Science

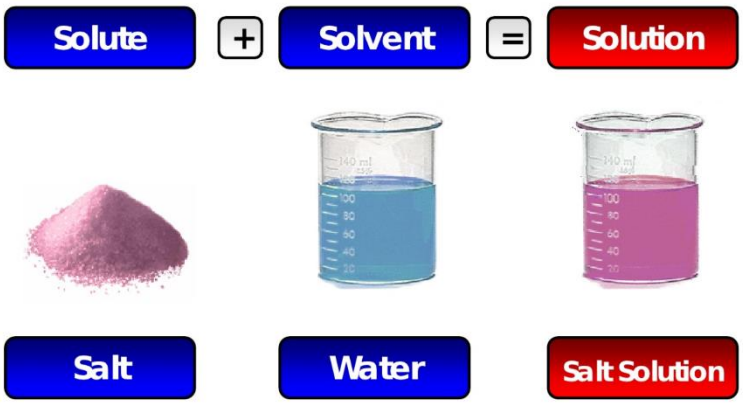
Level: Standard 2

Strand: Form and Function

Topic: Substances that dissolve in water

Key Points:

- A **solute** is usually a substance solid that can be dissolved in another substance e.g. sugar and salt solid disappear completely leaving a clear mixture
- A **solvent** is a substance liquid that dissolves another substance e.g. water
- A **solution** is a mixture of at least one solid and a liquid and forms when a **solute** dissolve in a **solvent** e.g. salt and water



SOLVENT +	SOLUTE =	SOLUTION
The liquid in which a solute is dissolved to form a solution.	The smaller component that changes its state in forming the solution.	Made of 2 or more substances mixed together.
 WATER	 LEMONADE MIX	 LEMONADE
 ICED TEA	 SUGAR	 SWEET TEA

Activity 1: Circle the items that can dissolve in water



Activity 2: Identify the **solute, solvent, and solution** for the following items

1. John mixes Kool-Aid powder in a pitcher of water



Solute_____

Solvent_____

Solution_____

2. Salt is dissolved in a cup of hot water



Solute_____

Solvent_____

Solution_____

3. Cocoa powder is added to a cup of hot water



Solute_____

Solvent_____

Solution_____

4. Sugar is added to a cup of coffee



Solute_____

Solvent_____

Solution_____

Assessment:

1. What is a solute?
   (a) The solid that does the dissolving in a solution
   (b) The mixing of different substances
   (c) The substance that is dissolved into the solution
   (d) The solution that forms when a solute is added

2. Which is an example of a solute?
   (a) Egg whites (b) Salt
   (c) Water (d) Acetone

3. What is a solvent?
   (a) The mixing of different substances
   (b) The substance that does the dissolving in a solution
   (c) The substance that is being dissolved in a solution
   (d) The solution that forms when a solute is added

4. Sugar water is an example of a
   (a) Solution (b) Colloid
   (c) Solvent (d) Solute

5. If you mixed sand, coffee, and water, which material would dissolve?
   (a) Sand (b) Coffee
   (c) Sand and Salt (d) Neither sand nor salt

Answer key:

Activity 1:



Activity 2:

1. John mixes Kool-Aid powder in a pitcher of water

Solute: Kool-Aid Powder

Solvent: Water

Solution: Kool-Aid Juice



2. Salt is dissolved in a cup of hot water

Solute: Salt

Solvent: Hot water

Solution: Salty water



3. Cocoa powder is added to a cup of hot water



Solute: Cocoa powder

Solvent: Hot water

Solution: Cocoa tea

4. Sugar is added to a cup of coffee



Solute: Sugar

Solvent: Water

Solution: Coffee Drink

Assessment:

1. (c)
2. (b)
3. (b)
4. (a)
5. (b)

References:

- https://www.slideshare.net/MarkAnthonyRamos4/ppoint-solutionsmixtures1140618100541phpapp02
- https://www.teacherspayteachers.com/Product/Solution-Solvent-Solute-Sort-Practice-Assess-Station-activity-4262342
- https://www.bbc.co.uk/bitesize/topics/zrssgk7/articles/zpd6hyc
- Images used in activity 2 (jug with juice, cup with sugar, coffee) are online pictures and licensed by Creative Commons for use in Microsoft Word (2016)