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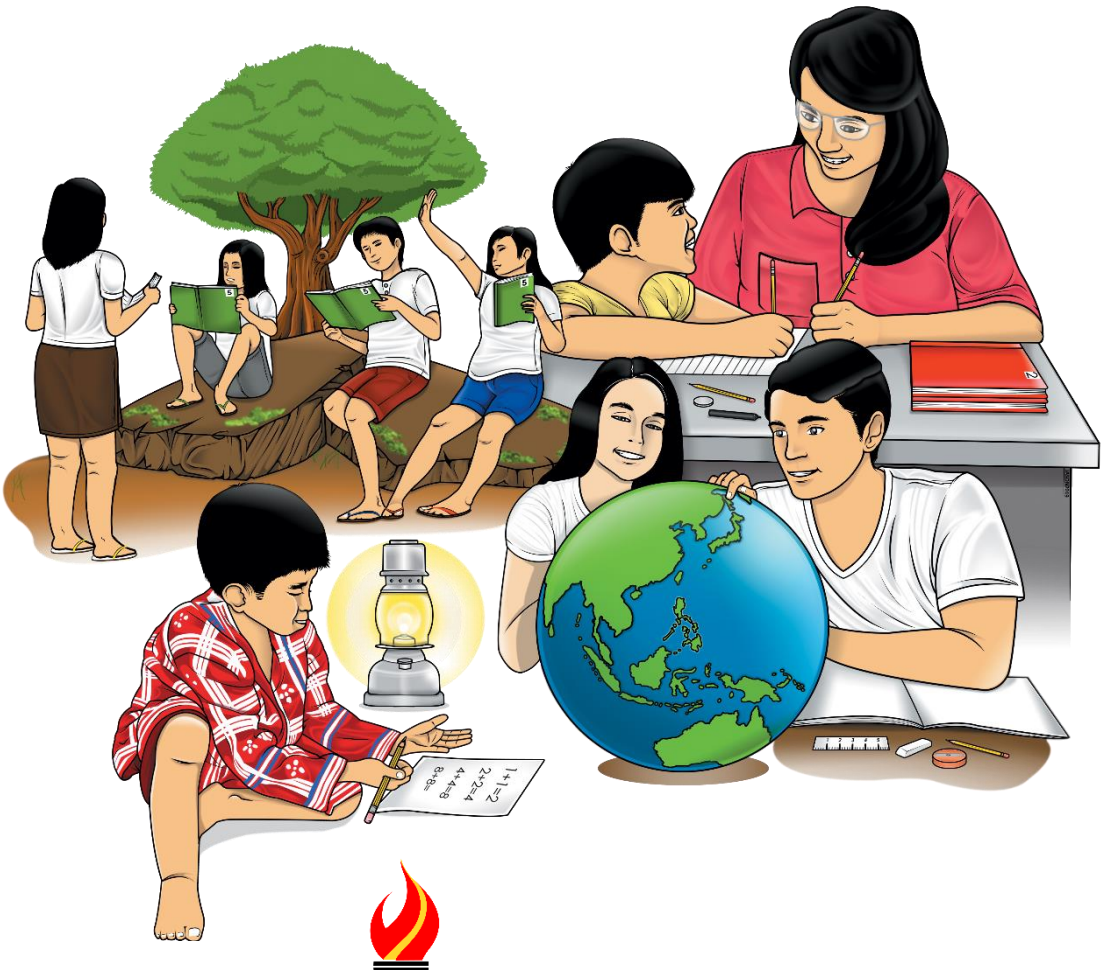
DEPARTMENT OF EDUCATION

Science

Quarter 1 – Module 2
Lesson 1: Separating Mixtures through Filtering and Sieving



ALTERNATIVE DELIVERY MODE
ADM

Science – Grade 6
Alternative Delivery Mode
Quarter 1 – Module 2 Lesson 1: Separating Mixtures through Filtering and Sieving
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Secretary: Leonor Magtolis Briones
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Development Team of the Module

Authors: Nancy N. Torres, Judy C. Villanueva, Jamicah B. Barcenal, Juliemar D. Lestimoso

Editor: Ma. Ana C. Ebon

Reviewers: Marilou D. Aribas, Ana Maria M. Espende, Eleah Joy T. Poneles

Illustrators: Ronald R. Castillo, Kharlo L. Gambale

Layout Artist: Roxan E. Del Castillo

Graphic Artist: Gilbert Paulo C. Pagapang

Management Team: Ma. Gemma M. Ledesma, Josilyn S. Solana
Allan B. Yap, Lynee A. Peñaflor
Elena P. Gonzaga, Donald T. Genine
Rovel R. Salcedo, Ma. Lourdes V.Teodoro
Ma. Ana C. Ebon, Raymund L. Santiago

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Department of Education – Region VI - Western Visayas
Office Address: Duran Street, Iloilo City, Philippines, 5000
Telefax: (033) 336-2816, (033) 509-7653
E-mail Address: region6@deped.gov.ph

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Lesson 1: Separating Mixtures through Filtering and Sieving

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Introductory Message

For the facilitator:

Welcome to the **Science 6** Alternative Delivery Mode (ADM) Module on **Separating Mixtures through Filtering and Sieving**!

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 **Separating Mixtures through Filtering and Sieving**!

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 module you are now using.

The module is about:

- Separating mixtures through filtering and sieving

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

- identify mixtures that can be separated through filtering and sieving;
- identify the process of separating mixtures which uses filtering and sieving; and
- use the technique in everyday life.

What I Know

Direction**:** Write the letter of the correct answer. Use a separate sheet for your answer.

1. What method is used to separate solid impurities from water using filter in the faucets?
   a. sieving c. filtering
   b. magnetism d. distillation

2. Which material will you use if you're going to make coffee out of grind coffee for your visitors?
   a. filter paper c. mesh wire
   b. colander d. strainer

3. This kind of technique in separating mixtures is used in separating fine sand from rocks in the mixtures of sand and gravel.
   a. picking c. filtering
   b. sieving d. evaporation

4. Divine wants to separate mixtures of cornstarch from small stones that she will be using in making maja blanca. What kind of material will she use to separate it?
   a. filter cloth c. filter paper
   b. towel d. strainer with small holes

5. What separating technique will you use if you want to separate mongo seeds which mixed up with salt?
   a. filtering c. sieving
   b. picking d. magnetism

Write the technique of separating the following mixtures. **F** for filtering and **S** for sieving.

6. hot water from pancit canton - _____
7. sand with stones - _____
8. broth from tinolang manok - _____
9. milk from grated coconut - _____
10. impurities from water - _____

Lesson 1 Separating Mixtures through Filtering and Sieving

In building houses and other structures, we often see workers used framed wire screen to separate stones from sand before it is mixed with cement. They want the sand to be as fine as possible before they mix it with the cement. This will result to a better cement mixture resulting to stronger walls, flooring, and foundation of any building.

On the other hand, carpenters love to sip coffee early in the morning before starting to work. They usually brew coffee and use cloth to filter the insoluble ground coffee from the liquid.

These two processes of separating mixtures involve filtering and sieving that will be discussed in this module.

What's In

Direction: Identify the technique of separating mixtures. **P** for p*icking*; **W** for winnowing; and **S** for sedimentation. Use a separate sheet for your answer.

1. candies of different flavor - _____
2. rice husks from grains - _____
3. silt from water - _____
4. different books on the table - _____
5. flour from water - _____

What's New

Separating technique of insoluble solid from a liquid is done with the use of a cloth or filter paper. A common example that uses cloth or filter paper is when brewing coffee in the morning. When separating two solid materials where one particle is fine and the other is coarse, one uses a strainer

Here are the other techniques of separating mixtures that involve the following:

1. 

Filtering

Solid and liquid components can be separated with the use of filter paper or filter cloth as a medium in which liquid passes through a filter paper leaving insoluble solid material in the medium.

2. 

Sieving

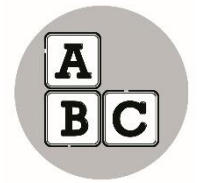
Sieving is as a method in which two or more components of different sizes are separated from a mixture on the basis of the difference in their sizes which uses a sieve.

What is It

Direction**:** From the short information that you have read, answer the following questions on the blank provided. Write the answer in your jour journal.

1. What is a filtering?
2. What is sieving?
3. What material remains in the filter cloth or paper when filtering is used to separate mixtures?

4. What material passes through a hole of a strainer when sieving is used to separate mixtures?
5. What is the difference between sieving from filtering?



What's More

Direction: Write Sieving or Filtering in identifying the appropriate technique of separating mixtures. Write the answer in your journal.

1. flour from small pebbles - _____
2. mongo from baby powder - _____
3. milk from grated coconut - _____
4. dried tea leaves from hot water - _____
5. sand from water - _____
6. water from the faucet - _____
7. seeds from flour - _____
8. stones from water - _____
9. gasoline from marbles - _____
10. grind rice from pebbles - _____

What I Have Learned

Complete the following. Write the answers in your journal.

I learned that…….

Filtering of solid and liquid mixtures can be separated with the use of _____ or _____ as a medium in which _____ passes through a filter paper leaving _____ material in the medium.

Sieving is a method in which _____ of _____ sizes are separated from a mixture on the basis of the _____.

What I Can Do

Direction: In your journal write a short explanation on the following situations.

1. Kyle wanted to bake a cake for the birthday of his cousin. He found out that the flour he will be using mixed up with some dried seeds. What technique will he use and why?

2. What type of mixture will you form when you put dried tea leaves in hot water and then put some ice cubes and sugar on it? What separating technique did you use to extract dried tea leaves from hot water? Explain why you used such technique.

Assessment

Direction: Choose the letter of the correct answer. Use separate sheet for your answers.

1. What method of separating mixtures will you use if you want to remove small shells in a grind/ground coffee?
   a. filtering
   b. sieving
   c. evaporation
   d. decantation

2. Which of the following mixtures use filter cloth to separate solid from a liquid extract?
   a. flour with stones
   b. powder chalk with seeds
   c. baby powder with pebbles
   d. milk from grated coconut

3. In filtering technique of separating mixtures, what type of material passes through a filter paper or cloth?
   a. liquid
   b. gas
   c. solid
   d. plasma

4. Yesha accidentally mixed the grind/ground rice that she will be using in making “bebingka” or rice cakes and “puto” with pebbles while looking for her other ingredients. How will Yesha removes the pebbles from the grind/ground rice?
   a. She will use filter paper to remove it.
   b. She will use evaporation process to remove it.
   c. She will use decantation process to remove it.
   d. She will use a sieve to remove it.

5. How will you separate the calamansi seeds from calamansi juice?
   a. by sieving
   b. by picking
   c. by filtering
   d. by sedimentation

Direction: Sort out the mixtures inside the box and arrange them in their proper column.

Cornstarch and beans
Alcohol and coins
Tawas powder and buttons
Vinegar and peanut seeds
Zonrox and coffee beans

Filtering	Sieving
6.	9.
7.	10.
8.	

Additional Activities

Direction: Write a short explanation on the following questions. Write the answers in your journal.

1. Why do people attach filter to their faucets in at home?

2. Why is there a need to sieve the flour before baking a cake?

What I Know

1. c
2. a
3. b
4. d
5. a
6. F
7. S
8. F
9. F
10. F

What's In

1. P
2. W
3. S
4. P
5. S

What's Is It

1. is separating mixtures with the use of filter cloth or paper in which liquid passes through a filter paper leaving insoluble solid in the medium
2. a method in which two or more components of different sizes are separated from a mixture on the basis of the difference in their sizes
3. solid material
4. finer material/material of smaller size
5. Sieving is a method of separating solid mixtures of different sizes using a sieve while filtering is a method of insoluble mixture from a liquid using a filter cloth or filter paper

What's More

1. Sieving
2. Sieving
3. Filtering
4. Filtering
5. Filtering
6. Filtering
7. Sieving
8. Filtering
9. Filtering
10. Sieving

What I Have Learned

- filter paper, filter cloth, liquid, insoluble solid
- two or more components of different, difference in their sizes

What I can do

1. Sieving, because flour which is finer than the seeds will pass through the tiny holes leaving the seeds in the sieve
2. Ice tea

   Filtering, because dried tea leaves is insoluble and only hot water will pass through a filter paper leaving the dried tea leaves on it.

Assessment

1. b
2. d
3. a
4. d
5. c

Filtering	Sieving
6. alcohol and coins	9. cornstarch and beans
7. vinegar and peanut seeds	10. cocoa powder and buttons
8. cocoa and coffee beans	

Note: answers in any order

Additional Activity
Answers may vary

Answer Key

References:

K to 12 Curriculum Guide in Science

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For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph