1. Chemistry Short Answer- Denote all of the following four statements that is true about charcoal
2. Charcoal can be found in lump, refined, or extruded forms
3. Charcoal can adsorb colored impurities from raw sugar solutions
4. Sugar charcoal is one of the purest forms of carbon
5. Activated charcoal can be used in the adsorption of poisons

**ANSWER:** 2, 3, and 4

1. Chemistry Multiple Choice- Photochromic glass is composed of linked tetrahedrons of what two elements?

**W.** Silicon and oxygen

**X.** Silicon and potassium

**Y.** Calcium and sodium

**Z.** Silicon and hydrogen

**ANSWER:** W

1. Chemistry Short Answer- What is the name of the process that is the electrolytic method of bromine extraction from brine?

**ANSWER:** Dow process

1. Chemistry Short Answer- What is the metal used to galvanize a metal to prevent it from corroding?

**ANSWER:** Zinc

1. Chemistry Short Answer- What is the name of the first noble gas synthesized in 1962 by Neil Bartlett?

**ANSWER:** Xenon

1. Chemistry Multiple Choice- Which of the following is not true about buckyballs?

**W.** Heating a buckyball breaks the covalent bonds, which allows an efficient method of trapping noble gases like helium

**X.** A buckyball has been modified so that it can fit the active site of a HIV virus, which uses many uncharged arms to grasp the enzyme

**Y.** Buckyballs, when bonded with metals, become superconducting

**Z.** The most common forms of buckyballs are C60 and C70

1. Chemistry Short Answer- What type of luminescence occurs when a sugar crystal releases light after being struck?

**ANSWER:** Triboluminescense

1. Chemistry Short Answer- What excited gas is released in triboluminescense?

**ANSWER:** Nitrogen

1. Chemistry Short Answer- What is the empirical formula for CH3(CH2)14CO2H? This is another name for palmitic acid?

**ANSWER:** C8H16O

1. Chemistry Short Answer- A rad is how many Joules of energy per kilogram of matter?

**ANSWER:** 0.01

1. Chemistry Multiple Choice- Which of these acids is the simplest aromatic carboxylic acid?

**W.** Malanic

**X.** Formic

**Y.** Benzoic

**Z.** Acetic

**ANSWER:** Y