identifying specific modules. Compare your design to the other teams. Be prepared to explain why you included each component in your design.

### Evaluation

Have you met the basic needs of life? Explain how you get water, food and air on a space station.

### Extension

Research what astronauts take into space. What can they eat in space? How do they go to the bathroom?

Source - <http://liftoff.msfc.nasa.gov/academy/astronauts/food.html>



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## BUY AND BUILD

NASA spends billions of dollars on space exploration and only a small percentage goes to the development and maintenance of the International Space Station. Budgeting and finances for a program is as much of a challenge as sending the station soaring in orbit. Try to use a budget to purchase the materials needed to build a space station. Be sure to include all the necessities and don't forget your toothbrush.

**Grade Level: 3 - 5**

**Duration:** 1 hour

**Group Size:** Pairs or groups

**Standards:** Mathematics MA.B.3.2, Science SC.G.2.2

### Material

3 x 5 index cards

recyclables such as 2 liter bottles, cans, cups, straws etc...

tape

foil

toy money

### Procedure

1. Create a store with recyclables.
2. Place a price on the items. Larger items would cost more, as would any unique items in the store such as toys or stickers.
3. Browse through the store to determine how much items would cost to create your space station. Create a budget for your space station based on the prices in the store or create a maximum budget.
4. Based on the list created in the Shopping List for Space activity, shop for items in the store to create a space station. Be sure to allocate items for the necessities on your lists. Shop for items needed to build a space station.
5. Build your station. Do you have enough supplies? If not purchase more items or return items for credit or to purchase other material.
6. Show your creation to the class and explain each section.
7. Allow for question and answer time about your station.

### Evaluation

Were you able to budget for all the items needed for your space station?

### Extension

Can you create a model of the ISS with recyclables?

Source - [http://news.bbc.co.uk/cbbcnews/hi/find\\_out/guides/tech/international\\_space\\_station/newsid\\_1614000/1614431.stm](http://news.bbc.co.uk/cbbcnews/hi/find_out/guides/tech/international_space_station/newsid_1614000/1614431.stm)

