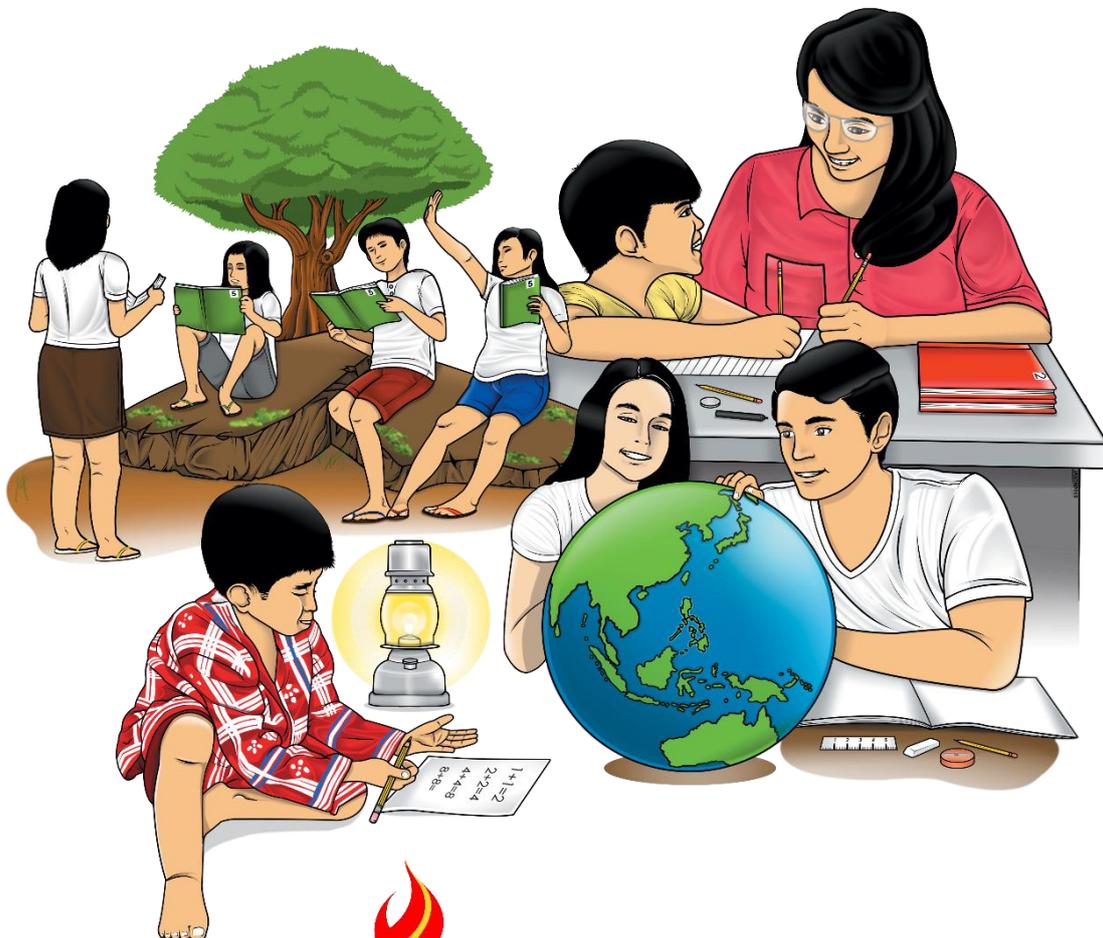


6

Science

Quarter 1 – Module 1

Lesson 2: Differentiating a Solute from a Solvent



Science – Grade 6
Alternative Delivery Mode
Quarter 1 – Module 1 Lesson 2: Differentiating a Solute from a Solvent
First Edition, 2020

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Science

Quarter 1 – Module 1

**Lesson 2: Differentiating a
Solute from a Solvent**

Introductory Message

For the facilitator:

Welcome to the **Science 6** Alternative Delivery Mode (ADM) Module on **Differentiating a Solute from a Solvent!**

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

As a facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the learner:

Welcome to the **Science 6** Alternative Delivery Mode (ADM) Module on **Differentiating a Solute from a Solvent!**

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:



What I Need to Know

This will give you an idea of the skills or competencies you are expected to learn in the module.



What I Know

This part includes an activity that aims to check what you already know about the lesson to take. If you get all the answers correct (100%), you may decide to skip this module.



What's In

This is a brief drill or review to help you link the current lesson with the previous one.



What's New

In this portion, the new lesson will be introduced to you in various ways; a story, a song, a poem, a problem opener, an activity or a situation.



What is It

This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.



What's More

This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.



What I Have Learned

This includes questions or blank sentence/paragraph to be filled in to process what you learned from the lesson.



What I Can Do

This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.



Assessment

This is a task which aims to evaluate your level of mastery in achieving the learning competency.



Additional Activities

In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.



Answer Key

This contains answers to all activities in the module.

At the end of this module you will also find:

References

This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary mark/s on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instruction carefully before doing each task.
4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain deep understanding of the relevant competencies. You can do it



What I Need to Know

This module was designed and written with you in mind. It is here to help you master the matter. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module is about:

- Differentiating a solute from solvent

After going through this module, you are expected to be able to:

- Differentiate a solute from solvent



What I Know

Directions: Choose the letter of the correct answer. Use a separate sheet for your answer.

1. Which of the following materials can be dissolved?
 - a. Stone
 - b. leaf
 - c. salt
 - d. cloth

2. If you are going to mix hot water and coffee powder what will happen?
 - a. The coffee powder will not dissolve in water.
 - b. The coffee powder will dissolve in water thoroughly.
 - c. The coffee powder will dissolve in water partially.
 - d. None of the above

3. This is formed when one substance is dissolved in another substance.
 - a. solute
 - b. solution
 - c. sols
 - d. aerosol

4. Which of the following materials is a solvent?
 - a. flour
 - b. water
 - c. sugar
 - d. both a and b

5. It dissolves more substances than any other?
 - a. sugar
 - b. salt
 - c. water
 - d. pebble

Directions: Write True if the statement is correct and False if it is not.

6. All solutes dissolve in solvents.
7. Sugar is an example of a soluble substance.
8. A pinch of salt can easily be dissolved in water than in oil.
9. An enamel paint dissolves in water.
10. Chocolate powder will dissolve in hot water easily.

Lesson 2

Differentiating a Solute from a Solvent

What drinks do you usually prepare during breakfast? It could be coffee, milk or chocolate powder mixed with a hot water. Have you not wondered which of those substances does the dissolving or the substance that is being dissolved?



What's In

Choose the letter of the correct answer. Write your answer on your answer sheet.

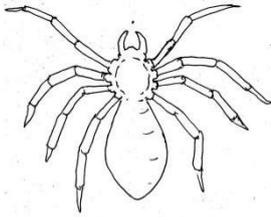
1. Which of the following illustrations is an example of a mixtures?



a.



b.



c.



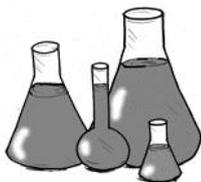
d.

2. Mixtures can be solid, liquid or gas. It can be homogeneous or heterogeneous and are made up of two or more components. Which of the following mixtures where components are not visible?

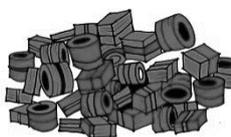
a.



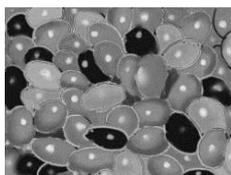
b.



c.



d.



3. Which of these best describes a heterogeneous mixture?

- a. The components are not visible.
- b. They show only one phase.
- c. They have components that are not uniform.
- d. They have the same properties.

4. Which of the statements/phrase best describes a solution?

- a. Solution is formed when one substance dissolves in another substance.
- b. Solutions are heterogeneous mixtures.
- c. Pizza, halo-halo and fruit salad are examples of a solution.
- d. Both B and C

5. What are the 2 types of mixtures? _____ and _____.



What's New

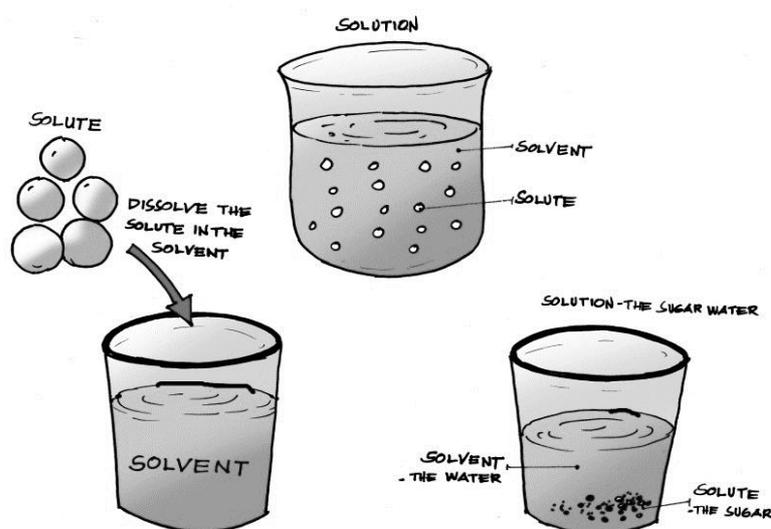
Activity 1

Answer the following questions in few complete statements. Write your answer in your Science Journal.

- If you mix water and coffee, what will happen? Which substance will be dissolved?
- What substance dissolves it? Which is solvent? Which is solute?

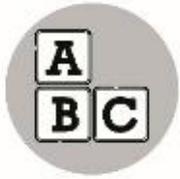


What is It



When one substance dissolves into another, a solution is formed. A solution is a homogenous mixture consisting of a solute dissolved into a solvent.

A solvent is a substance that does the dissolving or it is a substance used to dissolve a solute. It is of a larger amount. A solute dissolves or the substance that is being dissolved, it is of smallest amount. Water is called the universal solvent because it dissolves more substances than any other. There are solutes that can be dissolved in solvent, it is called soluble. However, there also substances that cannot be dissolved in solvent, it is called insoluble.



What's More

Activity 1.1

Direction: Classify each substance as solute or solvent. Do it in your Science journal or notebook.

1. buko juice
2. water
3. sugar
4. coffee powder
5. salt

Put a ✓ whether the given solute is soluble and X if not soluble in the solvent paired with them.

6. enamel paint-water
7. flour-oil
8. salt-vinegar
9. sugar-water
10. powdered milk-hot water



What I Have Learned

Directions: Complete the statements below by choosing the correct answers from the given choices in the box. Write the complete paragraph in your Science journal.

solvent solute soluble insoluble greater smaller

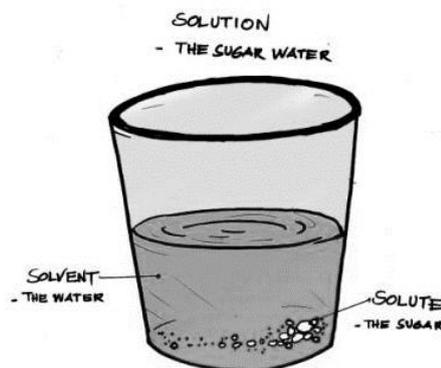
I learned that.....

A _____ is a substance used to dissolve a _____. It is of the _____ amount. While a _____ is a substance that is being dissolved. It is of the _____ amount. There are substances that can be dissolved in the given solvent, it is called _____. While the materials that can't be dissolved is called _____.



What I Can Do

Directions: Answer the following questions below. Write your answer in your Science journal





Assessment

1. Based from the given illustration, which is the solute? Which is the solvent?

2. How is the solute being dissolved in the given solvent?

Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. Which happens if you mix juice powder with water?
 - a. The juice powder will dissolve in water.
 - b. The juice powder will form a layer.
 - c. The juice powder will not dissolve in water.
 - d. The juice powder will settle at the bottom of the water.
2. What substance dissolves most substance?
 - a. water
 - b. oil
 - c. paint
 - d. sugar
3. What will happen if we add leaves to water?
 - a. The leaves will dissolve in water.
 - b. The leaves will not dissolve in water.
 - c. The leaves will partially dissolve in water.
 - d. Both A and B
4. What is the solvent in a cup of milk?
 - a. sugar
 - b. milk powder
 - c. water
 - d. sugar and milk
5. Which of the following substances can be dissolved in water?
 - a. oil
 - b. enamel paint
 - c. salt
 - d. both a and b

6. Which of the following substances is an example of a solute?
 - a. pepper
 - b. water
 - c. vinegar
 - d. soy sauce

7. Which of the following substances does not dissolve in water?
 - a. sugar
 - b. pepper
 - c. oil
 - d. milk powder

8. What do you call the substance that can be dissolved in the given solvent?
 - a. soluble
 - b. insoluble
 - c. sol
 - d. emulsion

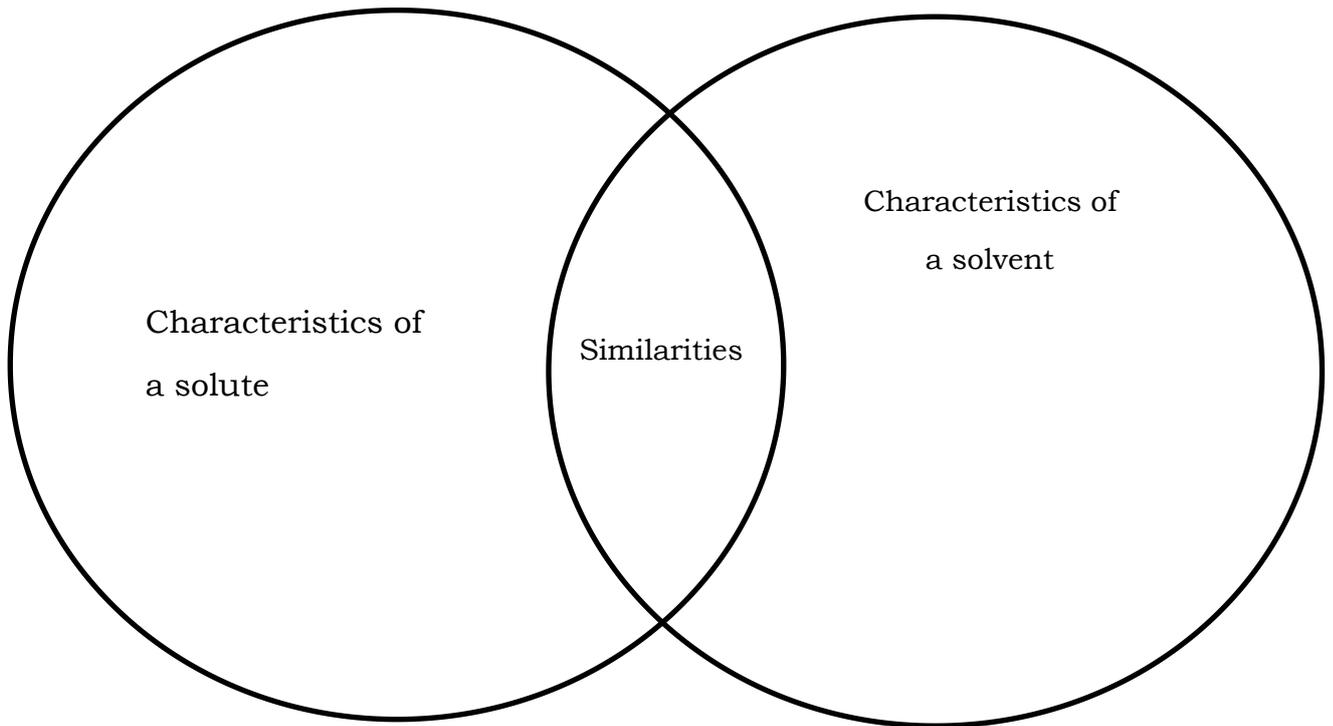
9. If you mix hot water and milk powder, what will happen?
 - a. The milk powder will dissolve in water
 - b. The milk powder will form a layer.
 - c. The milk powder will not dissolve in hot water.
 - d. None of the above

10. In a solution, what do you call the substance in a larger amount?
 - a. solute
 - b. solvent
 - c. sols
 - d. none of the above



Additional Activities

Directions: Complete the Venn diagram by identifying the difference between a solute and a solvent.





Answer Key

<p style="text-align: center;">Assessment</p> <p>1. A 2. A 3. B 4. D 5. A 6. C 7. C 8. A 9. A 10. B</p>	<p style="text-align: center;">What's More</p> <p>Activity 1.1</p> <p>1. solvent 2. solvent 3. solute 4. solute 5. solute 6. X 7. X 8. / 9. / 10. /</p>	<p style="text-align: center;">What I Know</p> <p>1. C 2. B 3. B 4. B 5. C 6. false 7. true 8. true 9. false 10. true</p>
	<p style="text-align: center;">What I can do</p> <p>solute-sugar solvent-water the sugar will dissolve in water thoroughly</p>	<p style="text-align: center;">What's In</p> <p>1. A 2. B 3. C 4. A 5. homogeneous and heterogeneous mixture</p>

References

K to 12 Curriculum Guide in Science S6MT-Iac-1, p. 81

Padpad Evelyn, C. (2017). *The New Science Links Worktext in Science and Technology 6*. 856 Nicanor Reyes, Sr. St, Manila Philippines. Rex Book Store, INC.

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