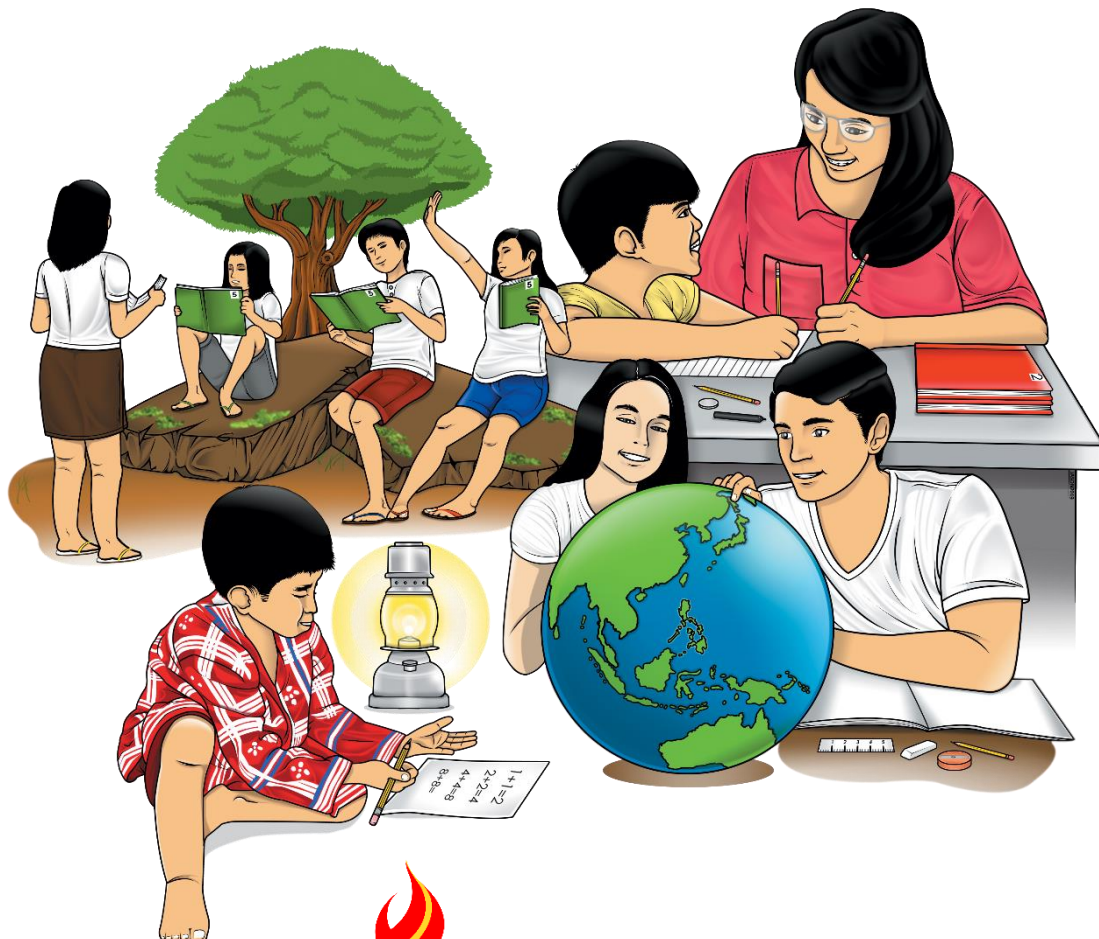


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Science

Quarter 1 – Module 1

Lesson 1: Recognizing Useful and Harmful Materials



Science – Grade 5
Alternative Delivery Mode
Quarter 1 – Module 1 Lesson 1: Recognizing Useful and Harmful Materials
First Edition, 2020

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Science

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**Lesson 1: Recognizing Useful
and Harmful Materials**

Introductory Message

For the facilitator:

Welcome to the **Science Grade 5** Alternative Delivery Mode (ADM) **Module on Recognizing Useful and Harmful Materials!**

This module was collaboratively designed, developed and reviewed by educators from both public and private institutions to assist you, the teacher or facilitator in helping the learners to 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 5** Alternative Delivery Mode (ADM) **Module on Recognizing Useful and Harmful Materials**.

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 is composed of a 10-item activity in order 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 fill on the blank sentence/paragraph 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 another 10-item 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 on 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

Matter has different properties that can be considered in order to minimize waste.

Everything around us is matter – the soil, water, air.

Matter has different properties that make them different from one another. Some types have properties that make them good materials for producing useful products. Other types have properties that make them harmful.

Sometimes, matter also undergoes changes that affect its properties.

This module focuses on the different properties of matter that can be classified as useful or harmful. This also gives the importance of recognizing the physical and chemical properties of matter in determining the usability of a certain material.

After studying this module, you will learn to identify the different properties of matter that can help you determine whether it is harmful or useful.

You will also be able to enumerate useful and harmful materials at home and in school, and be able to differentiate useful from harmful materials.



What I Know

A. Directions: Determine which of the activities below is desirable or harmful. Write D if desirable or H if harmful.

1. Placing the biodegradable wastes in the compost pit
2. Smelling the fumes exhausted by cars
3. Using broken glass to cut paper
4. Covering the textbook with acetate
5. Burning plastic bottles

B. Directions: The pictures in Column I are materials you commonly see at home or in school. Match the image of materials listed in Column I with their usefulness/harmfulness in Column II

I. List of Materials

1.  paint

<https://www.wallpaperflare.com/assorted-color-paints-multi-colored-high-angle-view-art-and-craft-wallpaper-aofwv>

2.  detergent

<https://www.needpix.com/photo/248485/detergent-spoon-white-wash-water-washing-powder-house-kitchen>

3.  insecticide

<http://capl.washjeff.edu/browseresults.php?langID=13&photoID=271&size=m>

4.  oil

<https://pixnio.com/food-and-drink/bowl-ladle-oil-cooker-spice-cooking>

5.  spoiled milk

<https://www.flickr.com/photos/36961634@N00/3750891436>

II. Usefulness and Harmfulness

- A. Kills insects and pest
- B. Cleans dirty clothes
- C. Used in cooking food
- D. Causes poisoning and death
- E. Protects the wall and roofs

Lesson**1****Recognizing Useful and Harmful Materials*****What's In***

Directions: Classify the following materials usually found at home and in school using the table below as a guide.

cooking oil	demonstration table	laundry soap
arm chair	bell	chalkboard
bed	frying pan	mosquito repellent
flag	books	class record

Materials usually found at Home	Materials usually found in School



What's New

Directions: Observe how the materials in the pictures are being handled. Identify whether they are **useful** or **harmful**.

1. broken glass



<https://www.peakpx.com/14189/shattered-glass>

2. empty bottles being refilled



https://www.flickr.com/photos/grand_canyon_nps/6842428935

3. used boxes as books organizer



<https://www.publicdomainpictures.net/en/view-image.php?image=263092&picture=old-second-hand-books-for-sale>

4. candy wrappers made into wall cover



<https://www.flickr.com/photos/photogism/5829462808>

5. vegetable peelings made into compost



<https://www.pickpik.com/green-waste-compost-compost-bin-bunch-fruit-peels-132514>

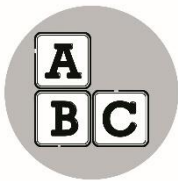


What is It

How do the materials become useful or harmful?

Materials are said to be useful when they serve their purpose. These may have properties such as durability, flexibility, elasticity, hardness, and resistance to water, heat, or acid. Most of the useful materials can be reused and recycled. For example, a container for solid or liquid. When it is already empty, it can still be used for other purposes such as a flower vase, a coin bank, or a house decor. Whether a bottle is made of plastic or glass, it has a property that makes it reusable.

Some useful materials may also bring hazards. For example, a broken glass jar can cause cuts or injury. Toxic substances may also be present in the things you commonly use such as paints, cleaners, fumes, gels, or powders. These materials may bring harm to your health, environment, and other organisms when not used properly. That's why you should be careful when handling and using different materials.



What's More

Activity 1

Directions: Classify the different materials found in the word pool below as **useful** or **harmful**. Use the following table as a guide. Afterwards, answer the follow-up questions.

old newspapers	food cartoons	Single-use plastic water bottles
candy wrappers	empty shampoo bottle	empty hair gel container
drained batteries	single-use plastic bags	empty mayonnaise jar (glass)
vegetable peelings		

Useful materials	Harmful materials

Answer the following:

1. Which materials are useful? When do they become useful?
2. Which materials are harmful? When do they become harmful?

Activity 2

Directions: Classify whether the materials below are useful or harmful. Put a check mark (/) on the appropriate column. Afterward, answer the follow-up questions.

Materials	Useful	Harmful/Waste
1. empty bottles made into plant pots		
2. fruit peelings converted into fertilizers		
3. expired medicine in the cabinet		
4. old newspaper made into flower vase		
5. broken glass scattered on the floor		

Answer the following:

1. What are the useful materials in the activity 2?
2. How do empty bottles, fruit peelings, old newspaper become useful? How do they become harmful?
3. How can you maximize the use of useful materials that you have identified?
4. How can you minimize the hazard of harmful materials?

Activity 3

Directions: Identify which of the materials below is useful or harmful by drawing a happy face (😊) for useful and sad face (😞) for harmful.

1. candy wrappers made into bag
2. a broken glass thrown in the backyard
3. disinfectant bottles thrown everywhere
4. a box made into a bookshelf
5. leftover food from restaurants turned into fertilizers
6. used syringes and needles placed beside children's toys
7. a broken container turned into a decorative plant holder
8. used car tires turned into park benches
9. old colorful magazines made into paper baskets
10. empty bottles of paint thrown into the garbage bin for burning

Based in Activity 3, when does a material become useful and when does it become harmful?



What I Have Learned

Directions: Complete the paragraph using the words in the box.

harmful	hazardous	purpose
reused	useful	painful

Many materials and substances are _____ at home and in school, but they can be _____ if not used properly. Materials are considered useful when they serve the _____. Some useful materials can be _____, for example an empty container can be used as a house decor. But some materials can be _____ like a broken glass jar that can cause cuts or injury.



What I Can Do

Directions: List 5 different materials used at home and in school. Write a sentence describing how can the material be useful or harmful. Afterward, answer the follow-up question.

Materials	Sentence

- Based on the lists, how do you properly dispose harmful materials?



Assessment

Directions: Write a checkmark (/) if the material are useful or a wrong mark (x) if they are harmful.

1. Used empty bottles made into a flower vase
2. Fruit and vegetable peelings converted into fertilizers
3. Storing expired medicine in the cabinet
4. Old newspapers used to pack things in the store
5. Scattered broken glass found inside the classroom
6. Food boxes used as toy cabinets at home
7. Candy and juice wrappers made into an eco-bag
8. Plastic water bottles thrown in the canals
9. Busted light bulbs left unattended at home
10. Empty disinfectant bottles not properly disposed



Additional Activities

Directions: Copy and fill in the table. Enumerate some useful and harmful materials that you can find at home or in school. If useful, give examples on how you can use it. If harmful, explain how you can dispose of the material properly.

Materials	Ways
A. Useful Materials 1. 2. 3.	Ways to Use
B. Harmful Materials 4. 5. 6.	Ways to dispose properly



Answer Key

Assessment	1. /
	2. /
	3. X
	4. /
	5. X
	6. /
	7. /
	8. X
	9. X
	10. X

What I Know	A.	1. D	2. H	3. H	4. D	5. H
	B.	1. E	2. B	3. A	4. C	5. D

What's New	1. Harmful
	2. Useful
	3. Useful
	4. Useful
	5. Useful

What's In (Answers may vary.)

Materials usually found at home	Materials usually found in school
cooking oil	armchair
bed	flag
frying pan	demonstration table
laundry soap	bell
mosquito repellant	books
	chalkboard
	Class record

What More

Activity 1 (Answers may vary.)

Useful materials	candy wrappers old newspapers vegetable peelings food cartons empty mayonnaise jar (glass)
Harmful materials	drained batteries empty shampoo bottle single-use plastic bags empty hair gel container single-use plastic water bottles

What More

Activity 2

Materials	Useful	Harmful
1. empty bottles	/	
2. fruit peelings	/	
3. expired medicine		/
4. old newspaper	/	
5. broken glass		/

What's More
Activity 3

1. 😊

2. 😊

3. 😊

4. 😊

5. 😊

6. 😊

7. 😊

8. 😊

9. 😊

10. 😊

What I have learned

1. useful
2. harmful
3. purpose
4. reused or recycled
5. harmful

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