Bannai School

Name: ..... Date: ..... Class: .....

SCIENCE – UNIT 3 – WORKSHEET 4

ACHIEVEMENT		COMMENT	
☐ Excellent ☐ Very good ☐ Good	☐ Fair ☐ Need improvement	Knowledge Skills Attitude	

UNIT 3 – How does grain size affect dissolving?

REMEMBER

Words to Learn

Lump
Grain

- The grain size of a solute affects the rate at which it will dissolve in a liquid.
- Small grains dissolve faster than large grains.

I. Directions: Read the situation below, then answer the questions.

Jenny makes a glass of orange drink with powdered juice and a glass of warm water. Because she is thirsty, she drank the whole glass of orange juice after putting the powdered juice. After drinking, she noticed small grains of the powdered juice settling at the bottom of the glass.

1. What can Jenny do to dissolve the grains of powdered juice faster? Tick everything that applies.

☐ Add more powdered juice

☐ Stir the solution

☐ Use hot water

☐ Add lumps of powdered juice

☐ Crush the powdered juice to make the grains smaller

2. In the powdered juice solution, which one is the solvent?

☐ Powdered Juice

☐ Water

Anna makes two sugar solutions with equal amount of water with the same temperature. In solution A, she used table sugar, in solution B, she used sugar cubes. She did not stir both solutions.

1. In which solution will the solute dissolve faster?

The solutes in Solution A will dissolve _____ because table sugar has

_____ grains than Sugar Cubes.

2. If Anna makes a third solution using an equal amount of water with the same temperature as the one she used before using powdered sugar, what do you think will happen?

The solutes with powdered sugar will dissolve _____ because it has

_____ grains than table sugar and sugar cubes.

II. Directions: True or False

1. Grain size affects the rate by which solutes dissolve in a solvent.
2. Smaller grains dissolve slower than bigger grains.
3. The particles on the outside of a grain will dissolve first because they are in contact with the water.
4. The factors affecting the rate by which solutes dissolve in a solvent are stirring, heating and grain size.
5. Stirring a solution will make the solutes dissolve faster.
6. Suspensions are formed when a solute dissolves in a solvent.
7. Heat cause the particles of a solute to move faster.
8. The rate by which a solid dissolves in a solution can be changed.
9. Solutes can still dissolve even without stirring, but slower.
10. Cold water makes solutes dissolve faster than hot water.