

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. The solubility of a substance can be described in a variety of ways. Some references may use descriptive terms for solubility, such as those in the table illustrated below.

Descriptive terms	Parts of solvent needed for 1 part solute
Very soluble	<1
Freely soluble	1–10
Soluble	10–30
Sparingly soluble	30–100
Slightly soluble	100–1,000
Very slightly soluble	1,000–10,000
Practically insoluble or insoluble	>10,000

Using the table above as a reference, what descriptive term would be used for a medication that required 4,000 mg of water to dissolve 200 mg of the drug?

- A. soluble
- B. slightly soluble
- C. sparingly soluble
- D. very slightly soluble
2. Group I (the alkali metals) includes lithium (Li), sodium (Na), and potassium (K). These elements have similar chemical properties because they have the same \_\_\_\_\_.
- A. numbers of protons and neutrons
- B. numbers of electrons in the outer energy level
- C. numbers of protons in the nucleus
- D. numbers of neutrons in the nucleus

3. Solids have a definite shape and volume. This is because

- A. the molecules in solids move past each other easily.
- B. the molecules in solids stay in a definite location and vibrate.
- C. the molecules in solids move freely in all directions.
- D. the molecules in solids do not move at all.

4. A container is filled with 100 mL of liquid and placed in a freezer. The liquid in the container freezes at  $0^{\circ}\text{C}$ . A second container filled with 120 mL of the same liquid and placed in the freezer.

At what temperature will the liquid in the second container freeze?

- A.  $-10^{\circ}\text{C}$                       B.  $-1^{\circ}\text{C}$
- C.  $0^{\circ}\text{C}$                               D.  $10^{\circ}\text{C}$

5. Which of the following units *best* represents the density of an object?

- A. kg                      B. hr                      C.  $\text{m/s}^2$                       D.  $\text{g/cm}^3$

6. The pictures below show the position of different elements on the periodic table. Which picture has an X in the locations of the three elements that would be most similar in the way they react?

A.

X		
X		
X		

B.

X	X	X

C.

X		
	X	
		X

D.

		X
	X	
X		

7. Which of the following is the *most* important factor in determining an element's place in the periodic table?

- A. Number of protons
- B. Number of neutrons
- C. Atomic Charge
- D. Atomic Density