

# THE SOLUTION PROCESS

p. 528

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

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1. Explain the expression, with direct connections to IMF, “like dissolves like”.

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2. What is **solvation**? **Hydration**?

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3. We can think of the overall energetics of solution formation as having **three** components, what three factors (of energy) do we consider during the solvation process?

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4. Processes that occur spontaneously involve what two, distinct, factors?

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5. What is meant by a *spontaneous process*?

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6. Define **entropy** (Make sure you read this in context of solutions)

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7. What is a *hydrate*?

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8. Use the table to compare the three vocabulary words:

<b>Unsaturated</b>	<b>Saturated</b>	<b>Super Saturated</b>
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9. What happens to **solubility** as intermolecular forces increase? Explain.

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10. How does increasing the number of *polar* groups affect solubility in water? Explain.

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11. Does change in pressure affect solubility? Be specific.

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12. What is **Henry's Law** and give an example of how it can be used.

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15. (i) Define, (ii) give the formula and (iii) an example calculation for the following ways to represent concentration.

(a) (i) **mass percentage**

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(ii)

(iii)

(b) (i) **parts per million**

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(ii)

(iii)

15. (continued)

(c) (i) **mole fraction**

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(ii)

(iii)

(d) (i) **molarity**

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(ii)

(iii)

(e) (i) **molality**

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(ii)

(iii)