

Getting Familiar with Gemstones

by Laura Bracken (email@BrackenDesigns.com)

Gemstones is such an overwhelming subject I'm almost drawing a blank about where to start.

Maybe I can try a HUGE overview and then we can work our way down... and out, along all the different paths.

So... let's start with the basic words: Gemstones and Minerals

What's the difference?

Dictionary definitions:

Mineral: A naturally occurring, homogeneous inorganic solid substance having a definite chemical composition and characteristic crystalline structure, color, and hardness.

Gemstone: A precious or semiprecious stone that may be used as a jewel when cut and polished.

Most people I know (in the industry) call minerals "gemstones" if they're used in jewelry (and or other decorations). I think that's the widely accepted definition. Once a mineral is cut and polished, we refer to it as a gemstone. I prefer NOT to be nit-picky about these definitions.

Some people are also very concerned about the distinction between "precious" and "semi-precious" gemstones.

In most circles, the precious gemstones are: Ruby, Diamond, Sapphire, and Emerald, relegating all others to the status of "semi-precious".

I tend to cringe when the term "precious" or "semi-precious" are used. It strikes me as market snobbery; in my opinion these terms are archaic and too broad and changeable for definition.

What's more important than what something is called, are its characteristics. Some of the things looked for in all walks of the jewelry trade (when it comes to gems/minerals) are:

- Color
- Rarity
- Size
- Shape

- Durability
- Sparkle
- Appeal (personal)
- Fashion Trends
- Special Features/Properties

As far as being a customer goes, go with what you love, no matter what anyone calls it. That doesn't mean pay too much for something and it doesn't mean let someone sell you an item without full disclosure. It merely means, the bottom line should be for you to be attracted to a piece WAY before scrutinizing its worth.

Basic Chart of Mineral Groups and Subclasses

<u>CARBONATES</u>	Aragonite		
	Azurite		
	Calcite Group	Gaspeite	
		Rhodochrosite	
	Dolomite		
Malachite			
<u>ELEMENTS</u>	Metals Group	Gold Group	Copper
			Gold
			Silver
		Platinum Group	Platinum
			Rhodium
		Chromium Group	Titanium
	Non-Metals Group	Diamond	
Moissanite			
<u>HALIDES</u>	Fluorite		
<u>OXIDE / HYDROXIDE</u>	Chrysoberyl	Alexandrite	
		Cat's Eye	
	Hematite Group	Corundum	Ruby
			Sapphire
		Hematite	
	Periclase Group	Lime	
Spinel			
<u>PHOSPHATES</u>	Apatite		
	Brazillianite		
	Cacoxenite		
	Lazulite		
	Turquoise		

SILICATES				
	Nesosilicates (aka Orthosilicates)	Andalusite		
		Dumortierite		
		Garnet Group	Almandine	
			Andradite	Demantoid
			Grossular	Hessonite
			Pyrope	Tsavorite
			Spessartine	
			Uvarovite	
		Howlite		
		Kyanite		
		Olivine	Peridot	
		Topaz		
	Zircon			
	Sorsilicates	Epidote Group	Epidote	
			Zoisite	Tanzanite
	Inosilicates	Actinolite	Nephrite	Jade
		Ashcroftine	Charoite	
		Pyroxene Group	Jadeite	Jade
			Pectolite (aka Lorimar)	
			Spodumene	Kunzite
	Rhodonite			
	Cyclosilicates	Axinite		
		Beryl	Aquamarine	
			Emerald	
			Morganite	
		Cordierite	Iolite	
		Sugilite		
		Tourmaline Group	Indicolite	
	Phyllosilicates	Chrysocola		
		Mica Group	Lepidolite	
			Muscovite	
		Prehnite		
		Serpentine		
Tectosilicates	Feldspar Group	Amazonite		
		Labradorite		
		Moonstone		
		Sunstone		
	Feldspathoid Group	Lazurite		
		Sodalite		
	Quartz Group	Amethyst		
		Ametrine		

			Citrine
			Lodolite (Quartz with inclusions)
			Rock Crystal (aka Crystal Quartz)
			Rose Quartz
			Smoky Quartz
<u>SULFATES</u>	Gypsum (aka Selenite)		
	Angelite		
<u>SULFIDES</u>	Cinnabar		
	Marcasite		
	Pyrite		
<u>ORGANICS</u> (And other non-minerals)	Amber		
	Jet		
	Obsidian		
	Opal		
	Pearl		
	Tektite		Moldavite

Some useful webbies...

http://www.ags.org/	American Gem Society
http://www.agta.org/	American Gem Trade Association
http://www.aigsthailand.com/	Asian Institute of Gemmological Sciences
http://www.cigem.ca/	Canadian Institute of Gemmology
http://www.gagtl.ac.uk/	The Gemmological Association of Great Britain
http://www.gem.org.au/	Gemmological Association of Australia
http://www.gemstone.org/	International Colored Gemstone Association
http://www.gia.edu/	The Gemological Institute of America
http://www.igi-usa.com/	International Gemmological Institute, Inc.
http://www.ingemmologie.com/	Institut National de Gemmologie
http://www.minerals.net/	The Mineral and Gemstone Kingdom

Getting (More) Familiar with Gemstones: Color
by Laura Bracken

Hm... where'd we leave off?

Okay, last issue we talked about the difference between "gemstone" and "mineral", and we discussed SOME of the things looked for to determine value or worth.

- Color
- Rarity
- Size
- Shape
- Durability
- Sparkle
- Appeal (personal)
- Fashion Trends
- Special Features/Properties

Let's take "color" for starters. Gemstones have different colors because of how much light they absorb, deflect, or reflect.

There are other words you also may have heard, in relation to the color of a gem: opaque, translucent, and transparent.

If a gem absorbs 100% of the light shown on it, it is called "opaque"... and it will NOT be see-through in any way.

A gem which lets almost all the light shine through is called "transparent".

And gems which permit *some* light to penetrate, but not enough to distinguish detail on the other side, are referred to as "translucent".

Still along the lines of "color" is the "luster" of a gem. Some of the adjectives associated with the luster of various gems include: adamantine, vitreous, waxy, pearly, silky, greasy, dull, and metallic.

Luster is a very important factor in colorless or low-color gemstones.

Two other terms associated with the color of gems are "labradorescence" and "chatoyancy".

The best way to experience labradorescence is to examine some good quality Labradorite. It's sort of an iridescent effect on the gem, caused by a mosaic arrangement of different miniscule tesserae.

Chatoyancy is better known by the phrase "cat's eye". (Similar to asterism, the star effect.)

Another word you may want to know is "pleochroic". A pleochroic gem (some refer to this as "color-shift") would be one which will display different colors when the gem is viewed at different angles (this is NOT the same as "color-changing" when viewed under different lights, like Alexandrite).

But... speaking of "color-changing"... want to know why (in layman's terms) Alexandrite changes color in different lights? It's mostly because we are human. The human eye, you see, is more sensitive to green light, and although Alexandrite reflects both green and red light, when we take the gem into sunlight, our eyes pick up the more highly reflected green light because it's what we're more sensitive to. The gem can also look purplish, because when viewed in light containing all wavelengths, it will transmit blue and red together. Yet when Alexandrite is placed under incandescent light, the gem appears red because red is reflected more than green under those lighting conditions. Alexandrite *could* transmit blue in candlelight, but there are no blue wavelengths for it to reflect, so it looks red there. Conversely, in florescent light (rich in blue wavelengths), Alexandrite appears blue because there is little red light to reflect back to our eyes.

The color of a gemstone is often looked at in four basic ways:

- Hue (the color)
- Saturation (the intensity of the color)
- Tone (the amount of lightness or darkness)
- Distribution (would be the color distribution, or "zoning" of color, throughout the stone)

Okay, now for the definitions of: synthetic, natural, and imitation

A natural stone is one made by nature.

A synthetic stone is one that was produced by man, in a laboratory, and contains the EXACT chemical make-up of the natural stone it is being made to emulate.

An imitation is any stone or other product that looks like, or is made to appear as, another known natural stone but is not of identical chemical composition.

Keep in mind, you can have a natural Howlite stone that is dyed and used as "imitation Turquoise". It's still a real gemstone (Howlite), but it is merely IMITATING a Turquoise. Hope that made sense.

To be continued...

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