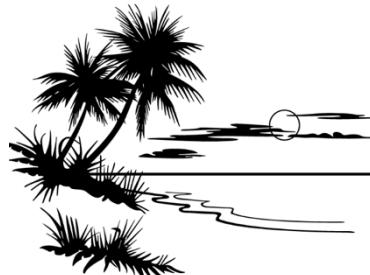


# Aqueous Solutions

## Engage



1. Answer the following questions and then discuss with a partner.

2. Have you ever gone to the beach? \_\_\_\_\_

3. Was the water clear or cloudy?  
\_\_\_\_\_

4. If it was cloudy, what made it like that?  
\_\_\_\_\_

5. What does the water at the beach taste like?  
\_\_\_\_\_

## Explore

**Materials:** 3 beakers or clear cups, water for each cup, powdered drink mix, sand, vinegar, stirring rod or spoon

### What To Do:

1. Pour water into the beaker or cup until it is half full.
2. Place a spoon full of powdered drink mix in the water and stir.

a. Name the states of matter in this activity.  
\_\_\_\_\_ and \_\_\_\_\_

b. What happened to the drink mix?  
\_\_\_\_\_

c. Is it still in the water? \_\_\_\_\_

d. How do you know? \_\_\_\_\_

3. Pour water into another beaker or cup until it is half full.

4. Place a spoon full of sand in the water and stir.

a. Name the states of matter in this activity.  
\_\_\_\_\_ and \_\_\_\_\_

b. What happened to the sand?  
\_\_\_\_\_

c. Is it still in the water? \_\_\_\_\_

d. How do you know? \_\_\_\_\_

5. Pour water into another beaker or cup until it is half full.

6. Place a spoon full of vinegar in the water and stir.

a. Name the states of matter in this activity.  
\_\_\_\_\_ and \_\_\_\_\_

b. What happened to the vinegar?  
\_\_\_\_\_

c. Is it still in the water? \_\_\_\_\_

d. How do you know? \_\_\_\_\_

7. Clean up as your teacher directs.

## SOLUTIONS

Explain



### AQUEOUS SOLUTION

### SOLVENT

### SOLUTE

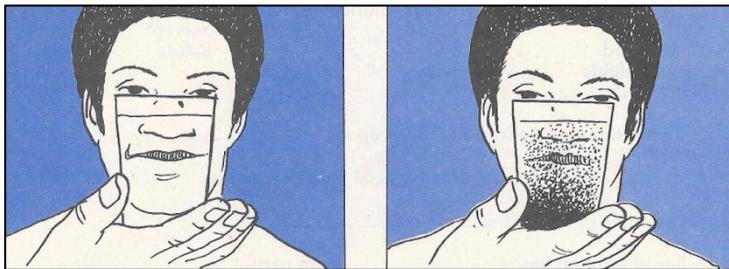
### SOLUBLE

### INSOLUBLE

Elaborate

1. What was the solvent in the first activity? \_\_\_\_\_
2. What was the solute in the first activity? \_\_\_\_\_
3. Was the solute soluble or insoluble? \_\_\_\_\_
4. Why do you think so? \_\_\_\_\_
  
5. What was the solvent in the second activity? \_\_\_\_\_
6. What was the solute in the second activity? \_\_\_\_\_
7. Was the solute soluble or insoluble? \_\_\_\_\_
8. Why do you think so? \_\_\_\_\_
  
9. What was the solvent in the third activity? \_\_\_\_\_
10. What was the solute in the third activity? \_\_\_\_\_
11. Was the solute soluble or insoluble? \_\_\_\_\_
12. Why do you think so? \_\_\_\_\_

How to tell if a mixture is an aqueous solution.



<ul style="list-style-type: none"><li>• This is a mixture of sugar and water.</li><li>• Sugar and water is a solution.</li></ul>	<ul style="list-style-type: none"><li>• This is a mixture of orange juice and vinegar.</li><li>• Orange juice and vinegar is not an aqueous solution.</li></ul>
--	---

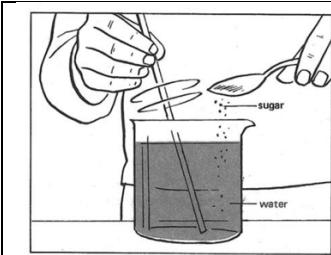
Answer yes or no to these questions

	Sugar water	Orange juice and vinegar
1. Are the parts evenly mixed?		
2. Can you see the separate parts?		
3. Do the particles fall to the bottom?		
4. Is the solute dissolved in water?		

## Rules for aqueous solutions

1. They must be evenly \_\_\_\_\_.
2. The solute must be dissolved by \_\_\_\_\_

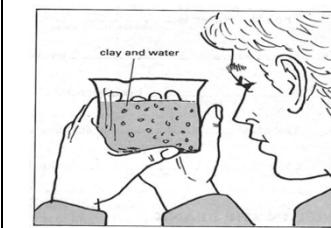
### Is it an Aqueous Solution?



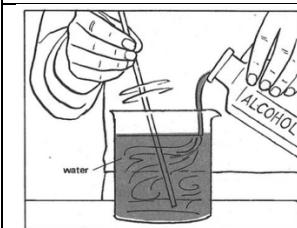
1. Are the sugar and water evenly mixed? \_\_\_\_\_
3. Is the solvent water? \_\_\_\_\_
4. Is it an aqueous solution?  
\_\_\_\_\_



1. Are the rubbing alcohol and aloe vera gel evenly mixed?  
\_\_\_\_\_
3. Is the solvent water? \_\_\_\_\_
4. Is it an aqueous solution?  
\_\_\_\_\_



1. Will the clay particles dissolve?  
\_\_\_\_\_
2. Is the solvent water? \_\_\_\_\_
3. Is it an aqueous solution?  
\_\_\_\_\_



1. Are the alcohol and water evenly mixed? \_\_\_\_\_
3. Is the solvent water? \_\_\_\_\_
4. Is it an aqueous solution?  
\_\_\_\_\_

### Evaluate

Name \_\_\_\_\_ period \_\_\_\_\_

### **EXIT TICKET**

#### Aqueous Solutions

1. The liquid part of a solution is the –
  - a. solute
  - b. solvent
2. The substance that disappears in a solution is the –
  - a. solute
  - b. solvent
3. In an aqueous solution, the solvent must be -
  - a. alcohol
  - b. vinegar
  - c. water
  - d. gasoline
4. If the solute dissolves in the solvent, it is said to be –
  - a. soluble
  - b. insoluble
5. If the solute does NOT dissolve in the solvent, it is said to be –
  - a. soluble
  - b. insoluble