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How to tell if diamonds are real without a tester

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The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. The Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesExperience AI-Powered CreativityThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesExperience AI-Powered CreativityThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesExperience AI-Powered Creativity1 Use the fog test. Put the stone in front of your mouth and fog it like you would a mirror. If it stays fogged for a couple seconds, it's probably a fake — a real diamond disperses the heat from your breath instantaneously and won't fog up easily. Even if you wait in between fogging it up and looking at it, it will still clear much faster than a fake. It can help to use a stone you know is real next to the suspect stone and fog both. You can watch how the real one stays clear while the fake one fogs over; if you breathe on fake diamonds repeatedly, you will see condensation start to build up. With each puff, the fake stone will fog up more and more, while the real one will still be clean and clear. 2 Check the setting and mount. A real diamond is not likely to be set in a cheap metal. Stamps inside the setting indicating real gold or platinum (10k, 14k, 18k, 585, 750, 900, 950, PT, Plat) are a good sign, while a "C.Z." stamp will give away that the center stone is not a real diamond. C.Z. stands for Cubic Zirconia, which is a kind of synthetic diamond. Advertisement 3 Use a jeweler's loupe to inspect the diamond. You can usually borrow one from the jewelry store. Mined diamonds usually have small naturally occurring imperfections, which are called "inclusions," that can be seen with a loupe. Look for small flecks of minerals, or very slight color changes. These are both signs that you're dealing with a real, albeit imperfect, diamond. Cubic zirconium (which should pass all of the other tests) usually doesn't have imperfections. That's because they are grown in sterile environments instead of produced by chance in the Earth's laboratory. A gem that is too perfect is more often than not a fake. It is possible, however, that a real diamond will be flawless. Don't use imperfections as the determining factor in whether your diamond is real or not. Rule out fakes using other tests first. Note that lab-grown diamonds will also normally have no imperfections because they are also produced in carefully controlled environments. Gem-quality diamonds grown in a lab can be chemically, physically and optically identical (and sometimes superior) to naturally occurring ones. This ability to surpass the quality of "natural" diamonds has caused considerable concern among those in the mined diamond business who have lobbied heavily to have lab-grown diamonds distinguished from "natural diamonds". Lab-grown diamonds are "real" but they are not "natural". Advertisement 1 Look at the stone's refractivity. Diamonds sharply bend, or refract, the light that passes through them, resulting in their strikingly brilliant appearance. Stones like glass and quartz sparkle less because they have a lower refractive index. A stone's brilliance is difficult to alter in any way, even with an expert cut, because it's an inherent property of the stone. By taking a close look at the stone's refractivity, you should be able to tell whether it's the real thing or a fake. Here are a few ways to do it: The newspaper method: Turn the stone upside down and place it on a piece of newspaper. If you can read print through the stone, or even see distorted black smudges, then it probably isn't a diamond. A diamond would bend the light so sharply that you wouldn't be able to see the print. (There are a few exceptions: if its cut is disproportionate, the print can still be visible through a real diamond.) The dot test: Draw a small dot with a pen on a piece of white paper and place the stone over the center of the dot. Look directly down on it. If your stone is not a diamond, you will see a circular reflection in the stone. You won't be able to see the dot through a real diamond. 2 Observe the reflections. A real diamond's reflections usually show up in various shades of gray. Look straight down through the top of the diamond. If you see rainbow reflections, you're either dealing with a low-quality diamond or a fake. Instead, check for "sparkles." A real diamond will sparkle significantly more than an equivalently-size piece of glass or quartz. You may want to take along a piece of glass or quartz as reference. Don't confuse sparkle with reflection. Sparkle has to do with the brilliance or intensity of the light that's refracted by the cut of the gem. Reflection has to do with the color of the light that's refracted. So look for intense light, not colored light. There is a stone that has even more luster than a diamond: moissanite. This gemstone is so similar to diamond that even jewelers have a hard time telling them apart. To tell the difference without special equipment, hold the stone close to your eye. Shine a penlight through the stone. If you see rainbow colors, that's a sign of double refraction. This is a property of moissanite, but not of diamond. 3 Drop the stone in a glass of water and see if it sinks to the bottom. Due to its high density, a real diamond will sink. A fake one will float at the top of the surface or in the middle of the glass. 4 Heat up the stone and see if it shatters. Heat up a suspect stone with a lighter for 30 seconds, then drop it straight into a glass of cold water. The rapid expansion and contraction will overwhelm the tensile strength of weaker materials like glass or quartz, causing the stone to shatter from the inside. Real diamond is strong enough that nothing will happen. Advertisement 1 Ask for a heat probe test. The tight, evenly-packed crystalline structure of diamonds makes them disperse heat quickly; thus, real diamonds will not heat up easily. Heat probe tests take about 30 seconds and are often done free of charge. It also doesn't hurt the stone the way somebined diamond/moissanite tester. 3 Recognize white topaz. White topaz is another stone that can look a little like a diamond to the untrained eye for fake diamonds to be "doped" — treated so that they glow under UV light when they otherwise would not. 6 Get an x-ray examination. Diamonds have a radiolucent molecular structure, which means that they don't appear in x-ray images. Glass, cubic zirconium and crystals all have slightly radiopaque qualities that make them show up clearly on an x-ray. If you want to get your diamond x-ray tested, you will either need to submit it to a professional diamond testing lab, or make a deal with your local x-ray imaging center. Advertisement 1 Recognize synthetic diamonds. Lab-created or synthetic diamonds are "real" but they are not "natural".[3] Synthetic diamonds cost a fraction of what a mined diamond costs, but they are (usually) chemically the same as "natural" diamonds. Telling the difference between a natural and a synthetic diamond requires a trained professional using highly sophisticated equipment which tends to rely on detecting the higher uniformity (closer to perfect) structure that gem-quality lab-created diamonds usually have as well as distinctive trace quantities and uniform distribution of specific non-carbon elements within the diamond crystal. Man-made diamonds do not command the same re-sale value as mined diamonds due to successful PR campaigns by the mined diamond industry to suggest that mined diamonds are better than lab-made diamonds because they were mined instead of "made". If you care about re-sale and insurance values it is important to know if the gem is "natural" or "man-made". 2 Recognize moissanite. Diamond and moissanite are very easy to mistake for each other. It is difficult to tell the difference between them but moissanite sparkles a little more than diamond and also produces a double refraction, which can be difficult for most people to see. You can try shining a light through a stone, and if it gives off a much more colorful and large shine than a known diamond, then you'll know that moissanite is what you have.[4] Diamond and moissanite have very similar thermal conductivities. If you only use a diamond tester, it will show "diamond" when you actually have moissanite.[5] It is important to test any stone that tests "diamond" on a diamond tester or a moissanite tester. For a professional jeweler, the best option is to just get a combined diamond/moissanite tester. 3 Recognize white topaz. White topaz is another stone that can look a little like a diamond to the untrained eye. However, white topaz is much softer than diamond.[6] A mineral's hardness is determined by its ability to scratch and be scratched by other materials. A stone that can scratch others easily without being scratched itself is hard (and vice versa for soft stones). Real diamonds are some of the hardest minerals on the planet, so look for scratches around the facets of your stone. If your stone appears to be somewhat "scratched up", it's probably a white topaz or another soft substitute. 4 Recognize white sapphire. Contrary to popular belief, sapphires aren't only blue. In fact, these gems are available in virtually every color. White varieties of sapphire, which appear clear, are often used as diamond substitutes. However, these stones don't contain the sharp, sparkling contrast between light and dark areas that real diamonds do. If you find that your stone has a somewhat hazy or "icy" appearance — that is, its light and dark areas don't contrast greatly — it's probably a white sapphire. 5 Recognize cubic zirconia. Cubic zirconia is a synthetic stone which closely resembles a diamond. The easiest way to spot a cubic zirconia is by the color of its "fire" or shine. Cubic zirconia gives off an orange shine which makes this stone easy to identify. Its artificial origin can also give it much more "clear" appearance than natural diamonds, which often contain minor flecks and flaws. Cubic zirconia are also known to exhibit a greater spectrum of color than real diamonds when light is focused on the stone. A real diamond's sparkle and reflection should be largely colorless, while a cubic zirconia can project colored sparkles. One commonly-circulated test for determining whether a stone is a real diamond is to scratch glass with it. According to popular belief, if the stone scratches glass without becoming scratched itself, it's a real diamond. However, some high-quality cubic zirconia can also scratch glass, so this test is actually not a definitive way to determine whether a diamond is real or not. Advertisement 1 Find a reputable diamond appraiser in your area. Most diamond retailers hire their own gemologists and appraisers, but many consumers find it more desirable to request third party appraisal from an independent gemologist who specializes in the appraisal of diamonds. If you're going to invest in a stone, or are curious about a stone you already own, you'll want to be sure that the stone you've got is appraised accurately. An appraisal involves two basic steps: first identifying and evaluating the stone in question, and then assigning value. When looking at independent appraisers, it would be ideal to select an appraiser with a Graduate Gemologist (GG) degree issued by a Gemological Institute in your country, who isn't involved directly in the sale of diamonds.[7] This way, you can be sure that the science is sound. When you take your diamond to someone for appraisal, be sure it's someone who's trusted in your community. However, it's also a good idea to choose a jeweler who will appraise the stone in front of you, rather than taking it out of your site.[8] 2 Ask the right questions. Aside from finding out whether or not the stone is fake, a good appraiser can answer a variety of questions about the quality of your stone to make sure that you're not getting ripped off. This is especially important if you've already purchased or inherited a stone. The gemologist should be able to tell you: whether or not the stone is man-made or natural (Note: man-made diamonds are diamonds, just not "natural". See the section on detecting man-made diamonds for more detail.) whether or not the stone has been color-altered whether the stone has had permanent or temporary treatment added whether a stone matches the grading documentation provided by a retailer 3 Request a certificate of appraisal. Whatever tests you choose to have performed, the best and most reliable way to tell if a diamond is real is to check the paperwork and speak to the gemologist or the appraiser. Certification and grading assures you that your stone has been "proven" real by experts. Proof is especially important if you're buying a stone sight-unseen, like from the Internet. Ask for a certificate. The best way to check the authenticity of your diamond is to have it certified by an organization like the Gemological Institute of America, or GIA. If there's a location near you, you can take your diamond to them directly, or you can have it removed from the setting by a professional jeweler, then ship it to the GIA.[9] 4 Look at your certificate carefully — not all certificates are created equal. The certificate should be from a grading authority (e.g. GIA, AGSL, LCP, PGGL) or an independent appraiser who is affiliated with a professional organization (like the American Society of Appraisers) but not with any one retailer. Certificates come with lots of information about your diamond, such as carat weight, measurements, proportions, clarity grade, color grade, and cut grade. Certificates may also come with information that you might not expect a jeweler to give you. They include: Fluorescence, or the tendency of the diamond to give off faint glow when exposed to ultraviolet light.[10] Polish, or the smoothness of the surface. Symmetry, or the degree to which the opposing facets mirror each other flawlessly. 5 Get your stone registered. Once you know for sure that your diamond is real, whether through independent appraisal or grading lab, take your stone to a lab that can register and fingerprint your diamond. This will ensure you that you have your real stone, and that no one will be able to switch it out without your knowing. Just like humans, every diamond is unique. New technology is allowing gemologists to quantify that uniqueness by producing a "fingerprint" of your gem. Registration usually costs less than \$100, and can assist in insurance purposes. If a stolen diamond of yours with a fingerprint shows up in an international database, you should be able to retrieve it by showing documentation that proves it is yours. Advertisement Add New Question Question How can I check the authenticity of a black diamond before I buy it? Cory Schifter Jeweler & Certified Jewelry Appraiser Cory Schifter is a Jeweler, Certified Jewelry Appraiser, and the Owner of Casale Jewelers in Dongan Hills, Staten Island, New York. Casale Jewelers is known for its selection of fine jewelry, designer brands, engagement rings, certified diamonds, custom-made jewelry, and watches. Cory has over 10 years in the jewelry industry and is a certified jewelry appraiser. Cory was featured on NY1 News "Got it Made in New York" for Casale Jewelers' custom design business and Casale Jewelers was recognized by American Express and Facebook in 2012 as one of the top five small businesses in the nation. Take it to a local jeweler in your area. They will have a tool that can be used to check diamonds. Question How to test if a diamond is real? Cory Schifter Jeweler & Certified Jewelry Appraiser Cory Schifter is a Jeweler, Certified Jewelry Appraiser, and the Owner of Casale Jewelers in Dongan Hills, Staten Island, New York. Casale Jewelers is known for its selection of fine jewelry, designer brands, engagement rings, certified diamonds, custom-made jewelry, and watches. Cory has over 10 years in the jewelry industry and is a certified jewelry appraiser. Cory was featured on NY1 News "Got it Made in New York" for Casale Jewelers' custom design business and Casale Jewelers was recognized by American Express and Facebook in 2012 as one of the top five small businesses in the nation. The best way to be sure is to have it looked at by a reputable jeweler in your area. However, you can also have it appraised by an organization like the Gemological Institute of America, or GIA. Ask a Question Advertisement Thanks Helpful 274 Not Helpful 166 Thanks Advertisement Thanks Helpful 169 Not Helpful 109 Thanks Advertisement Co-authored by: Jeweler & Certified Jewelry Appraiser This article was co-authored by Cory Schifter. Cory Schifter is a Jeweler, Certified Jewelry Appraiser, and the Owner of Casale Jewelers in Dongan Hills, Staten Island, New York. Casale Jewelers is known for its selection of fine jewelry, designer brands, engagement rings, certified diamonds, custom-made jewelry, and watches. Cory has over 10 years in the jewelry industry and is a certified jewelry appraiser. Cory was featured on NY1 News "Got it Made in New York" for Casale Jewelers' custom design business and Casale Jewelers was recognized by American Express and Facebook in 2012 as one of the top five small businesses in the nation. This article has been viewed 7,638,099 times. Co-authors: 173 Updated: December 8, 2024 Views: 7,638,099 Categories: Featured Articles | Diamonds | Authenticating Jewelry Print Send fan mail to authors Thanks to all authors for creating a page that has been read 7,638,099 times. "I run across several "hmmm, I wonder if this is real" and "gee, I sure hope this one is real!" possible diamonds. Now that I've learned that I can heat the stone up and submerge it in water to determine whether or not it's a real, I'll finally know!"... more Share your story There are several ways to determine if a diamond is real. Check for blue fluorescence under a black light. Most real diamonds will exhibit a medium to strong blue color when exposed to a black light. If you see a slight green, yellow, or gray fluorescence, it usually indicates that the gem is not a real diamond. Test the diamond's density by placing it in a glass of cold water. A real diamond will sink to the bottom due to its high density, while a fake diamond is more likely to float or bobble around. Use a diamond tester or a thermal conductivity probe to measure the stone's thermal conductivity. Real diamonds have high thermal conductivity, so if the tester indicates a high reading, it's likely a real diamond. Examine the sparkle of the diamond. Real diamonds have a unique brilliance and sparkle, often referred to as the "fire" or "sparkle factor." While other gemstones may also sparkle, the intense and scintillating sparkle of a real diamond is unmatched. Consult with a certified gemologist or take the diamond to a reputable jeweler for professional testing and verification. Can you test a diamond with your phone? No, you cannot test a diamond with your phone. While there are apps available that claim to detect real diamonds using your phone's camera or sensors, these methods are not reliable or accurate. It is best to use professional testing methods or consult with a certified gemologist. Will a fake diamond scratch a mirror? While it is a common belief that a real diamond can scratch a mirror, this test is not entirely reliable. While diamonds are the hardest mineral and can scratch glass, other materials like quartz, moissanite, and cubic zirconia can also scratch glass. Therefore, the mirror test may not provide definitive results in determining if a diamond is real or fake. How do you tell if a ring is real or fake? One way to determine if a ring is real or fake is by using the water test. Fill a glass with water and gently place the ring in it. Real gold and platinum, which are denser than water, will sink straight to the bottom. If the ring hovers around the middle or floats on the surface, it is likely not a diamond of real gold or platinum. How can you tell if a diamond is real without a tester? There are a few methods to determine if a diamond is real without a tester: Try the water test. Fill a glass with water and drop the diamond into it. A real diamond, due to its high density, will sink to the bottom of the glass, while a fake diamond is more likely to float or stay in the middle. Please note that this test may not be foolproof and should be used in conjunction with other methods. Heat the stone and observe its reaction. Using a lighter, heat the diamond for about 30 seconds and then drop it into a glass of cold water. A real diamond will remain unharmed, while a fake diamond may shatter or show signs of damage. Examine the diamond under magnification. Real diamonds often have tiny imperfections or inclusions, while fake diamonds may appear too perfect and flawless. How do you test a diamond at home? You can conduct basic tests to determine if a diamond is real at home: Try the water test. Fill a glass with water and drop the diamond into it. A real diamond, due to its high density, will sink to the bottom of the glass. Check for blue fluorescence under a black light. Most real diamonds will exhibit a medium to strong blue color under a black light. If you see a green, yellow, or gray fluorescence, it may indicate a fake diamond. Test the diamond's thermal conductivity using a diamond tester or a thermal conductivity probe. Real diamonds have high thermal conductivity, so a high reading on the tester would indicate a real diamond. Examine the diamond's sparkle and brilliance. Real diamonds have a unique and intense sparkle, also known as the "fire" or "sparkle factor." How can you spot a fake diamond? There are a few signs that can help you spot a fake diamond: Check for excessive sparkle. While real diamonds do sparkle, synthetic or fake diamonds often have a more intense and rainbow-like sparkle. Look for flaws or lack thereof. Real diamonds often have imperfections or inclusions, while fake diamonds may appear too perfect and flawless. Assess the stone's heaviness. Real diamonds are dense and will feel heavier compared to their size, while fake diamonds may feel lighter. Use a diamond tester or consult with a professional gemologist for a reliable and accurate verification. How can you tell a diamond from a cubic zirconia? To differentiate between a diamond and a cubic zirconia, you can look for the following characteristics: Sparkle and brilliance: Diamonds have a unique and intense sparkle, while cubic zirconia may exhibit more colorful sparkles. Hardness: Diamonds are the hardest mineral and can scratch glass, while cubic zirconia is less hard and may not scratch glass.