November 4, 2023

Pink Diamonds and Demystifying Myths with Data

**Student Comprehension Worksheet: Pink Diamonds**

**Directions:** Watch [this video](https://www.youtube.com/watch?v=YR66iTeV_Mw&embeds_referring_euri=https%3A%2F%2Fwww.snexplores.org%2F&embeds_referring_origin=https%3A%2F%2Fwww.snexplores.org&feature=emb_imp_woyt) to learn about diamond formation, then answer the “Before Reading” questions as instructed by your teacher. Next, read the online *Science News Explores* article "[To get](https://www.snexplores.org/article/pink-diamond-barbie-formation-tectonics-supercontinent) [diamonds perfect for Barbie, make and break a supercontinent](https://www.snexplores.org/article/pink-diamond-barbie-formation-tectonics-supercontinent)” and answer the following questions as directed by your teacher.

Before Reading

1. **Compare the physical properties of pencil lead — called graphite — with diamonds. Come up with two differences.**
2. **Despite these differences in physical properties, both graphite and diamond are made of carbon atoms bonded together chemically. Consider what might cause graphite and diamond to exhibit such different properties. Come up with a potential explanation for those differences.**
3. **According to the video, what two conditions led to the creation of diamonds at Earth’s surface?**

During Reading

1. **On which continent do the natural pink diamonds described in this article occur most frequently?**
2. **The Argyle mine occurs along a rift zone. In one sentence, explain how this rift zone formed. Include the name of "Earth's first true supercontinent" in your explanation.**
3. **What form does carbon usually take when it crystallizes on Earth's surface? Give one example of an everyday tool that makes use of this substance.**
4. **How might gemstones that form far below Earth’s crust “hitch a ride” to the surface?**
5. **What is the relationship between kimberlite pipes and most diamonds?**
6. **How might changes in its atomic structure change a diamond’s appearance?**
7. **Generally, does lamproite form deeper, more shallow or at the same depth as kimberlite? In general, which material tends to contain more diamonds?**
8. **What geological event likely brought about the formation of the natural pink diamonds? What event likely allowed those pink diamonds to rise to the surface?**

After Reading

1. **In the 1980s, scientists tried to determine the age of rocks in the Argyle mine. However, the scientists were skeptical of their results. (Being skeptical means you are not easily convinced of something, or perhaps you have doubts.) Years later, different scientists would use a different technique to test the Argyle rocks and produce different results than the scientists did in the 1980s. To what extent do you feel that skepticism can be valuable in science? If scientists in this article had not been skeptical, how might that have changed the outcome of this study?**
2. **How might the findings described in this article allow us to identify other places in the world where pink diamonds may reside? Imagine you’re going on a quest for diamonds. Where would you begin?**