|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Mercury** | | | **Mercury means:**  Mercury was the Roman version of the god Hermes. He was the messenger for the other gods, and for this reason Mercury is often depicted in pictures with winged sandals. In addition to delivering messages, he was also the protector of travelers and merchants.  **How much would you weigh on Mercury?**  If you moved to Mercury you would not weigh as much as you do on Earth. Not because you would lose weight on the space ship, but because Mercury is smaller, and so has less gravity. If you weigh 70 pounds (32 kg) on Earth, you would weigh only about 27 pounds (12 kg) on Mercury.  **The Planet:**  **Mercury is a world of extremes.  Because it is so close to the Sun a visitor could easily cook to death.  However, because mercury spins so slowly it gets very cold in the night time, which means a visitor could also freeze to death.**  **We are just starting to understand this world.  It looks a lot like our moon, because it has craters and  basins.   Scientists used to think it acted like the Moon,  but we are now learning that Mercury is in fact very different.  In March of 2011, NASAs Messenger probe entered Mercury's orbit. It will soon give scientists a lot of new information about Mercury.**  **Moons:**  **Mercury has no moons.**  Mercury is so close to the Sun and so small that it has only a very small atmosphere. It has been blown away by the Sun's solar winds. That means that there is almost no air on Mercury. | |  |  | | --- | --- | | **Mercury** | | | 1 Orbit of Sun | **87.969 Days** | | 1 Rotation | **58.6461 Days** | | Mass | **5% of Earth** | | Volume | **5% of Earth** | | Escape Velocity | **15,450 km/h** (9,600 mph) | | Distance From Sun | **57 million kilometers** (36 million miles) | | Maximum Temperature | **465°C** (870° F) | | Minimum Temperature | **-184°C** -300° F | | Atmosphere | **Hydrogen, Helium** | | Diameter | **4876 kilometers** (3030 Miles) | | |  |  |  |  |  | | --- | --- | | **Venus** | | | **Venus means:**  Venus was the Roman goddess of love and beauty. In Greek her name was Aphrodite.  **How much would you weigh on Venus?**  Because Venus and the Earth are almost the exact same size, you would weigh almost exactly the same on either planet. If you weighed 70 pounds (32 kg) on Earth, you would weigh 63 pounds (29 kg) on Venus.  **The Planet:**  **Venus is a hostile planet.  Its thick cloud cover makes it impossible to see the surface, and traps much of the Sun's heat.   This extra heat gives Venus the hottest average temperature of all the planets.**  **In many ways Venus is similar to the Earth.  It has active volcanoes, venusquakes, mountains and valleys.  The major difference is that Venus' atmosphere makes the planet far too hot for life.**  **Moons:**  **Venus has no moons.**  Because Venus and the Earth are the same size, scientists call Venus Earth's sister planet. For a long time most scientists thought that Venus had plants, animals, and possibly even people. However, because Venus is so hot, we now know that it is impossible for anything to live there. | |  |  | | --- | --- | | Venus | | | 1 Orbit of Sun | **224.701 Days** | | 1 Rotation | **243.16 Days** | | Mass | **81% of Earth** | | Volume | **86% of Earth** | | Escape Velocity | **37,498 km/h** (23,300 mph) | | Distance From Sun | **107 million kilometers** (67 million miles) | | Average Temperature | **449°C** (850° F) | | Atmosphere | **carbon dioxide, nitrogen,** | | Diameter | **12,107 kilometers** (7,523 Miles) | | |  |  | |  |  |  |  |  | | --- | --- | | **Earth** | | | **Earth means:**  Her name in Greek was Gaea. Earth was the mother of the mountains, valleys, streams and all other land formations. She was married to Uranus.  **How big is the Earth?**  The Earth is the biggest of all the terrestrial planets. A terrestrial planet is a dense planet found in the inner Solar System.  **The Planet:**  **Our planet is  an oasis of life in an otherwise desolate universe.  The Earth's temperature, weather, atmosphere and many other factors are just right to keep us alive.**  **Moons:**  **The Earth has one moon.  Its name is Luna.**  Scientists use the Earth to study all the other planets. Since no human has ever visited another planet, we have to use what we know about the Earth and try to guess what the other planets must be like. This is called Comparative Planetology. | |  |  | | --- | --- | | Earth | | | 1 Orbit of Sun | **365.3 Days** | | 1 Rotation | **23hour 56min** | | Mass | |  | | --- | | 13,200,000,000,000, | | 000,000,000,000 | | Pounds | | | Volume | - | | Escape Velocity | **67,578 km/h** (25,000 mph) | | Distance From Sun | **150 million kilometers** (93 million miles) | | Average Temperature | **7.2°C**  (45° F) | | Atmosphere | **nitrogen, oxygen, argon** | | Diameter | **12,755 kilometers**  (7,926 Miles) | | |  |  |  |  |  | | --- | --- | | **Mars** | | | **Mars means:**  Mars was the Roman god of war and agriculture. It may not seem like these two things go together, but they do. Mars protected those who fought for their communities and stayed home to raise crops for food.  **How much would you weigh on Mars?**  **If you weighed 70 pounds (32 kg) on the Earth, you would weigh about 27 pounds (12 kg) on Mars.**  **The Planet:**  **Mars excites scientists because its mild temperament is more like the Earth's than any of the other planets.   Evidence suggests that Mars once had rivers, streams, lakes, and even an ocean.  As Mars' atmosphere slowly depleted into outer space, the surface water began to permanently evaporate.   Today the only water on Mars is either frozen in the polar caps or underground.**  **Moons:**  **Mars has two moons, their names are Deimos and Phobos.**  Mars has much higher mountains and far deeper canyons than the Earth. Mars' biggest canyon would stretch from New York City to Los Angeles on the Earth. That makes the Grand Canyon look tiny. It also has the Solar System's biggest volcano called Olympus Mons. | |  |  | | --- | --- | | Mars | | | 1 Orbit of Sun | **686.98 Days** | | 1 Rotation | **24hour 37min** | | Mass | **10% of Earth** | | Volume | **15% of Earth** | | Escape Velocity | **18,024 km/h** (11,200 mph) | | Distance From Sun | **229 million kilometers** (142 million miles) | | Maximum Temperature | **36°C** (98° F) | | Minimum Temperature | **-123°C** (-190° F) | | Atmosphere | **carbon dioxide, nitrogen, argon** | | Diameter | **6794 kilometers** (4222 Miles) | | |  |  |  |  |  | | --- | --- | | **Jupiter** | | | **Jupiter means:**  Jupiter, known as Zeus in Greece, over threw his father Saturn to become king of the gods. He then split the Universe with his brothers Neptune and Pluto.  **How much would you weigh on Jupiter?**  If you traveled to Jupiter on vacation you would be very heavy. If you weigh 70 pounds (32 kg) on the Earth, on Jupiter you would weigh 185 pounds (84 kg).  **The Planet:**  **Jupiter's great red spot is where a giant storm has been raging for at least 300 years.  Its super hurricane winds blow across an area larger than the Earth.**  **This giant planet has no solid surface.  Under its atmosphere is a large liquid ocean of hydrogen and water.  What lies in between that ocean and the atmosphere?  Actually there is no in between.  The atmosphere slowly gets thicker and thicker until it becomes part of the ocean.  In other words, Jupiter's ocean has no surface on which you could float a boat.  The sky slowly becomes the ocean.**  **Moons:**  **Jupiter has 62 moons, 50 official and 12 unofficial.  The four largest and most well-known were discovered by Galileo in the year 1610. Their names are Io, Europa, Ganymede and Callisto. Some of the other moons are Adrastea, Ananke, Carme, Elara, Himalia, Leda, Lysithea, Metis, Pasiphae, Sinope, and Thebe.**  You can see the four Galilean moons of Jupiter with a pair of binoculars at night. Also, Jupiter spins really fast. It only takes 10 hours to go from night to day on Jupiter. For that reason, its middle has been stretched out. Rather than round it is short and fat. Kind of like when someone spins pizza dough really fast to stretch it out. | |  |  | | --- | --- | | Jupiter | | | 1 Orbit of Sun | **4332.59 Days** | | 1 Rotation | **9 hour 55 min** | | Mass | **317 times more than Earth** | | Volume | **1318 times more than Earth** | | Escape Velocity | **214,203 km/h** (133,100 mph) | | Distance From Sun | **777 million kilometers** (483 million miles) | | Average Temperature | **-153°C** (-244° F) | | Atmosphere | **hydrogen, helium, methane** | | Diameter | **142,983 kilometers** (88,846 Miles) | | | **Saturn** | | | **Saturn means:**  Saturn was the god of agriculture, he was called Cronus by the Greeks. He is the son of Uranus, and father of Jupiter. Saturn over threw his father to become king of the gods, but was then over thrown himself by his son Jupiter.  **How much would you weigh on Saturn?**  Because Saturn is bigger than the Earth, you would weigh more on Saturn than you do here. If you weigh 70 pounds (32 kg) on Earth you would weigh 74.5 pounds (34 kg) on Saturn.  **The Planet:**  **Saturn is a favorite object for many observers.  Its beautiful rings are 169,800 miles wide (approx 273,266 km). But the rings are amazingly thin. If you turned the rings on their side, they would be able to fit between the goal posts on a football field.  In many ways Saturn is similar to Jupiter, but it is much smaller.  Under the clouds of methane and helium, the sky gradually turns into liquid until it becomes a giant ocean of liquid chemicals.**  **Moons:**  **Saturn has 53 official moons and 9 provisional (unofficial) moons. The most well-known of Saturn's moons is probably Titan. It is the second largest moon in the Solar System next to Jupiter's Ganymede. Titan is larger than the planet Mercury. Some of the other moons are Atlas, Calypso, Dione, Enceladus, Hyperion, Iapetus, Janus, Mimas, Phoebe, and Tethys.**  Saturn has several hundred rings. However, it is not the only planet with rings. Jupiter, Uranus and Neptune also have rings. | |  |  | | --- | --- | | Saturn | | | 1 Orbit of Sun | **10,759.2 Days** | | 1 Rotation | **10 Hours 13 Min** | | Mass | **95 times more than Earth** | | Volume | **744 times more than Earth** | | Escape Velocity | **127,782 km/h** (79,400 mph) | | Distance From Sun | **1,429 million kilometers** (888 million miles) | | Average Temperature | **-184°C** (-300° F) | | Atmosphere | **hydrogen, helium, methane** | | Diameter | **120,536 kilometers** (74,898 miles) | | |  |  |  |  |  | | --- | --- | | **Uranus** | | | **Uranus means:**  Uranus was the lord of the skies and husband of Earth. He was also the king of the gods until his son Saturn overthrew him.  **How much would you weigh on Uranus?**  It would take you many years to fly a rocket to Uranus. When you arrived you would weigh more because Uranus is bigger than the Earth . If you weigh 70 pounds (32 kg) on the Earth, you would weigh 62 pounds (28 kg) on Uranus.  **The Planet:**  **Uranus is very odd.  Unlike all the other planets and most of the moons in our Solar System, Uranus spins on its side.  It is believed that long ago a very large object smashed into this planet.  The crash was so powerful that it completely changed the direction of Uranus' spin.**  **Uranus may have an ocean of water beneath its clouds.  It has a large rocky core, and because of the tremendous pressure could possibly contain trillions of large diamonds.**  **Uranus is almost identical to the planet Neptune.**  **Moons:**  **Uranus has 21 moons. Five of these moons are large and the rest are smaller. The largest moon is Titania, followed by Oberon, Umbriel, Ariel and Miranda. Some of the smaller moons are named: Belinda, Bianca, Caliban, Cordelia, Cressida, Desdemona, Juliet, Ophelia, Portia, Puck, and Rosalind.**  Scientists think Uranus has a huge water ocean underneath its clouds. | |  |  | | --- | --- | | Uranus | | | 1 Orbit of Sun | **30,684 Days** | | 1 Rotation | **17.2 Hours** | | Mass | **14.6 Times more than Earth** | | Volume | **67 times more than Earth** | | Escape Velocity | **76,605 km/h** (47,600 mph) | | Distance From Sun | **2,871 million kilometers** (1,784  million miles) | | Maximum Temperature | **-184°C** (-300° F) | | Atmosphere | **hydrogen, helium, methane** | | Diameter | **51,117 kilometers** (31,763 miles) | | |  |  |  |  |  | | --- | --- | | **Neptune** | | | **Neptune means:**  Neptune was originally only the god of water, but was later extended to the ocean when he became associated with the Greek god Poseidon.  **How much would you weigh on Neptune?**  If you weigh 70 pounds (32 kg) on the Earth, you would weigh 78.5 pounds (36 kg) on Neptune.  **The Planet:**  **Neptune has a giant storm much like the storm on Jupiter.   This storm is often called The Great Dark Spot.  We do not know how long this storm has been active, because it is so far away that we could not get a good view of Neptune until modern times when we began to send robot explorers.**  **For many centuries people did not know that this planet even existed.  It was discovered by Johann Galle and Heinrich D'Arrest in 1846.**  **Neptune has six rings which circle the planet.**  **Moons:**  **Neptune has 13 moons that we know of. Because Neptune is so far away, it is difficult to see any of these worlds. There are probably many more moons orbiting this blue planet which we have not yet discovered. Perhaps you will be the astronomer who discovers some of these worlds. The first moon to be discovered was Triton. Triton was discovered by an amateur astronomer in England named William Lassell only 17 days after Neptune was discovered in 1846. The names of the other moons are: Despina, Galatea, Halimede, Laomedeia, Larissa, Naiad, Nereid, Neso, Proteus, Psamathe, Sao, and Thalassa.**  Like Uranus, scientists think there is a very large water ocean under Neptune's clouds. | |  |  | | --- | --- | | Neptune | | | 1 Orbit of Sun | **60,190 Days** | | 1 Rotation | **16 Hour 17min** | | Mass | **17 times more than Earth** | | Volume | **57 times more than Earth** | | Escape Velocity | **84,651 km/h** (52,600 mph) | | Distance From Sun | **4,496 million kilometers** (2,794 million miles) | | Average Temperature | **-223°C** (-370° F) | | Atmosphere | **hydrogen, helium, methane** | | Diameter | **49,527 kilometers** (30,775 Miles) | |  |  |  | | --- | --- | | **Pluto** | | | **Pluto means:**  To the Romans, Pluto was thought to be the god to whom all men must eventually go. They believed him to be the god of the underworld. His name in Greece was Hades.  **How much would you weigh on Pluto?**  Because Pluto is so small you would be very light if you visited. If you weigh 70 pounds (32 kg) on Earth, you would only weigh 4 pounds (2.5 kg) on Pluto.  **The Planet:**  **Pluto is smaller than 7 of the moons in the Solar System. It is about two-thirds smaller than Earth's moon. Because it is so small, many scientists don't consider it a planet at all. In 1999, a group of scientists attempted to re-classify Pluto as a comet. On August 24, 2006, Pluto's status was officially changed from planet to dwarf planet. For decades, children have been taught in school that there are nine planets in our Solar System. However, with this change, there are now only eight planets. Also because of this change, there is a new category of small planets known as dwarf planets.**  **Moons:**  **Pluto has 3 moons. The largest is named Charon. Charon is only slightly smaller than its parent Pluto. For this reason, Pluto and Charon are often called a double system. The Earth and its moon, Luna, are sometimes considered double planets. Pluto's two other moons are called Hydra and Nix.**  Pluto is very far away. Only recently have scientists been able to send a probe to visit Pluto and take images of it up close. | |  |  | | --- | --- | | Pluto | | | 1 Orbit of Sun | **90,465 Days** | | 1 Rotation | **6 Days 9 Hours** | | Mass | **.02% of Earth** | | Volume | **1% of Earth** | | Escape Velocity | **15,449 km/h** (9,600 mph) | | Distance From Sun | **5,869 million kilometers** (3,647 million miles) | | Average Temperature | **-234° C** (-390° F) | | Atmosphere | **methane, nitrogen** | | Diameter | **2,390 kilometers** (1,485 miles) | | |

All Pages And Content Copyrighted By KidsAstronomy.com© 1998- 2018