

THE PLANETS & CRYSTALS

As mentioned in [Astrology Basics](#), the Sun, Moon and eight planets referred to in Western Astrology each represent a different energetic part of our being – our emotions, communications style, approach to love, etc. – or in psychological terms, our ‘needs’ or ‘drives’.

To a large extent, these meanings reflect the physical nature and behaviour of the planets and the crystals chosen to represent them also mirror these characteristics.

Below are some interesting facts about each planet (taken mostly from NASA’s Science site <https://solarsystem.nasa.gov/planets/overview/>) and discussed in the order in which they appear on the orrery – i.e. their increasing distance from Earth.

There is also a summary of the astrological meanings of the planets, as well as the crystals associated with them. The latter are taken mainly from Judy Hall’s bestselling guide ‘The Crystal Bible’.

1. EARTH – Our Home Planet

ASTRONOMY

- Earth is the third planet from the Sun and the fifth largest in the solar system.
- It is the only planet to have liquid water on its surface and the only planet inhabited by complex life.
- Earth orbits the Sun at a distance of 150 million km which, for ease of comparing planetary distances, is defined as one ‘Astrological Unit’ (AU). Light from the Sun takes just over 8 minutes to reach us.
- Earth completes one rotation on its axis every 23.9 hours (defined as one day). Travelling through space at 107,218 km/hr, it also takes 365.25 days to complete an orbit around the Sun (defined as one year). This is why, to keep our calendars consistent, we add one day every four years to make a leap year.
- Earth’s axis of rotation is tilted 23.4° with respect to the plane of its orbit. This axial tilt causes our yearly cycle of seasons. When the Northern Hemisphere is tilted towards the Sun and the Sun is higher in the sky, solar heating is greater in the North producing summer there. At the same time, the Southern Hemisphere is tilted away, receiving less heat and producing winter. Six months later, the situation is reversed. Spring and autumn occur when both hemispheres are receiving roughly equal amounts of heat from the Sun.
- Earth is the largest of the four inner terrestrial planets, the others being Mercury, Venus and Mars.
- Like these other planets, it is made of metal and rock, with a solid iron and nickel inner core; a liquid iron and nickel outer core; a molten rock mantle; and a solid crust. Like Mars, our planet’s surface features mountains, canyons, plains and deserts, along with glaciers and permafrost at the polar regions.
- However, Earth is unique in that 70% of the planet is covered in liquid water. It is because Earth’s temperature allowed liquid water to stay on its surface for such a long period of time, that the vast oceans provided an environment for life to originate about 3.8 billion years ago.
- Earth’s atmosphere is also crucial in sustaining life. Comprising 78% nitrogen and 21% oxygen, it provides the air we need to breathe and maintains a stable temperature, warming the planet by day and cooling it by night. At 480 km thick, it also shields us from much of the harmful radiation from the Sun and protects us from incoming meteoroids, most of which break up in the atmosphere before they reach the surface.
- This temperate climate and rich mix of chemicals have made life abundant on Earth and allowed its diverse terrestrial and marine ecosystems to support a dazzling array of flora and fauna.
- Unlike the other planets which were named after Roman and Greek gods and goddesses, the name Earth is a Germanic word that simply means ‘the ground’.

ASTROLOGY
<ul style="list-style-type: none"> ▪ Astrology examines cosmic phenomenon from the perspective of Earth, so Earth has no designated signs or houses.
CRYSTAL – SMOKY QUARTZ
<ul style="list-style-type: none"> ▪ However, Earth is shown on NOSTI (above, and at the centre of, its rotating crystal arms) and is represented by the crystal Smoky Quartz. This is one of the most efficient grounding and anchoring stones which, at the same time, raises vibrations during meditation. It is a protective stone with a strong link to Earth and the base chakras, promoting a concern for the environment and ecological solutions. It fortifies resolve and helps tolerate difficult times with equanimity. It is also a superb antidote to stress.

2. THE MOON – Our Natural Satellite

ASTRONOMY
<ul style="list-style-type: none"> ▪ Earth's only natural Satellite, the Moon is our closest neighbour, formed when a Mars-sized body collided with Earth around 4.5 billion years ago. ▪ It orbits our planet at an average distance of 384,000 km – 30 Earth-sized planets could fit between here and the Moon – although it is moving away from us by about an inch every year. ▪ It is by far the largest and brightest luminary in the night sky due to its proximity, and relative size, to Earth. At just over a quarter of Earth's size, it is proportionally much bigger than most moons and is also the fifth largest moon in the solar system (after three of Jupiter's moons and one of Saturn's). ▪ Travelling at 3,680 km/hr through space, the Moon takes 27.3 days to orbit Earth, exactly the same time as it takes to complete one rotation on its axis. This synchronous rotation is called 'tidal locking' and means that, from Earth, we only ever see one side of the Moon. Because Earth is also rotating on its axis as it orbits the Sun, the Moon appears to orbit us every 29 days. ▪ During its orbit, different parts of the Moon are in sunlight or darkness at different times. This changing illumination is why, from our perspective, the Moon goes through phases. During a 'full moon', the hemisphere we see from Earth is fully illuminated by the Sun, while a 'new moon' occurs when the far side of the Moon has full sunlight, and the side facing us is in darkness. ▪ The Moon's gravitational pull causes our tidal ebbs and flows and moderates Earth's wobble on its axis creating a steady climate where life can exist. ▪ Its axial tilt is very small (1.5°) so it does not experience seasons. It also has no weather, though surface temperatures can vary from 127°C in daylight to minus 173°C in darkness. • Like Earth, the Moon is formed of a small solid, iron-rich core with a partially liquid molten outer layer, a mineral mantle and an outer crust. Its surface gravity is 0.17g – about a sixth as strong as gravity on Earth. ▪ The Moon's extremely thin atmosphere (known as an exosphere) provides no protection from the Sun's radiation or from meteor impacts, so the surface is pitted with craters, some more than 85km wide (e.g. Tycho Crater). These impact basins, known as Maria (Latin for seas), are visible as dark areas on the surface, with the light areas referred to as 'highlands'. The Moon's surface also features many extinct volcanoes. ▪ In Latin, the moon was called Luna and this has become the main adjective for all things moon-related – 'lunar'.
ASTROLOGY
<ul style="list-style-type: none"> ▪ The Moon rules Cancer – the fourth sign of the Zodiac. Cancer starts with the Summer Solstice on 21 June and lasts until approximately 22 July. ▪ In the Natural Zodiac, the Moon and Cancer rule the 4th House of Emotional Foundations ('I Feel'). ▪ The Moon modifies your Sun sign, bringing new forces, different motivations and spiritual elements to your character. Your Moon sign represents the part of you that you see – the side of your personality you keep hidden and that will mostly only be apparent to those very close to you. It represents your emotional nature – your instinctive reactions based on past experiences and the unconscious habits that determine how you will respond when you haven't thought things through.

Because emotions run so deep, the Moon also points to your greatest need and the sign it is in shows what makes you feel emotionally nurtured, secure and satisfied. It is your inner core which feels hate, jealousy and fear and that has fantasies that you deny even to yourself. However, it is also the part of your personality that spontaneously feels and expresses joy and pleasure and enjoys the sensualities of life. The Moon is also a symbol of fertility and femininity and its sign colours one's relationship with the mother and women in general. The Moon is constantly waxing and waning and its house position shows the area of life where you tend to be the most emotional, as well as where you often experience changing conditions. The Moon house also gives clues to the type of activity that occurs on the domestic scene.

- The Moon never stations retrograde (appears to be travelling backwards).

CRYSTAL – OPAL

- Opal is an emotional stone and reflects the mood of the wearer. It is most known for its ability to bring our traits and characteristics to the surface for examination and transformation. Just as Opal absorbs and reflects light, it picks up thoughts and feelings, desires and buried emotions, amplifying them and returning them to the source. While magnifying one's negative attributes may prove uncomfortable, it helps us understand how destructive these emotions can be and assists with the process of letting them go. Opal also illuminates the positive actions and emotions of the self, enhancing the good and true, and fostering one's highest potential. It is a karmic stone with a reminder that what one sends out will eventually come back.
- Other crystals associated with the Moon include Moonstone, Petalite and Selenite.

3. VENUS – The Hottest Planet

ASTRONOMY

- Venus is the second planet from the Sun, orbiting at an average distance of 108 million km (0.7 AU). From this distance, sunlight takes 6 minutes to reach Venus.
- It is the sixth largest planet in the solar system and only slightly smaller than Earth (94.9%), its closest neighbour.
- Apart from the Moon, it is also the brightest object in our night sky due to its thick covering of clouds which reflect and scatter sunlight.
- Travelling through space at 126,000 km/hr (faster than Earth), Venus takes 225 Earth days to orbit the Sun (one Venusian year). It does this in a nearly perfect circle and virtually upright – its axial tilt is only 3° – so the planet does not experience seasons.
- However, Venus is unusual in that it is one of only three planetary bodies that spin backwards (the others being Uranus and Pluto). This means that the Sun rises in the West and sets in the East. It also has the slowest rotation of any planet in the solar system, completing one reverse rotation every 243 Earth days. This makes a Venusian day even longer than a Venusian year.
- Like its fellow terrestrial planets, Venus has a molten iron core, a hot rock mantle and a thin solid crust. This bulges and moves as the mantle shifts and creates volcanoes. In fact, it is thought that Venus was completely resurfaced by volcanic activity 300-500 million years ago. The surface has mountains, ridged plateaus and valleys, impact craters and tens of thousands of volcanoes. Its highest mountain (Maxwell Montes) is 20,000 feet – similar in height to Mount Everest.
- Its thick, heavy atmosphere is comprised of carbon dioxide and nitrogen with clouds of sulphuric acid droplets. This traps heat from the Sun in a runaway greenhouse gas effect, making it the hottest planet in our solar system, with surface temperatures at 470°C – hot enough to melt lead.
- While the surface rotates slowly, Venus has a super-rotating upper atmosphere caused by 360km/hr hurricane force winds and lightning bursts that send clouds completely around the planet every five days.
- Venus has no rings or Moons and only has a weak magnetic field due to its slow rotation.
- Many scientists believe water once existed on its surface and future explorers will search for evidence of an ancient ocean.
- Venus is named after the Roman goddess of love and beauty, known as Aphrodite to the ancient Greeks.

ASTROLOGY

- Venus rules Taurus and Libra. Taurus is the second sign of the Zodiac, starting around 20 April and lasting until 20 May. Libra is the seventh sign and coincides with the Autumn Equinox on 23 September, lasting until about 22 October.
- In the Natural Zodiac, Venus and Taurus rule the 2nd House of Personal Resources ('I Have') and Venus and Libra rule the 7th House of Relations with Others ('I Relate').
- In modern astrology, Ceres is also thought to rule Taurus. Ceres is the largest object in the asteroid belt which exists between the orbits of Mars and Jupiter. Like Pluto, Ceres is classified as a dwarf planet though Pluto is 14 times more massive.
- Venus is the planet of love, pleasure, and beauty. It represents your capacity to express affection and enjoy beauty, including your capacity to attract and appreciate the things of the world, whether they are emotional, physical/material, mental or spiritual. It also defines the type of people you draw to yourself, based on your social values. Things ruled by Venus include what kind of sex appeal you possess, love affairs, the arts, beauty and beautiful things, adornment, affection, the social graces, harmony and friendship. Being the planet of pleasure, it points to the kinds of amusements you are drawn to and in what ways you spend your money. The sign Venus is in gives important information about how you express yourself in personal relationships, especially in love and marriage. It also indicates your attitudes to money, personal possessions, creature comforts, and social and aesthetic values. The house position of Venus indicates the type of people with whom you establish relationships, both friendships and romances, and where you are most likely to find an artistic outlet. Venus never travels far from the Sun – it is always either in your Sun sign, or in one of the two signs immediately preceding or following it. A well-aspected Venus bestows charm, diplomacy and tact. Some of its negative manifestations include self-indulgence, jealousy, envy, lust and unfaithfulness.
- Venus stations retrograde every 18 months (appears from the perspective of Earth to move backwards), retracing 15-18° of the Zodiac over a period of 42 days.

CRYSTAL – ROSE QUARTZ

- Rose Quartz is the stone of unconditional love and infinite peace. It is the most important crystal for the heart and heart chakra, teaching the true essence of love and purifying and opening the heart at all levels to bring deep inner healing and self-love. It is calming, reassuring and excellent for use in a crisis or to help alleviate trauma.
- Other crystals associated with Venus include Emerald and Amazonite.

4. MARS – The Red Planet

ASTRONOMY

- Mars is the fourth planet from the Sun, orbiting at distance of about 228 million km (1.52 AU). From this distance, sunlight takes 13 minutes to reach Mars.
- It is the second smallest planet in our solar system (after Mercury) and about half the size of Earth (53.2%).
- Known as 'The Red Planet', Mars was named by the Romans after their god of war because its colour was reminiscent of blood. (The ancient Egyptians also called it 'Her Desher' – 'the red one'). This appearance is caused by oxidising (rusting) iron minerals in the soil that are kicked up into the atmosphere as dust, so from a distance, the planet looks red. In fact, many colours exist at its surface including brown, gold and tan.
- Mars' orbit around the Sun is highly elliptical (egg-shaped), so its distance from Earth varies hugely, from 55.7 million to 401.3 million km (the average is 78.39 million km). It travels through space at 86,677 km/hr, more slowly than Earth.
- A day ('sol') on Mars is 24.6 hours, similar to the 23.9 hours on Earth. However, its year is much longer at 669.6 sols – equivalent to 687 days on Earth. In other words, it takes Mars 1.88 Earth years to orbit the Sun.

- Its axis of rotation is tilted 25.2° to its orbit – another similarity to Earth which has an axial tilt of 23.4° – which means Mars also has distinct seasons. However, because it has a longer year and an elliptical orbit, its seasons last longer and vary considerably in length.
- Like Earth, Mars is classified as a Terrestrial planet with a dense iron core; a rocky mantle; and a metal and mineral crust. Unlike Earth, however, it is a cold, dusty, desert world with surface temperatures ranging from 20°C to minus 153°C.
- With a surface gravity of 0.38g (about a third as strong as Earth) and an extremely thin atmosphere (comprising 95% carbon dioxide), heat from the Sun escapes very easily – so much so that, if you were to stand on the equator at noon, it would feel like spring at your feet (24°C) and winter at your head (0°C).
- Over countless Millennia, volcanoes, impact craters, crustal movements and weather (such as large dust storms) have altered Mars's surface landscape, creating fascinating topographical features. For example, it boasts the largest, now extinct, volcano in the solar system (Olympus Mons) which is three times taller than Mount Everest. Its largest canyon (Valles Marineris) is ten times the size of the Grand Canyon.
- It is thought that, billions of years ago, Mars was much wetter and warmer and had a thicker atmosphere. There are signs of ancient river valley networks, deltas and lakebeds, with some features suggesting Mars experienced huge floods about 3.5 billion years ago.
- While water still exists on Mars today, the Martian atmosphere is too thin for liquid water to stay long on the surface. It is now found in the form of water-ice just beneath the surface of the polar regions, and as briny (salty) water which flows seasonally down some hillsides and crater walls.
- Mars has two moons, Phobos and Deimos, that are among the smallest in the solar system. The innermost, larger moon Phobos (Greek for 'fear or panic'), whips around Mars three times a day and is closer to its planet than any other moon in the solar system (only 6,000km above the surface). It is moving slowly towards Mars and will crash into it (or break apart) in about 50 million years – at which point Mars may develop dusty rings.

ASTROLOGY

- Mars rules Aries – the first sign of the Zodiac. Aries marks the start of Spring at the Vernal Equinox on 21 March and lasts until approximately 19 April.
- In the Natural Zodiac, Mars and Aries rule the 1st House of Core Self ('I Am').
- Mars is the exact opposite of Venus. Whereas Venus represents the female archetype, Mars is all male. Whereas Venus is about harmony, Mars is about conflict. It is the planet of physical energy, governing your sex drive, your forcefulness and your aggression. It is associated with your desires and aspirations for emotional, mental, physical and spiritual things – and desires stimulate activity; you have to want something before you reach out and take it. Mars is the heated passion behind this action. The sign of Mars in your Natal Chart indicates your vitality, energy level and style of action. In its highest form, it represents your unleashed energy and your human will and initiative. A controlled Mars can give a healthy dose of assertiveness and ambition. A negatively-aspected Mars makes one prone to anger, harshness, destructive violence, impulsive behaviour, danger, combativeness and every kind of cruelty. It's up to you to use this force constructively.
- Mars stations retrograde every 26 months, retracing 10-20° of the Zodiac over a period of 60-80 days.

CRYSTAL – RED JASPER

- Red Jasper is an ancient stone with a long history of healing. For centuries, it has been celebrated as a talisman for magicians, scholars and scribes and also a favoured stone of warriors going into battle. It is gently stimulating and grounds energy, bringing problems to light before they overwhelm and providing insights into the most difficult situations. It makes an excellent worry bead.
- Other crystals associated with Mars include Ruby and Garnet.

5. MERCURY – The Fastest Planet

ASTRONOMY

- Mercury is the closest planet to the Sun, orbiting at an average distance of 58 million kilometres (0.4 AU). At this distance, sunlight only takes 3.4 minutes to reach the planet.
- From its surface, the Sun would appear almost three times as big as it does from Earth and up to seven times brighter.
- Despite this proximity, Mercury is not the hottest planet; that title belongs to neighbouring Venus due to its dense atmosphere.
- However, Mercury is the smallest planet in the solar system (excluding those classified as Dwarf Planets). At little more than a third the size of Earth (38.3%), it is only slightly larger than our Moon.
- It is also the fastest planet, racing through space at 47km/second (about 170,000 km/hr) and appropriately named after the fleet-footed messenger of the Roman Gods.
- At this speed, it only takes Mercury 88 days to orbit the Sun – completing four of its own years for every one of ours on Earth.
- However, Mercury spins very slowly on its axis, making one full day-night cycle (a solar day) every 176 days. This is more than two years on Mercury, resulting in the odd fact that its solar day is longer than its year. As a result, at some parts of the planet's surface, the morning Sun appears to rise briefly, then set and rise again, with the same thing happening in reverse at sunset.
- Mercury's axis of rotation is tilted just 2° meaning that it spins almost perfectly upright and does not experience seasons.
- Its orbit is highly eccentric (egg-shaped), so its distance from Earth varies from 77.3 million to 221.9 million km (an average of 91.7million km).
- Like the other inner planets, Mercury is a terrestrial planet with a large, partly molten, metallic core; a thin rocky mantle; and a cratered crust. It is the second densest planet after Earth with a surface gravity of 0.378g – roughly the same as Mars.
- Its surface resembles that of the Moon, scarred by many impact craters resulting from collisions with meteoroids and comets.
- Mercury has a thin exosphere composed mostly of oxygen, sodium, hydrogen and helium and extreme surface temperatures, ranging from 430°C during the day to minus 180°C at night.
- The planet has no rings or moons.

ASTROLOGY

- Mercury rules Gemini and Virgo. Gemini is the third sign of the Zodiac, starting around 21 May and lasting until 20 June. Virgo is the sixth sign, starting around 23 August and lasting until 22 September.
- In the Natural Zodiac, Mercury and Gemini rule the 3rd House of Local Interaction ('I Think') and Mercury and Virgo rule the 6th House of Health, Work & Service ('I Integrate').
- In modern astrology, Chiron is also thought to rule Virgo. Chiron was the first planetary body to be named a centaur, after the mythical Greek creature who was a hybrid man and beast. Like their mythological counterparts, centaurs are hybrids, embodying the traits of both asteroids and comets. In Astrology, Chiron also represents the wounded healer.
- Mercury is the planet of intelligence and communication. It governs our rational and intellectual faculties, perception and reason, memory, speaking and writing. Mercury reflects your capacity to collect, sort and communicate the knowledge you gain through your experiences and your senses. It reflects the way you see, hear, understand and assimilate information. Mercury is symbolic of that childlike curiosity that drives your urge to know, as well as the ability to analyse and reason. The positive manifestations of Mercury include clever speech, eloquence, persuasiveness, success with public speaking and a sharp, quick mind. The more negative manifestations include restlessness, a tendency to be critical, sarcastic, argumentative and sly, with quick wittedness turning into trickery, lies, deceit, fraud and forgery.

- The sign of Mercury in your chart shows your style and preferences of communicating and learning. A strong Mercury, free from any negative aspects, indicates a brilliant mind.
- Mercury stations retrograde roughly 3-4 times a year for approximately 22 days.

CRYSTAL – ZOISITE

- Zoisite transmutes negative energies into positive ones and connects to the spiritual realm. Psychologically, it assists in manifesting your own self rather than being influenced by others or trying to conform to the norm. It also aids in realising your own ideas and transforms destructive urges into constructive ones. Mentally, it is a creative stone, bringing the mind back to its objectives after an interruption. Physically, Zoisite can encourage recovery from severe illness or stress.
- Other crystals associated with Mercury include Green Agate, as well as Blue Lace Agate and Fire Agate.

6. THE SUN – Our Star

ASTRONOMY

- The Sun is the star at the centre of our solar system.
- It was formed about four and a half billion years ago when gravity caused a swirling cloud of gas and dust (a 'solar nebula') to collapse into a vast, flat, spinning disk. Most of the matter (99.8%) was pulled towards the centre to form a yellow dwarf star (our Sun) with the remaining 0.2% coalescing into numerous celestial bodies that orbit the centre at various distances. These include the eight planets, as well as more than 190 known moons, 794,000 known asteroids, 3,500 known comets and countless millions of meteoroids.
- The Sun's mass is enormous – it would need 1.3 million Earth's to fill it – and its gravity keeps the solar system together.
- Our solar system is part of the much larger spiral galaxy, the Milky Way. We are located about 26,000 light years from the galactic centre (about two thirds of the way out) in an area known as the Orion Spur, an outer region of one of the galaxy's four spiral arms (the Sagittarius arm).
- Travelling at an average of 720,000km/hr, it takes our solar system about 230 million years to complete one orbit of the galactic centre where there is a supermassive black hole estimated to be four million times as massive as our Sun.
- Our Sun is one of at least 100 billion stars in the Milky Way, and the Milky Way itself is one of a hundred billion galaxies in the Universe.
- Known and revered by the ancients, the Sun has inspired mythological stories in numerous cultures around the world, including those of the ancient Egyptians, the Aztecs of Mexico, the Native American tribes of North and South America, the Chinese, and many more.
- Essentially it is a hot ball of glowing gases and plasma, comprised of hydrogen and helium. Energy is created by nuclear fusion – with hydrogen atoms fusing to make helium, a process that generates intense heat. Temperatures at the Sun's core are about 15 million degrees Celsius which is sufficient to sustain thermonuclear fusion. This heat is carried outwards from the core by radiation with temperatures dropping to 5,500°C at the visible surface – still hot enough to boil carbon like diamonds and graphite. The Sun's radiation appears as sunlight when it reaches Earth about 8 minutes later.
- Without the Sun's intense energy, there would be no life on Earth. The connection and interactions between the Sun and Earth drive the seasons, ocean currents, weather, climate, radiation belts and auroras.
- The Sun has no rings but its electrical currents generate a complex magnetic field that is carried through the solar system by the solar wind. The volume of space controlled by the Sun's magnetic field is called the heliosphere which extends about 100 AU into space, acting as a shield and protecting the planets from interstellar radiation.
- About once every 11 years, the Sun's geographic poles change their magnetic polarity causing solar storms – sunspots, solar flares and coronal mass ejections.

ASTROLOGY

- The Sun rules Leo – the fifth sign of the Zodiac. Leo starts around 23 July and lasts until approximately 22 August.
- In the Natural Zodiac, the Sun rules the 5th House of Creative Identity ('I Create').
- The Sun represents the core 'you' – your ego, essence, fundamental character, the unchanging part of you, the deep lasting force within you. It also represents your will – enabling you to exert willpower, make decisions and direct all other parts of your life – with its sign determining the dynamic expression of that will. Do you make friends easily? Are you generous or greedy? How do you cope with responsibility? Are you highly strung or easy going? The answers may be found in a study of your Sun's position by sign and house and any aspects from it. The Sun is the part of you that is apparent to others – it is what others see.
- The Sun never stations retrogrades (appears to be travelling backwards).

CRYSTAL – CITRINE

- Citrine is a happy, generous and beneficial stone. Carrying the power of the Sun it is warming, energising and highly creative, as well as a powerful cleanser and regenerator. Citrine energises every level of life and is also one of the stones of abundance, teaching us how to manifest and attract wealth, prosperity, success and all good things. It raises self-esteem and self-confidence and activates creativity, encouraging self-expression and promoting joy in life.
- Other crystals associated with the Sun include Golden Topaz, Heliodor and Zircon.

7. JUPITER – The Largest Planet

ASTRONOMY

- Jupiter is the fifth planet from the Sun, orbiting at an average distance of 778 million km (5.2 AU). From this distance, sunlight takes 43 minutes to reach its surface.
- Named after the king of the Roman gods (the Greek equivalent is Zeus), Jupiter is by far the largest planet in our solar system, more than twice as massive as all of the others combined. It is eleven times wider than Earth.
- It formed around 4.5 billion years ago from immense clouds of gas and dust, absorbing most of the mass left over from the formation of the Sun. It has the same ingredients as a star but did not grow massive enough to ignite.
- Jupiter spins incredibly fast on its axis and therefore has the shortest day in the solar system (about 10 Earth hours). Travelling at 47,000km/hr through space, it takes 4,333 Earth days (12 Earth years) to orbit the Sun.
- Its equator is tilted by only 3.1°, so the planet spins almost upright and does not experience extreme seasons. Its gravity is 2.36g.
- Classified as a Gas Giant, Jupiter's composition is similar to the Sun – comprised mostly of hydrogen and helium and with no solid surface. Deep in the atmosphere, the pressure and temperature becomes so extreme that hydrogen compresses into a liquid, giving Jupiter the largest ocean in the solar system. Scientists believe that, at some depths, this liquid conducts electricity like a metal and that Jupiter's fast rotation drives electrical currents there which generate the planet's powerful magnetic field. Shaped like a tadpole, this magnetosphere balloons 1-3 million km into space towards the Sun, trailing off 1 billion km in the other direction into Saturn's orbit. Jupiter's magnetic field is up to 54 times more powerful than Earth's and is responsible for some of the solar system's most dramatic aurorae at the planetary poles.
- It is still unknown whether or not Jupiter has a solid core but it is thought that temperatures at its centre could be as high as 50,000°C.
- Jupiter's characteristic swirls and stripes are cold clouds of ammonia and water formed into jet streams by the planet's rapid rotation, with winds at the equator reaching up to 539 km/hr. Its famous Great Red Spot is a huge storm, twice as wide as Earth, that has been observed for over 300 years.

- Jupiter has 79 known moons, including the ‘Galilean satellites’ – its four largest moons (Ganymede, Callisto, Io and Europa) discovered by Galileo in 1601.
- Unlike Jupiter, where life is unsustainable, its moons have potential for life. Icy Europa is thought to have twice as much water as Earth and a vast liquid water ocean beneath its frozen crust may be capable of supporting life. Callisto’s few small craters also indicate a small degree of current surface activity. Ganymede is the largest moon in the solar system (even bigger than Mercury) and the only moon known to have its own internally-generated magnetic field. Io is our solar system’s most volcanically-active body.
- Jupiter has several rings, but unlike the famous rings of Saturn, they are very faint and made of dust.

ASTROLOGY

- Jupiter rules Sagittarius – the ninth sign of the Zodiac. Sagittarius starts around 22 November and lasts until 21 December.
- In the Natural Zodiac, Jupiter and Sagittarius rule the 9th House of The Higher Mind (‘I Believe’).
- Jupiter is the largest planet in our solar system, so think expansiveness and abundance. It is also the planet of good luck, optimism, success and generosity, bringing joy to life and signifying knowledge, higher learning, breadth of vision, confidence, charity and goodwill, frankness and honesty. Jupiter’s knowledge is on a philosophical level (as opposed to Mercury’s day-to-day cleverness) – it is the view of the higher mind. Psychologically, Jupiter is searching for meaning or truth. As such, it represents law and justice, philosophy, religion, metaphysics and education. Jupiter encompasses the urge for self-improvement through participation in the larger whole. It urges you to go forth exploring in life. Jupiter’s sign indicates what you idealise and what your ethical, religious and philosophical standards are. The sign also indicates where you express expansiveness and do things on a large scale. Jupiter in your chart shows where you are likely to receive financial and material benefits, and in turn, where you express generosity to others. Jupiter’s house is where we tend to be optimistic and the affairs of that house usually flow easily. Jupiter’s positive qualities include benevolence, wisdom, morality and spirituality, though if negatively placed, it can manifest as self-righteousness, excessiveness, squandering, exaggeration, over-indulgence, superficiality and bigotry – with over-indulgence often leading to a lesson of restraint. However, even when negatively placed, Jupiter is protective and beneficial, meaning one will tend to ‘land on one’s feet’ when problems arise.
- Jupiter stations retrograde about every nine months, for a period of approximately four months.

CRYSTAL – LAPIS LAZULI

- Lapis Lazuli is a powerful thought amplifier. It stimulates the higher faculties of the mind, bringing objectivity and clarity. It stimulates enlightenment and enhances dream work and psychic abilities, facilitating spiritual journeying and stimulating personal and spiritual power. It also encourages taking charge of life, revealing inner truth, facilitating self-awareness and allowing self-expression without holding back or compromising.
- Other crystals associated with Jupiter include Azurite and White Topaz.

8. SATURN – The Ringed Planet

ASTRONOMY

- Saturn is the sixth planet from the Sun, orbiting at distance of about 1.4 billion kilometres (9.5 AU). From this distance, sunlight takes 80 minutes to reach its surface.
- Saturn is the second largest planet in our solar system – about nine times wider than Earth.
- It has been known since ancient times since it is the farthest planet from Earth that is easily visible with the naked eye. It is named after Jupiter’s father, the Roman god of generation, dissolution, periodic renewal, liberation, agriculture, plenty and wealth. In Greek mythology, this the Cronus – Old Father Time.
- After Jupiter, Saturn has the second shortest day in the solar system taking only 10.7 hours to complete one rotation on its axis. It makes a complete orbit around the Sun (a Saturnian year) in 29.4 Earth years. Its axis of rotation is tilted 26.7° to its orbit (similar to Earth’s 23.5° tilt), so the planet experiences seasons.

- Like Jupiter, Saturn is a Gas giant, composed mainly of hydrogen and helium – the same two components that make up the Sun. It has a dense metallic rocky core, surrounded by liquid metallic hydrogen.
- The planet is blanketed with clouds, with winds in the upper atmosphere over the equator reaching 500 meters/second (1,800km/hour). At its North Pole, it has a unique hexagon-shaped jet stream spanning 30,000 km with a massive rotating storm at its centre.
- Saturn is the least dense planet in the solar system with an average density less than water. This means it could float in a bathtub if such a colossal thing existed.
- Saturn is not the only planet to have rings but no others are as dazzling, beautiful or complex. There are seven main rings, each made up of billions of small chunks of rock, ice and dust and each orbiting at different speeds. Although they extend 282,000 km into space, the rings are only 10 meters high.
- Surrounded by 63 known Moons, Saturn is also home to some of the most fascinating landscapes in the solar system – from the jets of water that spray from the southern polar region of Enceladus to the methane lakes on smoggy Titan, Saturn's largest moon. While Saturn itself cannot support life as we know it, it is thought that some of its Moons may have this potential.
- For example, the largest moon, Titan, is the only known world other than Earth where liquid collects on the surface – in this case, huge lakes of liquid methane. Titan also has a liquid water ocean beneath its surface.
- Enceladus has a sub-surface liquid water ocean that is sprayed like a plume into space from surface fissures in its southern polar region to provide the source material for Saturn's E-Ring. There is mounting evidence that it may also have hydrothermal vents on its ocean floor where organisms could flourish, suggesting Enceladus has all the ingredients for life – methane (food), water and heat.

ASTROLOGY

- Saturn rules Capricorn – the tenth sign of the Zodiac. Capricorn starts at the Winter Solstice around 22 December and lasts until 19 January.
- In the Natural Zodiac, Saturn and Capricorn rule the 10th House of Life Aspirations ('I Achieve').
- Astrologers of the past regarded Saturn as 'malefic', indicating dire misfortune and misery wherever it was found in a chart. When Venus wishes for love, Saturn denies her. When Jupiter promises good fortune, Saturn delays it. When Mercury brings news, Saturn degrades it. And when Mars goes too hard or too fast, Saturn will crush him. But this is not necessarily bad. Saturn is associated with the principles of limitation, restrictions, boundaries, safety, practicality, reality, seriousness and structures. Saturn is the laws, boundaries and limits set by society or karma. Modern astrologers acknowledge that the hardships brought by Saturn's limitations, compel one to continue striving for a final product that, although delayed, will be solid and of real worth. Saturn governs ambition, career, authority, hierarchy and conforming social structures. It concerns a person's sense of duty, discipline and responsibility, as well as their physical and emotional endurance during hardships. Saturn is morose and cold, melancholic and serious. By placement in your chart, it indicates the area of life in which, for a time, you may feel shame. This is the area where you have lessons to learn – but it is where your disciplined hard work will lead to genuinely earned, long-lasting success. At its best, Saturn endows organisation and order. At its worst, its energy manifests as selfishness. The sign of Saturn also gives clues to the kind of work for which a person is suited and the kind of career they are likely to pursue.
- Saturn stations retrograde once a year for about four and a half months each time.

CRYSTAL – OBSIDIAN

- Obsidian is molten lava that cooled so quickly it had no time to crystallise. It is a stone without boundaries or limitations and, as a result, works extremely fast and with great power. Its truth-enhancing, reflective qualities are merciless in exposing flaws, weaknesses and blockages – nothing can be hidden from Obsidian. It is also a strongly protective stone, forming a shield against negativity. Spiritually it vitalises the soul purpose – eliminating energy blockages and relieving tension and integrating the psychological shadow into the whole being to bring about spiritual integrity. It anchors the spirit into the body and urges exploration of the unknown to open new horizons.
- Other crystals associated with Saturn include Onyx, Lodestone, Hematite and Jet.

9. URANUS – The Sideways Planet

ASTRONOMY

- Uranus is the seventh planet from the Sun, orbiting at distance of about 2.9 billion kilometres (19.8 AU). From this distance, sunlight takes 2 hours and 40 minutes to reach Uranus.
- It is the third largest planet in the solar system – about four times wider than Earth.
- Uranus takes about 17 hours to rotate on its axis (a Uranian day) and about 84 years to complete an orbit around the Sun (a Uranian year).
- Like Venus, it spins backwards, with the Sun rising in the West and setting in the East
- Uniquely, however, it rotates on its side with its equator nearly at right angles to its orbit (97.77° axial tilt) – possibly the result of a collision with an Earth-sized object a long time ago. This sideways motion causes the most extreme seasons in the solar system, with the Sun shining directly over each pole for nearly a quarter of the year, plunging the other half of the planet into 21 years of cold, dark winter. Uranus' sideways rotation also impacts its magnetosphere, so that auroras on the planet are not in line with the poles.
- Uranus is an Ice Giant, with most of its mass a hot, dense fluid of icy materials (water, methane and ammonia) above a small rocky core. Near the core, its temperature is around $4,982^\circ\text{C}$ but in the upper atmosphere, this cools to minus 224.2°C , making it even colder in some places than Neptune.
- It is also very windy, with wind speeds reaching up to 900 km/hr. These winds are retrograde at the equator but flow in line with Uranus' rotation at the poles.
- Uranus is slightly larger than its neighbour Neptune but has a smaller mass. It is the second least dense planet after Saturn.
- Like Jupiter and Saturn, its atmosphere consists mainly of molecular hydrogen and atomic helium. However, it also contains a small amount of methane which gives the planet its signature blue colour.
- Uranus has 27 known small moons, named after characters from the works of William Shakespeare and Alexander Pope. Uranus itself is named after the Greek god of the Sky, whose Roman equivalent is Caelus.
- Uranus has two sets of rings – nine dark and narrow inner rings, and four brightly coloured outer rings.

ASTROLOGY

- Uranus rules Aquarius – the eleventh sign of the Zodiac. Aquarius runs from 20 January to 18 February.
- In the Natural Zodiac, Uranus and Aquarius rule the 11th House of Collective Evolution ('I Reform').
- In older astrological traditions, Saturn was thought to rule Aquarius.
- Uranus represents the unconscious urge to become aware of your true individuality. Like a lightning bolt, Uranus symbolises sudden flashes of insight, moments of revelation and spurts of creativity. Its energy is usually described as suddenness, revolution, change, shock and disruption – as it cracks open time and fractures established patterns. Uranus seeks alternatives to commonly accepted forms. New ideas break into ordinary streams of thought, bringing innovative solutions to stubborn problems. This is your intuition awakening you to a world beyond our social structure. Uranus forces sudden changes when the usefulness of the old is gone and something newer, higher and better is ready to take its place. Uranus also encompasses technology and all types of electronic devices. It speeds up the mind, making it bypass logic and arrive at conclusions by leaping from A to Z. True to itself, the planet stands out from the rest by orbiting on its side. At best, it encourages originality, versatility and independence; at worst, it promotes eccentricity, perversion and rebellion. Above all, Uranus demands freedom.
- Uranus stations retrograde once a year, retracing about 4° of the Zodiac over a period of five months.

CRYSTAL – AMETHYST

- Amethyst is an extremely powerful and protective stone with a high spiritual vibration. It guards against psychic attack, transmuting the energy into love. Its serenity enhances higher states of consciousness and meditation. Amethyst is extremely beneficial to the mind, calming and stimulating as appropriate and opening up another reality. It is one of the most spiritual stones, promoting love of the divine, giving insights into its true nature and encouraging selflessness and spiritual wisdom.
- Other crystals associated with Uranus include Diamond and Quartz.

10. NEPTUNE – The Windiest Planet

ASTRONOMY

- Neptune is the eighth planet from the Sun, orbiting at an average distance of about 4.5 billion kilometres (30 AU). From here, sunlight takes 4 hours to reach Neptune and is so faint that high noon would seem like dim twilight to us. The light on Earth is about 900 times brighter than sunshine on Neptune.
- Neptune is the fifth largest planet in the solar system – about four times wider than Earth.
- A day on Neptune (the time it takes to spin once on its axis) is about 16 hours and the planet takes 165 years to make a complete orbit around the Sun (a Neptunian year).
- Neptune's axis of rotation is tilted 28° to its orbit (similar to Earth and Mars), so the planet experiences seasons. However, its solar year is so long that each season lasts over 40 years.
- Like its neighbour Uranus, Neptune is classified as an Ice Giant. Its atmosphere contains molecular hydrogen and atomic helium with small amounts of methane over a heavier, Earth-sized, rocky core.
- The methane in Neptune's atmosphere makes it appear blue like Uranus. However, Neptune is a much brighter, more vivid blue so there must be an unknown element causing this intense colour.
- Again like Uranus, Neptune's magnetic field is tipped over with respect to the planet's axis of rotation, causing the magnetosphere to undergo wild variations during each rotation. Neptune's magnetic field is about 27 times more powerful than that of Earth.
- Neptune is the densest of the giant planets and scientists think it may contain an ocean of super-hot water under its cold clouds, which does not boil away because incredibly high pressures keep it locked inside.
- It is also the windiest planet. Supersonic winds whip clouds of frozen methane across the planet at speeds of more than 2,000km/hr – three times stronger than hurricanes on Jupiter and nine times stronger than those on Earth.
- Neptune has 13 known moons. Its largest moon Triton is the only moon in the solar system which circles in a direction opposite to its planet's orbit (a retrograde orbit), suggesting that it may once have been an independent object that Neptune captured. Triton is extremely cold with surface temperature around minus 235°C but nevertheless has geysers that spew icy materials more than eight kilometers into space.
- Neptune is named after the Roman god of the Sea (the Greek equivalent of Poseidon) and its moons are named for lesser sea gods and nymphs in Greek mythology.
- Neptune has five known rings but they are very hard to see.

ASTROLOGY

- Neptune rules Pisces – the twelfth sign of the Zodiac. Pisces starts around 19 February and lasts until 20 March.
- In the Natural Zodiac, Neptune and Pisces rule the 12th House of Endings ('I Transcend').
- In older astrological traditions, Jupiter was thought to rule Pisces.
- Neptune represents the unconscious urge to dissolve the boundaries of your ego-centredness in order to 'lose yourself' in other realms of being. While Uranus breaks into our dimension to allow momentary flashes of insight into other realms of existence, Neptune is those other realms. Neptune dissolves life's patterns in order to teach new meanings in the quest for universal wisdom. It represents things that aren't quite as they appear – the illusive and the unreal. It is the planet of receptivity, imagination cloudiness, confusion, delusion, illusion and unreality. Neptune is associated with movies, acting and compassion. It can indicate mystical visions of a divine creator or the experience of primordial chaos before creation which can drive one to madness. It can therefore indicate spiritual healing and service to others or becoming lost in a foggy world of fantasy and dreams. More often than not, Neptune indicates confusion in the house where it resides in the chart. A negatively positioned Neptune suggests a tendency to escape reality. The house and sign will indicate whether this is through mind-altering drugs and alcohol, day dreaming, sexual addiction, cult worship, psychosis, potential suicide or something else. By contrast, at its best, Neptune's energy inspires marvellous art, music, theatre, dance, poetry and film. Above all, Neptune represents the intangible and makes it real.
- Neptune stations retrograde once a year, spending nearly half of the year in apparent backward motion.

CRYSTAL – FLUORITE

- Fluorite is highly protective, especially on a psychic level. It helps you discern when outside influences are working within you and shuts off psychic manipulation and undue mental influence. Psychologically, it dissolves rigid patterns of behaviour and gently opens the door to the subconscious, bringing suppressed feelings to the surface for resolution. It dissolves fixed ideas, helping one to move beyond narrow-mindedness and see the bigger picture. The stone dissolves illusions and reveals truth. It is very helpful when you need to act impartially and objectively.
- Other crystals associated with Neptune include Sapphire, Amethyst and Jade.

11. PLUTO – The Dwarf Planet

COSMOLOGY

- Pluto orbits the Sun at an average distance of 5.9 billion kilometres (39 AU). From this distance, sunlight takes 5.5 hours to reach Pluto and would be 1/900th as bright as on Earth – about 300 times brighter than our full moon.
- Pluto is located in a region known as the Kuiper belt. This comprises a group of miniature, icy bodies that orbit in a disc-like zone beyond Neptune.
- Classified as a Dwarf Planet, Pluto is about a sixth as wide as Earth and two thirds the width of our Moon.
- A year on Pluto takes 248 years and a Plutonian day lasts 153 hours (6 Earth days).
- Pluto has a highly elliptical, oval-shaped orbit (with the Sun nowhere near its centre) which can take it as close as 30 AU to the Sun and as far away as 49.3 AU. At its perihelion (closest position to the Sun), this brings Pluto inside Neptune's orbit for 20 years every 248 Earth years (most recently between 1979 and 1999). However, because of the repeating pattern of their orbital periods, the two planets can never collide – for every three laps Neptune makes around the Sun, Pluto makes two.
- Pluto's axis of rotation is tilted 57° to its orbit so, like Uranus, the planet spins almost on its side. It also exhibits a retrograde rotation, spinning from East to West like Venus and Uranus.
- Pluto is comprised of a rocky core surrounded by a mantle of water ice, with frozen methane and nitrogen frosting its surface. Temperatures on Pluto can be as cold as minus 240°C.
- It has a thin/tenuous atmosphere comprised of molecular nitrogen, methane and carbon monoxide with a blue tint and a distinct layer of haze. This expands to a gas when Pluto is closest to the Sun and freezes to a solid when the planet is further away, falling to the surface as snow.
- Pluto's topography is as diverse as it is stunning – with its surface featuring mountains as high as The Rockies, 600km valleys, 260km craters and beautiful, heart-shaped glaciers.
- Pluto is named after the Roman god of the Underworld (the Greek equivalent is Hades).
- It has no rings but five moons, also named for mythological figures of the Underworld – Charon (the boatman who ferries souls to the Underworld); Nix (the mother of Charon and the goddess of darkness and night); Hydra (the three-headed serpent that guards the Underworld); Kerberos (the three-headed dog of Greek mythology); and Styx (the river that separates the world of the living from the realm of the dead).
- Pluto's largest moon Charon is about half of Pluto's size, making it the largest satellite relative to the planet it orbits in our solar system. Charon is tidally locked to Pluto in a synchronous rotation (much like our Moon and Earth) but orbits 20 times closer at just under 19,640km. As a result, Pluto and Charon are often referred to as a double planet.

ASTROLOGY

- Pluto rules Scorpio – the eighth sign of the Zodiac. Scorpio starts around 23 October and lasts until 21 November.
- In the Natural Zodiac, Pluto and Scorpio rule the 8th House of Shared Mysteries ('I Release').
- Pluto represents the unconscious urge to transform repressed 'ego-desire energies' into 'group-desire energies' in order to live out one's role in society's evolution. Pluto represents sexuality (the act itself, as opposed to the desire which is associated with Mars), obsessive desires, transformation, power and the ingredients of great wealth (investments, banking, loans, debts, mortgages, etc.). Pluto has dominion over drastic changes that bring true upheavals, and since Pluto has the longest of all planetary orbits (248 years), an entire generation will share the same Pluto sign giving it historical significance. Drastic and permanent change in civilisation as a whole can be linked to Pluto's movement through the signs. On a personal level, the house that Pluto occupies in your chart will show where Pluto will transform those things in your life that require regeneration whether you want it or not. You may experience dramatic crisis or have to endure terrible suffering where Pluto is involved in your chart but it is necessary for the purpose of healing. Pluto tears down only to transform and regenerate what has been destroyed. Pluto is associated with recklessness, mental obsession and compulsion, emotional resistance and overall transcendence. It is also associated with unsolved mysteries, secrets and taboos.
- Pluto stations retrograde once a year for about six months.

CRYSTAL – LABRADORITE

- Labradorite is a highly mystical and protective stone – a bringer of light that raises consciousness and connects with universal energies. A stone of esoteric knowledge, it facilitates initiation into the mysteries. Psychologically it banishes fears and insecurities and the psychic debris from previous disappointments, including those experienced in past lives. It is a useful companion through change, imparting strength and perseverance. Labradorite is a stone of transformation, preparing the body and soul for ascension.
- Other crystals associated with Pluto include Smoky Quartz, Obsidian, Topaz and Ruby.