

SCIENCE EXPLORATIONS

WEB QUEST

All That Glitters

Explore the Web Quest online and use the space below to record what you learn.



Questions

1. Jim Webster is an Earth scientist at the American Museum of Natural History. As curator of a special exhibition about gold, he wants to help people understand how this metal forms. Jim explains this process in All That Glitters . Then describe how gold forms in your own words. Where does it form? What role does magma play? What does gold look like when it forms a solid?

2. Did you know that gold is the only metal that's yellow in its pure, natural state? Explore Gold Properties that are highlighted in the GOLD exhibition. Explain why gold makes a good material for wires, jewelry, and even astronauts' space helmets.

3. You've probably heard of "24-karat gold," but what does that mean? Read the Language of Gold and explain what the term "karats" means. If a metal alloy contains 50% gold, how would it be described in karats? (Hint: An alloy is a mixture of two or more metals.)

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4. Jade is another rare material from the Earth. But while gold is a precious metal, jade is a valuable rock. In fact, “jade” is actually a common name for two different rocks, jadeite and nephrite. George Harlow is an Earth scientist at the American Museum of Natural History who studies jade. Explain how jade forms . What tectonic event creates cracks where jade forms?

5. George Harlow has studied jade from ancient cultures all over the world. Thousands of years ago, people made many objects from jade rock, such as tools and jewelry. Read about what makes jade special . What properties make jade a good material for jewelry? Why is jade such a good material for tools?

6. Like jade, diamonds are gems that form inside the Earth. Diamonds also have something in common with graphite, the soft gray lead in your pencil. Both minerals are forms of pure carbon — they just form under different conditions. Explore more about the formation of diamonds . In what part of the Earth do diamonds form? Describe the temperature and pressure in this part of the Earth. (Look at the illustration and graph at the bottom of the page.)

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7. Diamonds form deep below the Earth's crust. Explain how diamonds are brought to the surface . What is a kimberlite pipe?

8. Check out What's This? to see a mystery photo from the American Museum of Natural History. It is an award plated with a precious metal. Can you guess what it is?

WEB QUEST: ALL THAT GLITTERS?

Bonus Question: Everyday Minerals

Many valuable materials come from the Earth – even if they're not precious gems or metals. Click around Rocks in Your Cabinet and identify three everyday rocks and minerals found around your home. Explain where each rock or mineral comes from.
