

# How Solutions Form

| Solution type | Solvent | Solute | Example       |
|---------------|---------|--------|---------------|
| 1. gas        |         | gas    |               |
| 2.            |         | solid  | salt water    |
| 3. solid      |         |        | 18 karat gold |
| 4.            | liquid  |        | club soda     |
| 5.            | liquid  | liquid |               |
| 6.            | solid   |        | brass         |

7. Study the information in your table carefully. What is true about the state of the solvent and the type of solution produced?
8. When a solid is being dissolved in a liquid, stirring (speeds up, slows down) the dissolving process.
9. A gas dissolves faster in a liquid if the temperature of the liquid is (increased, decreased).
10. A gas's solubility is faster in a liquid when under (high, low) pressure.
11. By stirring a gas in a liquid, its solubility (speeds up, slows down) the dissolving process.
12. A solid dissolves faster in a liquid if the temperature of the liquid is (increased, decreased).
13. The (larger, smaller) the surface area of a solid, the faster it will dissolve.
14. Look at your answers above compare what helps dissolving a GAS in a LIQUID with what help a SOLID in a LIQUID dissolve.

|                      | Gas in a Liquid<br>(helps, hurts, no effect) | Solid in a liquid<br>(helps, hurts, no effect) |
|----------------------|--|--|
| Stirring             |  |  |
| Increase Temperature |  |  |
| Decrease Temperature |  |  |
| Increase Pressure    |  |  |