

Issue Overview: Space mining

By Bloomberg, adapted by Newsela staff on 10.07.16

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An image mosaic of the asteroid Eros, with sunlight coming from the northeast, taken by the robotic NEAR Shoemaker space probe on March 3, 2000, from a distance of 204 kilometers (127 miles).

Thousands of very valuable rocks are flying through space. Asteroids have been known to be out there since being first seen in 1801. Some people want to try to make money from them. At least two companies plan to mine asteroids near Earth for precious metals. Many scientists think they could be important to future space travel. Yet it is not clear who would own these asteroids. There also are plenty of people who think the whole plan is ridiculous.

The Situation

Scientists have counted more than 13,000 asteroids near Earth. About three more are found each day. In July 2015, a spacecraft took off from the International Space Station. The space station is orbiting Earth. The spacecraft is owned by Planetary Resources, which wants to mine asteroids. The spacecraft will test equipment for an asteroid mining expedition.

Many asteroids contain water and precious metals, especially platinum. They might contain other precious metals, such as gold and silver. Platinum is used to make everything from fancy jewelry to cellphones.

NASA is the U.S. space agency. It is planning its own mission to visit an asteroid and bring rocks back home. American lawmakers have decided that companies can own whatever they mine in outer space. Peter Diamandis helped start a company called Planetary Resources. He thinks that a company could get \$50 billion worth of platinum from a single asteroid that is 30 meters in diameter. Thirty meters equals about 100 feet. There are thousands of asteroids that are larger, he said. In 10 years, Planetary Resources aims to get water from an asteroid.

Deep Space Industries is another company. It wants to use 3-D printing to build a factory in space. The 3-D printers build objects by squirting layers of melted plastic layer over layer.

The Background

Asteroid mining is an old idea. A Russian scientist suggested something like it back in 1903. As humans began going to space in the 1960s, people started talking seriously about asteroid mining. President Lyndon Johnson liked the idea. Scientists suggested different mining plans. Some of them made sense, and some did not. Since then, rocket technology has improved. Satellite parts are cheaper. Scientists these days know much more about asteroids.

Asteroid mining looks like it really could happen. Humans might travel in space more often. The water on asteroids could be used to make rocket fuel. Water could also be used to power satellites or maybe for drinking. Although, you probably do not want to be the first to take a sip.

The Argument

Some people say companies could make trillions of dollars. Others say it would be a huge mistake. Scientists at Harvard University studied the asteroids. They found that only 10 asteroids would be worth even trying to mine. Most are either too small, too far away or too bare to make any money. The mining companies do not agree.

There are other problems that make mining tough. Asteroids have different types of surfaces. Their interiors are not always solid. They have hardly any gravity. Companies will need new technology to mine them. Also, bringing back huge amounts of platinum could lower its price. Companies then would not make as much money.

More importantly, this mining might not even be allowed. International rules say no one can own outer space. However, these rules do not really say whether anyone can mine asteroids or who owns what they dig up.

That is one question, among many, that still requires an earthly answer.

DEFINITIONS

asteroid

A rocky object in space that orbits, or circles, our sun

mining

The process of taking coal, minerals, and metals from under the ground

precious metals

A group of metals that are rare and are worth a lot of money, such as gold, silver, and platinum

Quiz

- 1 How does the information in the introduction [paragraph 1] support a MAIN idea of the article?
- (A) It explains how long people have known about asteroids.
 - (B) It explains why asteroids could be valuable.
 - (C) It gives background information about asteroids.
 - (D) It gives reasons why asteroid mining is a ridiculous idea.
- 2 Which selection from the article is MOST important to include in its summary?
- (A) Many asteroids contain water and precious metals, especially platinum.
 - (B) The 3-D printers build objects by squirting layers of melted plastic layer over layer.
 - (C) Asteroid mining is an old idea. A Russian scientist suggested something like it back in 1903.
 - (D) Scientists at Harvard University studied the asteroids.
- 3 Which section of the article explains why asteroid mining could be difficult?
- (A) Introduction [paragraph 1]
 - (B) "The Situation"
 - (C) "The Background"
 - (D) "The Argument"
- 4 Based on the section "The Background," which of the following statements is TRUE?
- (A) Russian scientists were the first to mine asteroids.
 - (B) President Johnson approved asteroid mining in the 1960s.
 - (C) Today's technology might make it possible to mine asteroids.
 - (D) Mining asteroids will help make satellite parts be cheaper to increase space travel.