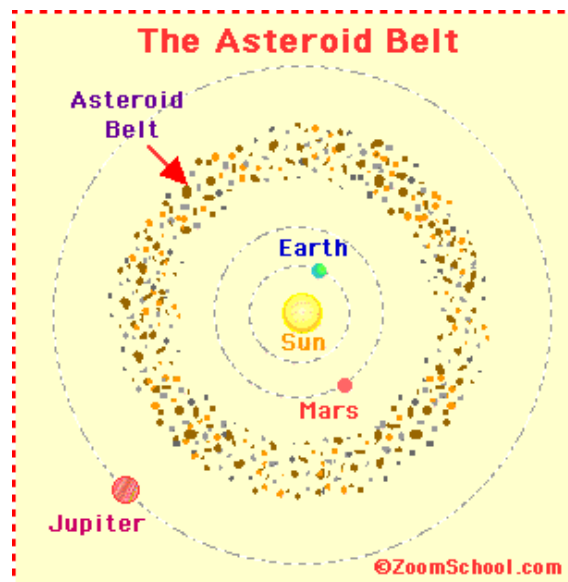
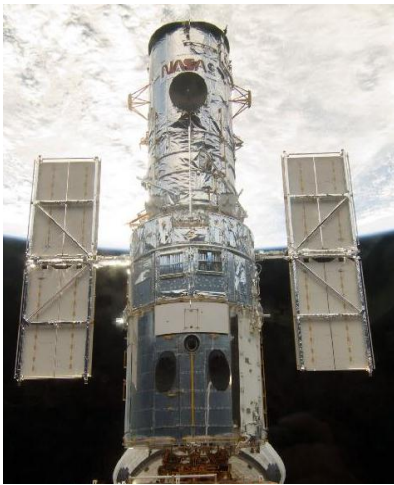


## Mars Rover Model Celebration – Lesson Plan



### **astronomy:**

the scientific study of stars, planets and other matter outside the Earth's atmosphere

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### Introduction:

**TEACHER:** Teach the vocabulary card “astrology” before this card so that the Reflection activity below will make sense to your students.

Now let’s learn about the other word, **astronomy**. Astronomy means “the scientific study of stars, planets and other matter (like gases and dust) outside the Earth’s atmosphere (in outer space)”. Let’s look at some pictures that will help us understand the word “astronomy”. The first picture shows the crew of Apollo 11, the first astronauts to land on the Moon. Astronauts are highly trained scientists and part of what they do in space is study astronomy. The next pictures show some of the scientific tools that astronauts and other scientists use to learn more about astronomy. The first is the Hubble Telescope. Astronomy involves learning about objects very far away. The Hubble telescope allows scientists to look at objects that are so far away it would take millions of years to reach them using our fastest spaceships. Astronomy also involves studying the planets. The next picture shows a drawing of a future Mars Rover. It will study the surface of the planet Mars. Both the Hubble Telescope and the Mars Rover are important tools for astronomy. The last picture shows us something scientists were able to find out about astronomy by using similar tools. We now know that there is a ring of asteroids between Mars and Jupiter that circle the sun. There are over 40,000 asteroids in this ring and the biggest one, the dwarf planet Ceres, is larger than the state of Texas (about 1000 kilometers in diameter).

The word “astronomy” is made from two ancient Greek words. The root of this word is from the Greek word “astro” which means “star”. The suffix “nomy” means “a system of rules or laws”. So taking the two word parts together, astronomy means “a system of rules or laws about the stars”, which is close to the definition I just gave you. As you can see, knowing word parts can help you understand the meanings of new words you may encounter as you read.

### Example:

As you learn about Mars, you will be studying astronomy. If you find this interesting, you may wish to consider studying astronomy in college. With a degree in astronomy, you might work as a scientist or astronaut for NASA.

### Reflection:

I am going to describe some things people say they have learned from studying stars and planets. I want you to tell me if you think the information is more likely to have come from ASTRONOMY or ASTROLOGY.

- The position of the Sun is related to different diseases including: poor eyesight, baldness, and headaches. (ASTROLOGY)
- Meteor showers are caused by the burning of dust particles in the Earth’s atmosphere when the Earth passes through trails of dust left by comets. (ASTRONOMY)
- Venus does not have many mountains or hills, but it has “pancake” (or flat) volcanoes. (ASTRONOMY)
- Uranus has 11 rings and is a gas planet. (ASTRONOMY)
- Our emotions – or how we feel – are related to the position of the Moon (ASTROLOGY)

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- Your soul mate – that one special person in your life – can be determined by comparing the position of the Sun and stars on both your birthdays (ASTROLOGY)

### **Make it personal:**

Imagine that you are a scientist at NASA. You might be studying anything in outer space (one of the planets or moons, the Sun, other stars or faraway galaxies). Think about this: if you could study any aspect of astronomy you wanted, which would you pick and why? Share your idea with a neighbor. Start your sharing with, “If I could study any aspect of astronomy, I would choose...” I will ask some of you to share your ideas.