

Chapter 1 : Neptune Facts - Planet Neptune - Neptune For Kids

Astronomy today is the same as astrophysics, and spending the mental power trying to decide what the differentiation is, to me, seems like a poor use of time. Categories are important, don't get me wrong, but only when they reveal telling similarities or distinct differences.

Autarch Panchanga tables under "History"[edit] Not sure if this is the right place but, the Rig Veda definitely postdates the Middle Bronze Age; the bullet under "History" that: For example, the Rig Veda mentions demons causing eclipses and some of the later material Atharvaveda and Chandogya Upanishad also mention eclipse-demons, especially Rahu. In essence this bullet point is like attributing astronomy to the ancient Hebrews because of Joshua This is the citation left there: An Ephemeris is an actual list of daily or other regular interval positions of a celestial body. Astronomical tables are something different, they contain tabular data out of which positions of a celestial body can be computed, by a more or less simple procedure orf multiple steps looking up numbers, adding, mulitplying, interpolating but they do not yet contain the actual positions. No one in the astronomical community uses a term like "scientific ephemeris". I agree with your approach because I am of the same opinion. At the same time I am under the impression that this particular article was intended as a "comparison" or as a "parallel" of astronomic and astrologic ephemerides, so maybe there is a place for it as such? If the historical perspective be enhanced and the content organized, it might become of some value. This is just a suggestion. Which, if applied, would rise the question: Hopefully, they moved it someplace appropriate before doing so. An encyclopedia, being encyclopedic, should cover both. I think this improved the present article but it seems a pity the information was not put in Ephemeris astrology if indeed there is such a thing. The calculation of the positions of interest only to astrologers is, as far as I know, carried out in a neutral manner, in much the same way as it would be computed by astronomers. The pseudoscience comes in how the astrological ephemerides are used. Some of the data which the removed material claims is not present in astronomical ephemerides is only absent from paper astronomical ephemerides. In electronic ephemerides such as the Multiyear Computer Interactive Almanac some of the so-called astrological data is present, such as geocentric ecliptic latitude and longitude of planets. When they say the sun is in Aries its really in the constellation of Pisces generally. Astrological sign hints at this: They use the same ecliptic coordinate system that astronomers do, they just use different nomenclature for the coordinates. I believe astronomers used to use this nomenclature a few hundred years ago. An abbreviated version of this nomenclature can be found in Nautical Almanac and Astronomical Ephemeris for the year ; numbers are used instead of names for the signs, but otherwise the nomenclature is the same as used by astrologers. Since I had never seen a blue bus I plucked up courage to ask what they were. This caused great amusement because the blue buses were painted yellow and green. The livery had been changed years and years earlier but everyone still referred to them as "blue". Firstly, about the factual content. Vowel lenght was felt much more important in ancient Latin and Greek than in modern English, so this would not normally have changed easily. Perhaps the American Heritage Dictionary of the English Language was referring to English pronunciation or simply made a mistake. I will go ahead with that if there are no objections. I do have the American Heritage Dictionary and just read the notes about how the etymologies were done; they did intend to provide their opinion of how the late Latin was pronounced. I have now changed it to be a bit more vague and less controversial and added another reference. There are simply more references to find for Classical Latin than for Late Latin, but if the only difference is the vowel lenght which got less strict by Late Latin anyway , we are probably best off not to make any claim about that detail and not specify a particular stage of Latin. Please take a moment to review my edit. If you have any questions, or need the bot to ignore the links, or the page altogether, please visit this simple FaQ for additional information. I made the following changes: As of February , "External links modified" talk page sections are no longer generated or monitored by InternetArchiveBot. No special action is required regarding these talk page notices, other than regular verification using the archive tool instructions below. Editors have permission to delete the "External links modified" sections if they want, but see the RfC before doing mass systematic removals. If you have

discovered URLs which were erroneously considered dead by the bot, you can report them with this tool. If you found an error with any archives or the URLs themselves, you can fix them with this tool. Clarity Needed[edit] The key to a definition is the verb "is" not "does" or "gives". The first sentence should be " As written the question goes unanswered. Is an ephemeris a book? A set of numbers? Without a clear definition the rest of the article is a struggle to fully understand. It could be a book, a chart, a set of numbers, or a calculator. Most people are not going to read these talk pages to find what should be in the main article in the first place. Multiple positions of multiple objects? Multiple positions of multiple objects for multiple times? If so, then what is ephemerides? It would help tremendously to have a readable example of a modern ephemeris with an explanation of the various entries and how to use it. The historical ones are interesting but unreadable. Keep in mind that some almanacs could also be called ephemerides. For one example of where the plural would be useful, look at the article Jet Propulsion Laboratory Development Ephemeris. JPL has produced dozens of ephemerides, which differ due to more up-to-date data, a goal to be as accurate as possible over a shorter span of years vs. Of course, these JPL ephemerides are computer models, not books.

Chapter 2 : Bullet point Arguments against life on other planets? | Yahoo Answers

The Roman Catholic Church had a 'Bullet Proof Argument' that the World was flat. To back it up, they stated that it was against God to think otherwise, and many People lost their lives in the most terrible fashion.

Share2 Shares 2K The Aztecs are best known for eating chocolate, killing boatloads of people in sacrifice to their heathen gods and eventually getting beaten by the Spaniards. They are known by most as a warlike, barbaric race, mostly due to the incredible amount of people they killed. However, contrary to popular belief, they were not without culture. The Aztecs had an incredibly complex system social structure and believed strongly in education, family and art. Even their system of slavery was very detailed and not at all like what you would expect slavery to be. In short, while they may have been extremely psychopathic, there is much more to the Aztecs than first meets the eye. Listed below are ten interesting facts about the Aztecs, many of which will challenge the popular ideas in regards to their history. The Aztecs played sports and were a very artistic people. Despite the idea in the popular mind of Aztecs being savages, they were a very artistic people. Aztecs were into pottery and sculpting and created many different artistic drawings as well. The Aztecs also played team sports, specifically a game very popular among them called Ullamaliztli. The game utilized a rubber ball, which was a fairly advanced concept for their time and was played on a court called a Tlachtli. The object of the game was to get the ball through a small stone ring; however, it was an extremely difficult game to play. The ball was not supposed to hit the ground, and players could only touch it with their head, elbows, knees and hips http: The Aztecs had mandatory schools separated between boys and girls. While the Aztecs put strong emphasis on parents teaching their children properly, they also had mandatory public schooling for all children. Those of a noble class had different schools to attend and schools were also separated by gender. Boys of nobility would be sent to the Calmecac School where they learned from the priests about history, astronomy, art, and how to govern and lead. Boys of lower caste were sent to the Cuicacalli School, which was much more focused on preparing them for possible service in the military as warriors. Girls were sent to separate schools and much more of their education was focused at home where they were taught domestic duties such as cooking and weaving. Most Aztecs were actually defeated by disease, not war. While many may attempt to claim that the Spaniards beat the Aztecs through military brilliance, this could not be further from the truth. In fact, the original attacks of the Spanish were thoroughly rebuffed and they had to beat a hasty retreat. The Aztecs actually had a fairly good chance at beating the Spanish and the overall war was a fairly close one. It can be easily said that if not for the smallpox contracted from the Europeans that wiped out so many of them, especially their leaders, that it is extremely unlikely they would have fallen to the Spanish. The amount of harm caused by European diseases was tremendous, it is estimated that over twenty million Mexicans died in a period of just five years due to the diseases brought over by the Spanish. The name Aztecs was given to them after the fact. We all know the Aztecs by that name, but it was not actually a name that they ever called themselves. The Westerners who came up with the name Aztecs likely took it from one of the original places that the Aztecs lived around the twelve century, called Aztlan, which was in the Northern part of Mexico. However, the Aztecs themselves actually referred to themselves as Mexica , which is actually where the name for the country of Mexico originally came from. They had an advanced system for writing and keeping records. Knowledge on how to write things down was very specialized and was mostly performed by learned scribes and priests, who had the needed training. Records were kept on paper made of bark, or deer skin. The writing was usually performed using charcoal and then colored with vegetables and other substances. They kept tax records, historical records, kept information written down in regards to the religious sacrifices and other ceremonies and even wrote poetry. Sometimes they put their writings together in a sort of makeshift book that they called a codice. The Aztecs had very strange burial customs. We have all heard the legends in regards to building on top of an Indian graveyard, but the Aztecs cared little about having things built on top of their graves. If an Aztec was of very high stature, then they were generally cremated instead. The Aztecs believed that the cremation would change the soul of the dead warrior or ruler and send them straight to their version of heaven. Sometimes the Aztecs would also

kill a dog and bury or cremate it with the person so that it could guide them on their journey through the afterlife. They would often sell their own children into slavery. It was not at all uncommon in Aztec society for someone who was poor to sell their own children into slavery. Not only that, but many Aztecs would also sell themselves into slavery. In many cases someone would go bankrupt and feel that they had no way out, selling themselves or their children into slavery would give them some income and if they worked hard they might eventually be able to buy their way back out again. You could get married, have children and own your own land. Aztec men were allowed to practice polygamy. Aztec men were allowed to have more than one wife, however, there were certain strict rules governing these relationships. The other wives were only secondary but still recognized in the official records. While the first wife was considered the most important, the man was still expected to treat all of his wives with equal respect. While the man was the head of the household, women still had a lot of power in the relationship and were well treated in Aztec society. Extra wives contributed to the wealth of the family and were considered a mark of great status, this afforded them a high position in the culture. The Aztecs allowed divorce in some situations, but adultery by either party was punishable by death. The Aztecs had a unique system for slavery. Slavery among the Aztecs was much different than that of the Europeans and followed much different rules. Slaves children were not automatically property, and slaves could own possessions and even own other slaves. If a slave could present themselves in a temple, they would be freed, or if they could break away from their master and step on human excretion outside the market. If a slave tried to run away, only the master or his relatives were allowed to chase after them. Slaves were even able to buy their own freedom. The system for slavery among the Aztecs was quite unique, and much more like indentured servitude than most modern ideas of slavery. Some historians believe the sacrifices and cannibalism may have been due to a protein deficiency. While the most popular theory in regards to Aztec sacrifices is that they were simply performing rituals to their heathen gods and keeping people under control, an anthropologist named Michael Harner has a completely different idea. Harner estimated that roughly 20,000 people were ritually sacrificed by the Aztecs every year. The people who were sacrificed were often eaten, as part of the sacrificial ritual. Harner proposed the theory that the whole thing was cannibalism disguised as sacrifice because the Aztecs did not have enough meat in their diet. While it is not certain that the Aztecs ate each other due to a protein deficiency as Harner proposes, the evidence of cannibalism is very hard to ignore. You can follow Gregory Myers on twitter.

Chapter 3 : Biography for Kids: Scientist - Isaac Newton

Series was designed to cover groups of books generally understood as such (see Wikipedia: Book series). Like many concepts in the book world, "series" is a somewhat fluid and contested notion. Like many concepts in the book world, "series" is a somewhat fluid and contested notion.

Universe As the festive period is here once again, a lot of social gatherings and family time are part of the itinerary for most. So this year instead of telling the regular old Christmas cracker jokes why not entertain your friends and family with these pretty amazing space facts instead? There are thousands of other planets out there. We have eight planets in our Solar System. However, outside of our Solar System there are thousands of other planets. The extra-solar planets or exo-planets are in orbit around another star. So far we have almost confirmed new worlds, with another awaiting confirmation. The majority of planets discovered so far are hot gas giant planets. There are thousands of planets out there! In space the skin on your feet peels off! This is a pretty gross fact but in the micro-gravity environment, astronauts are not using their feet to walk. Therefore the skin on their feet starts to soften and flakes off. As laundry facilities do not exist in space, astronauts will wear the same underwear and socks for a few days. Those socks then need to be taken off very gently. If not those dead skin cells will float around in the weightless environment. On Venus a day is longer than a year. This is tricky one to get your head around but a year on Venus that is the length of time it takes to complete one whole orbit around the Sun is However it takes Earth days to rotate on its axis just once. The astronauts were placed in quarantine after returning from the moon. This continued until after the Apollo 14 crew returned safely. After this it was decided that the Moon did not contain any deadly diseases. One million Earths can fit inside the Sun. Ancient astronomers once believed the Earth was at the centre of the Universe but now we know that the Sun is at the centre of our Solar System and our planets orbit the Sun. The Sun makes up One million Earths would be needed to be the same size as the Sun. You can fit one million of our home planet inside the Sun. You become taller in Space. Another change to the human body in micro-gravity is that spine straightens out, as gravity is not pushing you down. In fact you can be up to as much as 5cm taller in the Space Station. Some times on the Earth, especially here in Northern Ireland the weather can be a bit rubbish! However our weather is awesome compared to some of the other planets. Mercury and Mars have extreme temperature changes in the same day. Venus is a scorching five times hotter than boiling water. Saturn and Uranus also have extremely fast winds. However Neptune has the fastest ever wind speeds reaching a staggering mph! Neptune the windiest planet as captured by Voyager 2 in Voyager 2, NASA 8. Space is not that far away. Space officially begins at the universal marker of the Karman Line. This invisible boundary is km above the Earth. In theory if you could drive your car upwards, you could be in space in less than hour. The hottest planet is not the closest planet to the Sun. Even though Mercury is the closest planet to the Sun, it is not actually the hottest. Mercury does not have any atmosphere meaning that this planet is only hot in the daytime when it is directly facing the Sun. Venus is the hottest planet. A surface probe would not exist on the surface of Venus for very long. This is an reconstruction of the surface of Venus as captured by Radar by the space craft Magellan in the s. De Jong et al. The moon looks bigger on the horizon There is an optical illusion which makes the moon appear to be larger the lower it is in the sky. The apparent magnification is not caused by our atmosphere. It is more of a mind trick. When the moon is closer to the horizon, it is closer to objects like buildings and trees which therefore in comparison makes the moon look bigger. However there are times when the moon really is bigger. During its elliptical orbit the moon has times when it is actually slightly closer to the Earth Perigee or further from the Earth apogee. Usually is not noticeable to the eye. He catalogued many stars and objects, and has a crater on the moon, and supernova remnant named after him. However his wild antics are perhaps just as interesting. He wore a fake silver nose after losing his real one in a sword fight and he also had a pet moose which died falling down the stairs after one to many drinks. When his body was exhumed and examined in , it is thought that a burst bladder was the cause of his death not mercury poisoning by a jealous colleague which was considered a cause of death. Astronauts are literally star sailors Astronaut Mark Lee, a real star sailor. However the water will cling to a

surface until it is dislodged. This means that tears start to form bubbles around your eyes as the weightless environment is not causing your tears to fall. This sounds really cool but it can be dangerous. ESA astronaut Luca Parmitano suffered a space suit leak whilst on a spacewalk. The water leaked into his helmet covered his eyes and ears, but thankfully he made it back into the Space Station unharmed, but if not he could have drowned in space. Dirty underwear and toilet paper has helped grown plants on the ISS American astronaut Don Pettit discovered that by folding a pair of underpants into a sphere shape and stitching in some Russian toilet paper which is thick, wool like gauze, this created a warmer environment for some tomato and basil seeds to start to sprout. Like their socks, underwear is only changed every days so he figured the pants might provide some extra nutrients for the plants! There is a dwarf planet named after an Easter island legend Dwarf planet Makemake was discovered at Easter The Easter Island Moai figures were the inspiration for its name. Makemake in Rapa Nui mythology was the creator of humanity and the god of fertility. He is also a feature in many rock and cave drawings on the island. Nebulae come in all shapes and sizes Nebula means cloud in Latin. These are areas in which stars are being created or where a star has died. The cosmic clouds come in all shapes and sizes and are made out of interstellar dust and gases. There is a Christmas tree nebula, a horsehead, a unicorn, a hand, fried egg and lots more. These beautiful clouds which are not visible to the naked eye really highlight the fact there is a lot more happening in the night sky than you can see. Otherwise known as the Trifid nebula, this stellar cloud is a pillar of gas and dust. The North Star will change eventually The North Star used for navigation, a steady point in the night sky will change, however not in our lifetime. The Earth is rotating like a spinning top and therefore the pole of our planet wobbles. Currently it points to Polaris but in the year our Pole Star will be the star Vega, in the constellation of Lyra. The Apollo crews did not have any life insurance. On the chance that the 3 man crew of Armstrong, Aldrin and Collins did not return safely from the moon, they were not covered by any life insurance policy. So before their trip all 3 men signed photographs that could be sold in the event of their death. These Insurance covers were also stamped and posted on the start date of the mission, July 16th by a friend. Before their mission to the moon. During this time they signed lots of photos and cards to act as life insurance for family. In space metal sticks together In a vacuum like space, when two pieces of metal touch each other they bond together. This is a process called cold welding. On the Earth because of the oxygen in our environment this does not happen naturally but it is used during some manufacturing processes. The furthest manmade object is Voyager 1. It has messages for aliens on-board. In 1977, Voyager 1 and 2 were launched. Their primary mission was to visit Jupiter and Saturn. Voyager 2 continued onto Uranus and Neptune; Voyager 1 has now made its way into interstellar space. Voyager 1 is further away from Earth than the distance between the Sun and Pluto. Both craft carry a golden record on board, which will act like a time-capsule of Earth. It has greetings from Earth as well as different kinds of music. All of which sum up the Earth.

Chapter 4 : Facts about Isaac Newton | Biography Online

A solar eclipse is a lineup of the Sun, the Moon, and Earth. be on the waterfront at Government Point, Oregon, at a.m. PDT. and more from Astronomy's weekly email newsletter.

This chart shows the paths of totality for 15 solar eclipses through Anyway, these are the facts. This will be the first total solar eclipse in the continental U. The last one occurred February 26, Unfortunately, not many people saw it because it clipped just five states in the Northwest and the weather for the most part was bleak. Before that one, you have to go back to March 7, A solar eclipse is a lineup of the Sun, the Moon, and Earth. The Moon, directly between the Sun and Earth, casts a shadow on our planet. A solar eclipse happens at New Moon. The Moon has to be between the Sun and Earth for a solar eclipse to occur. The only lunar phase when that happens is New Moon. Astronomers call the two intersections of these paths nodes. Eclipses only occur when the Sun lies at one node and the Moon is at its New for solar eclipses or Full for lunar eclipses phase. During most lunar months, the Sun lies either above or below one of the nodes, and no eclipse happens. Eclipse totalities are different lengths. The reason the total phases of solar eclipses vary in time is because Earth is not always at the same distance from the Sun and the Moon is not always the same distance from Earth. The Earth-Sun distance varies by 3 percent and the Moon-Earth distance by 12 percent. Solar eclipses occur between Saros cycles. Similar solar and lunar eclipses recur every 6, Scientists call this length of time a Saros cycle. Two eclipses separated by one Saros cycle are similar. Everyone in the continental U. Not to cast a shadow on things, but likening a partial eclipse to a total eclipse is like comparing almost dying to dying. I know that 48 percent sounds like a lot. Only totality reveals the true celestial spectacle: You want to be on the center line. People across its width would experience the same duration of darkness. First contact is in Oregon. If you want to be the first person to experience totality in the continental U. There, the total phase lasts 1 minute, Only being on the center line will allow viewers to see the diamond rings and the interval of totality between them. The center line crosses through 10 states. After a great west-to-east path across Oregon, the center line takes roughly nine minutes to cross a wide swath of Idaho, entering the western part of the state just before MDT and leaving just before Next up is Wyoming, where the umbral center line dwells until just past The center line hits the very northeastern part of Kansas at 1: CDT and enters Missouri a scant two minutes later. The center line leaves Illinois at its Ohio River border with Kentucky just past 1: Totality for that state starts there two minutes earlier and lasts until nearly 1: The center line crosses the border into Tennessee around 1: Then, just past the midpoint of that state, the time zone changes to Eastern. The very northeastern tip of Georgia encounters the center line from just past 2: EDT until not quite 2: The last of the states the center line crosses sees its duration from 2: The extreme northeast part of Georgia does experience some totality, but at no point does the center line pass through that state. Totality lasts a maximum of 2 minutes and You might think about getting there early. The end of the eclipse for the U. Cool things are afoot before and after totality. Although the big payoff is the exact lineup of the Sun, the Moon, and your location, keep your eyes open during the partial phases that lead up to and follow it. If any trees live at your site, you may see their leaves act like pinhole cameras as hundreds of crescent Suns appear in their shadows. This eclipse will be the most-viewed ever. I base this proclamation on four factors: Only one large city has a great view. In the tally below, column 1 lists 25 other large metropolitan areas.

Chapter 5 : Allen Bullet Points | Up to 39% Off Free Shipping over \$49!

The discovery of the planet Neptune was one of the most exciting discoveries in astronomy. Neptune cannot be seen without a large telescope and was first seen in from the observatory in Berlin.

In the vernacular, it is where the rubber meets the road. This small, exquisitely formed bit of metal has been the focus of endless study, design and research. Although bullets of one sort or another have been in use for several centuries, modern hunting bullets are the best ever. Bullet construction The typical hunting bullet has a lead core inside of a gilding metal jacket. The jacket covers all but the nose of the bullet, where some lead is left exposed to initiate expansion. Some rifle bullets have a "hollow point" instead of exposed lead at the front and some have a plastic or bronze tip that acts as a wedge to split the jacket and initiate expansion upon impact. All of these approaches work about equally well if executed properly. In most cases, the forward edge of the bullet jacket is scalloped or cut in several places to help it start to peel back. Lead is used for the core because it is heavy, relatively inexpensive, extremely stable and easy to mold. Lead is a natural element. It is one of the most stable of all elements, completely safe to animals including birds, fish, and people unless it is somehow taken into the system eaten, for example, or vaporized and inhaled. Because of its great weight for its volume, a small lead bullet can strike a fearsome blow when accelerated to high speed by a firearm. Bullet jackets made of gilding metal are designed to contain the lead core during its journey down the barrel and its flight to the target, while leaving a minimum of residue in the bore of the rifle. Some hunting bullets use pure copper jackets, which are softer than gilding metal and typically leave more fouling in the bore. After the bullet hits the target, the jacket is designed to peel back from the core, allowing the lead core of the bullet to expand or "mushroom. As you might imagine, this delicate balance between expansion and penetration requires careful design. For small game and varmints weighing up to about 10 pounds a SD of. For the small predators, such as fox, coyote and other animals in the pound range, a SD of. For animals in the pound range, choose a SD of at least. For the smaller species of medium game weighing pounds, which includes the smaller goat, deer and antelope species, choose a SD of. For medium size medium game weighing pounds, which includes most sheep, deer and mountain goats, a SD of. For the largest Class 2 game, such as caribou and mature male black bears that might weigh pounds, a SD of at least. For large game Class 3 up to pounds, such as elk, zebra, alg and kudu, a SD of. For the largest thin-skinned game, weighing over pounds, and the dangerous predators, powerful medium bore rifles are strongly recommended. The SD of a grain. For thick-skinned dangerous game a powerful medium bore is the minimum and a big bore is even better. In either, a SD of. Ballistic coefficient Ballistic coefficient BC is a measure of how well a bullet flies through the air. For comparison purposes, the higher the number the better the BC and the less air drag the bullet has. For example, a Hornady grain round nosed. The more streamlined the bullet, the higher the ballistic coefficient. Round nose and flat point bullets The original form for jacketed bullets was the round nose RN or flat point. The pointed bullet came later; it was developed for aerodynamic reasons. The traditional flat or round nosed bullet still has many adherents, and some real advantages. For one, with much more lead exposed at the nose of the bullet, it is easier to initiate expansion and expansion is more reliable compared to pointed bullets. For another, blunt bullets are more likely to get to the target if they encounter obstructions like leaves, brush, or twigs en route. They also tend to follow a straight path inside an animal on their way to the vitals, which is why they are preferred for hunting extremely large, tough game. Some popular rifles have tubular magazines, in which the nose of each bullet rests on the primer of the cartridge in front of it. These rifles, such as the Winchester 94 and Marlin , require flat point bullets to avoid the danger of a chain fire in the magazine due to recoil when the rifle is fired. Bullets of the same caliber and weight will have identical sectional densities, regardless of their shape. However, pointed bullets have a higher ballistic coefficient than round nose bullets. For example, a Hornady round nose grain. The Hornady pointed bullet of the same weight and caliber has a BC of. Both bullets have a SD of. Pointed bullets Pointed bullets are commonly referred to as spitzer bullets. The word "spitzer" is derived from the German term for pointed, as this style of bullet was developed in Germany. A spitzer bullet has a more aerodynamic shape than a round nose or flat point bullet. In other words,

it has a higher ballistic coefficient. This enables it to retain more velocity and energy at long range and gives it a flatter trajectory. Spitzer bullets come into their own at ranges in excess of yards. The spitzer form has no advantage once it hits the target. In fact, because less lead is exposed at the front of a pointed bullet, it is more difficult to initiate expansion upon impact with the target. It is also widely supposed that spitzer bullets are more easily deflected off course by twigs, brush and the like, which makes them less satisfactory for woods hunting than round or flat nosed bullets. The boat-tail Boat-tail bullets have an inward taper at the back of the bullet shank that ends in a reduced caliber base. In other words, the back of the bullet ends in a short truncated cone. This reduces aerodynamic drag, and improves ballistic coefficient. Somewhat flatter trajectory and slightly higher retained velocity and energy at extreme long range are the benefits of the boat-tail bullet. They are also nice for the handloader, as they slip easily into resized case necks. Conventional jacketed expanding hunting bullets Bullet makers use various strategies to attain the desired bullet performance. Soft point, hollow point and plastic point hunting bullets of conventional design are constructed with a gilding metal or occasionally pure copper jacket enclosing a lead core. Many have a tapered jacket that gets thicker toward the base of the bullet. This is intended to control expansion by making it increasingly difficult to peel open the jacket as expansion moves down the length of the bullet. Some bullets, such as the Winchester Power Point and Speer Grand Slam, also use a cannelure crimp in the jacket to help keep the jacket from peeling back beyond that point and keep jacket and core together. The cannelure also allows the bullet to be crimped into the case. The Remington Core-Lokt bullet uses a thickened belt inside the jacket to help keep the rear part of its lead core in the jacket after expansion. The Hornady Interlock bullet uses an internal ring inside the rear part of the jacket, as well as a cannelure, for the same purpose. These are usually very accurate bullets. It is probably easier to assure good concentricity and uniformity during production than with bullets of more complicated design. Bonded core bullets Some modern bullets are essentially soft points with the lead core bonded or fused to the jacket, so that it cannot separate as the bullet expands. The idea here is to have good expansion similar to a standard soft point bullet and high weight retention for deep penetration. Partitioned bullets Some bullet designs use two part cores with jacket material partitions in-between them to ensure adequate weight retention for deep penetration. The other well known bullet of this type is the Swift A-Frame. Such bullets are more expensive to make than normal cup and draw bullets jacketed bullets. In the case of the Nosler Partition, the internal partition is integral with the jacket and formed from a gilding metal slug of the appropriate diameter and size by impact extrusion. Lead alloy cores are then inserted into both ends of the jacket and the bullet is shaped to its final dimensions. I have seen this process at the Nosler plant in Bend, Oregon. I have not visited Swift, but I would assume their process is similar, except they start with pure copper, rather than gilding metal. They also bond the lead core to the bullet jacket, even though a heavy partition prevents rear core expansion in their A-Frame bullet. Partition bullets are, in a sense, the best of both worlds for mixed Class 2 and Class 3 game hunts. They are also widely used for hunting Class 4 dangerous predators, such as Alaskan brown bear. The front half of the bullet can be designed to expand nicely in medium size animals, while the partition positively prevents the back half of the bullet from expanding at all, assuring good penetration in large animals. Homogenous copper bullets Homogeneous bullets made from solid copper or gilding metal are becoming more popular and are legally mandated in some anti-hunting states. There is no scientific reason for lead bullet bans, it is just political harassment. The Barnes X-Bullet was the first popular copper bullet and it used a deep hollow point to peel back the nose of the bullet in four "petals" to simulate terminal expansion. Since the bullet cannot over expand or lose its core, the X-bullet quickly gained a reputation for very deep penetration and high weight retention. The advantage is, being monolithic--either solid copper, as in the Barnes line, or gilding metal, as in the Winchester, Nosler and Hornady lines--they penetrate very deeply with limited expansion other things being equal. This is why they are excellent for very large game, including Class 4 thick-skinned animals, such as bison and buffalo. Since copper is not as heavy as lead, a copper bullet of equal weight in a given caliber is longer than a lead core bullet and must be seated deeper in the case, reducing powder capacity. It also puts the neck of the case farther up the bullet and possibly onto the ogive, where it cannot be crimped, in rifles with short magazines or chambers. Pure copper bullets leave copper residue in the bore when fired and this not only degrades accuracy, it is difficult to

remove. Solid copper bullets are somewhat worse in this respect than the slightly harder gilding metal bullets. If you use a copper solvent to remove this residue, the solvent will attack your brass cleaning brush or the copper bristles in your Bore Snake. Barnes began coating the outside of second generation X-Bullets with a dry blue lubricant to reduce this problem. The next improvement third generation was to cut three wide bands in the bullet shank to reduce the bearing surface and give the copper displaced by the lands somewhere to go, besides the grooves in the rifle barrel. There is also a plastic tipped version of the TSX designed to improve BC and more positively initiate expansion. I will now briefly cover some of the bullets offered by the major bullet manufacturers. This allows all three to be used as required in the same rifle without a change in the point of impact. One bullet is a homogenous solid for elephant, rhino and buffalo. Another is the "Lion Load" bullet, designed to penetrate and then fragment for great stopping power on the big cats.

Chapter 6 : Talk:Ephemeris - Wikipedia

Currently it points to Polaris but in the year our Pole Star will be the star Vega, in the constellation of Lyra. Vega was the also North Star in BCE.

Our own Sun is classified as a G2 yellow dwarf star in the main sequence phase of its life. The Sun has been happily converting hydrogen into helium at its core for 4. When the Sun runs out of fuel, it will become a red giant, bloating up many times its current size. As it expands, the Sun will consume Mercury, Venus and probably even Earth. Here are 10 facts about the Sun. Stars are made of the same stuff All stars begin from clouds of cold molecular hydrogen that gravitationally collapse. As they cloud collapses, it fragments into many pieces that will go on to form individual stars. The material collects into a ball that continues to collapse under its own gravity until it can ignite nuclear fusion at its core. Over time, stars convert some of their hydrogen into helium. Stars are in perfect balance You might not realize but stars are in constant conflict with themselves. The collective gravity of all the mass of a star is pulling it inward. If there was nothing to stop it, the star would just continue collapsing for millions of years until it became its smallest possible size; maybe as a neutron star. But there is a pressure pushing back against the gravitational collapse of the star: The nuclear fusion at the core of a star generates a tremendous amount of energy. The photons push outward as they make their journey from inside the star to reach the surface; a journey that can take , years. When stars become more luminous, they expand outward becoming red giants. And when they run out of light pressure, they collapse down into white dwarfs. Most stars are red dwarfs If you could collect all the stars together and put them in piles, the biggest pile, by far, would be the red dwarfs. Red dwarfs can even be as small as 7. Those are called brown dwarfs, or failed stars. Stars like our Sun are yellowish white and average around 6, Kelvin. The hottest stars are blue, which corresponds to surface temperatures above 12, Kelvin. So the temperature and color of a star are connected. Mass defines the temperature of a star. This means that more energy reaches the surface of the star and increases its temperature. A typical red giant star can have the mass of our Sun, and would have been a white star all of its life. But as it nears the end of its life it increases in luminosity by a factor of , and so it seems abnormally bright. But a blue giant star is just big, massive and hot. Most stars come in multiples It might look like all the stars are out there, all by themselves, but many come in pairs. These are binary stars, where two stars orbit a common center of gravity. And there are other systems out there with 3, 4 and even more stars. The biggest stars would engulf Saturn Speaking of red giants, or in this case, red supergiants, there are some monster stars out there that really make our Sun look small. A familiar red supergiant is the star Betelgeuse in the constellation Orion. The largest known star is the monster VY Canis Majoris. This star is thought to be 1, times the size of the Sun; it would engulf the orbit of Saturn! The most massive stars are the shortest lived I mentioned above that the low mass red dwarf stars can sip away at their fuel for 10 trillion years before finally running out. Well, the opposite is true for the most massive stars that we know about. These giants can have as much as times the mass of the Sun, and put out a ferocious amount of energy. For example, one of the most massive stars we know of is Eta Carinae, located about 8, light-years away. This star is thought to have solar masses, and puts out 4 million times as much energy. While our own Sun has been quietly burning away for billions of years, and will keep going for billions more, Eta Carinae has probably only been around for a few million years. And astronomers are expecting Eta Carinae to detonate as a supernovae any time now. When it does go off, it would become the brightest object in the sky after the Sun the Moon. It would be so bright you could see it during the day, and read from it at night. There are many, many stars Quick, how many stars are there in the Milky Way. You might be surprised to know that there are billion stars in our galaxy. Each one is a separate island in space, perhaps with planets, and some may even have life. But then, there could be as many as billion galaxies in the Universe, and each of which could have as many or more stars as the Milky Way. The closest star to Earth is Proxima Centauri, located 4. In other words, it takes light itself more than 4 years to complete the journey from Earth. If you tried to hitch a ride on the fastest spacecraft ever launched from Earth, it would still take you more than 70, years to get there from here. We have recorded several episodes of Astronomy Cast about stars. Here are two that you might find

helpful:

Chapter 7 : Interesting Facts About Stars - Universe Today

Sir Isaac Newton () English scientist who explained the Law of Gravity and the Laws of Motion. Newton was a polymath who made studies in mathematics, optics, physics, and astronomy. Newton was a polymath who made studies in mathematics, optics, physics, and astronomy.

Download Questions about Neptune all answers found on this page The discovery of the planet Neptune was one of the most exciting discoveries in astronomy. Neptune cannot be seen without a large telescope and was first seen in from the observatory in Berlin. Neptune is the 8th planet from the Sun. Uranus , the 7th planet, was first discovered by means of a telescope in Two astronomers scientists who study the stars and planets , J. They worked out, using mathematics, that some large, more distant, body must be pulling Uranus towards it at certain points in the orbit. They named it Neptune after the Roman God of the Sea. Photograph of Neptune taken from the Voyager spacecraft in Neptune is the third largest planet in the Solar System, much smaller than the real giants, Jupiter and Saturn , and only a little bigger than Uranus. Neptune has a diameter of 29, miles, or 47, kilometres. The Earth has a diameter of miles 12, kilometres. Like Jupiter, Saturn and Uranus, it is composed only of gas. Neptune is a great ball of hydrogen and helium. Like all the other planets in the Solar System, Neptune moves in an orbit round the Sun at the centre of the system. It takes Neptune of our Earth years to orbit the Sun. The Earth orbits the Sun in days, one year. In Neptune completed the first orbit of the Sun since its discovery years before in Like all the other planets, Neptune turns on its own axis as it is orbiting the sun. Imagine walking round a large pond, but turning round and round as you go. The Earth turns right round on its own axis in 24 hours, giving us the change from day, when we face the Sun, to night, when our part of the Earth turns away from the Sun. Neptune spins slightly faster on its axis, taking just over 19 hours to turn right round. The Earth is million kilometres from the Sun 93 million miles and this measurement is taken as the standard for astronomical measurements of distance. Neptune is unimaginably further. Distances of Planets from the Sun in Astronomical Units Figure 1 does not show the distances between the planets to scale. In the same year that Neptune was first seen, , its first moon was also spotted and named Triton. All the other major satellites moons in the Solar System follow their planets round as they turn. Try orbiting the pond again, turning on your own axis, but this time take a friend to orbit round you. If you are turning on your axis clockwise, have him go round you anticlockwise be careful not to get so dizzy you fall in the pond! Triton is about the same size as our own moon. A smaller moon, Nereid, was discovered by telescope in and six further moons were discovered in the s by the Voyager spacecraft. All these moons are between Triton and Neptune. We now know that Neptune has 13 moons in total. Since Neptune was the God of the Sea, all the moons are named after less important ancient Greek sea gods, like Triton, or sea nymphs, like Nereid.

Chapter 8 : Genetics – Transcription and Translation | Owlcation

The broadly accepted theory for the origin and evolution of our universe is the Big Bang model, which states that the universe began as an incredibly hot, dense point roughly billion years ago.

Hercules Constellation The stick figure like constellation of Hercules is composed mainly of dim stars. The constellation is visible in both the Northern and Southern hemispheres. In the Northern hemisphere Hercules can be seen from April to November. In the Southern hemisphere Hercules can be viewed from June to September. In the Southern hemisphere Hercules will appear upside down. The constellation is best viewed away from brightly lit areas, in larger cities only 1 or 2 stars will be visible to the naked eye. Several planets have been detected orbiting stars within the Hercules constellation including an enormous gas giant with 8 times the mass of Jupiter. Hercules is one of the original constellations catalogued by Ptolemy in the 2nd century and is possibly based on earlier Babylonian observations. Hercules is a hero from Greek mythology and his adventures provide the basis for several other constellations. Although he is commonly referred to as Hercules this is actually the Roman translation of his name from the Greek Heracles. Hercules was an illegitimate child of Zeus, the King of Gods. His mother was Alcmena, wife of the Theban general Amphitryon. Throughout his life Hercules was taunted by his step-mother Hera, the wife of Zeus, her actions eventually drove Hercules insane which led to him killing his children in a fit of rage. As a way of atoning for his act of madness Hercules was ordered to carry out twelve labors which he eventually completed. As a result of the bravery and courage he had shown throughout his life Hercules became a god upon his death.

Main Stars in the Hercules Constellation The number next to each star is its apparent magnitude, its brightness from our point of view on Earth, the lower the number the brighter the star in the night sky.

Sarin Also known as Delta Herculis, Sarin is a multiple star system located around 75 light years from Earth, the primary star is a white sub-giant with more than twice the radius and mass of our sun.

Kornephoros Also known as Beta Herculis, Kornephoros is a binary star system around light years from Earth.

Rasalgethi Also known as Alpha Herculis, Rasalgethi is a multiple star system light years from Earth, the primary star in the system is a red giant with a radius almost times greater than the sun.

Finding Hercules - Northern Hemisphere The chart shows the position of Hercules over most of the United States in early summer at 9 pm. This chart can also be applied to other areas of the Northern hemisphere such as Canada, the UK and Europe. In April Hercules will first appear low on the north-eastern horizon around 11 pm before gradually moving higher in the sky, by around 4 am the constellation will be directly overhead before dipping towards the north-western horizon. From May to August the constellation will be visible from around 10 pm but will appear at different points in the sky depending on the month, in May and June it will first appear in a north-easterly or easterly direction, in July and August it will first appear overhead, before it moves towards the north-western horizon as the night moves on. From September to November Hercules will first appear in the western night sky between 6 and 9 pm depending on the month, before dipping below the north-western horizon over the next few hours.

Finding Hercules - Southern Hemisphere The chart shows the position of Hercules over most of Australia in early winter at 9 pm. In the Southern hemisphere Hercules is visible in the northern night sky. In June Hercules becomes visible around 9 pm low on the north-eastern horizon, moving across the night sky towards the north-western horizon over a period of around 6 to 7 hours. In July and August it will become visible around 6 and 7 pm in the north-eastern sky, moving across the night sky before disappearing below the north-western horizon around midnight. In September the constellation will appear in the north around 7 pm, gradually moving towards the north-western horizon over the next few hours.

Earth is the third planet from the Sun and is the largest of the terrestrial planets. The Earth is the only planet in our solar system not to be named after a Greek or Roman deity.

Newton was a polymath who made studies in mathematics, optics, physics, and astronomy. He owned more books on historical subjects than on science. Isaac Newton suffered two nervous breakdowns. He remained single throughout his life. After from a brief flirtation in his teenage years, he was too absorbed in his studies for romance. Newton was notorious for his bad temper and conflicts with other people. In particular Hooke and Leibniz. Between and the University of Cambridge was dispersed due to the Plague and Newton returned to Woolsthorpe Manor. Isaac Newton became known in the scientific community through his refractive telescope – a big improvement on existing telescopes. Isaac Newton disliked to hear any criticism and he became embroiled in a bitter row with Robert Hooke, an original member of the Royal Academy. After the death of his mother in , Newton entered six years of intellectual seclusion where he only communicated with the briefest notes. Throughout his life, Newton continued research into a wide range of subjects including mathematics, optics, astronomy and alchemy. Many of his writing were kept quiet as some alchemy practices were punishable by death. Newton was interested in the new wave of philosophy becoming known in the Western world. He became an acquaintance of the political philosopher John Locke. He was elected as Member of Parliament for the University in , but only held this post for a year. Newton himself would tell the story of an apple falling from a tree giving him inspiration for his work on gravity. However, there is no evidence he was actually hit by an apple! He took his duties very seriously, seeking to prevent corruption. As master of the Mint, Newton moved the British currency, from the silver to the gold standard. He wrote an article on textual criticism of the Bible.