



Vandenbergs Gemstone College

*Learn more about gemstones and
how to choose one that's perfect for you.*

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Alexandrite



A chameleon stone, alexandrite's colour magically shifts and changes depending on the light, sparkling violet red at times and turquoise at others. This quality, along with its rarity, makes alexandrite one of the most spectacular and valuable gemstones in the world.

Alexandrite was named after Prince Alexander II of Russia, as it's believed that alexandrite was first discovered in the emerald mines near the Tokovaya River

in Russia's Ural Mountains in 1830 on the Prince's birthday.

Alexandrite is a member of the mineral family chrysoberyl. The most desirable colours of alexandrite are bright, richly saturated reds and greens, without tones of grey or brown, that flash from a deep background. These stones are also the most expensive and sought after. Alexandrite from the Ural Mountains in Russia is green by daylight and red by incandescent light, but is so rare the only place most will see alexandrite is in a museum.

Brazilian stones from the Itabira region are the best available for jewellery making and can be a rich near black with bright red and green flashes. These gems are very dramatic and beautiful.

Alexandrite in sizes over three carats are very rare and expensive so there are a number of alexandrite simulants in the market. Lab-grown synthetic sapphires create a similar reaction to light, but the reflected colours are usually a violet pink to a purple blue.

Alexandrite is a hardy stone that can withstand frequent wearing. The gem is June's birthstone and the gift of love for the 55th wedding anniversary. It's believed to be a symbol of joy and good fortune.

Amethyst

The choice of many ancient Egyptian monarchs, the rich purple amethyst has been valued throughout the centuries. The word amethyst is derived from ancient Greek and means 'without drunkenness'. The ancient Greeks believed that if you drank from a pure amethyst chalice, you would never get drunk.

The amethyst is the most valued stone in the quartz family of gems. Amethysts can range from a pale, almost colourless, light violet through to the more prized saturated purple with a slight blue tinge.



Found in many regions throughout the world, the best amethyst stones are found in the Rio Grande do Sul in southern Brazil. A deep rich purple, with a slight hint of blue and flashes of red, these gems can be amazing.

The good news is that amethysts are relatively common and are available in larger sizes, often up to 1,000 carats or more. Given the abundant supply, these gemstones are reasonably

priced with very fine stones of three to five carats available for as little as \$200 per carat.

Amethyst, like all quartz, is tough and can withstand frequent wear. But, like most gemstones, it should not be worn every day or damage, such as chipping or scratching, is likely to occur.

Amethyst is the birthstone for February and is a special gift for the 33rd wedding anniversary. Amethyst symbolizes peace and balance.

Aquamarine

Close your eyes and listen to the sound of the gentle waves lapping on the fine, warm, white sand of a Caribbean island. Imagine the colour of the water. All those shades of blue to turquoise can be found in the appropriately named gem, aquamarine.

Aquamarine, like the more famed emerald, is a member of the beryl family and its name is derived from Latin, meaning 'water of the sea'.

Beryl is a clear gem in pure form, but when it has iron in it, it turns blue and we call it aquamarine. A higher concentration of iron yields a darker blue colour. If beryl has trace amounts of chromium and vanadium in it, the stone shows an amazing emerald green colour.

Emerald and aquamarine are essentially the same stone with just one difference – the trace elements that create their colours. To make things more interesting, there are yellow beryl gemstones named heliodor, extremely rare red beryl stones, dark blue beryl called maxixe, and a beautiful pink to salmon stone named morganite beryl.



Most aquamarine is found in Brazil. The best gems combine high clarity with limpid transparency and blue to slightly greenish blue hues. Aquamarine is a more common stone so we're able to get very large stones with little to no inclusions.

A hard and durable stone, aquamarine will last a lifetime with care.

Aquamarine is March's birthstone and it's the perfect gift for the 19th anniversary as it's thought to enhance the happiness of marriages. The stunning blue to bluish green stone is a symbol of youth, health and hope.

Beryl

Beryl is a gem species that few have heard of, but everyone knows and loves. When beryl is pure, like many gems, it is colourless. But, when it forms with minute traces of other elements, it becomes something entirely different.

When it has chromium or vanadium in it, beryl becomes the much sought after emerald. When it has a trace of iron in it, it becomes the soothing aquamarine. Beryl can also be yellow (heliodor), pink (morganite) and red (maxixe).



Beryl is well suited for use in jewellery and, with a fair hardness and prices starting from a few dollars per carat, there are beryl gems suited for any budget.

Blue Sapphire

The very mention of a sapphire conjures up images of royalty, including Lady Diana's engagement ring that is now worn by Prince William's wife, Princess Kate. There are few stones with the potential to mesmerize like a fine blue sapphire. There isn't a single thing in nature that rivals its colour, except possibly a midnight sky lit by the stars.

The word sapphire comes from the Latin 'sapphiru' which means blue. However, sapphires come in a rainbow of colors from vibrant cobalt to midnight navy, forest green, sunrise yellow, and the pink of dawn and dusk. If you're looking for a red colour, you'll need to look to the sapphire's sister stone, the ruby. Sapphires and rubies belong to the family of minerals known as corundum and they are among the strongest natural gemstones in existence, second only to diamonds.



While Vandenberg's specializes in very fine Ceylon sapphires, stunning and rare rich blue stones, blue sapphire can vary greatly in quality. It's important to know what you're buying and to purchase these and other gemstones from a reputable jeweler.

There are three grades or categories of blue sapphire so let's explore each of them beginning with what is known as Thai, or Australian, sapphire, a medium to dark navy blue, often tending to black. This is the most prevalent and least expensive blue sapphire. Stones in this category can range in price from a few dollars per carat to as much as a few hundred dollars, and can be found in sizes from very small to tens of carats. More than 90% of blue sapphires are Thai stones.

The second or middle category is the best quality available in the market today. These stones are called Ceylon and they're named after their place of origin, today's Sri Lanka. This gem ranges from a pale, almost cornflower blue through to the very highly prized intense royal velvet blue. Gems in this category can be found in sizes from very small to tens of carats as well, but they are very rare in sizes over five carats. Prices vary widely in this category with lightly coloured stones costing as little as \$50 per carat with larger and deeper blue stones costing as much as thousands of dollars per carat.

The third category is a very rare and little known gem called Kashmir sapphire. Named for the Kashmir region in Pakistan and India where it's found, these gems are exceedingly rare and found only in museums and exclusive auctions. They are described as being slightly lighter in colour than the richest Ceylon, but more velvety and intense.

Sapphire is the birthstone for September. In an engagement ring, sapphire means sincerity and faithfulness. Sapphire is also a traditional gift for those celebrating their 5th or 45th anniversaries. Sapphires symbolize wisdom, prophecy and royalty.

Blue Topaz

Cool, blue and icy, it's no wonder blue topaz is December's birthstone.



Most natural topaz begins life as a light brown gem. This light brown fades or turns colourless when exposed to light or low temperatures. Otherwise, the stone tends to be very pale blue to colourless. The most unusual topaz is the golden to golden orange and pink colours called imperial topaz.

The striking colours of blue topaz that we are familiar with are not found in nature. Although topaz occurs naturally in a very pale blue, the intense colours we see are a result of irradiation and heating. Different intensities of irradiation, different temperatures and lengths of exposure all contribute to creating different hues and intensities of blue. Only certain colourless topaz crystals can be treated in this way, but they are plentiful, so the resulting stones are reasonably priced.

With a good hardness and stable colour, blue topaz is a great stone for crafting jewellery. While its reasonable price makes it a great gift choice for any occasion, blue topaz is not only December's birthstone, it's also given as a gift on the 4th and 19th wedding anniversaries. Topaz balances emotions, releases tension and brings joy.

Blue Zircon

The stunning blue zircon reached its height of fame during the late 1800's and early 1900's when both the rich and the royal cherished the gem. The famed George Kunz, Tiffany's head gemologist and gem buyer, fell in love with the stone and featured it extensively. Some of the finest examples of the gem can be found in the world's best auction houses.

Zircon is derived from the Persian word 'zargun', which means 'gold colored', although the mineral comes in a variety of hues. Zircon grows in nature in many colours, from cognacs, vivid yellows and deep greens, but the most prized is the blue. The colour can range from a pale, almost diamond-like blue, through to a colour reminiscent of a deep ocean blue with the slightest hint of green.



Zircon has a few notable properties, including its double refractiveness – the ability to break light into two equal light rays. When you look into the stone, images are doubled. Another interesting property of the stone is its quality of dispersion. Like a diamond, zircon can separate the white light that it reflects into the colours of the spectrum.

Found in various regions of the world, the classic sources remain southeast Asia, with perhaps Cambodia being the most notable. Typically, zircon is reddish or brownish when it is found, but with moderate heating the vibrant blue is brought out in some stones. Always assume that most blue zircon has been heat-treated.

Zircon is fairly tough, but it is a bit brittle, so the junctions between the facets can get worn and develop chips with extensive wear. Because of this, we don't recommend zircon for everyday wear.

Like other blue stones – blue topaz and turquoise – the blue zircon is also considered to be a December birthstone. Zircon is believed to have the ability to increase one's self-confidence, and to aid the wearer in loving the self as well as others, as it opens up the heart and brings compassion.

Corundum



Rubies and sapphires of all colours make up the family of stones called corundum.

In its pure and extremely rare state, corundum is colourless. But, when tiny amounts of impurities are added, usually elements like iron, chromium or nitrogen, the corundum turns different colours.

When chromium is added, the stone turns red and is called ruby. When iron or titanium is the impurity, the stone is called blue sapphire.

Corundum is very prolific and can be found in virtually every colour of the rainbow. Vandenberg's has a line of jewellery called 'Rainbow Sapphire' and this collection features sapphires of every colour in the rainbow. These are stunning pieces.

Some of the rarer colours can be simply amazing. The rare and beautiful Padparadscha sapphire, which is a pinky-peachy-orangey colour is named after a rare lotus flower found in India.

Another feature of sapphire is that many stones will change colours in different light. A rich purple can turn to a warm and pinkish violet, and a bright pink can reflect a warm peach colour.

Second only to diamond in hardness, a corundum is a great choice for people who want something other than a diamond for their engagement ring. They make beautiful everyday jewellery.

Citrine



Quartz stones are known as the supreme gift of Mother Earth and people have used it in jewellery for thousands of years. Egyptians gathered ornately striped agates from the shore and used them as talismans, the ancient Greeks carved crystal ornaments that glistened like permafrost, and the hands of Roman pontiffs bore rings set with huge purple amethysts. Natural citrine is rare, and today, most citrine quartz is the result of heat-treated amethyst quartz. Even so, gems from the Victorian era have surfaced, and it's not hard to imagine that citrine was treasured even in earlier times.

The name citrine is derived from the French 'citron' meaning yellow. Yellow to golden to golden orange in colour, citrine is a form of clear quartz.

Citrine is affordable, tough and wearable. In its many variations of hues, it's a great gift for any occasion. Along with topaz, citrine is the birthstone for November and marks the 13th wedding anniversary. The gemstone symbolizes power, energy and protection.

Emerald

The gemstone of kings, the stone of legends, the emerald has driven conquistadors mad, made queens envious, and cost treasure hunters their lives. Beautiful, mysterious, rare and precious, emeralds are sought out for fine jewellery.

The word emerald comes from the Latin 'smaragdus' meaning green. The first known emerald mines were in Egypt and date back to at least 350 BC. Cleopatra was known to have a passion for emeralds and used them in her royal adornments.



There are four main producers of emeralds today: Zambia and Zimbabwe in Africa, and Colombia and Brazil in South America. There are other producers such as Pakistan, Afghanistan and Russia, but these producers don't offer volume or consistency. Each source has its unique properties, with African emeralds being a bit more bluish green and Colombian emeralds a bit more yellowish green. All are simply amazing.

Due to their rarity, we seldom see flawless or near flawless emeralds, so most stones have some inclusions that are visible to the naked eye. The colour we see ranges from a very pale green to a deep grass green caused by the presence of chromium or vanadium.

Emerald is a member of the beryl family and has a hardness of 7.5 to 8. We typically don't think of emerald as being durable but they are quite tough, particularly if the stone is not heavily included. With proper care, a fine emerald will last many generations of love and wear.

One thing to watch for when purchasing an emerald is a treatment called 'oiling'. This is a common practice where fine-grained oils or other substances are absorbed or forced into cracks and fissures within the stone. This has the effect of making fissures seem less obvious to the naked eye. Like all fillings, these are not permanent and may seep out over time, and what appeared to be a rich, green and clean emerald will slowly become lighter and more included. It's always best to purchase a quality gem from a reputable dealer.

Emerald is the birthstone for May and a traditional gift for those celebrating 20th or 35th wedding anniversaries. Emeralds are thought to be the preservers of love and symbols of hope. The color of nature, they are said to relax a troubled mind.

Fancy Sapphire



Fancy sapphires are any colour of corundum other than the more well-known red ruby and blue sapphire.

There are many beautiful colours of sapphires from the very rare peachy pink Padparadscha sapphire, to pink, purple, green and yellow stones.

Many of these sapphires are completely natural, but many are treated. There are two main forms of sapphire treatment used today: heat treatment and beryllium treatment.

Heat treatment has been around for hundreds of years. It's a process where a stone is subjected to relatively high heat to purify or intensify the colour. In this treatment, there is nothing added or taken away from the stone. This treatment is acceptable and many sapphires have been exposed to some amount of the process.

Beryllium treating is quite different. The process is similar but the stone is instead surrounded by a beryllium rich flux and heated. The heat will cause beryllium atoms to infuse into the stone to change the colour. In this treatment, something is added to the stone so it's not as accepted by the gem community. The colours produced by the process can be incredibly vibrant and the colours are not naturally occurring.

Often, there are many colours of sapphire in a single piece of jewellery, or many shades of the same colour in the same piece offering a unique look. With a hardness of 9 out of 10, it's an excellent stone to wear every day.

Sapphires are the birthstone for April and the gift given for the 45th wedding anniversary. They symbolize wisdom, virtue, good fortune and holiness.

Imperial Topaz



True imperial topaz is one of the most rare and most beautiful of all gemstones. Today, it is found in only one location just outside a small town in east-central Brazil. The town, Ouro Preto, meaning black gold, is a World Heritage Site and an amazing place to visit.

Typically, topaz is either colourless or a light to medium golden yellow. But gems from the Ouro Preto deposit add a sherry to orange, or pink to gold colour resulting in a gorgeous stone. Legend has it that the term imperial became attached to these stones because the Emperor of Brazil, Don Pedro, liked the colour so much that he took taxes in these stones.

The word topaz is derived from the Sanskrit word 'tapas', which means heat or fire. Topaz gem colours range from yellow, orange, champagne and the much-prized sherry-red, which has a faint pinkish hue. This pink type, containing traces of chromium, is extremely difficult to find and is generally reserved for collections. Vandenberg's has a number of these pink stones available to its clients.

With a hardness of 8, topaz is resistant to scratching but, with one direction of cleavage, care should be taken. Like other varieties of topaz, the imperial stone is said to be a calming gem that balances emotions, releases tension and brings joy. It's the birthstone for November and is given for 4th and 19th anniversaries.

Garnet

Thousands of years ago, red garnet necklaces adorned the necks of Egyptian pharaohs and were entombed with their mummified corpses as prized possessions for the afterlife. In ancient Rome, signet rings with carved garnets were used to stamp the wax that secured important documents.



Red garnet's availability increased with the discovery of the famous Bohemian garnet deposits in central Europe around 1500. This source became the nucleus of a regional jewellery industry that reached its peak in the late 1800's.

The word garnet comes from the Latin word 'garanatus' meaning 'seed-like' although in ancient times garnets were often called 'carbuncles'.

Garnets are a set of closely related minerals that form a group of gemstones that present in almost every color. Red garnets have a long history, but today's gem buyers can pick from a rich palette of garnet colors including greens, oranges, pinkish oranges, deeply saturated purplish reds, and even some blues.

Red garnet is one of the most common and widespread of gems, and is found on every continent. But not all garnets are as abundant as the red variety. A green garnet, tsavorite, is much rarer as it needs unusual rock chemistry and special conditions to form. Demantoid is another very rare and famous green garnet. Spessartine, also called spessarite, is an orange garnet, while rhodolite is a beautiful purple-red garnet. Like alexandrite, garnet can exhibit the color-change phenomenon.

All garnets have essentially the same crystal structure but they vary in chemical composition. Each variant leads to slightly different colours and properties.

January's birthstone and the gift for the 2nd and 6th anniversaries, garnets are also the gem of love and thought to heal broken hearts and bodies.

Heliodor

A crystal of golden light, heliodor radiates the warmth and power of sunshine and is said to be the illumination of higher thought. Its name translates from Greek as a 'gift of the sun'.

Heliodor, also known as golden beryl, varies in colour from a slightly greenish yellow, yellow, and a golden hue. Like its sister stones, aquamarine and emerald, heliodor can be a bright, clear and beautiful gem.



A relatively tough and more common member of the beryl family, heliodor is quite affordable and unique, making it a wonderful choice for a special gift. Heliodor is also said to be a hope stone believed to alleviate irritability and nervousness, and provide relief from heavy burdens and stress. It is said to bring stability and optimism.

Morganite

When morganite was discovered in 1910, Tiffany's chief gemologist George Kunz proposed it be named after the well-known banker, financier and gem collector, J.P. Morgan.

A sister stone to emerald, aquamarine and heliodor, this beryl stone's colour ranges between a beautiful soft salmon pink to a rare purple pink colour.



Morganite can be found in many places around the world with the primary locations being Madagascar and Brazil. It can often be found in larger size crystals as well, so larger cut gems are more common. Usually flawless to near flawless, morganite is a durable and wearable gem.

Next to the extremely rare red beryl, the pure pink morganite is the second rarest beryl, even more rare than its royal cousin, the emerald. However, because it's not well known, it's not an overly expensive stone. This may change as more people learn of it and demand for the gemstone rises.

Complimentary to any skin tone, morganite is an excellent choice for all occasions.

Rubellite



Along with the ruby, rubellite is one of the few gemstones to naturally occur in nature in a rich and romantic red colour. But, unlike the ruby, rubellite is not a member of the corundum family but is a tourmaline.

The rubellite is the most prized gem of the tourmaline family. It varies in colour from a soft pale pink to intense bubble gum pink to raspberry red. Rarely, it can be found in an intense blood red colour but, to date, this colour has only been found in the Cruziero mine in Minas Gerais. This deposit was mined-out quickly in the late 1970's, but the name is still whispered in collector circles.

Rare in the tourmaline family, rubellite commonly contains minor inclusions and these are accepted in much the same way inclusions are accepted in emeralds. Occasionally, we see flawless to near flawless rubellite gems and these are truly amazing.

There has been a huge increase in global demand for this variety of tourmaline as a replacement stone for ruby so, unfortunately, prices have climbed in recent years. Still, the gem is affordable.

The alternate gem for October's birthstone, rubellite is also a wonderful stone for Valentine's Day gift giving.

Ruby



Rubies have remained popular throughout time because their beauty evokes love, romance and power. Rubies still command the highest price per carat of all colored stones, vivid proof of their desirability.

The word ruby comes from the Latin 'rubens' meaning red. Rubies are found in shades of red, from rich darkish red, to blood red, and pinkish red. The red hue derives from traces of chromium. Rubies, like their sister stones, sapphires, belong to the family of minerals known as corundum. They are among the strongest natural gemstones in existence, second only to diamonds.

Ruby is the birthstone for July. It's also a traditional gift for those celebrating their 15th and 40th anniversaries. Rubies, because of their brilliant red hues, represent love and the essence of life. They also represent devotion, passion, protection and wealth.

Tanzanite

Once upon a time, a Masai tribesman stumbled on a cluster of highly transparent, intense violet blue crystals peeking out of the ground in Merelani, an area in northern Tanzania. The tribesman told a local fortune hunter by the name of Manual d'Souza about it, and d'Souza quickly registered four mining claims in the area.



While d'Souza had hoped to be staking claim to blue sapphire mines, it was not to be. But he, along with the tribesman, had discovered a new and beautiful gem that came to be called tanzanite. Within a very short time, there were said to be nearly 100 claims within a 20 mile radius of the original discovery and the tanzanite boom was officially underway.

With colour that range from a pale violet to an intense purplish sapphire blue, it's the stunning colours that make tanzanite a worthy stone and allows the gem world to overlook its softness.

Tiffany & Company recognized its potential and became its main distributor and promoted the gemstone with a huge publicity campaign in 1968.

Tanzanite is a variant of the mineral zoisite, and the stone is generally heated to improve or intensify its colour. Because of its rarity and the lack of cohesive mining in Tanzania, the supply of tanzanite fluctuates and so does its price.

Tanzanite is said to unite the heart and mind, and teach the wearer to live with a compassionate heart and an illuminated mind.

Tourmaline

Early in the 18th century in Brazil, when the early pioneers started searching the forests of the state of Minas Gerais, miners found beautiful rich green crystals. They thought they had found emerald but instead had discovered tourmaline.



Tourmaline is one of nature's most prolific gems and it is found in virtually every colour of the rainbow. Primarily from Brazil, it is also found in Afghanistan, Pakistan, Africa and the United States.

The gem's green colour ranges from an intense pale mint green through to the deepest velvet grass green, while the reds range from a bright bubble gum pink to deep ruby red. All of tourmaline's colours are amazing and most are affordable.

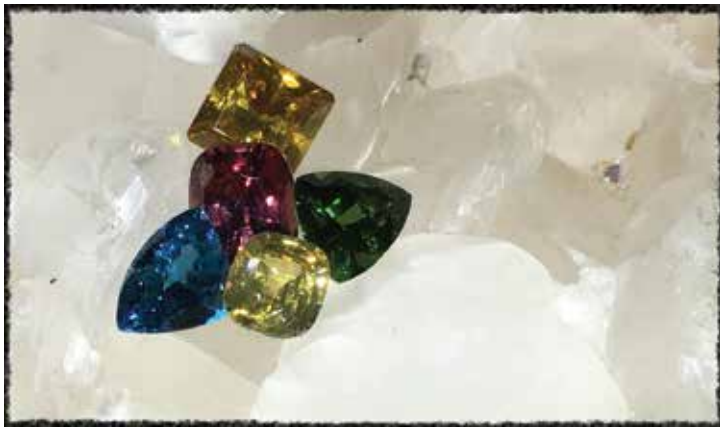
Tourmaline can change colour while it grows, yielding what is known as a bi-colour tourmaline, meaning it can be red on one side and green on the other. Or, the stone can change colours from the inside out as it grows, making a cross-section of the crystal look like a slice of watermelon.

Tourmaline has a fair hardness so it can be worn often. The gem makes a wonderful gift for any occasion and meets any taste due to its many colours.

Zircon

Blue zircon was a particular favorite in Victorian times when fine gems were often featured in English estate jewellery dating from the 1880's. Gemologist George Kunz, Tiffany's famed gem buyer, was a notable zircon advocate. He once proposed the name starlite to promote the gem's fiery nature, but the name never caught on.

Many scholars think the stone's name comes from the Arabic word 'zarkun', meaning cinnabar or vermilion. Others believe the source is the Persian word 'zargun', or gold colored. Considering zircon's color range, either derivation seems possible.



Zircon's wide and varied palette of yellow, green, red, reddish brown and blue hues makes it a favorite amongst collectors as well as informed consumers. Colorless zircon is well known for its brilliance and flashes of multicolored light, called fire. These two zircon properties are close enough to the properties of diamond to account for centuries of confusion between the two gems.

Zircon should not be confused with cubic zirconia which is a man-made diamond simulant.

While the most popular colour of zircon is intense blue, the yellow stones look very much like prized yellow diamonds, and the raspberry gems rival the finest garnets. The green zircon stones could pass for the finest green sapphire. Generally a very affordable gem, zircon is worth consideration if you're looking for something striking and unique.