Name _____

Pre-Test : Mixtures and Solutions

Directions: Circle the letter to indicate whether the following statements are either true ("T") or false ("F").

1. There are only two types of matter in the world. T F

2. Scientists classify matter based upon composition of matter. T F

3. Mixtures are a class of matter . T F

4. Homogeneous mixtures are not the same throughout . T F

5. Heterogeneous mixtures are the same throughout. T F

6. Colloids, suspensions and solutions are mixtures. T F

7. Water is the universal solvent. T F

8. Temperature can affect the rate of dissolving. T F

9. Larger particles dissolve slower than smaller ones. T F

10. Solutions cannot exist as solids. T F

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Name _____

Video Quiz

Directions: Fill in the blank with the correct word from the list at the bottom of the page. Not all words from the list will be used; some may be used more than once.

1. A _____ mixture is not well mixed.

2. A _____ mixture is the same throughout.

3. In a colloid the particles are _____.

4. Muddy river water is an example of a _____.

5. In a solution the particles are _____.

6. The _____ is the part of the solution that does the dissolving.

7. Water is often called the universal _____.

8. The _____ is the part of the solution that is dissolved.

9. _____ particles tend to dissolve faster than larger ones.

10. An _____ is a metal made of two or more solids.

alloy
colloid
heterogeneous mixture
homogeneous mixture
insoluble
mixture
saturated solution
soluble
solubility
solute
solution
solvent
suspension

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Discussion Questions

Directions: Answer the following questions in the spaces provided (use the back of the sheet if necessary) or as a group.

1. Describe how scientists classify matter.

2. Provide examples of a homogeneous mixture.

3. Provide examples of a heterogeneous mixture.

4. Provide an example of colloids.

5. Provide an example of suspensions.

6. Provide an example of solutions.

7. Provide an example of an insoluble mixture.

8. Provide two examples of things that affect the rate of dissolving.

9. Provide an example of a saturated solution.

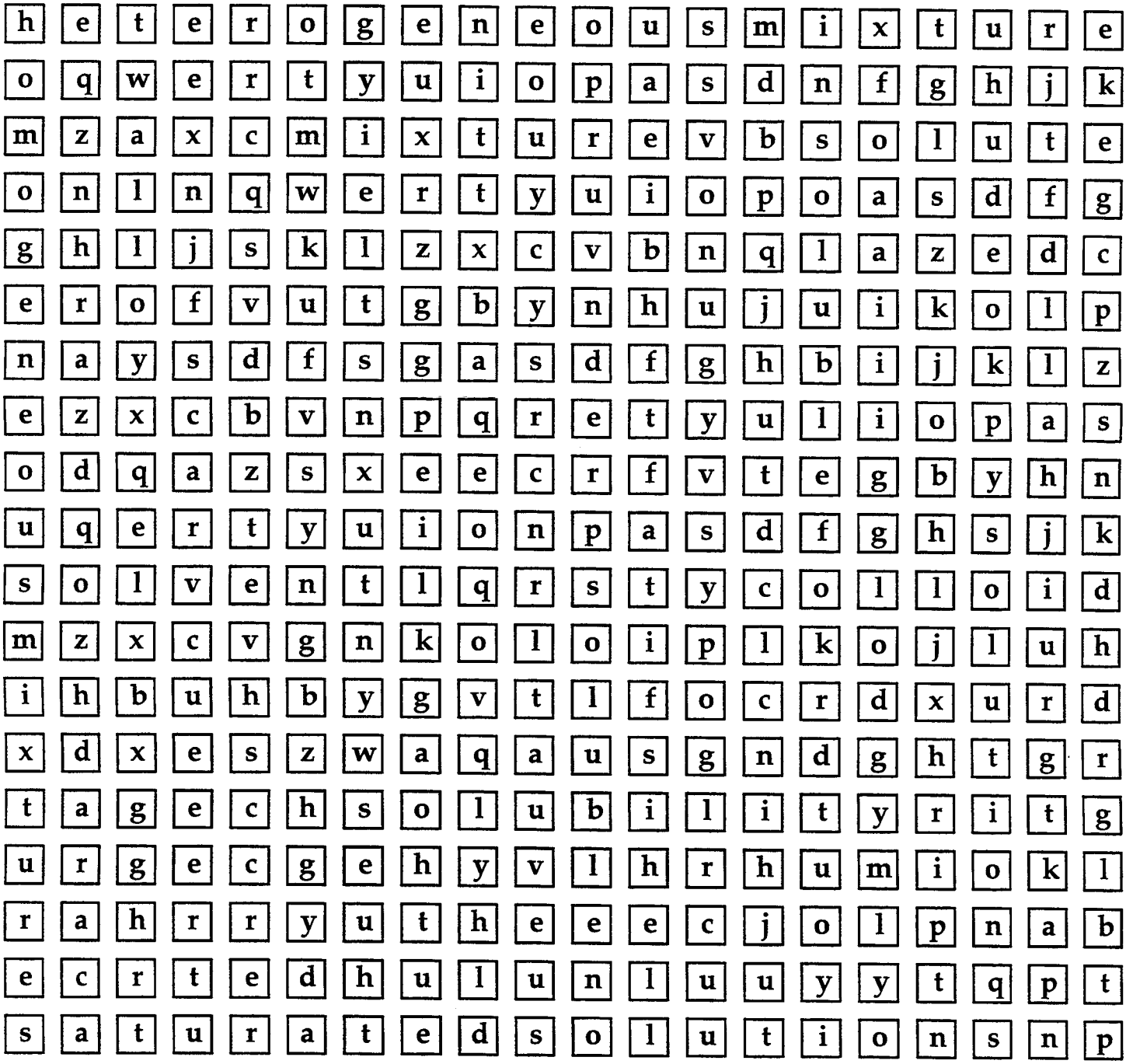
10. Provide an example of an alloy.

Name _____

Word Search

Directions: Find and circle the following vocabulary words in the puzzle. After completing the puzzle, write the definition of each word on the back of the page.

alloy	colloid	heterogeneous mixture	homogeneous mixture	insoluble
mixture	solute	saturated solution	soluble	solubility
	solution	solvent	suspension	



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Name_____

Classifying Matter

Read and answer the following questions in the space provided. Use the back of the sheet if necessary.

1. Why do we classify things?

2. What are the four groups based on the makeup of matter?

3. What are the properties of mixtures?

4. What are the two major classes of mixtures?

5. What is a solution?

6. What are the two parts of a solution?

7. Are all solutions liquids? Give examples.

8. What are the two main solution traits?

Name _____

Experiment!
Mixtures, Solutions, and Reactions

Objective

To discover what happens when you create mixtures and solutions.

Materials

seven clear plastic cups
tablespoon
teaspoon
stirring rod
water
vegetable oil
sand
sugar
honey
baking soda
vinegar

Procedure

1. In seven separate cups, combine the following:
    a. water and vegetable oil
    b water and sand
    c. one tablespoon each of sand and sugar
    d. water and a small amount of honey (shake)
    e. water and a small amount of sugar
    f. water and a teaspoon of baking soda
    g. water and a tablespoon of vinegar (stir)
2. Observe the mixtures that were created in the seven cups.
3. Add two tablespoons of vinegar to the mixture of water and baking soda.
4. Answer the questions in the conclusion.

Conclusion

1. Which materials formed mixtures and combined with no reaction?

2. Which materials formed solutions, that is, one dissolved into another with no reaction?

3. What is the chemical reaction that takes place to the vinegar, water and baking soda mixture.

Name _____

Experiment!
Rock Candy

Objective
You can make a sweet snack while creating and observing a solution.

Materials
cooking pot
one cup of water
two cups of sugar
wooden spoon
glass jar
string
scissors
pencil
plastic wrap
protective eyeglasses/goggles

Procedure
1. Have the adult/teacher boil the cup of water while wearing protective eyeglasses/goggles.
    a. Once it's boiling, add two cups of sugar.
    b. Stir with the wooden spoon and continue to boil.
2. While the sugar and water are boiling, cut a piece of string and tie it to the middle of the pencil. Test the length by laying the pencil over the mouth of the jar — the end of the string should not touch the bottom of the jar.
3. Once the sugar is dissolved in the water, have the adult/teacher pour the liquid into the glass jar.
4. Lay the pencil over the mouth of the jar so the string is dangling in the liquid.
5. Wait for the steam to stop rising out of the jar. When it stops, cover the mouth of the jar with plastic wrap.
6. Put the jar in a safe place where it will not be disturbed.
7. Wait two to three days and pull the string out of the jar and examine it.
8. Answer the questions in the conclusion.

Conclusion
Why was the water heated before adding the sugar? What did this do to the solubility of the sugar in the water? What type of mixture was formed? What caused the crystals to form in the solution?

Name _____

Post - Test: Mixtures and Solutions

Directions: Answer the following questions in the spaces provided. Use the back of the sheet if necessary.

1. A _____ is two or more substances mixed together but not chemically combined.

2. Heterogeneous mixtures are substances in which the components are _____evenly distributed.

3. _____mixtures are well mixed and the same throughout.

4. Colloids, suspensions and solutions are all _____

5. A colloid is a mixture in which the particles are mixed together but not _____.

6. Suspension is a _____mixture in which some of the particles settle out.

7. _____is the universal solvent.

8. When a substance is soluble it can dissolve into a _____

9. A substance is _____when it is unable to dissolve into a solvent.

10. Saturated solution is a solution that has dissolved all the solute in can at a specific _____.