LECTURE 6: MINERALS II

6. Which of the following statements about minerals is TRUE?
   A. whenever elements come together in a specific ratio, a mineral is formed
   B. water and ice are both minerals
   C. gold is both an element and a mineral
   D. all minerals must have more than one element in their chemical formula
   E. glass is a mineral

6. Which of the following statements about minerals is TRUE?
   A. whenever elements come together in a specific ratio, a mineral is formed
   B. water and ice are both minerals
   C. all minerals have a characteristic organized internal atomic structure
   D. all minerals must have more than one element in their chemical formula
   E. glass is a mineral

6. Which of the following fit the definition of a mineral?
   A. naturally occurring
   B. solid
   C. they have a highly ordered atomic arrangement
   D. all of the above
   E. none of the above

6. If all minerals must be inorganically formed crystalline solids, which of the following substances cannot possibly be a mineral?
   A. salt
   B. ice
   C. diamond
   D. quartz
   E. chalk

6. If all minerals MUST be inorganically formed crystalline solids, which of the following substances cannot possibly be a mineral?
   A. table salt
   B. ice
   C. mica
   D. quartz
   E. coal

6. Which of the following statements about minerals is FALSE?
   A. petroleum is not a mineral because it is both a liquid and is organic
   B. water is not a mineral but ice is a mineral
   C. all minerals have a characteristic organized internal atomic structure
   D. all minerals must have more than one element in their chemical formula
   E. magma and lava are not minerals

6. Which of the following minerals can also be characterized as a native element?
   A. silica
   B. ice
   C. phlogopite mica
   D. feldspar
   E. graphite

6. The two most abundant elements, comprising about 84% of all the atoms in the Earth’s crust, are:
   A. silicon and aluminum
   B. chlorine and sodium
   C. hydrogen and helium
6. Quartz is generally defined as being “pure silica” yet it can form with a variety of colors. This is possible because:
   A. silica naturally forms with a variety of colors
   B. quartz always changes color depending on the type of light hitting it
   **C. atomic substitution causes some Si atoms to get replaced by different impurity atoms**
   D. there is no such thing as pure silica
   E. the charge of the silica anion can vary, which causes different colors

6. The process of **atomic substitution** in a mineral is when impurity atoms substitute for similar sized atoms in the crystal lattice during growth of the mineral. The property of the mineral that is altered as a result is the:
   A. hardness
   B. **color**
   C. crystal shape
   D. cleavage
   E. density

6. The process whereby some of the atoms in a mineral are replaced by atoms with a similar size and having similar bonding properties is called:
   A. atomic manipulation
   B. atomic coordination
   **C. atomic substitution**
   D. atomic abomination
   E. atomic asphyxiation

6. Which of the following solids would be considered **amorphous**?
   A. diamond
   B. **glass**
   C. quartz
   D. salt
   E. ice

6. The two most abundant elements, comprising about 84% of all the atoms in the Earth’s crust, are:
   A. silicon and aluminum
   B. chlorine and sodium
   C. hydrogen and helium
   D. iron and oxygen
   **E. oxygen and silicon**

6. Cleavage and fracture are two physical properties of minerals that deal with:
   A. **how minerals break**
   B. the hardness of minerals
   C. chemical bonding in minerals
   D. the streak of a mineral
   E. none of the above

6. Which of the following physical characteristics of minerals refers to **planes of weakness** inside the crystal structure along which a crystal can break?
   A. color
   B. luster
   C. crystal shape
   **D. cleavage**
   E. hardness

6. The **hardest** known mineral is:
   A. quartz
   B. calcite
   C. gypsum
   D. talc
   **E. diamond**
6. The **softest** mineral on the Mohs Hardness Scale is:
   A. quartz  
   B. calcite  
   C. gypsum  
   D. **talc**  
   E. diamond

6. The softest known mineral is (1) _____ and the hardest known mineral is (2) _____.
   A. (1) quartz   (2) gypsum  
   B. (1) **talc**   (2) quartz  
   C. (1) **talc**   (2) **diamond**  
   D. (1) diamond   (2) talc  
   E. (1) diamond   (2) gypsum

6. The mineral that dissolves and effervesces when dilute hydrochloric acid is dripped on it is:
   A. talc  
   B. **calcite**  
   C. halite  
   D. dolomite  
   E. magnetite

6. Which of the following can be rearranged to spell the name of a mineral which dissolves readily in diluted hydrochloric acid?
   A. cami  
   B. lite mood  
   C. freds pal  
   D. **ice talc**  
   E. i no vile