

**CHAPTER**

**15 SCIENCE PUZZLERS, TWISTERS & TEASERS**

*Rocks: Mineral Mixtures*

**Geode Search**

1. On a trip to the desert, Darrell and Jermaine spent an afternoon hunting for geodes. A geode is a hollow, rounded rock containing an inner cavity lined with crystals. The geodes that contain quartz sell for a dollar, those that contain calcite sell for two dollars, and geodes containing amethyst sell for five dollars. Below are six word-geodes that have a silicate mineral imbedded in them. Use the clues to “crack open” the geodes and find out who will make the most money when he sells his findings. The first one has been done for you.



**Darrell**

- a. Where cupid aims his dart . . .                      HQUEARARTZ                      heart + quartz (\$1)
- b. You'll experience guilt if you spill something on your mother's \_\_\_\_\_.                      CALQUICILTE                      \_\_\_\_\_
- c. When corn goes “pop,” it makes a yummy smell. When this goes “pop,” I hope you studied well.                      CQUAILCZITE                      \_\_\_\_\_

**Jermaine**

- d. Green is the broccoli flower, while white is the \_\_\_\_\_.                      CAULQUIFLAROWTZER                      \_\_\_\_\_
- e. Jack be nimble. Jack be \_\_\_\_\_.                      AQUIMETHYCSKT                      \_\_\_\_\_
- f. It's like comparing \_\_\_\_\_ and oranges.                      AQUARPTPLEZS                      \_\_\_\_\_
- g. Who made more money? \_\_\_\_\_

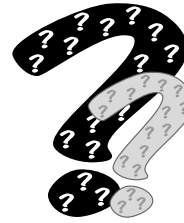
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Chapter 15 Science Puzzlers, Twisters & Teasers, continued

**Rocky Riddles**

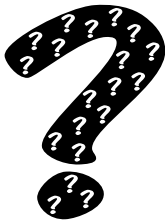
2. Solve the following riddles about rocks and minerals. (**Hint:** Your textbook has all the information you'll need to solve the riddles. But the riddles also contain some extra details that are *not* in your book. You can learn other interesting facts about these rocks and minerals by using a field guide.)

a. I'm a silicate mineral. Sometimes I form a rock all by myself. I'm very hard—but not as hard as some other minerals. If you hit me with a rock hammer, I'll fracture in a curve. One form of me is called rock crystal. In my purest state, I have no color at all. But if I contain impurities, I can be purple, grey, pink, white, or even orange. When two other minerals and I metamorphose together, we create a beautiful red gemstone.



Who am I? \_\_\_\_\_

b. I have a long history. First I was a sedimentary rock, then I was changed into a fine-grained, foliated metamorphic rock. And I kept going! Again and again, heat and pressure changed the arrangement of my minerals. Now, I have coarse grains that are separated into distinct light and dark bands. The light bands are made of quartz and feldspar, and the dark bands contain iron and magnesium. How nice and tidy my bands are!



Who am I? \_\_\_\_\_

c. I'm proud to be a member of both the Igneous Category and the Mafic Group. I started out as very thick, hot, liquid rock. I'm dark and fine-grained. I'm denser than any felsic rocks—but "dense" doesn't mean "dumb"! I'm the main rock on the ocean floor, and I also form much of the island of Hawaii. Aloha!



Who am I? \_\_\_\_\_

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