

**Read the article and choose from the list A-K the best phrase to fill each of the spaces 1-11.**

## **PYRITE**

Adapted from [http://www.chem.ox.ac.uk/it\\_lectures/chemistry/mom/pyrite/pyrite.html](http://www.chem.ox.ac.uk/it_lectures/chemistry/mom/pyrite/pyrite.html)

Pyrite is the classic "Fool's Gold". There are other shiny brassy yellow minerals, but pyrite is by far the most common and the most often mistaken for gold. Whether it is the golden look or something else, pyrite is **1.** ..... . It can have a beautiful luster and interesting crystals. It is so common in the earth's crust that **2.** ..... hence it has a vast number of forms and varieties. Pyrite is harder, less dense, and more **3.** ..... . It leaves a greenish-black streak while gold leaves a golden-yellow one. However, pyrite is often associated with the presence of gold and copper, and locating fool's gold may mean **4.** ..... .

Bravoite is the name given to **5.** ..... . It is closely related to pyrite but contains up to 20% nickel. Some mineral books treat it as a variety of pyrite.

Pyrite is a polymorph of marcasite, which means that it has the same chemistry,  $\text{FeS}_2$ , as marcasite, but a different structure and therefore **6.** ..... . Pyrite is difficult to distinguish from marcasite when a lack of clear indicators exists.

Pyrite's structure is analogous to galena's structure with a formula of  $\text{PbS}$ . Galena though has a higher symmetry. The difference between the two structures is that **7.** ..... . The sulfur pair are covalently bonded together in an elemental bond. This pair disrupts the four fold symmetry that a single atom of sulfur would have preserved and thus gives pyrite **8.** .....

Although pyrite is common and contains a high percentage of iron, it has never been used as a significant source of iron. Iron oxides such as hematite and magnetite **9.** ..... . Pyrite is not as economical as these ores possibly due to their tendency to form larger concentrations of more easily mined material. Pyrite would be a potential source of iron if **10.** ..... .

Pyrite is **11.** ..... and can be found worldwide. It's the most important source of sulfur after native sulfur.

- A. brittle than gold
- B. the single sulfur of galena is replaced by a pair of sulfurs in pyrite
- C. the real thing isn't far off
- D. different symmetry and crystal shapes
- E. these ores should become scarce
- F. the most common of the sulfide minerals
- G. it is found in almost every possible environment
- H. a favorite among rock collectors
- I. a nickel-rich iron sulfide
- J. a lower symmetry than galena
- K. are the primary iron ores