**21.2 Guided Reading**

**Physical Science – Matter Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Per:\_\_\_**

1. Name an example of a solution of a solid, a liquid, and a gas.
2. Muddy water is considered a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. suspension b. colloid c. solution
3. An example of a colloid would be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. A method known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ distinguishes a colloid from a solution.
5. Complete the following data table which compares different properties of solutions, colloids, and suspensions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Size of particles** | **Settling of particles?** | **Does filtering**  **work?** | **Scatter light?** |
| Solution |  | no |  |  |
| Colloid | 1-1000 nm |  |  |  |
|  |  |  | Yes | Yes, if translucent |

1. What is the difference between a solvent and a solute?
2. Two important influences of dissolving a solute in a solution are temperature and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ describes the amount of solute that can be dissolved in a solvent.
   1. insolubility b. solubility c. dissociation
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solutions contain as much solute that a solvent can dissolve.
   1. saturated b. soluble c. insoluble
5. Which substance on Table 21.3 (page 539) is insoluble?
6. Which substance on Table 21.3 has solubility greater than 100 but less than 250 grams per 100 mL H2O at 20°C?
7. Which solute, on the Temperature-Solubility Graph (page 541) for salts seems to have the most change due to an increase in temperature?
8. The concentration of a solution is expressed as the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. solvent, solute b. moles, mass c. solute, solvent
9. The solubility of a gas \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_when an increase in pressure occurs.
   1. Decreases b. increases c. has no effect
10. How is solubility of a gas affected when an increase in temperature occurs?