

## Like Dissolves Like Practice

*Using your knowledge of the “like dissolves like” principle of solubility, determine which compound will dissolve best in each of the following problems. Explain your reason for having made this determination.*

- 1) Liquid: methanol ( $\text{CH}_3\text{OH}$ )  
Compounds: carbon diselenide and oxygen dichloride
  
- 2) Liquid: carbon disulfide  
Compounds: methanol ( $\text{CH}_3\text{OH}$ ) and lithium chloride
  
- 3) Liquid: water  
Compounds: carbon tetrachloride and ammonia
  
- 4) Liquid: isopropanol ( $\text{C}_3\text{H}_8\text{O}$ )  
Compounds: water and methane

## Like Dissolves Like Practice Answers

Using your knowledge of the “like dissolves like” principle of solubility, determine which compound will dissolve best in each of the following problems. Explain your reason for having made this determination.

- 1) Liquid: methanol (CH<sub>3</sub>OH)  
Compounds: carbon diselenide and **oxygen dichloride**

**Both oxygen dichloride and methanol are polar, while carbon diselenide is not.**

- 2) Liquid: carbon disulfide  
Compounds: **methanol (CH<sub>3</sub>OH)** and lithium chloride

**While both compounds are polar, methanol is considerably less polar than lithium chloride (ionic compounds always have full charge separation, while covalent compounds, no matter how polar, do not)**

- 3) Liquid: water  
Compounds: carbon tetrachloride and **ammonia**

**Both water and ammonia are polar. Carbon tetrachloride is not.**

- 4) Liquid: isopropanol (C<sub>3</sub>H<sub>8</sub>O)  
Compounds: **water** and methane

**Both water and isopropanol are polar. Methane is not.**