GIA Diamonds Do Good (DDG) Practice Test (Sample)

Study Guide

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Questions

1. What was one major effect of De Beers' control over diamond production?

A. Increased competition among miners

B. Stabilization of diamond prices

C. Reduction in diamond quality

D. Expansion of diamond mining areas

2. Gravity sorting is used to separate diamonds from what type of materials?

A. Lighter materials

B. Heavier materials

C. Organic materials

D. Composite materials

3. What causes the difference in hardness between diamond and graphite?

A. Their atomic number

B. The way their atoms fit together

C. Presence of oxygen

D. Their molecular weight

4. What is the habit of gem quality diamond?

A. Cube

B. Octahedron

C. Prism

D. Aggregate

5. What do you call a city, region, or country with a large number of gemstone manufacturers?

A. Cutting center

B. Mining hub

C. Distribution zone

D. Processing area

6. What event triggered the South African diamond rush?

- **A. The discovery of the Star of South Africa**
- **B. A major advertising campaign**
- **C. The introduction of diamond mining technologies**
- **D. The discovery of gold in the region**

7. What is the main goal of Diamonds Do Good in terms of economic opportunities?

- **A. To limit the number of diamonds produced**
- **B. To create sustainable income sources for communities dependent on diamond mining**
- **C. To increase diamond prices for consumers**
- **D. To focus exclusively on online sales**

8. How does Diamonds Do Good address gender equality issues?

- **A. By creating job quotas for women in mining**
- **B. By supporting programs that empower women in diamond-producing communities**
- **C. By funding women-only educational institutions**
- **D. By advocating for legislation in favor of women**

9. Vast quantities of small, inexpensive diamonds suitable for low-cost jewelry are mined in which country?

- **A. Australia**
- **B. South Africa**
- **C. Canada**
- **D. Russia**

10. Which of the following best describes the main goal of Diamonds Do Good?

- **A. To increase diamond sales globally.**
- **B. To promote ethical sourcing and community benefits.**
- **C. To enhance mining technology.**
- **D. To focus on diamond grading standards.**

Answers

1. B
2. A
3. B
4. B
5. A
6. A
7. B
8. B
9. A
10. B

Explanations

1. What was one major effect of De Beers' control over diamond production?

A. Increased competition among miners

B. Stabilization of diamond prices

C. Reduction in diamond quality

D. Expansion of diamond mining areas

De Beers' control over diamond production had a significant impact on the diamond market, one of the most notable effects being the stabilization of diamond prices. By carefully managing the supply of diamonds, De Beers was able to create an environment where prices did not fluctuate wildly based on demand. They implemented a strategy of stockpiling and releasing diamonds onto the market in controlled quantities, which effectively prevented oversupply that could lead to price drops. This manipulation of supply allowed them to maintain consistent pricing, making diamonds appear rare and desirable, which further entrenched their value in the consumer market. In contrast to this, other options like increased competition among miners or expansion of diamond mining areas did not occur prominently due to De Beers' strong market influence, which often resulted in the opposite of those conditions. Additionally, maintaining quality was a key aspect of their strategy, so the reduction in diamond quality does not align with the practices that De Beers was known for historically.

2. Gravity sorting is used to separate diamonds from what type of materials?

A. Lighter materials

B. Heavier materials

C. Organic materials

D. Composite materials

Gravity sorting is a method utilized in the diamond mining industry to effectively separate diamonds from heavier materials found within the ore. Diamonds possess a significant density compared to many other minerals and materials. In the process of gravity sorting, the materials are subjected to various mechanical forces, allowing the heavier diamonds to settle or float away from lighter materials, such as sand or gravel. This technique takes advantage of the differences in density and helps efficiently concentrate diamonds by removing the less dense material that surrounds them in the natural deposit. Choosing lighter materials would not take advantage of the key principle of density that gravity sorting relies upon; the correct approach focuses on segregating heavier materials, which is where diamonds are generally found during the initial extraction processes. Therefore, the method primarily targets the heavier components in order to isolate the desired gemstones effectively.

3. What causes the difference in hardness between diamond and graphite?

A. Their atomic number

B. The way their atoms fit together

C. Presence of oxygen

D. Their molecular weight

The difference in hardness between diamond and graphite is primarily due to the way their atoms fit together, which is a reflection of their distinct structures. In a diamond, carbon atoms are arranged in a three-dimensional tetrahedral lattice structure. Each carbon atom is bonded to four other carbon atoms through strong covalent bonds, which create a robust and rigid framework. This extensive bonding network is what contributes to diamond's exceptional hardness. In contrast, graphite has a planar structure where carbon atoms are bonded in sheets of hexagonal arrangements. Within each sheet, the carbon atoms are bonded strongly, but the sheets themselves are held together by weaker van der Waals forces, allowing them to slide over one another easily. This layering is what gives graphite its lubricating properties and makes it much softer compared to diamond. The other options, while related to general properties of materials, do not specifically address the crucial structural differences that account for the hardness disparity between diamond and graphite.

4. What is the habit of gem quality diamond?

A. Cube

B. Octahedron

C. Prism

D. Aggregate

The habit of gem quality diamond is primarily octahedral. This means that individual diamond crystals typically form in a distinct octahedron shape, characterized by its eight triangular faces. The octahedral shape is a result of the arrangement of carbon atoms in diamonds, which is structured in a face-centered cubic lattice. This unique crystallographic structure not only contributes to the diamond's hardness but also influences its spectacular brilliance and fire when cut properly. While diamonds can also form in other habits, such as cubes or aggregates, these forms are less common for gem-quality diamonds. The cube shape can occur, but it is less visually appealing as a gem. Aggregates represent clusters of smaller diamond crystals fused together, which is not ideal for the individual, singular beauty associated with gem-quality stones. Therefore, the octahedral habit is integral to the gemological characteristics that define diamond quality.

5. What do you call a city, region, or country with a large number of gemstone manufacturers?

A. Cutting center

B. Mining hub

C. Distribution zone

D. Processing area

A city, region, or country with a notable concentration of gemstone manufacturers is referred to as a cutting center. This term specifically denotes an area where gemstones, particularly diamonds and other valuable stones, are systematically cut and polished to enhance their beauty and value. Cutting centers are pivotal in the gemstone industry as they house skilled artisans and advanced machinery essential for transforming rough gemstones into finished products ready for the market. In contrast, other terms like mining hub refer more to locations where gemstones are extracted from their natural settings, distribution zone encompasses areas focused on the logistics and movement of gemstones to different markets, and processing area tends to be broader, referring to the overall treatment of gemstones, which may not necessarily involve cutting and polishing specifically. Thus, cutting center is the most precise term for a region characterized by a high presence of gemstone manufacturers.

6. What event triggered the South African diamond rush?

A. The discovery of the Star of South Africa

B. A major advertising campaign

C. The introduction of diamond mining technologies

D. The discovery of gold in the region

The correct response is based on the significant impact that the discovery of the Star of South Africa had on the diamond rush in South Africa. The Star of South Africa was a notable diamond found in the 1860s, which was among the first large diamonds discovered in the country. This particular finding catalyzed public interest and prompted people to flock to South Africa in hopes of discovering their own riches. The allure of such a noteworthy gemstone directly led to increased exploration and mining activities in the region, which ultimately escalated into a full-fledged diamond rush. This event marked a pivotal moment in the history of diamond mining, as it not only highlighted South Africa's potential as a diamond-producing country but also stimulated economic and social changes that would shape the industry's development in the years that followed. Understanding this foundational event helps clarify how specific milestones in gemstone discovery can significantly influence broader economic phenomena, such as rushes and booms in resource-seeking expeditions.

7. What is the main goal of Diamonds Do Good in terms of economic opportunities?

A. To limit the number of diamonds produced

B. To create sustainable income sources for communities dependent on diamond mining

C. To increase diamond prices for consumers

D. To focus exclusively on online sales

The primary aim of Diamonds Do Good is to foster sustainable income sources for communities that rely on diamond mining. This initiative recognizes that diamond mining can significantly impact local economies, providing employment and supporting local businesses. By creating sustainable income opportunities, Diamonds Do Good seeks to ensure that the benefits of diamond mining extend beyond just the extraction of resources. This approach not only enhances the quality of life for individuals in those communities but also contributes to community development and welfare. In contrast, the other options do not align with the overarching mission of Diamonds Do Good. Limiting the number of diamonds produced does not directly address community economic needs, while increasing diamond prices for consumers does not necessarily benefit the communities involved in mining. Focusing solely on online sales would not adequately support the goal of improving local economic conditions through sustainable practices. By emphasizing sustainable income creation, Diamonds Do Good works to empower and uplift mining communities, contributing positively to their long-term viability and success.

8. How does Diamonds Do Good address gender equality issues?

A. By creating job quotas for women in mining

B. By supporting programs that empower women in diamond-producing communities

C. By funding women-only educational institutions

D. By advocating for legislation in favor of women

The correct response highlights that Diamonds Do Good focuses on supporting programs that empower women in diamond-producing communities. This approach is pivotal in creating sustainable development and improving the quality of life for women, families, and communities involved in the diamond industry. Empowerment initiatives may include providing training, access to financial resources, and promoting leadership opportunities for women, which can lead to greater gender equality in societies where traditional norms may limit women's roles. Such programs often address existing disparities and support women's economic independence, contributing significantly to overall community development. The other options, while related to gender equality, do not capture the specific methodology employed by Diamonds Do Good. Creating job quotas might not effectively address the root causes of gender inequality and could face various implementation challenges. Funding women-only educational institutions is a beneficial step but does not directly target the community-level engagement with existing diamond-related initiatives. Advocating for legislation can play a role in broader societal change but may not have the immediate impact provided by community-directed empowerment programs.

9. Vast quantities of small, inexpensive diamonds suitable for low-cost jewelry are mined in which country?

A. Australia

B. South Africa

C. Canada

D. Russia

The correct answer is Australia because it has been known for producing significant quantities of small, commercial-grade diamonds, particularly from the Argyle mine, which specialized in pink diamonds and lower-quality diamonds that were suitable for mass-market jewelry. The Argyle mine, which was operational until 2020, was one of the largest sources of these diamonds in the world. This vast production of smaller and less expensive diamonds contributed to Australia's reputation in the diamond mining industry, especially for low-cost jewelry options. In contrast, while South Africa, Canada, and Russia are all renowned for their diamond production, they tend to focus on higher-quality or larger diamonds, which often command higher prices. South Africa has a rich history of diamond mining but is more associated with gem-quality diamonds. Canada has established itself as a leading source of high-quality diamonds, and Russia is known for producing both large stones and gem-quality diamonds but is less recognized for the volume of small, inexpensive diamonds.

10. Which of the following best describes the main goal of Diamonds Do Good?

A. To increase diamond sales globally.

B. To promote ethical sourcing and community benefits.

C. To enhance mining technology.

D. To focus on diamond grading standards.

The main goal of Diamonds Do Good is to promote ethical sourcing and community benefits. This initiative emphasizes the importance of ensuring that diamond sourcing contributes positively to communities, especially those in mining regions. By advocating for responsible and sustainable practices, Diamonds Do Good seeks to enhance the livelihoods of individuals and communities affected by diamond mining. This focus on community benefit and ethical considerations reflects a growing demand among consumers for transparency and responsibility in the products they purchase. In contrast, increasing diamond sales globally, enhancing mining technology, or focusing on diamond grading standards do not capture the core mission of Diamonds Do Good. While those may be relevant to the diamond industry, they do not address the crucial aspect of social responsibility and ethical engagement that the initiative embodies. Therefore, promoting ethical sourcing and community benefits accurately encapsulates the essence of what Diamonds Do Good strives to achieve.