

Grade 7 Science



Solutions

Solutions... a review



⌘ A homogeneous mixture ie.
they appear as ONE
substance

Examples: tap water,
vinegar, gold jewelry, etc.

Solutions have 2 parts:



Solute

⌘ The substance that dissolves (found in less amounts)

Solvent


⌘ The substance in which the solute dissolves (found in the greatest amounts)

Dissolving...




⌘ To mix completely ie. the solute dissolves into the solvent.

⌘ Some substances are able to dissolve better than others.



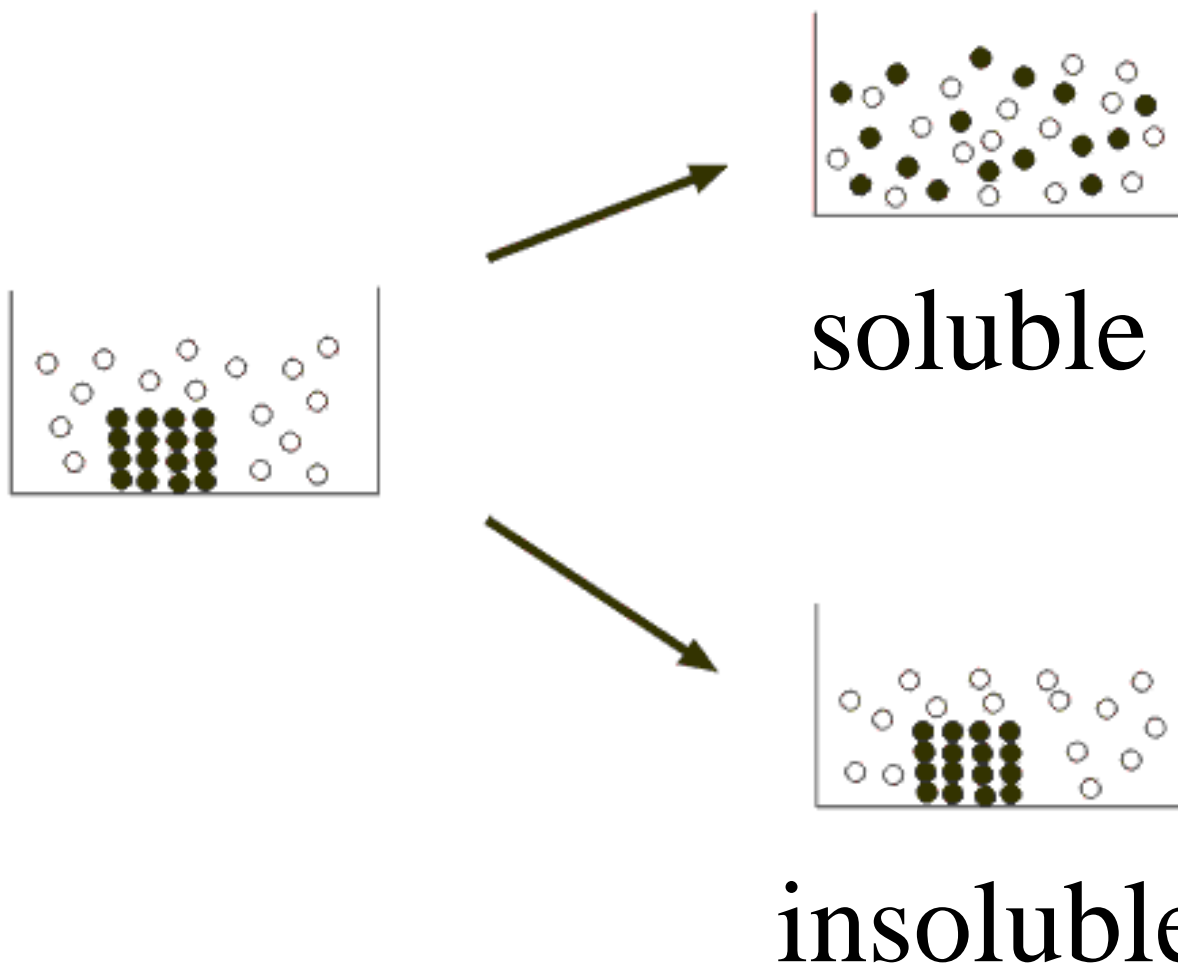
⌘ The Particle Theory of Matter states that “there are attractive forces between the particles”.



⌘ In order to dissolve, the particles must be more strongly attracted to the particles of the solvent than to themselves. This means that the solute is **soluble** in that solvent.

⌘ If the particles of the solute are more attracted to their own particles than the solvent particles, dissolving does NOT occur. The solute is said to be **insoluble** in that solvent. (ie. Mechanical)

Soluble or Insoluble?



Solvent or Not?



Some materials are good solvents for some solutes but not others. For example, oil is insoluble in water but soluble in gasoline.

Does it Dissolve?



Complete Activity 8-1C

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States of Solutes and Solvents



Air

Solute: oxygen, carbon dioxide, other gases

Gas

Solvent: nitrogen

Gas



Soda

Solute: carbon dioxide

Gas

Solvent: water

Liquid



Vinegar

Solute: acetic acid

Liquid

Solvent: water

Liquid



Filtered Sea Water

Solute: Salt and
other minerals

Solid

Solvent: Water

Liquid



Brass

Solute: zinc

Solid

Solvent: copper

Solid

**** Alloy: Solutions made
from two or more metals.**