

Treaties of the New Frontier Launching Laws for Space

About half the countries in the world have some type of space program. And now private companies are going into space. What would happen if one company's satellite crashed into another satellite? What if three different countries wanted to colonize Mars?

The Mini Page talked with a professor of space law to find out more about the rules of the new frontier.

The high seas

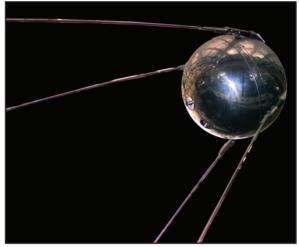
In many ways, outer space is like the high seas, or the open ocean far from any country. No country can claim it owns the ocean far beyond



its coastlines. In the same way, no one owns outer space.

Most of the world's countries have signed **treaties**, or agreements, to protect the sea for everyone's use. Laws protect the environment, fishing and people traveling over the seas.

Laws can be hard to enforce on the high seas — and in outer space. Treaties and pressure from other countries help make sure the seas stay open to everyone. Usually this works.



When the Soviets launched Sputnik 1 in 1957, they started the space age.

The seeds of space law

The United States and the Soviet Union^{*} signed the first major space treaty in 1967. At that time, the two countries were enemies. They were in the middle of the Cold War, a scary time when there was a threat of real war.

The United States was upset when the Soviets launched Sputnik, the first satellite made by humans, into Earth's orbit. The U.S. worried that if the Soviet Union could send a satellite over our country, it might also be able to launch a bomb over America.

*The Soviet Union was a large country spread over parts of Asia and Europe. It broke up into several countries in 1991.

The law takes off

The United States wanted the Soviet Union to agree to certain limits in the use of outer space. It especially wanted to ban weapons in space.

Officials in the Soviet Union wanted some rules as well. They knew the United States could catch up with or overtake them in space. They didn't want America sending weapons over their country either.

The two countries agreed that outer space could not be used for orbiting weapons of mass destruction. Weapons could not be placed on any body in space, such as the moon.



The treaties held. In 1975, the Americans and the Soviets joined together in the first international human spaceflight, the Apollo-Soyuz mission. The two craft docked in space to test how an international space rescue would work. The artist imagines the two crews working together.

Working Together

For the good of all

The Soviet Union and the United States agreed to freedom of outer space exploration for the benefit of all humanity. Both countries wanted to make sure that outer space was for international cooperation. Outer space, including **celestial** (suh-LESchuhl), or outer space bodies, could not be taken over by any country.

When Americans landed on the moon, they did it on behalf of all people. When the Apollo missions brought back samples of moon rocks, NASA gave scientists all over the world access to study those rocks.



Apollo 12 astronaut Alan Bean collects samples of moon dust.

photo courtesy NASA



Even though Neil Armstrong planted the U.S. flag on the moon, it did not mean the United States could control the moon.

Putting the law into practice

In 1978, a Soviet nuclear-powered satellite burst apart over Canada. Luckily, no one was hurt, but it spread dangerous radioactive waste over thousands of square miles.

Many countries had already signed a treaty about satellite use. This made it easier to settle this problem. The Soviet Union agreed to pay \$3 million (Canadian) in damages.

Private concerns

Treaties among countries include guidelines for covering damages. For example, if a U.S. satellite crashes into a Chinese satellite, the U.S. would have to pay for damages.

But what happens when a satellite owned by a private company crashes into someone else's property?

If a private company's spacecraft damages anything in another country, that company's home country is responsible, or **liable** (LIE-uh-buhl). The company may then be forced to repay its own country for part or all of the damage costs.

Most countries make sure private companies have money set aside to pay any possible damages. Only then do they grant companies licenses to launch satellites.



A National Weather Service satellite collects data from the Earth's poles.

from The Mini Page © 2014 Universal Uclicl

oto courtesy NOAA

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Ready Resources



The Mini Page provides ideas for websites, books or other resources that will help you learn more about this week's topics.

On the Web:

- youtube.com/watch?v=i5D8e71c75U
- youtube.com/watch?v=V5OcSMg30g8
- youtube.com/watch?v=KMFvr1VwSSo

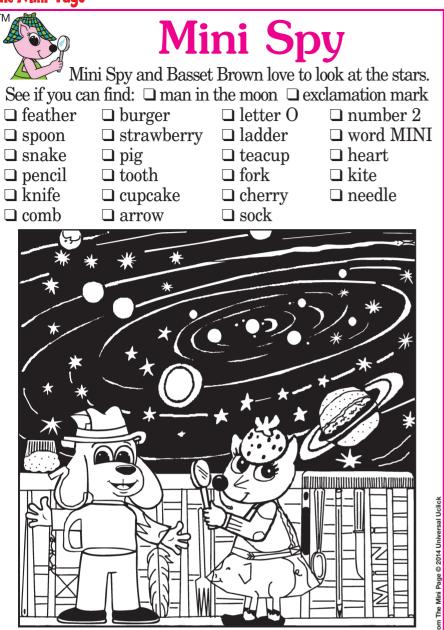
At the library:

- "Mission: Mars" by Pascal Lee
- "Shh! We're Writing the Constitution" by Jean Fritz

Space Laws															
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Words that ramind us of space law are hidden in the block above. Some												~			

Words that remind us of space law are hidden in the block above. Some words are hidden backward or diagonally. See if you can find: CELESTIAL, COLONY, EARTH, EXPLORATION, INTERNATIONAL, LAUNCH, LAW, LIABLE, MARS, MOON, ORBIT, PAY, PLANET, SATELLITE, SEA, SPACE, SPACECRAFT, TOURISTS, TREATY, TRIP.







from The Mini Page © 2014 Universal Uclick Andrew McCutchen

In the sunny days of spring training, Andrew McCutchen warms up, preparing for another baseball season he hopes will be as good as his was last year.



Height: 5-10 Weight: 190 **Birthdate:** 10-10-86 Hometown: Fort Meade, Fla.

The versatile Pittsburgh centerfielder batted .317 with 21 home runs, was voted National League Most Valuable Player and led the Pirates into the playoffs. McCutchen can do it all: hit, run (27 stolen bases) and cover the outfield with grace. He has made only 7

errors in the last two seasons. During the offseason, McCutchen helped raise

money for a youth baseball program in Fort Meade, Fla., where he excelled as a high school athlete in football and track as well as baseball.

McCutchen remains a hero in his hometown - and in Pittsburgh, where he's a Pirate whom opponents don't like to face.



Veggie Blossom

You'll need:

• 1 round cucumber slice

• 7 to 9 round carrot slices

These are ingredients for one flower. Make several, and vou'll have a garden!

- 1/2 celery stalk • 1 tablespoon cream cheese or peanut butter
- 2 spinach leaves

What to do:

- 1. Wash all vegetables; peel and slice.
- 2. Place cucumber slice in middle of plate.
- 3. Position carrot slices around the cucumber to form petals.
- 4. Spread peanut butter or cream cheese on celery stalk. Place stalk on lower part of cucumber slice to form a stem.
- 5. Arrange spinach leaves on either side of the celery stalk.

You will need an adult's help with this recipe.

Meet Skai Jackson



Skai Jackson stars as Zuri in the Disney Channel series "Jessie." She has acted in several films, including "The Smurfs" movie. She has appeared on "Sesame Street" and in the Hallmark Channel's "The Watsons Go to Birmingham."

She has been a voice actor for many shows, including "Dora the Explorer," "Bubble Guppies" and "Team Umizoomi."

She has also been in many commercials.

Skai, 11, grew up in New York City and now lives in Los Angeles. She enjoys fashion designing, playing video games and being with her friends.

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Stuart: Where do you park at the space station?

Susan: At a parking meteor!

Sarah: How do you organize a flight to the space station? Sadie: You need to planet well!

Brave New Worlds

Space tourists

Several private companies are planning space tourism projects. Space tourists are already paying millions of dollars to go up in space. By the time you are an adult, space trips will probably be more affordable.

Some companies are considering setting up orbiting hotels. Maybe you will stay a week in outer space!

Space tourism presents special problems for the law. Today, astronauts have to complete a demanding training process. They are not likely to get stressed or do strange things because of nerves.

But tourists won't have this type of training and experience. What if one passenger steals from another passenger? Earth isn't going to send police officers into orbit. The companies would have to handle it in a legal manner.

Nations still have to develop laws to deal with space tourism and colonization. In 20 years, you might be one of the people making these brave new laws. Or maybe you or your children will be traveling in space.





Space colonies

There are no laws in place about colonizing the moon or other planets. Space colonists would probably follow a similar path to ones taken by colonists on Earth.

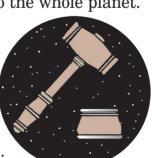
For example, the Chinese could send colonists to Mars. But they could not claim Mars as part of China. They could not keep out Americans who also wanted to go to Mars.

Chinese laws or American laws would not apply to the whole planet.

They would apply only to their own citizens.

Planetary colonists would probably not follow the laws of their home countries

for long anyway. Colonists would build their own societies and laws.



In this artist's vision of a Mars colony, the living quarters are covered with soil to protect the colonists from the sun's radiation. The settlement has a greenhouse and a pressurized work area where colonists would not have to wear spacesuits.

art by Case for Mars, courtesy NASA

Getting together

Today, 102 countries have signed an international space treaty. Not all of these countries can launch rockets, but they have an interest in what happens in space.

Once a year, countries with space programs meet in Vienna, Austria, to discuss space law. The United Nations helps



set up these meetings, but cannot enforce any space treaties.

The Mini Page thanks Dr. Frans G. von der Dunk, space law professor, University of Nebraska-Lincoln, College of Law, for help with this issue.

Look through your newspaper for stories about outer space.

Next week, The Mini Page celebrates the animation of "Mary Poppins."

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