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Chapter 1 : Constellations - Universe Guide

A constellation is a group of stars that make a recognisable shape, e.g. Ursa Major. The original list of 48 constellations was created by Greek Astronomer Ptolemy in A.D.

Today, in honor of our dear friend and contributor, Tammy Plotner, we examine the Aries constellation. Ptolemy compiled a list of the then-known 48 constellations. His treatise, known as the *Almagest*, would serve as the authoritative source of astronomy for over a thousand years to come. Since the development of modern telescopes and astronomy, this list has come to be expanded to include the 88 constellations that are recognized by the International Astronomical Union IAU today. Of these constellations, Aries – named in honor of the Ram from classical Greek mythology – is featured rather prominently. This faint constellation has deep roots, and is believed to date all the way back to the astrological systems of the ancient Babylonians. Positioned on the ecliptic plane, it is bordered by constellations of Perseus, Triangulum, Pisces, Cetus and Taurus, and is also the traditional home of the vernal equinox. In classical mythology, Aries is the Ram – perhaps the golden one who saved Helle and Phrixos from a king Cretheus for false accusations. Aries the Ram is also the first astrological sign in the Zodiac – associated with the god Ares and masculinity. Under the tropical zodiac, the Sun is in Aries roughly from March 21st to April 19th, by definition beginning at vernal equinox. The vernal equinox has moved in the constellation Pisces, but sometimes it is still called the first point of Aries. Aries has three prominent stars forming an asterism – Alpha, Beta and Gamma Arietis, all of which have been traditionally used for navigation. Alpha Arietis, called Hamal, is an orange giant with an apparent magnitude of 2. Beta Arietis Sheratan is a blue-white star with an apparent magnitude of 2. This star is also a spectroscopic binary, meaning that its companion is only known through analysis of the spectra. Gamma Arietis Mesarthim is binary star with two white-hued components that are located light-years from Earth. Aries is also home to several faint Deep Sky Objects. These include NGC 1808, an unbarred spiral galaxy located million light-years from Earth which is visible to the southeast of Beta Arietis. It has a small companion galaxy, NGC 1809, that is about 100,000 light-years away from the larger galaxy. Wide-angle view of the unbarred spiral galaxy NGC 1808 NGC 1808 is a good example, a 13th magnitude spiral galaxy located within Aries that is part of a galaxy group. NGC 1809 is also part of a galaxy group and is equally faint, at magnitude 14.5. NGC 1809 is a dwarf irregular galaxy that is considered to a Magellanic-type, with a larger than average core and a H II nucleus containing zones of counter-rotating gas which is thought to be the result of tidal interactions with another gas-rich galaxy some time in the past. Aries is also home to several meteor showers. The May Arietids are a daylight meteor shower which begins between May 4th and June 6th with maximum activity happening on May 16th. The Epsilon Arietids are also a daylight occurrence, which are active between April 25th to May 27th with peak activity on May 9th. The very best daytime Arietids occur from May 22nd to July 2nd with a maximum on June 8th, when the meteoroid stream produces one meteor every minute. Historically speaking, the Delta Arietid meteor shower was first noted in by analyzing photographic meteor orbits, and activity occurs between December 8th and December 13th. The Autumn Arietid meteor shower begins on or about September 7th and runs through October 27th. Maximum activity occurs about October 8th, and the fall rate is about 3 to 5 average meteors per hour. Though representations of Aries as The Ram comes to us from classical antiquity, it is believed that this constellation has existed since the days of ancient Babylon. In the description of the Babylonian zodiac contained in the MUL.APIN. By the time the MUL.APIN. In traditional Chinese astronomy, stars from Aries were used in several constellations. This constellation has also been associated with harvest-time as it could represent a woman carrying a basket of food on her head. Similarly, in Hindu astronomy, Beta and Gamma Arietis were known as the Aswins, and were associated with the first lunar mansion. In his *Almagest*, Ptolemy listed Aries as one of the 48 constellations. Only its Alpha and Beta stars – Hamal and Sheratan – are easy to recognize. They represent the head of the Ram. It appears to be a red dwarf, a class of low temperature and low luminosity stars. This would explain why it was not discovered earlier, since it has an

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apparent magnitude of only 0.7. For the unaided eye and observing with binoculars, check out Alpha Arietis aka. It has one of the most accurately-measured angular diameters of 0.007". Alpha Arietis Hamal, the brightest star in the Aries constellation. Beta shines at magnitude 2.1. Back at the turn of the 20th century it was discovered to be a spectroscopic binary, with a period of 10.7 days. The two stars are so close together that they cannot be separated directly through the telescope, and all we ever actually see is one star. Detection via the spectrum also requires that the stars to be close and moving quickly. However, sophisticated observation of Sheratan with an interferometer, a device that makes use of the interfering properties of light to resolve ultra-fine detail, allow as for the brighter component of Mizar the pair to be resolved. The masses of the stars through gravitational theory can then be measured with high accuracy. Since luminosity is very sensitive to mass, 95 percent of the light of the system is produced by the heavier star. The huge eccentricity adds the spice. As they wheel around each other, the smaller one undoubtedly a class G star like the Sun approaches as close as 0.1 AU. The NGC unbarred spiral galaxy, located million light-years from Earth in the Aries constellation. NASA No close planets could survive the gravitational onslaught. The higher mass star will die first. In a couple billion years, the lower mass G star will be the king of the pair, while the current luminary will be a shrunken dim white dwarf. For those using small telescopes, a good place to stargaze is around Gamma Arietis aka. For this reason, Mesarthim was one of the very first double stars to be discovered by Robert Hooke while looking for a comet in 1664. Another easily spotted star is the binary star is Lambda, it is also a very wide double with a 5th magnitude primary and 5th magnitude secondary. For something a little harder, try 5th magnitude Pi. Use your highest power. The magnitude 7 primary star is a lovely golden yellow and the secondary is about magnitude 8 and is a distinct blue separated by about 40 arc seconds. Thank you for reading; and as always, enjoy your stargazing! We have written many interesting articles about the constellation here at Universe Today. Here is What Are The Constellations?

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Chapter 2 : Star Constellations - Facts About Constellations | calendrierdelascience.com

Series: ""The Universe"" (Revised and Updated): Worthy nonfiction selection provides facts about the stars and constellations. Interesting text is accompanied by photos, artist renderings, and boxes of additional information.

What comes to mind when you look up at the night sky and spot the constellations? Is it a grand desire to explore deep into space? Is it the feeling of awe and wonder, that perhaps these shapes in the sky represent something? Or is the sense that, like countless generations of human beings who have come before you, you are staring into the heavens and seeing patterns? If the answer to any of the above is yes, then you are in good company! While most people can name at least one constellation, very few know the story of where they came from. Who were the first people to spot them? Where do their names come from? And just how many constellations are there in the sky? Here are a few of the answers, followed by a list of every known constellation, and all the relevant information pertaining to them. A constellation is essentially a specific area of the celestial sphere, though the term is more often associated with a chance grouping of stars in the night sky. Technically, star groupings are known as asterisms, and the practice of locating and assigning names to them is known as asterism. This practice goes back thousands of years, possibly even to the Upper Paleolithic. In fact, archaeological studies have identified markings in the famous cave paintings at Lascaux in southern France ca. There are currently 88 officially recognized constellations in total, which together cover the entire sky. Hence, any given point in a celestial coordinate system can unambiguously be assigned to a constellation. It is also a common practice in modern astronomy, when locating objects in the sky, to indicate which constellation their coordinates place them in proximity to, thus conveying a rough idea of where they can be found. A more functional definition would be a recognizable pattern of stars whose appearance is associated with mythical characters, creatures, or certain characteristics. Typically, stars in a constellation have only one thing in common – they appear near each other in the sky when viewed from Earth. In reality, these stars are often very distant from each other and only appear to line up based on their immense distance from Earth. Since stars also travel on their own orbits through the Milky Way, the star patterns of the constellations change slowly over time. It is believed that since the earliest humans walked the Earth, the tradition of looking up at the night sky and assigning names and characters to them existed. However, the earliest recorded evidence of asterism and constellation-naming comes to us from ancient Mesopotamia, and in the form of etchings on clay tablets that are dated to around ca. However, the ancient Babylonians were the first to recognize that astronomical phenomena are periodic and can be calculated mathematically. It was during the middle Bronze Age ca. Star map showing the celestial globe of Su Song , a Chinese scientist and mechanical engineer of the Song Dynasty [Wikipedia Commons](#) In ancient China, astronomical traditions can be traced back to the middle Shang Dynasty ca. The parallels between these and earlier Sumerian star catalogs suggest they did not arise independently. Astronomical observations conducted in the Zhanguo period 5th century BCE were later recorded by astronomers in the Han period BCE – CE , giving rise to the single system of classic Chinese astronomy. In India, the earliest indications of an astronomical system being developed are attributed to the Indus Valley Civilization – BCE. However, the oldest recorded example of astronomy and astrology is the Vedanga Jyotisha, a study which is part of the wider Vedic literature i. By the 4th century BCE, the Greeks adopted the Babylonian system and added several more constellations to the mix. By the 2nd century CE, Claudius Ptolemaeus aka. Ptolemy combined all 48 known constellations into a single system. His treatise, known as the *Almagest* , would be used by medieval European and Islamic scholars for over a thousand years to come. Between the 8th and 15th centuries, the Islamic world experienced a burst of scientific development, reaching from the Al-Andalus region modern-day Spain and Portugal to Central Asia and India. Advancements in astronomy and astrology closely paralleled those made in other fields, where ancient and classical knowledge was assimilated and expanded on. A significant number of stars in the sky, such as Aldebaran and Altair, and astronomical terms such as alidade, azimuth, and almucantar, are still referred to by their Arabic

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names. From the end of the 16th century onward, the age of exploration gave rise to circumpolar navigation, which in turn led European astronomers to witness the constellations in the South Celestial Pole for the first time. Combined with expeditions that traveled to the Americas, Africa, Asia, and all other previously unexplored regions of the planet, modern star catalogs began to emerge. This is largely due to the work of Henry Norris Russell, who in 1922, aided the IAU in dividing the celestial sphere into 88 official sectors. The IAU list is also based on the 48 constellations listed by Ptolemy in his *Almagest*, with early modern modifications and additions by subsequent astronomers – such as Petrus Plancius – , Johannes Hevelius – , and Nicolas Louis de Lacaille – The modern constellations, color-coded by family, with a dotted line denoting the ecliptic. As a consequence, the precession of the equinoxes has already led the borders of the modern star map to become somewhat skewed, to the point that they are no longer vertical or horizontal. This effect will increase over the centuries and will require revision. Not a single new constellation or constellation name has been postulated in centuries. When new stars are discovered, astronomers simply add them to the constellation they are closest to. So consider the information below, which lists all 88 constellations and provides information about each, to be up-to-date! We even threw in a few links about the zodiac, its meanings, and dates.

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Chapter 3 : Constellation Hunt - Astronomy for Kids

The official definition of a constellation is an area of the sky with defined boundaries, all stars and any other objects within that boundary are considered part of the constellation.

Welcome to universe, galaxies and stars. The universe is commonly defined as the totality of everything that exists - including all physical space, time, matter and energy, the planets, stars, galaxies, and the contents of intergalactic space, although this usage may differ with the context. The term universe may be used in slightly different contextual senses, denoting such concepts as the cosmos, the world, or nature. Observations of earlier stages in the development of the universe, which can be seen at great distances, suggest that the universe has been governed by the same physical laws and constants throughout most of its extent and history. Some physicists have speculated that the universe is one among a numerous number of universes in the multiverse theory. Galaxies are massive, gravitationally bound system that consists of stars and stellar remnants, an interstellar medium of gas dust, and an important but poorly understood component tentatively dubbed dark matter. The name is from the Greek word galaxias, literally meaning "milky", a reference to the Milky Way galaxy. Galaxies may contain many star systems, star clusters, and various interstellar clouds. The Sun is one of the stars in the Milky Way galaxy; the Solar System includes the Earth and all the other objects that orbit the Sun. Historically, galaxies have been categorized according to their apparent shape usually referred to as their visual morphology. A common form is the elliptical galaxy, which has an ellipse-shaped light profile. Spiral galaxies are disk-shaped assemblages with dusty, curving arms. Galaxies with irregular or unusual shapes are known as irregular galaxies, and typically result from disruption by the gravitational pull of neighboring galaxies. Such interactions between nearby galaxies, which may ultimately result in galaxies merging, may induce episodes of significantly increased star formation, producing what is called a starburst galaxy. Small galaxies that lack a coherent structure could also be referred to as irregular galaxies. Stars are massive, luminous balls of plasma held together by gravity. At the end of its lifetime, a star can also contain a proportion of degenerate matter. The nearest star to Earth is the Sun, which is the source of most of the energy on Earth. Other stars are visible from Earth during the night when they are not outshone by the Sun or blocked by atmospheric phenomena. Historically, the most prominent stars on the celestial sphere were grouped together into constellations and asterisms, and the brightest stars gained proper names. Extensive catalogues of stars have been assembled by astronomers, which provide standardized star designations. Almost all naturally occurring elements heavier than helium were created by stars, either via stellar nucleosynthesis during their lifetimes or by supernova nucleosynthesis when stars explode. Astronomers can determine the mass, age, chemical composition and many other properties of a star by observing its spectrum, luminosity and motion through space. The total mass of a star is the principal determinant in its evolution and eventual fate. Other characteristics of a star are determined by its evolutionary history, including diameter, rotation, movement and temperature. A plot of the temperature of many stars against their luminosities, known as a Hertzsprung-Russell diagram H[?] R diagram, allows the age and evolutionary state of a star to be determined. A star begins as a collapsing cloud of material composed primarily of hydrogen, along with helium and trace amounts of heavier elements. Once the stellar core is sufficiently dense, some of the hydrogen is steadily converted into helium through the process of nuclear fusion. Once the hydrogen fuel at the core is exhausted, those stars having at least 0. The star then evolves into a degenerate form, recycling a portion of the matter into the interstellar environment, where it will form a new generation of stars with a higher proportion of heavy elements. Universe galaxies and stars is primarily at website about the universe. However, as so many of our surfers have asked for other subjects, universe, galaxies and stars has decided to expand our content. We hope, at universe, galaxies and stars to create a website packed with interesting information. To reflect this, universe, galaxies and stars might under go a name change soon. We hope to bring all of you, a comprehensive website packed with feature rich knowledge about a wide and varied range of topics. However,

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our commitment to universe subjects will not suffer as a result. The universe, galaxies and stars will still head our program of dedicated information. But, as we are sure you are aware, just concentrating on the one subject can get a little boring. As the philosopher once said, variety is the spice of life! With this in mind, we hope to chose content that expands the imagination. We want to make our surfers think, to question and understand the extent of knowledge out there. But, in the mean time, why not have a look in the feature-paced pages of our website and include a link so others can experience the great content available.

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Chapter 4 : Stars - Astronomy for Kids

When new stars are discovered, astronomers simply add them to the constellation they are closest to. So consider the information below, which lists all 88 constellations and provides information.

Scorpii is a constellation, one of 88 constellations that the night sky is divided into. The sky is not divided up equally between the constellations. Scorpius takes up Scorpius is the 33rd largest in terms of size in the night sky. The constellation name means The Scorpion. The constellation is one of the original constellations that was devised by the Ancient Greco-Egyptian astronomer Ptolemy who lived between 90 A. There are 14 stars that make up the main constellation. The hipparcos satellite scanned and detailed stars. There are stars that can be seen with the naked eye in the constellation on a very clear night sky. Scorpius is a member constellation of the Zodiac grouping, a group of 12 star signs that astrologers use to predict someones future based on their date of birth and which constellation appeared when the Sun set. The Zodiac year may be divided up equally between the twelve signs but when they appear in the night sky no longer conforms to the Zodiac calendar. Scorpius is an equatorial constellation that can be seen by countries nearest the Equator. The distance to Scorpius is not calculable because all the stars that make up the constellation are at various distances. The best answer for distance to Scorpius is to calculate the average distance of the stars. There are 38 Extrasolar Planets Exoplanets in this constellation that are detailed on this site. There is a dedicated page for exoplanets in Scorpius. The current largest star so far identified in the constellation of Scorpius is AH Scorpii. There are 4 deep space objects that were identified by Charles Messier in this constellation. There are 2 non-Messier deep space objects that are covered on this site and the list is below. The image at the top right of this page was generated using Night Vision , a free to use and download application by Brian Simson. Scorpius Star Facts The caveat of these stars are that they are catalogued on this site. The stars mentioned are from the Hipparcos catalogue or have been added because of their special status. The nearest star to the Earth with an exoplanet is HD which is about The furthest figure is derived from either the or Hipparcos star catalogue parallax figure and it has been known to produce distances that are wrong. The star has a apparent magnitude of 1. The star is recognised as being the brightest in the constellation as it has the Bayer status of Alpha. The dim star has an apparent magnitude of 6. The dimmest star that a person is able to see with their naked eye is 6. Acrab Acrab is also known as Graffias which it shares with Beta Scorpii. It is a binary star system where both stars are large red stars which will both end their lives in a supernova expolsion. We would not be here or be crammed on Pluto if that was the new Goldilocks planet. Alniyat Two stars shared the same name, one is Tau Scorpii and the other is Sigma Scorpii , both close to one another and in the same constellation. When using the name Alniyat or Al Niyat, you need to make sure you know which one you mean. Jabbar Jabbar, not to be confused with Jabba, the Hutt , the infamous slug like creature in the Star Wars films is a particularly interesting star. Jabbar along with AR Cassiopeiae have the most number of stars in a multiple star system , both having seven. No other star matches those for multi-star systems. There are no planet s in orbit so far discovered in the star system. Scorpius Mythology Whilst the reason for why it was sent to kill Orion is disputed, its actions are not. Scorpius came from out of the ground and stung Orion to death. Scorpius was sent by Gaia or Hera to kill Orion because Orion had displeased her. They appear in opposite parts of the sky to give the illusion that Orion is still running from the Scorpius. Giant Stars and the Centre of the Milky Way The centre of the the Milky Way is on the eastern edge of the constellation, Scorpius is just right on the borders with it. Despite not having the centre of the Milky Way, it does boast some other points of interest. The constellation has AH Scorpii which is one of the largest stars to have been so far discovered. The stars would stretch out past the orbit of the Earth if it was in the centre of our solar system. Meteor Showers Radiating from Scorpius There are 9 Meteor Showers that occur during the year within this constellation based on information gathered from Adam Mickiewicz University Poland. The list below are major ones and which I have a date period for.

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Chapter 5 : Constellations, Galaxies, and the Universe – SchoolWorkHelper

Learn how the constellations were named and how the stars change over millions of years. Discover how scientists are always increasing their knowledge of the stars. This book takes you across the universe to bring back the information you need.

The Smallest Constellation by area are Crux and Equuleus which both take up less than 0.5%, constellations were used as navigational aids for explorers. The Chinese and other nationals have their own constellations such as Azure Dragon of the East. Constellation A Constellation is a group of stars that resemble a pattern from which legends and stories have been built around. The constellations that most people are familiar with are those of the Zodiac and they include Leo and Libra. Leo and Libra for instance are based on the Ancient Greek Legends. When constellations are mentioned, this site refers to the Greek constellations unless stated. Below is the complete list of 88 constellations that surround our solar system. If we went to a different star such as Rigil Kentaurus also known as Alpha Centauri, the stars will not appear in the same place in the sky as they do on Earth. The constellations that surround Rigil Kentaurus will have a different shape and so will need new constellations. The original list of constellations consisted of 48 which was devised by Greek astronomer Ptolemy in AD. During the 19th and 20th, they swelled in numbers to 88, some of the newer constellations were devised by Nicolas L de LaCaille, which are predominantly located in the southern hemispheric constellation. To get a rough idea of which are new and which are old, the constellations in the southern hemisphere with a few exceptions are new. The Microscopium and Telescopium are two that are definitely new as the objects they represent were not around in AD. Some constellations are easy to identify such as Ursa Minor and Orion whilst others are hard to distinguish between them and any other collection of Stars, e.g. Telescopium because it is simply two stars in a line. Some constellations have been dropped such as Quadrans Muralis Mural Quadrant and all that remains of this constellation is the Quadrantids, a Meteor Shower that is within the Bootes constellation boundary now. Ursa Major will probably look more like a tadpole than what it does now, a saucepan. Since the Zodiac Constellations were drawn up, they are no longer in the positions that they are associated with. Some stars such as Nunki will move out of position they are now quicker because they are in Sagittarius and closer to the galactic centre than say Acubens in Cancer which by rough calculation is further out of the galaxy than our own Sun. Navigational Aid Long before the times of GPS. There is no southern pole star, the closest to that title is Polaris Australis. A Polaris was not always the Pole Star, in BC. In 13,000 years from now, the Pole Star will be Vega and then in another 13,000 years after that, Polaris retains that title. A long time away and no need to recalculate any equipment just yet. Adventurers still use the constellations as a guide so when the GPS fails or the compass breaks, the constellations will still be there and you can know where you are going. Largest and Smallest Constellations The largest constellation in term of area allocated to the constellation is Hydra, the mythical multi-headed creature. The largest Zodiac constellation is Virgo which takes up a 13.0%. On the other extreme, the smallest constellations by area size percentage are Crux, the southern cross and Equuleus where each take up a mere 0.16%. Although it is smallest zodiac constellation, it is still larger than a lot of other constellations, Capricornus is the 40th largest constellation out of the 88 constellations and is the only constellation with a whole number area percentage. What is a Zodiac Constellation? A Zodiac constellation is a constellation that appears after the Sun goes down. There are thirteen signs that fall into this space but only twelve are widely recognised as being in the Zodiac. Zodiac Signs are used in Horoscopes to forecast a persons fortune for a day, a month and sometimes a year ahead. There are twelve officially recognised Zodiac constellations by most astrologers. Astronomers argue that there are in fact 13, the thirteenth being Ophiuchus, the Serpent Holder. I have covered the arguments for and against on my Ophiuchus page. What constellation is the Sun in? Its more correct to say as the Earth revolves, the Sun would appear to be a member of a series of constellations. The only constellation that the Sun is a member of that we are interested in is the sign that it sets in for astrologers. Therefore the correct

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answer is that the Sun is not a member of a constellation in the same way that Regulus is a member of the Leo constellation. If we are at the Galactic Centre and looked back at the Earth, the Sun would probably look as though it was a member of the Gemini or Auriga constellations. If we were at that spot on the borders of Gemini and Auriga and looked back at the Sun, we would possibly see that the Sun is in Sagittarius. Likewise if we moved round the galaxy, the Sun would be a member of a different constellation. If we were on a space ship near Rigil Kentaurus, the nearest yellow star like our Sun and we wanted to come back, we would head towards the an area near Caph also known as Beta Cassioepieae. Our Sun would appear in a different constellation in different positions of viewing. List of the 88 I.

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Chapter 6 : Universe, Stars, and Constellations Jeopardy Review Game Answer Key

Constellations are formed of bright stars which appear close to each other on the sky, but are really far apart in space. The shapes you see all depend on your point of view. Many societies saw patterns among the stars with gods and goddesses or stories from their culture.

Yet, one thing stands out, so central to our understanding of space. What are Stars Made of? The thing that makes up stars is truly out of this world. Plasma is a clump of atoms whose electrons have been taken from them. This makes it kind of like a gas. What else is made of plasma, for reference? On Earth, we find it naturally in lightning. The simplest are neon signs. These signs energize electrons on neon atoms, pulling them away to form plasma! Why is plasma so rare? Plasma is the most common state of matter in the universe. But, it only exists in extreme heat. How do Stars Form? Our discussion of plasma raises another question. How do these high energy fireballs stars get there in the first place? Well, star formation is quite a complicated subject. That said, here are the basics. Stars need some sort of material to form. Sometimes, gas in these nebulae clumps up. This creates a point with high gravity, kind of like how a dense planet has strong gravity. The newly formed center of gravity will start to attract all of the gas particles around it. Huge nebulae may collapse into a small point, like a crinkled piece of foil. Most of the matter flies back outwards. Around the protostar, nebular matter forms a disk. The stuff in the disk will keep trying to collapse over and over again. The protostar will push back, but every time it grows a little. Many collapses later, our star becomes really dense and heavy. How Many Stars are There? Our sun is only a small star, and one of many, many others. Why Do Stars Twinkle? Or rather, what makes them look like they do. Air in the sky is actually made up of winds blowing in many different directions. The distortion depends upon how turbulent the wind is. The University of Oregon on Star Formation:

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Chapter 7 : Universe, Galaxies And Stars - Astronomy And Space News.

Story time just got better with Prime Book Box, a subscription that delivers hand-picked children's books every 1, 2, or 3 months at 40% off List Price.

The official definition of a constellation is an area of the sky with defined boundaries, all stars and any other objects within that boundary are considered part of the constellation. Historically and in common language stars that form patterns in the night sky are also referred to as constellations. In modern scientific language stars that form patterns are known as asterisms, asterisms usually fall within a single constellation and bare the same name but they can also be part of multiple constellations. There are 88 official constellations which are recognized by the International Astronomical Union. Some constellations are only visible in the northern hemisphere, while others are only visible in the southern hemisphere. Constellations that are visible in both hemispheres may appear upside down in the southern hemisphere. A few constellations can be viewed all year long but most are seasonal and can only be viewed at certain times of the year. Distant galaxies and nebulae also form parts of constellations. The sun is the only known star in our galaxy which is not part of a constellation. History of Constellations More than half of modern day constellations are based on the writings of Ptolemy. For as long as mankind has walked the Earth it is likely we have always recognized patterns formed by stars in the night sky. Some European cave paintings that date back over 10,000 years bare the marks of star formations that are familiar to us even to this day. The earliest official records of constellations were made more than 3,000 years ago by the Babylonians, an ancient civilization based in what is now modern day Iraq. The twelve signs of the zodiac are based on their observations and those of their predecessors. In the 4th century BC these zodiacal constellations and others recorded by the Babylonians were introduced into ancient Greek culture by the astronomer Eudoxus of Cnidus. Some five hundred years later the Greco-Roman scientist Claudius Ptolemy listed 48 constellations in his book Almagest, these constellations and the names he gave them exist to this day and are the basis for all the 88 official constellations listed by the International Astronomical Union. The star chart above shows you how the night sky will look above most of the United States at 8 pm in late January. To simplify matters the chart above only shows constellations but normally they will also indicate prominent stars, galaxies, nebulae and planets. The first thing you may notice is that east and west seem to be the wrong way round, but if you imagine holding the chart above your head, which is how they are designed to be used, it becomes apparent this is not the case. The outer edge of the chart indicates the horizon, so the further the stars are from the edge the higher they will be in the sky. The center of the chart shows the stars and constellations that will be directly overhead, so the map above shows you that the constellations of Auriga, Taurus and Perseus will be directly above you at that time. To find your bearings it is helpful to find Polaris, the star which always points north. In the Southern hemisphere it is helpful to find the Southern Cross, which always points south, this is done by drawing a line through the bright stars Alpha and Beta Centauri. Once you have found your bearings you can start searching out constellations and the objects they contain. As well as the Orion nebula the constellation also contains the bright supergiant stars Betelgeuse and Rigel. There are many other fascinating objects to look out for and a star chart will be essential in guiding you around the night sky. Stars do not stay fixed in the night sky, as the Earth rotates they change position, as a result the night sky will look different at midnight from what it did several hours before or after. Most constellations are also seasonal, meaning that ones that are visible in winter may not be visible in summer and vice-versa, so sky charts usually come in seasonal versions.

Chapter 8 : best Stars~€Universe~€Constellations images on Pinterest | Universe, Outer space and The

The universe is commonly defined as the totality of everything that exists - including all physical space, time, matter and energy, the planets, stars, galaxies, and the contents of intergalactic space, although this usage may differ with the

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context.

Chapter 9 : Lists of stars by constellation - Wikipedia

Tuesdays at 9/8c on History. Though we now know the true nature of stars, the stories behind constellations continue to inspire. HISTORY® , now reaching more than 98 million homes, is the leading.