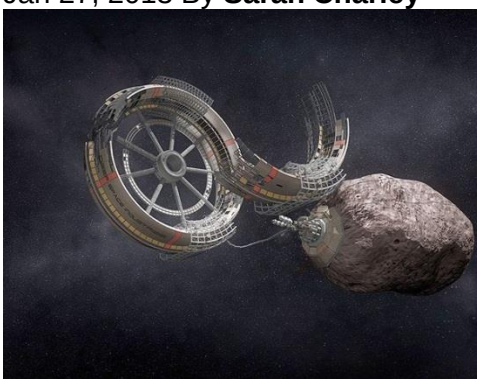
http://www.youngzine.org/article/race-mine-asteroids

A Race To Mine Asteroids

Jan 27, 2013 By **Sarah Charley**

Thursday: Mark up this text with evidence of a close reading (annotation). Show your thinking!

Friday: Write a thoughtful response to the questions at the end.



Courtesy DSI

Although the concept sounds like it was plagiarized from a sci-fi movie, the idea of mining asteroids for rare metals and other materials has been floating around since the 1970s. Recently, two independent companies revived this idea and are competing to be the first prospectors in space.

One company, Deep Space Industries announced earlier last week that they plan to harvest materials from asteroids as soon as 2015.

Using resources harvested in space is the only way to afford permanent space development," said Deep Space Industries CEO David Gump at a press conference last week. "More than 900 new asteroids that pass near Earth are discovered every year… Metals and fuel from asteroids can expand the in-space industries of this century."

Their long-term goal is to harvest water and other volatile materials from asteroids and turn it into fuel for satellites and other spacecrafts. Deep Space Industries also plans to extract metals from the asteroids which can be used in a space-unique "3-D printer" that the company is also developing.

A Fuel Depot In Space?

The Asteroid belt

While Deep Space Industries is focusing on developing crafts capable of transporting up to 45 kilograms (100 pounds) of material, the other asteroid mining company, Planetary Resources Inc., is currently focused on creating miniature space telescopes that will survey the near earth asteroids and determine which ones

are the best targets for mining.

First, we're going to identify all of the most valuable near earth asteroids, where they are, what they are made of, and how to reach them," said Planetary Resources Inc. co-founder and co-chair Eric Anderson. "Second, we're going to develop the technology and the capability to transform the resources into valuable materials. Third, we're going to deliver those materials to the point of need, whether it's a fuel depot orbiting the earth or elsewhere in space."

While their approaches are different, both companies agree that if the human race is serious about space exploration, then we will need to make ourselves and our future space explorers independent from earth's resources. "We will only be visitors in space until we learn how to live off the land there," said Deep Space Chairman Rick Tumlinson.

Why Asteroids?

Asteroids, although they look like dull chunks of rock floating in space, are a repository of many important resources. In fact, many scientists speculate that all the water on earth was delivered via ice-rich asteroids colliding with the earth millions of years ago. Some scientists even speculate that life on earth was seeded by asteroids carrying primitive single-celled organisms and amino acids, the building block of life. With this new interest in surveying, visiting, and eventually mining asteroids, who knows what we will find next!

Written response: Write a 2-3 paragraph response that explains your thoughts about this topic. Consider the following:

- Do you think it is possible to mine asteroids?
- Would the benefits outweigh the costs?
- What kind of technologies would have to be invented to mine near-earth asteroids?

When you write your response, remember to write it as if your audience had not read the article. Don't use pronouns such as *it, they*, or *we* – explain who or what you're discussing. Put some thought and <u>detail</u> into your response!