

Grade 7 Science **Unit Review for Pure Substances and Mixtures**

Name: _____ **Class:** _____ **Date** _____

Review your notes and use the internet to find the answers to the unit review questions.

What is Matter?

What is the basic structure of all atoms?

List the 5 main ideas of the particle theory.

- a)
- b)
- c)
- d)
- e)

What are the 3 states of matter? Compare and contrast them.

What are the main differences between particles of a solid and the particles of a gas?

What is a pure substance?

Indicate whether each statement is true or false.

_____1. A solution is made up of one or more solvents dissolved in a solute.

_____2. The terms “concentrated” and “dilute” can be used to describe the amount of solute in a solution.

_____3. Cooling a solvent is a good way to increase the solubility of a solute.

Complete each sentence given below.

4. In tea and coffee, the solvent is _____.

5. _____ and _____ are two ways to make a solid dissolve in a liquid more quickly.

Match each term in the left column with its definition from the right column.

- | | |
|---------------------|---|
| _____6. soluble | (a) substance that dissolves |
| _____7. saturated | (b) able to dissolve in a solvent |
| _____8. solute | (c) unable to dissolve any more solute |

Circle the letter beside the answer that best answers the question.

9. A student dissolves 10 g of sugar in enough water to make 25 mL of solution. What is the solute?

- | | |
|----------------------|---------------------|
| (a) The sugar | (c) The salt |
| (b) The water | (d) 10 g |

10. A scientist wants to decrease the rate at which a solid dissolves in a liquid. What should she do?

(a) Cool the liquid.

(c) Increase the volume of the liquid.

(b) Stir the mixture.

(d) Break the solid into smaller pieces.

11. Holly dissolves 50mL of drink power in 150mL of water. She is surprised that the final volume is only 170mL. Why do think Holly is surprised at the final volume and use the particle theory to explain Holly's observation.

12. A scientist dissolves 4.2 g of a substance in 50 mL of water to make a saturated solution. Can she dissolve any more solute in the solution? Explain.

13. A scientist dissolves two solutes in a single solvent. The concentration of solute A is higher than the concentration of solute B. Draw a picture showing the particles of solute A, solute B, and the solvent in the solution. Make sure to label your picture.

14. What is a mechanical Mixture? How is it different than a solution?

15. When an ice cube melts, do the particles change to a different kind of particle?
Explain why or why not.

16. How is the purity of gold measured? Why is gold jewelry not pure gold?

17. Sewage is a stinky, messy mixture of many things but, it is turned into water that we can drink. How?

18. Is Fresh Spring water a pure substance or a mixture? Explain.