Name _____ Date _____

Mixtures and Solutions: Dissolving Salt in Water

Directions: Read about Ana's salt water. Then answer each question.

A Spoonful of Salt

Ana stirs a spoonful of salt into a glass of water. Soon the white grains seem to be gone. Where did they go?

The salt **dissolved**. When a solid dissolves, it breaks apart into particles too small to see. Those particles spread evenly through the water. Salt and water together make a **mixture**. In a mixture, each material stays the same kind of matter. Salt water is a special kind of mixture called a **solution**. In a solution, one material is dissolved evenly through another.

The salt did not **melt**. Melting turns a solid into a liquid, and it takes heat. The salt did not vanish, either. The salt water weighs just as much as the salt and the water did before they were mixed.

Water can **evaporate**, or change into a gas, but salt does not evaporate at room temperature. Not every solid dissolves in water. Sand just sinks to the bottom.

1. Match each word from the passage about Ana's salt with its meaning.
Write the letter of the matching answer on each line.

1. _____ solution
2. _____ dissolve
3. _____ melt
4. _____ evaporate

Choices for question 1

A. To turn from a solid into a liquid when heated
B. To break apart into particles too small to see that spread through a liquid
C. To turn from a liquid into a gas
D. A mixture in which one material is dissolved evenly through another
E. To turn from a gas into a liquid

2. Use the word bank to finish the sentences about butter and baking soda.

Word bank
evaporate • melt • dissolve • freeze

Butter in a hot pan will _____. Baking soda stirred into a cup of water will _____.

3. Sand stirred into water makes a mixture, but not a solution. Why not?

A. The sand melts too slowly to spread through the water.

B. The sand does not dissolve, so it does not spread evenly through the water.

C. The sand evaporates before it can mix with the water.

D. Sand and water are not two different materials.

4. Which of these makes a solution, like Ana's salt water?

A. Sugar stirred into water until no grains are left

B. Ice cubes floating in a glass of water

C. Raisins and peanuts shaken together in a bag

D. Pebbles mixed into a bucket of soil

5. Ana sets a cup of water on a scale, and it reads 250 grams. She adds 20 grams of salt and stirs until all of it dissolves. What will the scale read now?

A. 260 grams B. 230 grams C. 270 grams D. 250 grams

6. The passage says the salt particles spread *evenly* through the water. What does *evenly* tell you about Ana's salt water?

A. All of the salt stays near the top of the glass.

B. The salt has left the water and gone into the air.

C. All of the salt collects at the bottom of the glass.

D. Every part of the water holds about the same amount of salt.

7. After all the salt has dissolved, Ana pours her salt water through a paper coffee filter. What comes out the other side?

A. Plain water, because the filter catches all the salt

B. Only the salt, because the filter holds back the water

C. Nothing at all, because the filter blocks both the salt and the water

D. Salt water, because the dissolved salt passes through with the water

8. What would happen if Ana poured her salt water into a wide, shallow dish and left it in a sunny window for a week?

A. The water would evaporate, and salt would be left in the dish.

B. The water and the salt would both evaporate, leaving the dish empty.

C. The salt would melt into a small puddle in the dish.

D. Nothing would change, because salt stops water from evaporating.