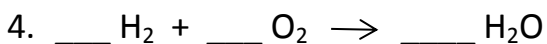
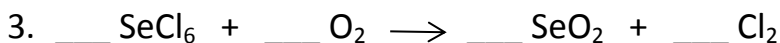
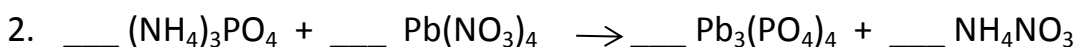
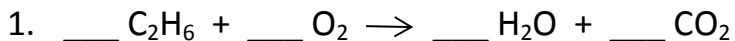


Chemistry Test 3 Review

Name: _____

SPS2e. Apply the Law of Conservation of Matter by balancing the following types of chemical equation – synthesis, decomposition, single replacement, double replacement.



SPS3. Students will distinguish the characteristics and components of radioactivity.

a. Differentiate among alpha and beta particles and gamma radiation.

b. Differentiate between fission and fusion.

6. Explain the difference between fission and fusion. (10pts)

7. Identify and differentiate among the three types of radiation. (10pts)

SPS6. Students will investigate the properties of solutions.

a. Describe solutions in terms of

- **solute/solvent**
- **conductivity**
- **concentration**

b. Observe factors affecting the rate a solute dissolves in a specific solvent.

c. Demonstrate that solubility is related to temperature by constructing a solubility curve.

8. In a solution of sugar water, what acts as the solvent?

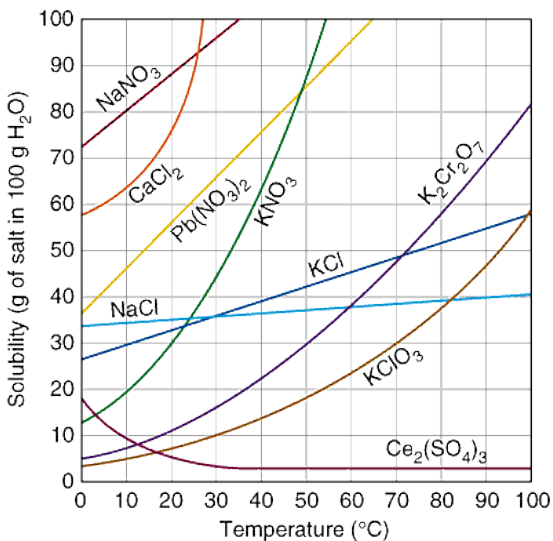
- a. Water
- b. Sugar
- c. Glass
- d. Air

9. In a carbonated beverage such as Coca-Cola, which acts as the solute?

- a. Water
- b. Carbon Dioxide
- c. Aluminum
- d. Plastic

10. Which will hold the most solute?
- 100 mL of water at 5°C
 - 100 mL of water at 10°C
 - 100 mL of water at 15°C
 - 100 mL of water at 20°C
11. Which will dissolve the fastest?
- Rock candy
 - A sugar cube
 - Small sugar crystals like in a bag you buy.
 - Powdered sugar
12. What is known as the “Universal Solvent”?
- Ethyl Alcohol
 - Acetone
 - Hydrochloric Acid
 - Dihydrogen monoxide

Use the following diagram to answer Questions #13 & #14



13. At approximately what temperature does the solubility of sodium chloride, NaCl, match the solubility of potassium dichromate, K₂Cr₂O₇?
- 30°C
 - 50°C
 - 60°C
 - 83°C

14. Which of the following is least soluble at 50°C?

- a. KNO_3
- b. $\text{K}_2\text{Cr}_2\text{O}_7$
- c. $\text{Pb}(\text{NO}_3)_2$
- d. $\text{Ce}_2(\text{SO}_4)_3$

SPS3d. Describe nuclear energy, its practical application as an alternative energy source, and its potential problems.

15. Explain how nuclear energy is converted to electricity. (5pts)

16. Describe two reasons to use nuclear power and two reasons to NOT use nuclear power. (5pts)
