



Science 4

Quarter 1 – Module 1: Properties of Matter



SELF-LEARNING MODULE



DEPARTMENT OF EDUCATION - SOCCSKSARGEN

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Science- Grade 4
Alternative Delivery Mode
Quarter 1- Module 1: Properties of Matter
First Edition 2020

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Publish by the Department of Education

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Printed in the Philippines by: Department of Education - SOCCSKSARGEN Region
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Science

Quarter 1 – Module 1: Properties of Matter

SELF-LEARNING MODULE



DEPARTMENT OF EDUCATION - SOCCSKSARGEN



Introductory Message

For the facilitator:

Welcome to the Science 4 Alternative Delivery Mode (ADM) Module on Properties of Matter!

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.

In Addition to the material in the main text, you will also see this box in the body of the module:



Notes to the teacher

In view to the new normal world we are facing, this module was created to answer that education will should not stop for our learners.

This Science IV Module for Quarter I Week I is all about properties matter, as to absorb, do not absorb, float, sink, decay and do not decay materials. With this we are trying to allow our learners to work independently in discovering through simple and enjoyable activities/ experimentation that are aligned to the competencies that they should learn.

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 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 - Grade Four Self-Learning Module (SLM) on Properties of Matter!

We share this module to encourage you to love and enjoy the wonderful world of science. Exploring the secrets of living and nonliving things. With this module, you are going to discover the different properties of matter. You will find out the mystery of matter through simple investigative activities prepared for you.

In the lesson properties of matter, we can learn and find out the ability of it as to how and why it absorb water and why is it others will not absorb water . You might be asking why other materials float and other sink. Maybe it is also a question for you why do some materials undergo decay while other do not undergo decay.

This module aimed to make learning science an enjoyable experience for you. But let me remind you to instill in your young mind the love for your environment and make you realized to do it in a well and amusing way.

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 such as 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. This also tends retention of learned concepts.



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

Hello kids, welcome to the new grade level where you are right now and you are here in your favorite, exciting and interesting subject, Science! A new start, a new adventure in learning science. We have different kinds of materials around us. The food we eat, the clothes we wear, the water we drink, the air we breathe and the buildings where we live in are all matter. It means that, all the materials around us are made up of matter.

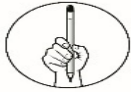
When we say matter, it can be a living thing like people, plants, and animals. It can also be nonliving thing like your bag, clothes, and even your house. You might think of what are its properties.

Matter exists in three forms or phases, we have solid, liquid, and gas. Materials may also be grouped according to their ability to absorb water, their ability to float or sink, and their ability to undergo decay. What do you think are the factors why this happened?

The activities that we will go through will be an inquiry-based exploration to help us discover and understand why is that materials will change when they are exposed and mixed with other phases of matter and certain conditions. How can we distinguish matters that are useful from those that are unsafe? How do man's activities affect the environment or even us human? With these observable hands on activities, your skills with the different science processes using your senses could be of big help in understanding the lesson.

In this module, you will be able to recognize the properties of matter particularly on the following objectives: **(S4MT-Ia-1)**

- Describe materials based on the ability to absorb water.
- Classify materials based on the ability to absorb water.
- Identify the materials that float and sink.
- Describe the kind of materials that float and sink.
- Identify the materials that undergo decay.
- Describe the materials that undergo decay.
- Classify the materials whether they decay or do not decay



What I Know

Before you are going to explore the different characteristics and properties of matter, you will have to take the following assessment first to determine your prior knowledge on this topic. Do your best in answering the questions by reading it carefully and answering honestly. Good luck!

Directions : Write the letter of the correct answer on the space provided.

- _____ 1. Mother is very busy one Saturday afternoon. In order not to worry much for the baby to become wet while sleeping due to urine, what is she going to use?
A. Napkin B. Tissue C. Diaper D. Curtain
- _____ 2. You are drinking milk, then suddenly the glass slips from your hand and it fell on the floor. What will you use to wipe it off?
A. Plastic bag B. Cartoon C. Unwashed clothes D. Rug
- _____ 3. Josh is playing marbles. Suddenly, it slips from his hand and fell into the basin. What will happen to the marbles?
A. It will float. C. It will sink.
B. It will bounce. D. It will be broken into pieces.
- _____ 4. Your family is planning to go the beach. What would you preferably bring?
A. Rubber shoes B. Pillow C. Blanket D. Floater
- _____ 5. Jed and his friends are playing in the river holding some objects and bet what would sink first. Which of the following would sink first?
A. Coins B. Wood stick C. Rubber band D. Pencil
- _____ 6. Dela Cruz family plans to buy a lot when they heard that they are not free to go out because of the spread of COVID 19. They went to a super market to buy their needs while we are under quarantine. Which of the following food for snacks we can keep for several days/ weeks?
A. Bread B. Biscuits C. Cake D. Siopao
- _____ 7. Father was sweating much from the farm. What will you give him to dry the sweat?
A. Towel B. Blanket C. Old clothes D. Pillow
- _____ 8. Mario found out that his mother cooks a lot because it is her birthday. They did not expect that there will be a typhoon coming in their area, so, only few friends came to celebrate with them. What do you think will Mario's mother do with the food they prepared?
A. Wrap it with banana leaves and put them inside a cooking pot
B. Wrap it with cellophane and keep it in a cabinet
C. Put it in a box and leave it on top of the table.
D. Keep it in a reusable container and refrigerate it.

- Wow Excellent! I think you are already excited to do the task and discover more about the new lesson as we begin the school year.

Properties of Matter






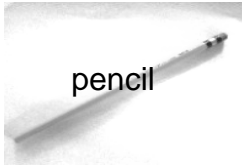

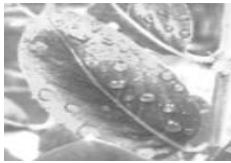
Hello Kids! Are you ready to learn from this module? I bet you are because most of the things that surrounds us did a great part in our daily lives and they are essential to us as human beings most especially the water that we use every day for drinking, washing the dishes, washing our hands especially now that we are encountering COVID 19, we have to clean our hands with water and soap from time to time

Now, let's get started. This time let us have this activity on how far you still remember your previous lesson. It is named

“Do You Still Remember Me?”

Examine the picture clearly and answer what is asked.









Directions: Write the letter of the correct answer that would match the picture from column A with column B.

	A		B
_____ 1.		A.	
	waterfalls		balloons
_____ 2.		B.	
	smoke		pencil
_____ 3.		C.	
	notebook		dew

Excellent Kids. You have a very sharp memory about your last years' lesson. You can still remember your lesson about the phases of matter. So, let's proceed to the next activity.

Do You Recognize Me?"

Directions: Write the word porous if the object absorbs water on the space below and write non-porous if the object does not absorb water.

			
_____	_____	_____	_____
			
_____	_____	_____	_____

Here's another activity for you kids. Choose the materials inside the box and write them in the appropriate column where they belong. Let's get started!

"Where Do I Belong?"

Coin	cotton	plastic toy duck	rock
Comb	tissue	empty water bottle	hammer
Hula hoop	bullet	handkerchief	styro cup

Materials that absorb water	Materials that float	Materials that sink

Amazing performance..... This time we will proceed to this weeks lesson. So, let's get started.



What's New

Lesson 1.1	Materials that Absorb and Do Not Absorb Water
-----------------------	--

Activity 1 "Do I Absorb Water or Not?"

Objective:



Identify the materials and its characteristics whether it absorbs water or not.

What You Need:

tissue paper	cotton	rubber ball	handkerchief
gabi gabi leaf	plastic flower pot		basin with water

What to do:

1. Put the materials all together in the basin with water.
2. Count 1-10 and observed what happens to each material.
3. Write your observations on the chart below.
4. Answer the guide questions after the activity.

Directions: Draw a flower  when the material absorbs water and leaf  when it does not absorb water in the second column.

Name of objects	
1. Tissue paper	
2. Cotton	
3. Rubber ball	
4. Handkerchief	
5. Spoon	
6. Gabi-gabi leaf	
7. Plastic flower pot	

Guide questions:

1. What have you observe with the materials when all of them are placed on the water?
2. Which materials absorbs water? Why do you think these materials absorb water?
3. Which materials do not absorb water? Why do you think these materials do not absorb water?

Kids, let's proceed to another activity that would give much interest to you. Are you fond of playing with your friends outside? Or during rainy season, are you also fond of playing under the rain bringing some objects that would float in the water? Now, let's try this interesting and educational activity if you can properly recognize the objects listed below whether they float or sink. Try to observe on the similarities of the materials they are made. Are you ready? I guess so.

Lesson 1.2

Materials that Float and Sink

Activity 2

"Which of these materials float and sink?"

- Objectives: 1. Identify the characteristics of the materials that float and sink.
2. Describe the characteristics of the materials that float and sink.

What you need:

leaf
nail
water

fork
small stone

rubber ball
empty sardines can

basin with water
empty small bottled

What to do:

1. Put the material all together in a basin of water.
2. Count 1-5 and observe what happens to the materials.
3. Record your observation on the chart below.

4. Answer the guide questions after the activity.

Directions: Color the box RED when the materials float and color it BLUE when the materials sink.

Name of objects	
1. Rubber ball	<input type="text"/>
2. Empty sardines can	<input type="text"/>
3. Leaf	<input type="text"/>
4. Empty bottled water	<input type="text"/>
5. Nail	<input type="text"/>
6. Fork	<input type="text"/>
7. Small stone	<input type="text"/>

Guide Questions:

1. What have you observed with the materials when you placed all of them in the water?
2. What are the materials that float? Why do you think it floats?
3. What are the materials that sink? Why do you think it sank?

Let us now investigate why do materials undergo decay and why are other materials will not undergo decay? What are the factors that makes some materials undergo decay? This time you are going to have an activity to check and discover it.

Lesson 1.3 Materials that Undergo Decay and Do not Undergo Decay

Activity 3 “WHAT WILL I TURN INTO”

Objectives: 1. Identify the materials that undergo decay.
2. Describe materials that undergo decay.

What you need:

Big disposable plastic cup, puto, cellophane, tansan rubber bond, leaves, water, and 3 slices avocado/bananas.

What will you do?

1. Record first the appearance of each materials then mix them in the plastic disposable cup.

2. Add 1 spoonful of water and 2 spoonful of soil and cover it with cellophane with rubber bond. Record your observation on Table 1 below.
3. Bring your cups outside where they get sunlight.
4. Visit your experiment after two days. Three days. Observe and describe the characteristics of the materials according to their color, texture, size, smell and shape.

Answer the following guide questions:

1. What is the appearance of the materials before you place them in the plastic cups?
2. What changes happened to the materials after two days? After three days?
3. Can you still identify the original materials? Why?

Table 1

Name of Materials	Appearance of the materials before placing in the cup	Characteristics of materials	
		On the 2 nd Day	On the 3 rd Day



What Is It

To fully understand what we are learning, remember these things:

Absorb-to take in liquid

Porous- materials with small holes that allow air or liquid to get in.

Non-porous- materials that do not have small holes to get in.

Sink is when the materials drop to the lowest part of the water, float is when the materials put on water and remains on top.

Decay –is when some of the materials became rot or spoil in the presence of water, air and soil.

Left over foods should be preserved in the refrigerators to avoid spoilage since microorganisms that break down food do not grow fast in cold temperature.



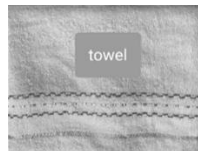
What's More

Activity 4 "Count Me In"

Directions: Write the name of the identified materials as porous or non-porous to its group on each column properly. Write the porous materials on the upper column and the non-porous materials will be in the lower column.



Plastic bottle



towel



COTTON BALLS



toy



tissue paper



BLANKET



eyeglass



HANDKERCHIEF



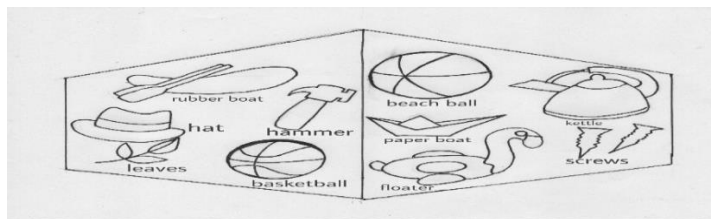
PLASTIC BAGS

Wonderful output! I'm sure that you are excited to do our next activity.

Do you love surprises? Have you tried being surprised by your parents? Here is a box full of surprises. Try to discover what are inside the box. As you try to get along, try to group the MATERIALS IF THEY FLOAT OR SINK. Write their names according to the group they belong.

POROUS				
NON-POROUS				

Activity 5 "The Mystery Box"



SINK

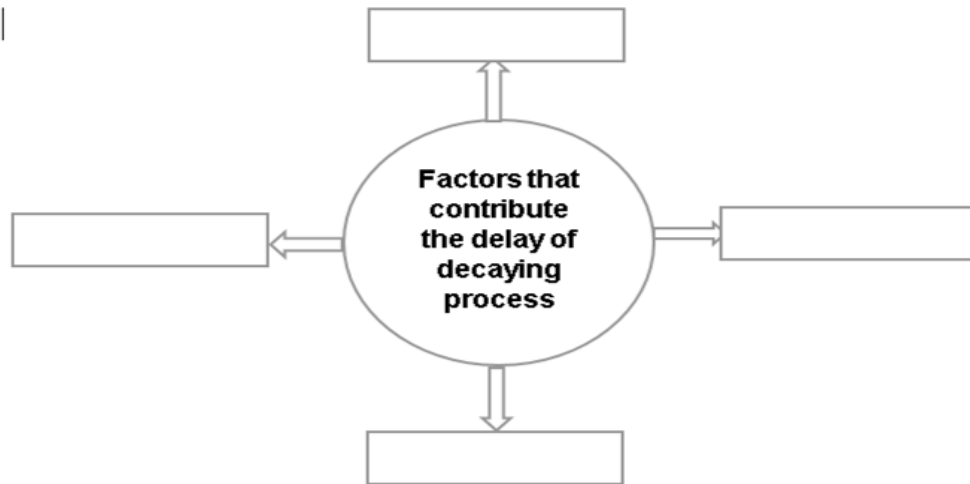
1. _____
2. _____
3. _____
4. _____
5. _____

FLOAT

1. _____
2. _____
3. _____
4. _____
5. _____

Activity 7 “Complete Me!”

After having identified the decaying and non-decaying materials. Let us now check what the contributors why some materials will undergo decay.







What I Have Learned

After the different discoveries and enjoyable learning activities, this time we will check if you already master our lesson.

Activity 8 “Where Do I Belong?”

Directions: Classify the materials according to the ability to absorb and not to absorb water by writing the name in the organizer.



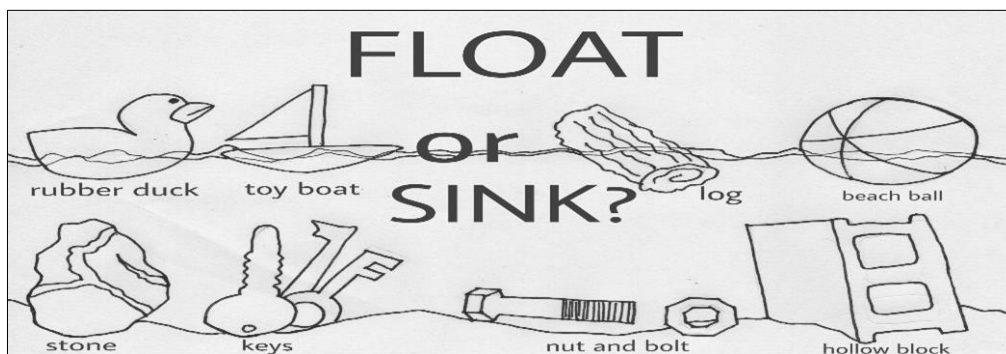
Porous (absorbs water)	Non-porous (do not absorb water)
 	 

B. Write your reflections by completing the sentences given below:

1. I have learned that not all materials absorb water. They can be _____.

2. Porous are materials that _____ while non-porous are materials that _____
It is made of _____ materials.

“Know Me Well”



- What group of objects floated? _____

Is there anything common among each one? _____

- What of objects sank? _____

Is there anything common among each one of them? _____

Directions: Classify the materials that undergo decay. Put a (✓) check on the correct answer.

Materials	Undergo decay	will not undergo decay
1. Over ripe mango		
2. Twigs		
3. Plastic cup		
4. Rotten mango		
5. Rusty metal		

Why we should segregate our waste at home? In school or anywhere we go? If your mother assigned you to throw your garbage at home. Do you know already what are the materials that should be put inside each trash can? Let us see if you know already to do it.

Bravo kids.... You indeed mastered our lesson. But, there's still more.



What I Can Do



Directions: Read the selection and give your point of view to the following situations and answer questions that follow.



1. Patty is swimming in the pool and she do not know how to swim. She is using a floater while having fun in the water. What do you think she is thinking while she is swimming using a floater? Why?



2. Explain why plastic bottle cap floats on a basin with water.



3. Your Purok President announces that the garbage collector will collect biodegradable waste every Saturday while every Wednesday they will collect the non-biodegradable waste. Why do you think they will collect your waste on different days?



Assessment

Directions: Read and write the correct letter of the answer on the following questions.

- _____ 1. Every start of the school year, the teacher will distribute the books to the learners. She advised the pupils to cover the book in order for it not to be destroyed easily. What will the kids be using in order to preserve the book?
A. Plastic cover B. Manila paper C. Pattern paper D. Newspaper
- _____ 2. The floor is wet and there are plenty of kids playing and running around. As a responsible pupil, what will you do first to avoid accident?
A. Never mind it. C. Cover it with a manila paper.
B. Cover it with sack. D. Tap it with a dry rug.
- _____ 3. The juice spilt on the table while you are eating. What will you use to dry it?
A. Wipe with wet tissue. C. Wipe with your dress.
B. Wipe with your hands. D. Wipe with a clean rug.
- _____ 4. Remy wants to buy juice before entering the school. What do you think will the vendor use in order to sell fruit juice to Remy?
A. Glass B. Cup C. Cellophane D. Mug
- _____ 5. What will probably happen if you put a paper boat in the water?
A. It will sink immediately. C. It will be crumpled but still float.
B. It will float in the water D. It will never float.
- _____ 6. Samantha puts mongo seeds in a basin with water. She noticed that there were several seeds that floats. What do you conclude for those that floats?
A. Those are the good ones. C. Not good and needs to be thrown.
B. Those are the best. D. Those are used for planting.
- _____ 7. Which of the following materials sinks fast?
A. Iron B. Stick C. Crayon D. Cartoon
- _____ 8. Felisa bought fish for their lunch. Suddenly, their neighbor invited them for lunch for a celebration. What will her mother do to preserved the fish?
A. Cover it on top of the table C. Refrigerate it
B. Return to the seller D. Just leave the fish in a cellophane
- _____ 9. Jeff went to a talipapa to buy fish. His father instructed him to choose the fresh one. What do you think will Johnny do with the fish?
A. Smell it B. Touch it C. Check the color D. All of the above
- _____ 10. Which of the following will decay first?



A. Onions



B. potato



C. apples



D. tomato



Additional Activities

Go around your house. List down at least 5 water, do not absorb water, materials that sink, materials that will float and materials that will undergo decay.

Materials that will absorb water	Materials that do not absorb water	Materials that sink	Materials that will float	Materials that will undergo decay



Answer Key

Pretest
1.C
2.D
3.C
4.D
5.A
6.B
7.A
8.D
9.D
10.A

Materials that absorb water	Materials that float	Materials that sink
cotton	plastic toy duck	coin
tissue	comb	bullet
handkerchief	styro cup	rock
	Hula hoop	Hammer
	Empty plastic bottle	

What's In
Do you Still Remember Me?
1. C
2. A
3. B
Do you Recognized Me?
1. Porous
2. Non-porous
3. Porous
4. Non-porous
5. No-porous
6. Non-porous
7. Porous
8. Porous
Where Do I Belong?

Materials	Undergo decay	will not undergo decay
1. Over ripe mango	/	
2. Twigs	/	
3. Plastic cup	/	
4. Rotten mango	/	
5. Rusty metal	/	

1. They look fresh and smells good.
2. They began to decay and emits bad smell. They are decaying and emits a very bad smell.
3. No. because they are already decayed and mixed with other materials.

ACTIVITY 3

1. Some float, some sink.
2. Rubber ball, leaf and empty bottled water. Because they are light in weight.
3. Empty sardines can, nail, fork and small stone. Because they are heavy.


Guide Questions:

Name of objects	
1. Rubber ball	Red
2. Empty sardines can	Blue
3. Leaf	Red
4. Empty bottled water	Red
5. Nail	Blue
6. Fork	Blue
7. Small stone	Blue








Activity 2

What's New





What's New

Activity 1

Name of objects		
1. Tissue paper		
2. Cotton		
3. Rubber ball		
4. Handkerchief		
5. Spoon		
6. Gabi-gabi leaf		
7. Plastic flower pot		

1. Some absorbs water and some did not absorb water.
 2. Tissue paper, cotton and handkerchief. Because they have small holes.
 3. Rubber ball, spoon, gabi gabi leaf, plastic flower pots. Because they don't have small holes.


What's More

Porous				
towel	Cotton balls	Tissue paper	handkerchiefs	blanket
Bottled water	Plastic cups	Wax paper	Paper clips	Plastic bags

1. toy boat

2. beach ball

3. paper boat

4. leaves

5. floater(salbabida)

1. screw

2. hat

3. hammer

4. basketball

5. kettle

1. Water


2. Soil

3. Sunlight

4. microorganism

NON-POROUS

5. Rusty metal	/	/
4. Rotten banana	/	/
3. Plastic cup	/	/
2. Twigs	/	/
1. Over ripe mango	/	/
Materials	Undergo decay	will not undergo decay

 **What I have Learned**


1. I have learned that not all materials absorb water. They can porous and non-porous.

2. Porous are materials that absorbs water because it has holes while non-porous are materials that do not absorb water because it has no walls that water may pass through.

Know Me Well

1. The objects that floated are rubber duck, toy boat, log and beach ball.
All of the materials that float are light.


2. The materials that sank are stone, keys, nut and bolt and hollowblock.
All of the materials that sank are heavy.

 **What I can Do?**

1. Patty is thinking that using a floater is a safer way of swimming especially if you do not know how to swim because floater is made up of rubber that do not absorb water and it will float in the water.

2. Plastic bottle cap floats on a basin with water because its weight is light.

3. To separate the decaying materials from the non-decaying materials

 **Assessment**

1.A 2.D 3.D 4.C 5.C 6.C 7.A 8.C 9.D 10.D

References

Abutay, Lelani R., et al. Science 4 Learner's Materials 1st Edition. Philippines: Lexicon Press. Inc., 2015

DISCLAIMER

This Self-learning Module (SLM) was developed by DepEd SOCCSKSARGEN with the primary objective of preparing for and addressing the new normal. Contents of this module were based on DepEd's Most Essential Learning Competencies (MELC). This is a supplementary material to be used by all learners of Region XII in all public schools beginning SY 2020-2021. The process of LR development was observed in the production of this module. This is version 1.0. We highly encourage feedback, comments, and recommendations.

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