Types of Gemstone

A couple of centuries ago, the terms 'Precious' and 'Semi-Precious' stones came into common use. Although there are many exceptions to this classification, but these terms are still in use. For example, diamonds have always been considered as precious stones, yet there are diamonds that sell for $100 a carat. On the other hand, there are garnets that sell in excess of $1,000 a carat and garnets have traditionally been considered semiprecious stones. For this reason, now-a-days jewelers often refer to gemstones, other than diamond, as 'Colored Stones'.

Precious Stones

Gemstones which are highly valuable for their hardness and rarity, are known as Precious Stones. Precious Stones are generally expensive in comparison of Semi-Precious Stones. There are only four Precious Stones:

**Diamond**

Diamond is the hardest natural substance found on Earth. Incredibly, diamond is the only gemstone made of just one element – carbon. Most diamonds, found in nature, were formed 1 to 3 billion years ago due to extreme heat and pressure. These diamonds were formed 100 to 200 miles below the surface of Earth. Volcanic activity brings diamond crystals much closer to the earth's surface. A rough diamond looks so much like a pebble that most people would pass it by without a second glance. The Diamond is the most effective heat conducting material, which expands very little when subjected to high temperatures, unlike most other conducting materials. In order to burn a diamond, it must be heated on more than a thousand degree Fahrenheit and it will simply vanish, without leaving ash. Only a little carbon dioxide will be released. However, many people expect a diamond to be unbreakable. This is not true. A diamond’s crystal structure has ‘hard’ and ‘soft’ directions. A blow of sufficient force, in an exact direction, can crack, chip, split or even shatter a diamond. Diamonds were first mined in India over 2,800 years ago. It is estimated that only 500 tons of diamonds have ever been mined in recorded history to date. More than 250 tons of ore need to be blasted, crushed and processed to produce just one carat of rough diamond. In one-thousand polished diamonds, only one will weigh more than one carat. The largest Diamond ever found is the Cullinan with 3,106 carats. On average, each stone will lose 50% of its original weight during cutting and polishing. Diamonds come in a spectrum of colors. Colored diamonds are called “fancies”. Blue and pink diamonds are among the rarest whereas yellow and brown are among the most common. 80% of the world’s diamonds are not suitable for Jewelry. These are used for the industrial purposes. Diamonds are
one of the world’s, and specifically Africa’s, major natural resources. An estimated US$13 billion worth of rough diamonds are produced per year, of which approximately US$8.4 billion are from Africa (approximately 65%). The diamond industry employs approximately ten million people around the world, both directly and indirectly, across a wide spectrum of roles from mining to retailing. Global diamond jewelry sales continue to grow, increasing three-fold in the past 25 years, and are currently worth in excess of US$60 billion every year. Australia accounts for producing the most diamonds in volume. The most recent diamond discoveries were made in North America – in the Northwest Territories of Canada and in Colorado. America buys more than half of the world’s total gem quality diamonds, accounting for the world’s largest diamond market. The largest diamond ever found in the US was discovered in 1924 in The Crater of Diamonds State Park in Arkansas – the “Uncle Sam Diamond” that weights 40.23 carats. The Crater of Diamonds State Park in Arkansas is the world’s only diamond mine open to the public and this is a dig-for-fee operation for tourists and rock enthusiasts. An average of 74,000 visitors comes to the park each year. About one out of 100 visitors find a diamond. It is estimated that less than one percent of women will ever wear a diamond of one carat or more.

**Emerald**

Color - Emerald Green to Dark Green
Mohs hardness scale - 7.5 - 8
Mineral Class - Beryl
Source - Found in Columbia, Brazil, Zimbabwe, South Africa, Afghanistan, USA
Emerald is one of the most fascinating and beautiful gemstones. The name of this remarkable gemstone comes from Greek 'Smaragdos', meaning 'Green Stone'. Its beautiful green color, combined with durability and rarity, makes it the one of the most valuable gemstones. Deep green is the most desired color in emeralds. The green color of this stone occupies a special position in many cultures and religions. Although Emeralds are notorious for their flaws but still they have been considered as high esteem gems since ancient times. Flawless stones are very uncommon, and are noted for their great value, sometimes even more than diamonds. Its good hardness protects the stone to a large extent from scratches but it may develop internal cracks if banged hard or if exposed to extreme temperature. Emeralds that were treated to mask internal flaws should never be cleaned with an ultrasonic jewelry cleaner, nor should they be washed with soap. These practices will remove the oil and expose the hidden internal flaws.

**Ruby**

Color - Bright red, brownish-red, purplish-red, dark red
Mohs hardness scale - 9
Mineral Class - Corundum
Source - Found mainly in Burma, Thailand, Sri Lanka and Tanzania
Ruby is the red variety of the mineral corundum, one of the hardest minerals on Earth, of which the sapphire is also a variety. Corundum is the mineral form of alumina which crystallizes in the hexagonal system. The red color of ruby results from a small admixture of chromic oxide. Only red corundum is entitled to be called ruby, all other colors being classified as sapphires. The most prized tint is blood red or crimson known in the trade as
'pigeon's blood' red. The name of this rich and noble gemstone comes from Latin 'Rubens' for 'Red'. In Sanskrit, the ruby is called 'Ratnaraj', means 'the king of precious stones'. For thousands of years, the ruby has been considered one of the most valuable gemstones on Earth. It has everything a precious stone should have: magnificent color, excellent hardness and outstanding brilliance. In addition to that, it is an extremely rare gemstone, especially in its finer qualities. The most important thing about this precious stone is its color. The red color of the ruby is incomparable: warm and fiery. This gemstone has excellent hardness, durability, luster, and rarity too. Transparent rubies of large sizes are even rarer than diamonds. The ruby is considered as an excellent choice for the jewelry. Beyond its incomparably rich red hue, which alone might be enough attraction, the ruby is second only to the diamond for strength and durability. Although Ruby is a tough and durable gem, but it is still subject to chipping and fracture if handled roughly.

**Sapphire**

Color - Blue, Yellow, Green, White, Colorless, Pink, Orange, Brown and Purple
Mohs hardness scale - 9
Mineral Class - Corundum
Source - Found mainly in Sri Lanka, Thailand, Burma, Australia, India, Brazil and Africa
Sapphire is also a variety of the mineral Corundum and represents all the colors except red Corundum, which is Ruby. Its physical and chemical properties are virtually similar to properties of Ruby. Blue is the main color of the Sapphire whereas this gemstone is also found in colors like green, orange, pink, gray, colorless, black, brown, and purple. The word 'Sapphire' in its plain context refers only to blue Sapphire, unless a prefix color is specified. Sapphire with a color other than blue is often called a 'Fancy' in the gem trade. The Sapphire gemstone symbolizes harmony, friendship and loyalty. Sapphire is the most precious blue gemstone. It is a most desirable gem due to its color, hardness, durability, and luster. Value of this gemstone depends on its size, color and transparency. Top-quality sapphires are extremely rare in all the gemstone mines of the world. Cutting of this gemstone requires great skills and experience and it is the job of the cutter to orientate the raw crystals in such a way that the color is brought out to its best improvement. Both Sapphires and Rubies have been successfully and widely produced synthetically in laboratories, and in appearance, chemical composition and hardness are almost identical to the natural gems. France is the major production hub for synthetic Corundum. The Sapphire is also considered as an excellent choice for the jewelry. In terms of hardness and durability, it is second only to the diamond (and equal to the ruby). It can be worn everyday without the caution needed with more fragile gemstones like the opal or topaz. Although Sapphire is a hard and durable gem, but it is still subject to chipping and fracture if handled very roughly.