

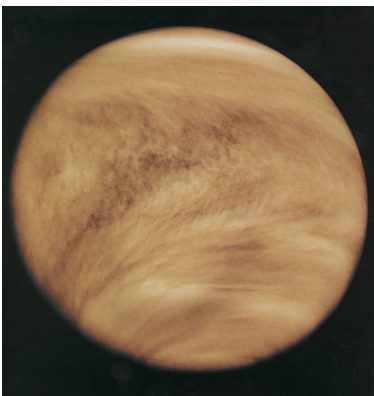
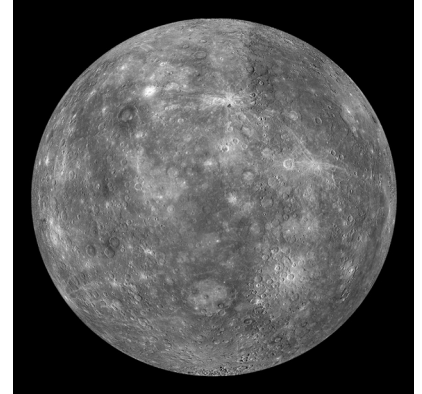
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Planet Resources p. 1

Choose a planet, then use these pictures and facts to create a brochure.

Mercury

- Mercury is the smallest planet in our Solar System. It's just a little bigger than the Earth's moon.
- Mercury is a small terrestrial planet. It has a solid, rocky surface covered with craters and a very thin atmosphere.
- Mercury doesn't have any moons.
- Mercury has been visited by two spacecraft, Mariner 10 and MESSENGER.
- Mercury is the closest planet to the Sun.
- Mercury is not the hottest planet in the Solar System; Venus is!
- Mercury has been known since ancient times. Because it orbits close to the Sun, it's harder to find, but you can sometimes see Mercury without a telescope at sunrise or sunset.



Venus

- Venus is the hottest planet in our Solar System. It has a thick atmosphere full of the greenhouse gas carbon dioxide, and clouds made of sulfuric acid, which trap heat and keep the planet from cooling down. That makes Venus 880° F on its surface. That's very hot!
- Venus is a small terrestrial planet, which means it is mostly made of rock. It has almost the same diameter as the Earth.
- Venus has craters and volcanoes.
- Venus doesn't have any moons.
- Venus rotates in the opposite direction as the Earth and most other planets and moons.
- Venus has been visited by about 20 spacecraft from the United States, Russia, Europe and Japan. The U.S. spacecraft that visited Venus are Mariner 2, Mariner 5, and Mariner 10. We also sent Pioneer Venus 1, Pioneer Venus 2, and Magellan.
- Venus has been known since ancient times, and is often the brightest planet in the sky. You do not need a telescope to see Venus, but it is only visible a few hours after sunset and before sunrise.

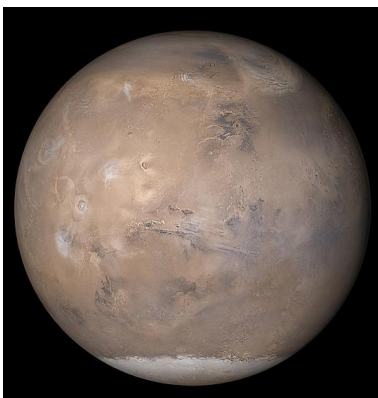
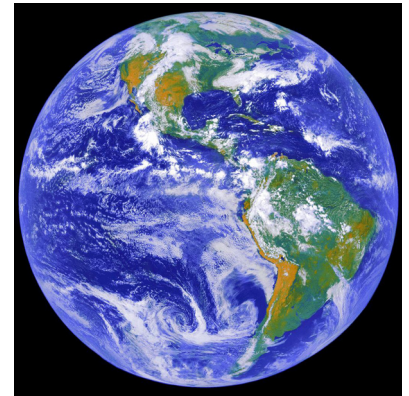
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Planet Resources p. 2

Choose a planet, then use these pictures and facts to create a brochure.

Earth

- As far as we know, the Earth is the only planet in our Solar System with plate tectonics and where there is life.
- The Earth is a terrestrial planet, which means it is mostly made of rock. Terrestrial means “Earth-like.”
- Earth has water covering 70% of its surface.
- The Earth’s atmosphere is mostly made of nitrogen (78%) and plenty of oxygen for us to breathe (21%). It also has small amounts of other gases, including carbon dioxide. The atmosphere is the right chemical make-up and thickness to keep the planet warm, so living things like us can be here.
- We’re the only planet to have just one moon.
- Earth has many human-made satellites orbiting it, taking pictures and measurements. This is how we can learn more about weather, oceans, soil, climate change, and many other important things.



Mars

- Mars is a terrestrial planet. It is small and rocky with many craters. It is a cold desert world half the diameter of the Earth.
- Mars is called the Red Planet because the rocks and dust on its surface contain iron oxide, making it look red—just like rusty things here on Earth.
- Mars has the tallest volcano in the solar system.
- People have sent more than 50 spacecraft to Mars. Because it is hard to land on Mars, only twenty of these space missions were successful.
- Mars is the only planet we’ve sent rovers to. Rovers are robotic vehicles that drive around taking pictures and measurements.
- Mars has a thin atmosphere that is only 1% as thick as the Earth’s. It’s made of carbon dioxide, nitrogen, and argon.
- Mars has been known since ancient times because it can be seen without a telescope. It is a bright reddish-orange color.
- Mars has two tiny moons named Phobos and Deimos.

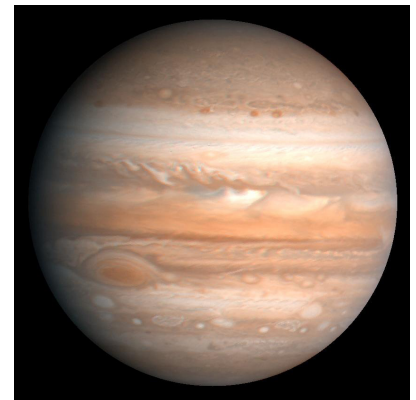
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Planet Resources p. 3

Choose a planet, then use these pictures and facts to create a brochure.

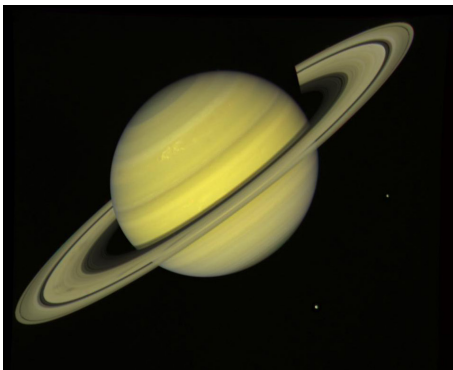
Jupiter

- Jupiter is the biggest planet in our Solar System.
- Jupiter is a gas giant with a very thick atmosphere made mostly of hydrogen and helium. Jupiter doesn't have a solid surface, but it may have a solid inner core about the size of the Earth.
- Jupiter is famous for its giant Red Spot which is a swirling storm. It changes over time, but its diameter is more than 2 to 4 times larger than the Earth's diameter.
- Jupiter has been known since ancient times because it can be seen without a telescope.
- Jupiter has 51 confirmed moons and 17 unconfirmed moons—we're waiting to get more information before we can be sure they are moons.
- Jupiter's biggest moons were discovered about 400 years ago by Galileo when he built his first telescope.
- Nine different spacecraft have visited or passed by Jupiter. Some of those spacecraft include Pioneer 10 and 11, Voyager 1 and 2, Cassini, Juno, Galileo, and New Horizons.



Saturn

- Saturn is a gas giant made mostly of hydrogen and helium and looks yellowish in the sky.
- Saturn has thousands of rings made of billions of particles that are mostly water and ice. Some particles are as small as sand, and others are as large as mountains. Some meteoroids have even been pulled into Saturn's rings.
- Saturn has 62 known moons! Nine of them are unconfirmed, so we need to make more observations to make sure they are really moons.
- Five spacecraft have been by Saturn, including Pioneer 11, Cassini, and Voyager 1 and 2.
- Saturn has been known since ancient times because it can be seen without telescopes.



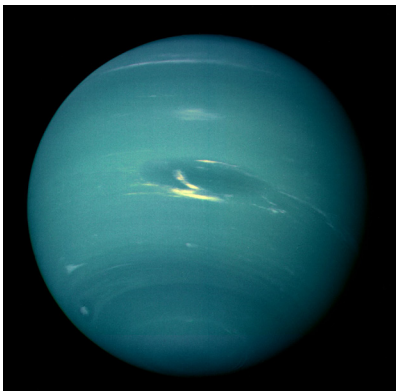
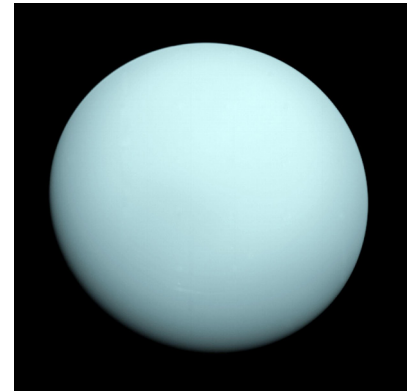
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Planet Resources p. 4

Choose a planet, then use these pictures and facts to create a brochure.

Uranus

- Uranus is the third largest planet and is very cold and windy. It is made of water, methane, and ammonia surrounding a solid, rocky core.
- Uranus has a thick atmosphere made of hydrogen and helium with a little methane. The methane makes Uranus blue.
- Uranus has 13 rings which may be made of ice, rock, or other organic materials. The 9 inner rings are dark and hard to see.
- Like all planets, Uranus spins on its axis. But, it's tipped over so that it appears to roll as it orbits.
- Uranus has 27 moons and all are smaller than the Earth's moon.
- Uranus has only been visited by Voyager 2.
- Uranus was discovered in 1781 by William Herschel, an English astronomer.
- Uranus is dim and hard to see—most of the time you need a telescope.



Neptune

- Neptune is the fourth largest planet. Like Uranus, it has a thick and deep atmosphere surrounding an Earth-size core.
- With large telescopes, astronomers observe clouds on Neptune and a dark spot about the size of the Earth.
- Methane gives Neptune its blue color, but it's a different blue than Uranus and astronomers don't know why.
- Neptune has 6 rings that aren't smooth. They are clumpy.
- Neptune is the coldest planet in our Solar System.
- Neptune has 13 moons, plus one unconfirmed moon.
- Only Voyager 2 has visited Neptune.
- Neptune was discovered in 1846 by German and British astronomers, after French and English mathematicians predicted its location.
- You need a telescope to see Neptune.