



Gemstones

7 Beginning Jewelry Sales

Gemstones

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THE GEM WORLD

In the widest sense, the gem world includes an amazing variety of materials used for jewelry and other ornamental purposes. Most of these can be divided into two broad categories – diamonds and colored gemstones.

Diamonds are most important by far. They have a unique beauty and an unequalled depth of meaning. Treasured throughout history, they've become an integral part of modern culture.

The category of colored gemstones includes all gems other than diamond – sapphire, ruby, emerald, cultured pearls, etc. Most of these have long histories of their own, and many capture the romance of faraway places. As a result, colored gemstones have a prominent place in the selection of products you can offer customers who visit your store.

You can never know too much about diamonds or colored gemstones, and the learning process will continue throughout your career as a jewelry sales professional. But this lesson will give you knowledge and skills you can use right away. At the same time, you'll gain a solid foundation on which to build.



When you continue your education beyond this course, the DCA Diamond and Colored Gemstone courses can help you take a giant step toward developing top-level expertise in the amazing world of gems.

Lesson Objectives

When you have successfully completed this lesson, you will be able to:

- Present the 4Cs of diamond value.
- Explain how value factors relate to beauty and quality.
- Present sapphire, ruby, emerald and cultured pearls.
- Discuss factors that affect quality and value for these gems.
- Use history and folklore to build interest in them.

DIAMOND

Every diamond is unique, but all diamonds have certain characteristics that affect their value. These characteristics are known as the **4Cs**, and they are *carat weight*, *clarity*, *color*, and *cut*.

In order to sell diamonds and diamond jewelry successfully, you will eventually have to master a great deal of product knowledge. Many customers today are highly informed about the 4Cs, and they gauge jewelry sales professionals by their expertise in this particular subject. So, that's where you need to begin.

CARAT WEIGHT

Carat weight is a good place to begin discussing the 4Cs because it's easy to understand, and many customers already know something about it. When you explain how weight relates to cost, you also provide information that's essential for the purchase decision. You can build trust in your expertise and appreciation for your product too.



In order to sell diamonds and diamond jewelry successfully, you will eventually have to master a great deal of product knowledge.

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THE METRIC CARAT

The standard unit of weight for diamonds is the *metric carat*, which equals exactly 1/5 gram. In US measurements that's approximately 7/1000 ounce. For even greater precision, the carat is subdivided into 100 equal units called *points*.

In the US, diamond weight is measured to 1/1000 carat and rounded to the nearest 1/100 carat. That makes the accuracy within 1/2 point – or 35 millionths of an ounce. This extreme precision is required by industry standards and FTC guidelines.

Fraction	Weight
9/10	0.90 - 0.95 ct
7/8	0.84 - 0.89
3/4	0.70 - 0.83
5/8	0.57 - 0.69
1/2	0.47 - 0.56
3/8	0.38 - 0.46
1/3	0.30 - 0.37
1/4	0.23 - 0.29
1/5	0.18 - 0.22
1/6	0.15 - 0.17
1/8	0.12 - 0.14
1/10	0.09 - 0.11

STATING CARAT WEIGHT

Carat weight is usually stated in decimal numbers, like 0.50 and 1.25 carat, or in common fractions – 1/4, 1/2, 3/4 carat, etc. But within the diamond industry, weight fractions are used approximately. They refer to small ranges of weight rather than to exact decimal equivalents. For example, a 3/4-carat diamond might actually weigh 0.70 to 0.83 carat.

If you use fractions with customers, explain them carefully. This is also required under FTC guidelines.

When you're showing a diamond that weighs 0.48 carat, you might first say "forty-eight hundredths of a carat" or "forty-eight points." Next you could clarify, "That's about half a carat," and then use the fraction in the rest of your presentation.

WEIGHT AND VALUE

To help customers understand carat weight's effect on value, explain that a diamond's cost largely depends on natural rarity. A 1-carat diamond is much more rare than two 1/2-carat diamonds of similar quality. Therefore, it will be more expensive than both the smaller diamonds combined.

Differences in rarity are reflected by a diamond's *per-carat price*, which is the cost for each carat. Stating per-carat prices can help customers make comparisons. If you say, "This diamond is \$2,000 per carat, and this one is \$3,000 per carat," the customer immediately understands there are significant differences. Explaining those differences can then help you lead the customer toward a purchase decision.



A 1-carat diamond is much more rare than two 1/2-carat diamonds of similar quality.

Photo courtesy Shutterstock AptTone.

You can find a diamond's per-carat price by dividing the total cost by the weight. For example, if the cost is \$1,350 and the weight is 0.75 ct: $\$1,350 \div 0.75 = \$1,800$ per carat. (You can do this only if you know the cost of the diamond alone, however. If the price includes both the diamond and the mounting, you cannot calculate the per-carat price.)

CUSTOMERS AND WEIGHT

Some customers decide on the carat weight they want before they visit your store. With other customers, a good way to begin the decision-making process is to present a sequence of sizes. You might start with a 1-carat diamond. If the customer indicates that's too expensive, acknowledge the objection and then show progressively smaller sizes – 9/10, 3/4, 1/2 carat – until you receive a positive response. At the same time you can begin to discuss other value factors.

After a customer expresses a preference concerning weight, validate it. This can be as simple as agreeing "Yes, that's an excellent size." But fact-based statements are stronger. For example, the average weight range for the center diamond in an engagement ring is currently about 1/2 to 1 carat. If a diamond weighs more than that, you can say it's larger than the diamonds most women receive.



A good way to begin the decision-making process is to present a sequence of sizes.

Photo courtesy Shutterstock SVLuma.

SOLVING WEIGHT DILEMMAS

When there's a discrepancy between the carat weight a customer desires and the amount he or she can afford, there are some options you can present to solve the dilemma. One is moving down a weight category – say, from 1 carat to 9/10 carat. Because both the per-carat price and the weight are less, the cost will be significantly lower. But only an expert would notice the difference in appearance.

Another good option is compromising a bit on the other Cs – particularly clarity or color. Slight differences in these factors are apparent only to experts, yet they have a sizable impact on value. Suggesting this alternative can also create a perfect opening for your discussion of these factors.

CLARITY

Clarity is usually an easy C to present. Many customers understand the basic concept and know that diamonds have “flaws” (a word you – as a jewelry professional – should never use). This prior knowledge gives you a head start. However, you still have to provide the information that’s needed for a purchase decision. You can also use clarity to build trust and set the stage for the less familiar value factors of color and cut.

You might start by saying that clarity can be defined as a diamond’s freedom from features that are technically classified as *blemishes* or *inclusions*. Blemishes are surface irregularities such as scratches. Inclusions are internal – for example, tiny crystals of other minerals. Both are also known as *clarity characteristics*.



Clarity is a diamond’s freedom from inclusions or blemishes.

JUDGING CLARITY

To judge clarity, a trained grader examines the diamond using 10-power magnification. First, the grader finds all the characteristics. Then he or she assigns the clarity grade that reflects their visibility, plus any impact they might have on normal appearance or durability.

The face-up view normally counts most in setting the grade, because that’s how the diamond is seen when it’s mounted.

CLARITY GRADES

A key step in presenting clarity is stating the clarity grade and explaining what it means – briefly but clearly. To do this, you have to know the grading system your store uses.

Many stores today employ the system originally developed by the Gemological Institute of America (GIA). It consists of descriptive terms with the well-known abbreviations VVS, VS, SI, and so forth.

To explain one of these grades, you might say something like, “This diamond has a clarity grade of SI1 -- or slightly included, level one. It has characteristics that a trained grader can easily see under magnification, but which don’t affect the diamond’s beauty.”



Most professional lab graders use a binocular microscope to grade clarity.

Photo courtesy GIA GEM Instruments.

CLARITY AND VALUE

Clarity's effect on value is based on rarity. Almost all diamonds have clarity characteristics. The less significant these are, the higher the clarity grade will be. The higher the grade, the greater the rarity and the more expensive the diamond will be. But in most grades, the characteristics have little or no effect on the diamond's appearance.

For customers who seem concerned about clarity characteristics, explain that these come from events in the life of the diamond. Some are natural byproducts of the diamond's growth inside the Earth. Others can be caused by the stresses involved in mining or processing. You might also point out that clarity characteristics have benefits. Like a person's features, they make the diamond unique and identifiable.

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PRESENTING CLARITY

When you're talking about clarity characteristics, it's best to stick with that term specifically. Be careful to avoid negative-sounding words like "flaw" or "imperfection." Even "blemish" and "inclusion" sound negative to many customers.

If you have a microscope, you can invite customers to inspect diamonds for themselves. That's the best way to take the mystery out of this C.

Effective profiling enables you to help customers select the right diamond. Appearance and cost are important, but so are personal concerns and priorities. To someone who's quality-conscious, try presenting benefits related to rarity and high standards. For others, it's usually better to point out the precision – or pickiness – of grading distinctions, and then focus on the diamond's beauty and individuality. You might also suggest the possibility of trading a little in clarity to obtain a larger carat weight.

The type of jewelry can be a consideration as well. Most people would say high clarity is more important for diamonds in rings than in other types of jewelry. That's because rings – especially for engagements and anniversaries – typically receive close inspections from family, friends, and acquaintances.



It's necessary to keep the relationship between clarity and beauty in perspective.

Photo courtesy JB Star.

DIAMOND CLARITY GRADES

This table summarizes the Diamond Clarity Grade scale that was originally developed by the Gemological Institute of America (GIA), and is now widely used throughout the jewelry industry.

Grade	Abbrev.	Description
Flawless	FL	No inclusions or blemishes visible at 10x.
Internally Flawless	IF	No inclusions and only minor blemishes visible at 10x.
Very, Very Slightly Included	VVS1	Minute inclusions extremely difficult to see at 10x.
	VVS2	Minute inclusions very difficult to see at 10x.
Very Slightly Included	VS1	Minor inclusions fairly difficult to see at 10x.
	VS2	Minor inclusions fairly easy to see at 10x.
Slightly Included	SI1	Noticeable inclusions easy to see at 10x.
	SI2	Noticeable inclusions very easy to see at 10x.
Included	I1	Significant inclusions usually visible without magnification.
	I2	Inclusions obvious without magnification and may be affecting durability.
	I3	Inclusions very obvious without magnification and definitely threatening durability.

Note: All these grade descriptions are based on a skilled grader working with proper magnification and lighting under controlled conditions.

COLOR

Color has a critical place in your diamond presentations. It's a difficult C for some customers to grasp, but it's an essential part of the complete value picture that's needed to make purchase decisions.



The diamond color palette includes every hue in the spectrum.

DIAMOND COLORS

Since many people think all diamonds are colorless, you might begin by sharing a little background information. Diamonds actually occur in a wide array of colors, but most range from nearly colorless to light yellow, brown, or gray.

Absolutely colorless diamonds are rare, but they're considered part of the normal market range.

Diamonds with natural tints of other hues – as well as deeper shades of yellow or brown – are classified as *fancy color*. Nowadays, artificial treatments can also add or subtract color in diamonds.

COLOR GRADES

The concept of diamond color grades is simple and straightforward. Within the normal range, the less color a diamond has, the higher its grade.

The most widely used color grading system is the one that was developed by GIA. It has 23 letter grades running from D (colorless) to Z (light yellow, brown, or gray). Beyond Z the color is fancy.

The higher
the color
grade,
the greater
the rarity
and cost.

DIAMOND COLOR GRADES

Here's how GIA color grades correlate with diamond appearance:

- D** – Absolutely colorless.
- E and F** – Virtually colorless. Only experts can detect color under grading conditions.
- G, H, and I** – Near colorless; normally appear colorless when mounted in jewelry.
- J, K, and L** – Faintly tinted; under 1/2 carat usually appear colorless when mounted; larger diamonds may show a slight tint.
- M-Z** – Moving from very lightly to lightly tinted, the color is increasingly visible.

Diamonds darker than Z are fancy color.



Diamonds with yellowish tints were formerly called "capets."

COLOR AND VALUE

Like carat weight and clarity, color's effect on value is based on natural rarity. The higher the color grade, the greater the rarity and cost.

This concept is easy enough to understand. But what's difficult for most customers to grasp is how subtle the differences between the grades are. For example, most people aren't likely to see color in a diamond that falls within the top third of the GIA scale – especially if it's mounted.

JUDGING COLOR

To evaluate a diamond's color, a trained grader compares it to diamonds of known color – called *master stones* – under carefully controlled conditions. This allows for very precise color distinctions.

Sophisticated instruments known as *colorimeters* can also grade color in many diamonds. But these haven't achieved the versatility and consistent precision of the expert human eye combined with master stones and proper conditions.



Diamonds are turned face down for color grading to minimize reflections.

Photo courtesy JCK.

PRESENTING COLOR

A customer's decision about color may depend on cost, personal preferences, and concepts regarding quality. To keep from clouding these issues, be careful in your initial discussion of this C. Avoid negative terms like "poor-color" or "off-color." Instead say "more tinted" or "warmer grade."

A simple but effective way to explain the color grade is to indicate the diamond's position on a chart that shows the entire grade scale. To illustrate the differences between grades, you might call to mind more familiar examples, like the differences in various "white" papers, paints, or fabrics.

When price or carat weight appears to be a customer's main concern, emphasize the precision of grading and downplay the color grade's link with visual appeal. A diamond of any grade can be beautiful. You might also suggest that by giving up a little in a factor where it's difficult to see small differences, the customer can save money or own a larger diamond. If the customer finds a diamond with obvious color attractive, reinforce this. You can point out that many people feel diamonds which show some color have a warmer, richer beauty.

On the other hand, with customers for whom quality is most important, stress that while color distinctions are subtle, they are apparent to the expert eye. Truly colorless diamonds are very rare, and for centuries they've been considered the most beautiful.



You can point out that many people feel diamonds which show some color have a warmer, richer beauty.

MORE POINTS ABOUT COLOR

Here are a few more points to remember about diamond color:

- The larger the diamond, the more obvious any tint will be.
- Color is easier to see in some cutting styles than in others. For example, an H-color emerald cut will usually appear to have more color than an H-color round brilliant.
- Color tends to be scrutinized more in rings than in other types of jewelry.
- Yellow gold masks traces of yellow or brown and enhances darker tones of these colors. Platinum and other white metals dramatize colorless diamonds, but can make yellow or brown tints stand out unflatteringly.
- Men are often willing to accept more color than women are. So, when you're helping a man select a diamond for a woman, be careful not to let him choose one she'll think is "too yellow."



All sorts of cutting shapes are possible with diamonds.

CUT

From a scientific standpoint, cut is the most complicated of the 4Cs. But it's also the top factor in beauty for most diamonds – and today's customers want to know about it. So, you need to be ready to supply information, answer questions, and provide guidance on this complex yet crucial C.

DEFINING "CUT"

The term "cut" actually has two distinct meanings. One refers to the diamond's *shape and faceting style* – round brilliant, princess cut, marquise, and so forth. This is the meaning most customers are familiar with.

When it comes to quality, however, cut involves three factors – *proportions, symmetry, and polish*.

- **Proportions** – These are the relative sizes and angles of the diamond's parts and facets.
- **Symmetry** – This is the precision of the cut design's execution.
- **Polish** – The smoothness and luster of the diamond's surfaces.

OPTICAL PERFORMANCE

A well-cut diamond gathers light from many directions, and then reflects that light outward again to dazzle the eyes of beholders. This optical performance is traditionally described in terms of three components – *brilliance*, *dispersion*, and *scintillation*.

- **Brilliance** – This is the total intensity of white light reflected from the diamond’s surface and interior. It’s the diamond’s *brightness*.
- **Dispersion** – This is the prism-like effect of light splitting into rainbow colors. It’s the diamond’s *fire*.
- **Scintillation** – This is the dance of bright reflections that’s seen as the diamond, the light, or the observer moves – in other words, the diamond’s *sparkle*.

In recent years, researchers have analyzed these effects in various ways, sometimes using different terms or definitions. But the quantity and quality of light reflections will always be the key to diamond’s optical performance.

Proportions largely govern that performance. Each facet and every angle counts. Symmetry and polish usually reflect the care that went into the cutting process.



Dispersion - or fire - is the multi-colored flashes of light from a well-cut diamond.

Cutting for high light performance usually means sacrificing much of the original diamond crystal’s weight.

QUALITY, BEAUTY, AND VALUE

Cutting for high light performance usually means sacrificing much of the original diamond crystal’s weight. This raises the per-carat price of the finished diamond. Taking the time and trouble to produce excellent symmetry and polish also adds to the cost. But the result is a diamond of exceptional beauty and craftsmanship.

On the other hand, proportions can be adjusted to save extra weight, and putting less effort into symmetry or polish reduces labor. This allows diamonds to be sold at lower per-carat prices. However, there are tradeoffs.

Proportion variations can be especially important. Minor variations don't have much effect, but significant variations can make a diamond look watery or dark. Major variations have serious consequences for beauty. They can also make a diamond look small for its weight, or leave it more likely to chip or break.

GRADING CUT

Evaluating diamond cut quality takes advanced training. Sophisticated instruments and computer programs are now used to assess proportions. Finish is judged much like clarity, with graders using magnification to examine symmetry and polish characteristics.

A number of cut grading systems currently exist. GIA grades cut quality as *Excellent, Very Good, Good, Fair, or Poor*.



PRESENTING CUT

As with other Cs, you need to fit your presentation of cut quality to the diamonds you offer and the customers you serve. If you're showing high-grade cuts, emphasize their superior light performance and the skilled labor that's required to produce them. You can say that a diamond with good or medium cut quality offers an attractive balance of appearance and cost.

Since comparison-shopping is common today, you need to make customers aware that poor cut quality is often the hidden factor in "discount" diamonds. Two diamonds that are equal in all the other Cs can differ substantially in beauty and value just because of differences in the quality of cut.

A simple demonstration can help you educate customers about cut quality, and alert them to compromises that affect beauty and value. If you help customers see the difference that fine cutting makes, this complicated C can almost sell itself.



If you help customers see the difference that fine cutting makes, this complicated C can almost sell itself.

CUT SHAPES AND STYLES

The round **brilliant** – sometimes called the **standard round brilliant** – is the top-selling diamond cut shape and style in most markets. Its popularity is no accident, either. You can tell customers that the design evolved over hundreds of years, along with cutting technology, scientific understanding of light, and modern appreciation of diamond's beauty. The round brilliant produces high weight yield from most diamond crystals. It can also maximize diamond's brilliance, dispersion, and scintillation.



Any shape other than round is classified as a **fancy shape**. Contemporary classics include the **emerald cut**, **princess**, **oval**, **pear**, **heart**, and **marquise**. (The last term is usually pronounced mar-KEEZ, but mar-KEE also is accepted.)

In recent years, the interplay between technology, science, and creativity has produced a constantly expanding selection of diamond shapes and styles. Many are variations or updates of traditional cuts.

An increasing number of fancy shapes are now being branded. Frequently trademarked and protected by copyright, these are available exclusively from the firms that developed them or licensed the right to produce or market them.

Some customers ask why diamonds are cut into different shapes. While it's usually impossible to know the answer for a specific diamond, you can give some likely reasons. For example, cutters often base the cut's shape on the original shape of the diamond crystal. They may also choose a particular shape in order to eliminate inclusions or make them less obvious.

Whatever the diamond's shape or style, you can say the cut was chosen to produce maximum beauty and value.

SAPPHIRE

Sapphire is a colored gemstone favorite with modern jewelry consumers. Its popularity also is deeply rooted in the past.



Photo courtesy Rozaliya.

CONNECTIONS WITH ROYALTY

You can tell customers that sapphire has been closely associated with royalty throughout history. Here are three great examples you can use to illustrate that point:

- In Roman times, kings and queens wore sapphires to protect themselves from danger.
- The oldest gem in the British Crown Jewels is a sapphire that belonged to King Edward the Confessor (who died in 1066).
- When Lady Diana Spencer – the future Princess Di – became engaged to England’s Prince Charles in 1981, she received a sapphire ring. And when Diana’s son, Prince William, proposed to Kate Middleton in 2010, he gave her the same ring his mother had received.



In Roman times, kings and queens wore sapphires to protect themselves from danger.

Photo courtesy Shutterstock Vladimir Wrangel.

SAPPHIRE SYMBOLISM AND LORE

Sapphire traditionally signifies truth, sincerity, and faithfulness. Since the 1100s, members of the clergy have worn sapphires as symbols of heaven, and for centuries people believed that simply owning a sapphire would bring blessings.

During the Middle Ages, it was thought that wizards used sapphires to control spirits and understand prophecies – which would make this the perfect gem for a Harry Potter fan!

Today sapphire is the birthstone for September, Autumn, and the zodiac sign of Taurus. It’s also the official gem for the 5th and 45th wedding anniversaries.



Photo courtesy Shutterstock Africa Studio.

SCIENCE BACKGROUND

The English word “sapphire” comes from the Greek “sappheiros,” which was once used for all dark blue gems. However, sapphire is now recognized as a variety of the mineral species known as *corundum*. Ruby is another corundum variety.

From a scientific standpoint, corundum that’s red is classified as ruby, while any other color is sapphire. The complete sapphire palette includes green, yellow, orange, violet, purple, and pink. Sapphire is also available completely colorless, often referred to as “white sapphire.” In the jewelry industry, the term “sapphire,” when used alone, refers specifically to *blue sapphire*. All other colors are collectively classified as *fancy sapphire*. They’re also designated by individual color names – pink sapphire, purple sapphire, and so forth.



BLUE SAPPHIRE VS FANCY

Compared to the classic blue variety, fancy sapphires are usually more rare. They’re also unfamiliar to many consumers. But pinks, purples, and yellows have gained in both popularity and public recognition over the last couple of decades, and the market supply has been steady enough to fuel growing demand. So, you might have opportunities to introduce your customers to these beautiful gems.

Blue sapphire’s color ranges from pale sky to deep midnight, with multiple shades and tints in between. Most expensive is a rich velvety blue that has just a slight touch of violet. The colors of fancy sapphires range from light pastels to vivid saturations.

Sapphires of all hues are faceted in traditional shapes and styles, similar to those used for diamonds. They’re often lightly included, and minor clarity characteristics are acceptable. Blue sapphire comes in a wide range of carat weights, and most fancy colors are available in sizes up to about 10 carats.

The most important sources of sapphire currently include Madagascar, Sri Lanka, Tanzania, and Australia.

SAPPHIRE TREATMENTS

When you're talking about gems, *treatment* is any artificial process – other than cutting or similar processing – that improves appearance or durability. Most colored gemstones and many diamonds are now treated in one way or another. Another word for treatment is “enhancement,” and the two words are often used interchangeably.

Under FTC guidelines, a treatment must be disclosed if it is not permanent, if it creates special-care requirements, or if it has a significant effect on value.

Three treatments are common for sapphire – *heat*, *diffusion*, and *filling*.

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– heat,
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- **Heat** – Almost all blue sapphires are heat treated to improve their color or clarity. Depending on how the process is done, heating can lighten an over-dark color, remove needle-like “silk” crystals that cloud appearance, or even turn milky white material transparent blue. Most yellow natural sapphires are heat treated too. With either color, the effects are permanent, and the treatment creates no special-care requirements.
- **Diffusion** – This treatment can produce sapphires in a variety of colors. It involves heating pale or colorless sapphire to a very high temperature while it's in contact with chemical coloring agents. In many cases, the results are permanent, but in others they are not. A diffusion-created color might be damaged or removed by repolishing or recutting the gem.
- **Filling** – For sapphire, this treatment normally involves using glass or epoxy resin to fill cavities or fractures that reach the gem's surface. The filling makes the cavities or fractures less visible, thus improving the gem's appearance. But fillings can be damaged by some repair procedures, so they may not be permanent.



Diffusion treated
blue sapphire.

LAB-CREATED SAPPHIRE

Sapphire is also available in laboratory-created forms, and it's important to clearly identify these in sales presentations. You can tell customers that *natural sapphire* was produced by Earth's geologic (or rock-forming) processes. *Lab-created sapphire* (also called *synthetic sapphire*) is essentially the same material – it's composed of the same kinds and quantities of atoms crystallized in the same way – only it's manmade.

SAPPHIRE DURABILITY AND CARE

When you present sapphire – either natural or lab-created – be sure to emphasize its great durability. Sapphire is one of the hardest and toughest of all gems. As a result, it can stand up to wear in any type or style of jewelry, and its beauty can easily last a lifetime – with plenty left over for heirloom potential.

For cleaning sapphire jewelry, recommend that customers use a liquid cleaner or detergent and water. Ultrasonic cleaning machines are also safe unless noticeable clarity characteristics are present. (You’ll learn more about care and cleaning for gems and jewelry in Lesson 9.)

Sapphire
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Ruby is
the birthstone
for July,
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and
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RUBY

Ruby’s age-old status is reflected by one of its ancient names. In Sanskrit – the classical language of India – ruby was called “ratnaraj,” which translates into King of Gems. Echoing this exalted title, a book written in Europe during the 1300s says, “Fine ruby is the lord of all stones. It is the gem of gems, and surpasses all precious stones in virtue.”

Nowadays, most people might not be quite so lavish in their praise, but top-quality ruby still ranks among the world’s rarest and costliest gems. At an auction in 2006, a ruby weighing 8.62 carats sold for \$3.64 million – or \$425,000 per carat!

RUBY SYMBOLISM AND LORE

In past centuries, ruby acquired an impressive list of magical attributes. Its glowing color made people think an unquenchable fire burned within. According to folklore from India, ruby preserves physical and mental health, prevents evil thoughts, reconciles disputes, and ensures safety. Europeans in the Middle Ages believed ruby would bring its wearer perfect peace and happiness.

Today, ruby is the birthstone for July, Summer, and Capricorn. It’s also the gem for the 15th and 40th wedding anniversaries.

SCIENCE BACKGROUND

Our English word “ruby” comes from Latin “ruber,” meaning red, and there’s a fundamental link between the gem and the color. Scientists define ruby as the red variety of the mineral corundum.

Gem and jewelry professionals are even more specific. To be considered ruby in the gem trade, the color must be predominantly red and at least moderately dark and strong. Otherwise, the gem is correctly identified as pink, purple, or orange sapphire, depending on the tint.

Despite the strict definition, rubies do display a range of colors. The tone can be medium to very dark, and the hue is often slightly orangish, purplish, pinkish, or brownish. In everyday terms, rubies can be scarlet, crimson, vermilion, cherry, apple, raspberry, or rose (classic American Beauty). Most expensive is a pure red that’s deep yet vivid.

Our English word “ruby” comes from Latin “ruber,” meaning red.

Ruby is often lightly included, and it’s usually faceted in traditional shapes and styles. It has limited size availability, seldom exceeding 5 carats in fine quality.

Myanmar (formerly known as Burma) has been a leading ruby producer for centuries. Output has fluctuated dramatically over the years due to turbulent political conditions. In 2008, the US banned imports of ruby as well as jade and certain other products from Myanmar because of human rights abuses by the country’s military government.

Within the last few years, Madagascar has become another major source of rubies. Others include Cambodia, Kenya, Tanzania, and Vietnam.



Photo courtesy Shutterstock Atiketta Sangasaeng.

RUBY TREATMENTS

For decades, almost all rubies have been treated. Heating to improve clarity or color is routine. Carried out in different ways, heat treatment can eliminate “silk” inclusions or make the color redder by reducing purplish or brownish tints.

Also fairly common is filling cavities and fractures with epoxy resin or glass to improve clarity appearance.

Ruby is sometimes imitated or produced by diffusion treatment. This involves heating sapphire to a very high temperature while it’s in contact with chemical elements that will impart a ruby-red color.

Heat treatment is normally permanent, and creates no special-care requirements. Fillings can be damaged or destroyed by some jewelry-repair procedures. And a diffusion-induced color might be damaged or removed by repolishing or recutting.

These multiple possibilities mean that you need to find out what treatments have been performed on the rubies you sell, so you’ll be able to give proper disclosures to your customers.

For decades,
almost all
rubies
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treated.



Photo courtesy KdEdesign.

LAB-CREATED RUBY

Like sapphire and a number of other popular gems, ruby is available in both natural and laboratory-created forms. When you present a lab-created ruby, you need to make sure the customer understands what you’re showing. You can say that a lab-created ruby is manmade, and it duplicates its natural counterpart all the way down to the atomic level.

RUBY DURABILITY AND CARE

Along with beauty and tradition, ruby offers the benefit of great wearability. It has very high hardness – or scratch resistance – and its toughness is normally excellent. (Clarity characteristics in natural ruby can reduce toughness, however.)

Liquid cleaner or detergent and water are safe for cleaning. An ultrasonic cleaning machine is usually safe except for rubies with noticeable clarity characteristics and those that are cavity- or fracture-filled.

EMERALD

Emerald is one of the colored gems that's most likely to cast a spell over contemporary jewelry customers. But judging from history, this has been the case for a very long time.

EMERALD SYMBOLISM AND LORE

In ancient Egypt, emerald's lush green color symbolized life itself. Other cultures of the past associated this gem with faith, harmony, and peace.

Over the centuries, people credited emerald with a wide variety of magical powers. According to some legends, you can see the future if you hold an emerald under your tongue. Others say wearing an emerald brings riches and power, strengthens memory and intelligence, averts evil, and reveals truth.

For many years, emerald has been the birthstone for May, Spring, and the zodiac sign of Cancer. It's now the gem for the 20th and 35th anniversaries as well.



Photo courtesy shutterstock Sorin Colac.



Photo courtesy Terry Davis.

SCIENCE BACKGROUND

Color has always been the prime source of emerald's appeal. The word "emerald" comes from Greek "smaragdos," which was once used for many green gemstones. To modern science, emerald is a green variety of the beryl mineral species. Aquamarine is another beryl variety.

In technical terms, emerald's color ranges from light to dark green, and often has a somewhat bluish or yellowish tint. The color must be reasonably intense, however. Gems which are too pale are properly classified as green beryl. The most valuable emerald color is a deep vibrant green that has a very slightly bluish tinge.

Customers are likely to notice clarity characteristics in many emeralds. You can explain that these tend to occur because of the geologic conditions in which the gem forms. Unless they're unsightly or threaten durability, they have little impact on value.

When discussing cut, you can say the rectangular faceted style known as the emerald cut is a classic choice. It generally saves maximum weight from the crystal, and also shows the gem's color at its best. Other shapes and styles are available too.



Photo courtesy John Kasawa.

Although the market supply is steady in most grades and in weights up to about 15 or 20 carats, large fine-quality emeralds are rare and expensive.

Egypt was history’s first emerald source, but Colombia has been the world’s leading producer since the 1500s. Today Brazil and Zambia are also important producers.

EMERALD TREATMENT

Many emeralds are fracture-filled to improve their appearance. This has been a common practice since at least Roman times. Modern fillers include a number of colorless oils and natural or synthetic resins.

Some fillers deteriorate over time, but filled gems can usually be re-treated to restore their original beauty. If filling is extensive it does lower value, and some trade laboratories now issue emerald reports that rate this factor.



Colombia is still the world's principal source of fine emerald.

Photo courtesy Shutterstock Terry Davis.

Many emeralds are fracture-filled to improve their appearance.

EMERALD WEAR AND CARE

Emeralds are inherently hard and scratch resistant, but many require special care during wear due to their clarity characteristics. It’s important to help customers select jewelry that will give lasting enjoyment. Rings and bracelets are exposed to bumps and scrapes during normal wear, and emeralds are sensitive to such accidents. This makes pendants, earrings, and pins good choices for customers with active lifestyles.

Besides helping customers choose jewelry that’s right for them, you need to provide guidance on care. Rough wear and handling are dangerous for any gem – but this is particularly true for emerald.



Photo courtesy omkar.a.v.

SPECIAL PRECAUTIONS

Treated emeralds require special precautions. Many chemicals can damage or destroy fracture-fillings. Even relatively low heat or bright light can adversely affect oils. To be safe, advise customers not to leave oiled emeralds sitting in bright sunlight. (It's also best to display emerald jewelry in cases with lighting that is external and diffused.)

In the store, never use ultrasonic or steam machines for cleaning emeralds. Either method can be disastrous. Also caution customers not to use home ultrasonics or commercial cleaning solutions for emerald jewelry. Instead, remove dust and smudges with a cotton swab or soft, lint-free cloth. Occasional cleaning with mild detergent and water is usually safe, but don't scrub an oiled gem.

Better yet, offer to give the jewelry an in-store cleaning every few months. This will keep it looking its best, and also create opportunities to build a relationship with the customer.



It's important to understand treatments and necessary to tell customers about them.

Steam can shatter some gems.



Ultrasonic cleaners are safe for many colored gems – but not all.



Throughout history, pearls have been one of the most highly prized and sought after gems.

Photo courtesy Japan Pearl Exporters Association.

CULTURED PEARLS

Since the dawn of history, pearls have been counted among the most beautiful, meaningful, and magical of gems. Associated with the moon and the elemental power of water, for countless generations pearls have symbolized purity and love.

With this rich romantic tradition, pearl became the gem for both the 3rd and 30th wedding anniversaries. It is also one of the birthstones for the month of June. (Alexandrite and moonstone are the others.)

NATURAL PEARLS

Natural pearls occur when mollusks, such as oysters and mussels, coat tiny intruding irritants with lustrous *nacre* (NAY-ker). This substance is made primarily of microscopic calcium carbonate crystals. It protects the animal and creates pearl's distinctive beauty.

Once found in waters around the world, natural pearls are now very rare, due mainly to over-fishing and pollution. Their place in the gem kingdom has been taken by cultured pearls.



Cultured Pearls



Natural Pearls

It takes x-ray to tell the difference between natural and cultured pearls.

PEARL CULTURING

A cultured pearl begins when a technician implants a *nucleus* into an oyster or mussel that has been collected or raised especially for this purpose. The nucleus may consist of a shell bead and a small piece of mantle tissue from another mollusk. (The mantle is the organ that lines the mollusk's shell and envelops its body.) In some types of pearls, only a bit of *mantle tissue* is used for the nucleus.

Either way, the nucleus acts as an artificial irritant, and stimulates nacre secretion. After the implant procedure, the animals are tended for up to two years. At the end of that period – if everything goes right – cultured pearls are harvested.

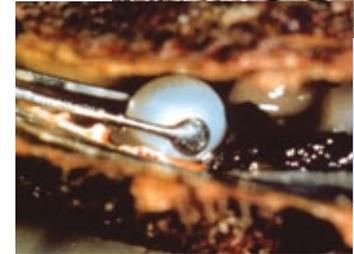


Photo courtesy Shutterstock Amnh.



Freshwater pearls are cultured into many different shapes.

Photo courtesy Cultured Pearl Associations of America and Japan.

CULTURED PEARL PRODUCTS

Japan developed modern pearl culturing in the early 1900s. Since then, methods have been adapted and refined in a number of countries. The result is a remarkable variety of products that include *Akoya*, *South Sea*, *Tahitian*, and *freshwater cultured pearls*.

- **Akoya Pearls** – These are the classic cultured pearls. Produced mainly along the coasts of Japan and China, Akoyas usually range from about 4 to 8 millimeters in size. Typical colors are white and cream. Others include pink, yellow, blue, and gray.
- **South Sea Pearls** – The most rare and expensive cultured pearls. Grown primarily in the warm waters around Australia, Indonesia, and the Philippines, they're prized for their large sizes – normally about 8 to 18 millimeters. Colors include white, cream, silver, golden yellow, and rose pink.
- **Tahitian Pearls** – Exotic in appearance, most of these come from the islands of French Polynesia. They're about the same size as South Seas cultured pearls, but their colors run from sliver gray to black, golden yellow through bronze and copper, to deep "cherry" red, yellow-green "pistachio," and purple-green "aubergine."
- **Freshwater Pearls** – The most affordable cultured pearls, they also offer a wide assortment of sizes, shapes, and colors (both natural and treated). Streams, rivers, and lakes in China are the main sources.

CULTURED PEARL VALUE FACTORS

Aside from basic market availability, six factors affect the cost of a cultured pearl. These are *size, shape, color, luster, surface, and nacre*.



Round

Baroque

Although perfectly round pearls are treasured, every shape can be interesting and beautiful.

Photo courtesy Cultured Pearl Information Center.

Size potentials vary, but large fine-quality pearls are rare, and command premium prices. Color possibilities also depend on the type of pearl. The main categories for shape are spherical, symmetrical, and baroque. Spherical (or round) pearls generally are most expensive. Luster is the sharpness of light reflections from the pearl's surface, and it's always critical to beauty. Surface is freedom from blemishes such as bumps and spots, while nacre is the thickness of the pearl's coating.

In addition to these universal factors, matching for size and appearance is important with cultured pearls that are used together in necklaces or other jewelry.

The higher the luster of a pearl, the better it will "mirror" the color on which it rests.

Photo courtesy Cultured Pearl Information Center.



CULTURED PEARL CARE

To maintain the beauty of cultured pearls, proper care is essential. For cleaning, never use ultrasonic or steam machines, or commercial liquid solutions. Warm soapy water and a very soft brush are okay for occasional cleaning. But it's best to simply wipe the jewelry with a soft, clean cloth after each wearing.

Cultured pearls can be damaged by most chemicals – and especially acids. They're also soft and easily scratched. So, caution customers to protect their pearls from contact with household cleansers, cosmetics, and so forth. Pearls need to be stored separately from other jewelry. And if a pearl necklace is worn often, it should be re-strung every few years.



Pearls need to be stored separately from other jewelry.

RECAP OF KEY POINTS

- The gem world includes an amazing variety of material used for jewelry and ornamental purposes. Most of these are divided into two categories – diamonds and colored gemstones. Diamonds are most important, but colored gemstones like sapphire, ruby, emerald, and cultured pearl also have a prominent place in the selection of products jewelry retailers offer their customers.
- The 4Cs – carat weight, clarity, color, and cut – affect the value of every diamond. Carat weight, clarity, and color reflect a diamond’s natural rarity. The larger the diamond and the higher its color and clarity grades, the greater its rarity and value will be. Cut is the human contribution to diamond value. The choice of cut shape and style is a matter of personal preference. Cut quality reflects the care and skill that were involved in transforming the rough crystal into a sparkling gem. Cut quality is almost always the top factor in a diamond’s beauty.
- Sapphire is a variety of the corundum mineral species. It occurs in all colors except pure red. (Red corundum is classified as ruby). Sapphire has been closely associated with royalty throughout history. Possessing a wealth of lore, it is the birthstone for September, and the gem for the 5th and 45th anniversaries. Important sources of sapphire are Madagascar, Sri Lanka, Tanzania, and Australia. Most sapphire is now treated, and lab-created sapphire is also available. Sapphire is one of the hardest and toughest of all gems. These properties give it great wearability.
- Ruby is the red variety of the corundum mineral species. (All other colors of corundum are classified as sapphire.) Over the centuries, ruby acquired a long list of magical attributes. Today, it is the birthstone for July, and the gem for the 15th and 40th anniversaries. Important sources of ruby are Madagascar, Cambodia, Kenya, Tanzania, and Vietnam. Most ruby is treated, with heat being a very common method. Ruby is also available in both natural and lab-created forms. Like sapphire, ruby is naturally very hard and tough, which means it’s suitable for frequent wear in any type of jewelry.
- Emerald is the deep green variety of the beryl mineral species. (Aquamarine is another beryl variety.) In many cultures, emerald’s color linked it to life. Today, emerald is the birthstone for May, and the gem for the 20th and 35th anniversaries. Leading sources of emerald are Colombia, Brazil, and Zambia. Fracture-filling is often used to improve emerald’s appearance. Many emeralds require gentle wear and care due to the type and extent of clarity characteristics they contain and the amount of filling present.

- Cultured pearls are the modern versions of an ancient gem. Natural pearls are produced by mollusks without human help. Cultured pearls combine Nature's processes with human art and science. Today, almost all pearls are cultured. Tradition has made pearl – both natural and cultured – a birthstone for June and the gem for the 3rd and 30th wedding anniversaries. There are many different types of cultured pearl products. Four of the most important are Akoya, South Sea, Tahitian, and freshwater cultured pearls. Value factors for cultured pearls are size, shape, color, luster, surface, and nacre. Proper care is essential to maintain the beauty of cultured pearls.

LESSON 7 FOLLOW-UP CHECKLIST

- _____ Pick a selection of diamonds from your inventory and practice stating their weights in ways that follow store policy and feel personally comfortable. Also practice explaining how carat weight affects a diamond's cost.
- _____ With management or senior coworkers, discuss the grading systems your store uses for diamond clarity, color, and cut. Be sure you know the terms and understand what they mean. Then role-play explaining the grades of diamonds from your inventory.
- _____ With a couple of coworkers, brainstorm links between sapphire's traditional symbolism and the ideas or emotions customers typically want to express when they purchase jewelry. If you carry fancy sapphires, role-play introducing them to a customer who thinks all sapphires are blue. Also role-play disclosing sapphire treatment. (Work closely with management on treatment disclosures.)
- _____ Review ruby's history and lore, then brainstorm ways of linking these with the reasons why today's customers usually want to own or give jewelry. Talk about how rubies in your inventory have been treated. Then role-play disclosing this in a specific but positive manor. Also role-play presenting wearability as a key benefit for ruby.
- _____ With your store's owner or manager, review your company policy on treatment disclosure, and discuss how emerald fracture filling should be explained to customers. Next, role-play a sales presentation of emerald clarity. (Say the customer is experienced in buying diamonds and voices an objection like, "Doesn't this have a lot of flaws?") Also take a quick survey of your showcases and identify gemstones you might recommend as color alternatives for emerald. What makes them good choices? When would it be appropriate to suggest them?
- _____ Role-play explaining what cultured pearls are in a brief, clear, and effective manner. Also take a survey of the cultured pearl jewelry in your showcases. Compare the features of different kinds of pearls, then brainstorm benefits to go with them. Role-play a brief presentation for each type of cultured pearl you carry.

LESSON 7 SELF-TEST

This lesson also includes a Self-Test that's designed to help you gauge your comprehension of the lesson material. The test is an important part of the learning process, so be sure to complete it.

When you're ready to take the test, go to the Course Materials page (the one that lists all the lessons) and click on "Take Self-Test." Make certain you select the test for this lesson.

All questions in the test are based on Lesson 7. More than one answer for a question might seem correct, but you should select the one **best** answer based on the lesson discussion.

As you take the test, you may refer to the lesson. To do this, you'll need to have the lesson loaded in a separate window of your browser.

If you feel certain about a question, try answering it without looking at the lesson. But if you're not sure, check the lesson before answering.

After you answer a question, you'll receive immediate results and feedback. You'll find out whether you answered correctly, what the correct answer was (in case you missed it), and also the page number in the lesson where the information can be found. Take time to review any material you're not completely clear on.

At the end of the test, you'll receive your overall results. Then you'll be able to continue to the next step in your coursework.

If you have questions or need help, please contact us. You can use this website – just click on "Help." You can also email studenthelp@diamondcouncil.org or phone 615-385-5301 / toll free 877-283-5669.