

Mixtures & Solutions

Name:

Date:

INQUIRY

When you stir sugar into green tea, the sugar disappears. Where does it go? Is it still tea?

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Mixture	Two+ substances combined but NOT chemically joined.
Solution	A mixture where solute dissolves in solvent.
Solute	The substance that dissolves (e.g. sugar).
Solvent	The liquid doing the dissolving (e.g. water).
Saturated	No more solute can dissolve at that temperature.

Part A — Classifying

1. Classify each as a solution or a suspension: (a) Salt water (b) Muddy Yangtze River water (c) Korean soju (d) Orange juice with pulp (e) German sparkling water (f) Chinese green tea. [3 marks]

2. Explain the difference between a mixture and a compound. Give one example of each. [3 marks]

Part B — Dissolving

3. A student dissolves sugar in water. Name three things they could do to make the sugar dissolve FASTER. Explain why each works. [3 marks]
4. Korean naengmyeon (cold noodle soup) uses cold broth. Would salt dissolve faster in the hot broth of a Chinese hot pot or the cold Korean broth? Explain using particle theory. [3 marks]

Part C — Application

5. Air is a mixture of gases (78% nitrogen, 21% oxygen, 1% other). (a) Is this a solution? Explain. (b) Could you separate air into its components? What technique might work? [4 marks]