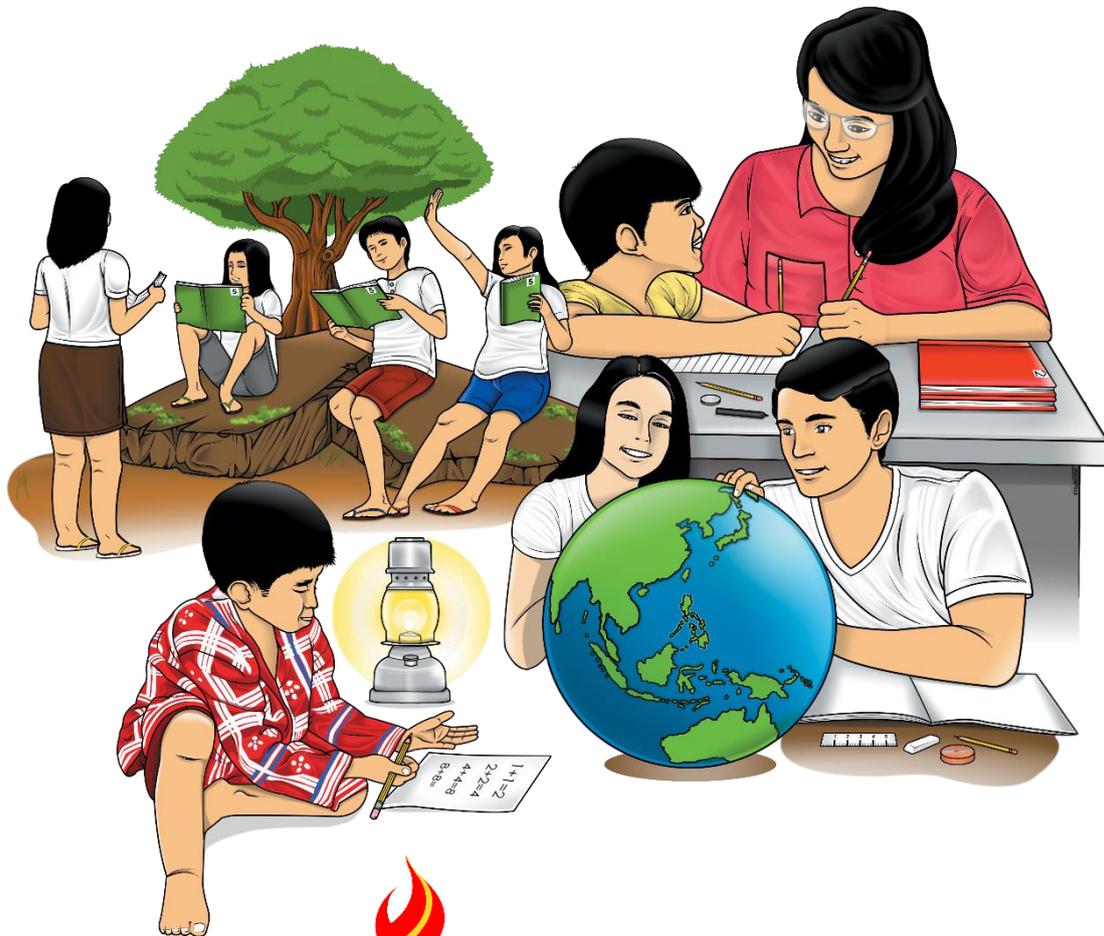


Technology and Livelihood Education

Industrial Arts – Module 13: Process and Importance of Recycling



TLE-IA – Grade 6
Alternative Delivery Mode
Quarter 2 – Module 13: Process and Importance of Recycling
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Technology and Livelihood Education

Industrial Arts – Module 13:

**Process and Importance of
Recycling**

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

This module was designed and written with you in mind. It is here to help you master the skills in Industrial Arts. 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.

This module focuses on the following topics:

- a. Process of recycling; and
- b. Importance of Recycling

After going through this module, you are expected to:

- a. Explain the process and the importance of recycling.
(TLE6IA-0j- 13)



What I Know

Multiple Choice

Directions: Choose the letter of the best answer and write your answer on a separate sheet of paper.

1. It refers to the proper disposal of waste materials.
A. Reduce
B. Reuse
C. Recycle
D. Waste management
2. It means to lessen the volume of garbage or waste.
A. Reduce
B. Reuse
C. Recycle
D. Waste management
3. It refers to the sources of supply and support from which we take materials we need.
A. Product
B. Creativity
C. Resources
D. Budget
4. John is always able to handle the situation and make way to find solution. What character trait does he possess?
A. Creativity
B. Resourcefulness
C. Patience
D. Tactful
5. These are agents or materials such as soap and bleaches used to disinfect recyclable materials.
A. Sterilizing
B. Soap
C. Bleach
D. Disinfectants
6. Recyclable materials gathered from junkshops and landfills are prone to dirt and germs. What is the proper way to handle these materials?
A. Let the materials dry before working .
B. Sterilize the materials before working.
C. Work on the materials immediately.
D. Let the materials dry for few days before working.
7. What do we call the materials or waste that do not breakdown or decompose?
A. Biodegradable
B. Non-biodegradable
C. Waste
D. Materials

8. "Recycling provides income to the family." What does it mean?
 - A. Recycling can destroy the budget of the family.
 - B. Recycling makes extra expenses for the family.
 - C. Recycling wastes energy of the family.
 - D. Recycling produces products that can be sold and earn money out of it.

9. If we recycle materials like wood from construction and demolition waste, what contribution have we made to our environment?
 - A. More trees will be cut down for lumber.
 - B. Natural resources will be damaged
 - C. Natural resources will be exploited.
 - D. Less trees can be cut down and natural resources will be preserved.

10. There are two ultimate characteristics that are greatly needed in recycling. What characteristics could it be?
 - A. Pride and resourcefulness
 - B. Boastfulness and pride
 - C. Creativity and boastfulness
 - D. Resourcefulness and creativity



What's In

Recycling is not an easy job for a person to do but, it is known as the best way on how to manage trash.

In your previous module you have learned how to identify different types of waste materials as well as the principle of 5 "S".

We have prepared an activity for you. Try to answer the test to find out how much you have learned from your previous lesson.

Directions: Choose a word from the box that is best described by the statement in each item below. Write your answer on your answer sheet.

Municipal solid waste	Construction and demolition waste
Three RS	Systematized/Set in order
Sweep	Standardized
Recycling	Sort
Electronic waste	Sustain

- _____ 1. Put all the needed tools and materials in order.
- _____ 2. Clean the workplace.
- _____ 3. Form the habit of cleaning.
- _____ 4. Maintain quality of cleanliness.
- _____ 5. Reduce, reuse, recycle
- _____ 6. Identify and eliminate all unnecessary items.
- _____ 7. Cell phones, computers, TV, DVD, appliances
- _____ 8. Garbage from homes
- _____ 9. Concrete, wood, metal, plastic doors
- _____ 10. To transform into something usable.



Notes to the Teacher

To our beloved teachers:

The following words listed below are defined according to how they are referred to this module.

Please help the pupils understand these words.

The words below are defined according to their function in this module. Take time to familiarize them, it will help you on your journey in this module.

New Words to Learn

1. Waste management – refers to proper disposal of waste
2. Reduce – to lessen the number of (example: to lessen the volume of garbage)
3. Resources – source of supply and support
4. Resourcefulness – ability to handle situation
- able to make way of finding solution.
5. Sorting – to separate thing from another according to category, kind or quality.
6. Disinfectants – agents or materials used to disinfect.
7. Sterilizing – the process of cleaning the recyclable materials using disinfectants (example: to make free of germs).



What's New

Look around a place where you live or in your school. You may realize that waste material had become problem of our society today and of the future to come.

It is because most of the things we use are disposable. We throw them away after we use and buy a new one. We forget to reuse, reduce, and recycle.

Now it is very important for you and for others to know the processes of recycling and enjoy the benefit it would bring to you and to the environment.



What is It

What is recycling?

Recycling is the process of turning old and used materials into usable new products. Recyclable materials such as wood, glass, metal, paper, rubber and plastic can be gathered in places around us. It maybe from houses, offices, schools, waste management centers, and from junk shops.

Majority of these materials are non-biodegradable or those that do not breakdown or decompose. These types of materials should be given emphasis in recycling.

How can we start our recycling process?

The whole process of recycling is presented step-by-step below.

Recycling Process



1. Collect



2. Segregate



3. Sort



4. Clean



5. Process

1. Collecting

This is the first step of recycling, done by gathering recyclable waste materials from different sources. Example of which are from houses, offices, waste management centers and junkshops.

2. Segregating

This is separating the collected waste materials into recyclable from not recyclable or biodegradable from non-biodegradable.

3. Sorting

Collected materials are classified according to their category or kind. Examples are papers, plastics, glass, metal, wood and others.

4. Cleaning

This focuses on washing, sterilizing, and disinfecting. This is to ensure that the items are free of germs and harmful bacteria. Spraying of disinfectants can be also considered.

5. Processing

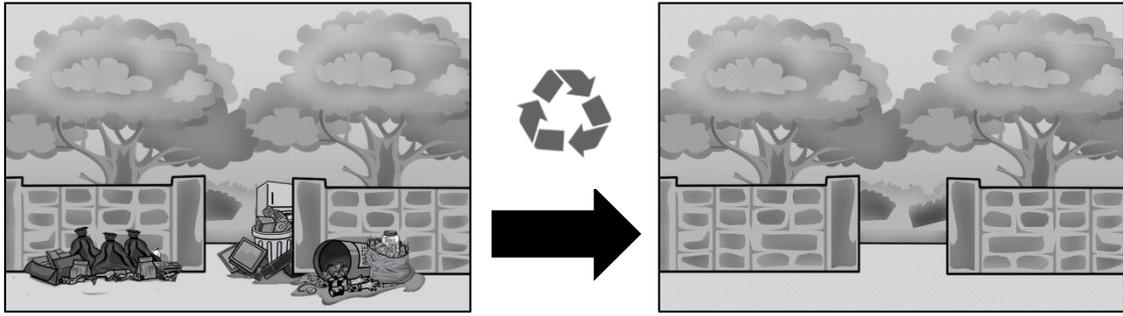
This is now the final step wherein you start working with your materials turning them into useful new products.

How does recycling affects us?

Recycling is vital to waste management. It teaches us proper waste segregation making our surroundings clean. An individual, a family and a community can have a lot of benefits derived from recycling.

Listed below are some importance of recycling.

- ❖ Recycling promotes discipline to individual who follow the reuse, reduce and recycle principle.
- ❖ Recycling instills the value of unity and cooperation among members of community.
- ❖ Recycling encourages resourcefulness among individuals who creatively process waste materials into useful products.
- ❖ Recycling preserves natural resources.
- ❖ Recycling provides income to the family.
- ❖ Recycling reduces expenses. Instead of buying new products, we can save money when we use recyclable materials.
- ❖ Recycling saves energy. Fuels in manufacturing products are saved when we recycle.



- ❖ Recycling reduces pollution caused by waste.
- ❖ Recycling promotes employment. Recycled products can be sold, and we can earn money out of it.



What's More

Activity 1: Understanding the word better

Learning the Skill: Defining a word through scrambled letters

Directions: There are scrambled letters before each item. Read the sentence that defines the word and arrange the scrambled letters to form the correct word that best described in each sentence. Write your answer on your answer sheet.

- | | | |
|--------------------------------------|--|-------|
| <u>Edu</u> <u>cer</u> | 1. This means to lessen the volume of garbage. | _____ |
| <u>ces</u> <u>resour</u> | 2. Source of supply and support. | _____ |
| <u>rot</u> <u>ings</u> | 3. To classify materials according to category, kind or quality. | _____ |
| <u>infec</u> <u>distant</u> <u>s</u> | 4. Agents or materials use to disinfect. | _____ |
| <u>il</u> <u>izing</u> <u>ster</u> | 5. The process of cleaning to make free of germs. | _____ |

Activity 2 Analysis

Learning the Skill: Situational Analysis

Directions: Write **TRUE** if the statement is correct and write **FALSE** if the statement is incorrect. Write your answer on your answer sheet.

1. Recycling brings so many benefits to us and to our surroundings.
2. Turning waste material into functional new items is called recycling.
3. Family and community can save money through recycling.
4. One can always buy new things so there is no need for recycling because it is just a waste of time, money, and effort.
5. Resourcefulness and innovative skills all not required when recycling.

Activity 1.3 Define Me

Learning the Skill: Defining Words

A. Match column A with column B. Write only the letter of the correct answer on your answer sheet

A	B
1. collecting	A. This is the final step of recycling where in you start working with your materials, turning them into useful new products.
2. segregating	B. Collected materials are classified according to category or kind.
3. sorting	C. Collected materials are separated as recyclables and not recyclables.
4. cleaning	D. Gathering of recyclable materials from different materials.
5. processing	E. Washing, sterilizing and disinfecting recyclable items.



What I Have Learned

Directions: Below are the things to remember in this lesson. Fill in the blanks with the correct words to make the statement true. Write your answer on a separate sheet of paper.

Here is what you should remember:

_____ is the process of turning old and used materials into usable new products

How does recycling help the environment?

Recycling plays a vital role in _____ conservation and _____ waste segregation.

What are the processes involve in recycling?

Recycling starts with _____ of waste materials, _____, _____, _____, and _____.

Is recycling really important?

Recycling is important to community and environment because it reduces pollution, provides livelihood, saves money and energy, promotes discipline and employment, and most importantly it instills the value of unity and cooperation among members of family and community.

-



What I Can Do

- A. **Directions:** Inside the box are the steps involved in recycling. Arrange the following steps that follow the process in recycling. Write your answer on a separate sheet of paper.

Segregating	Cleaning	Sorting	Collecting	Processing
-------------	----------	---------	------------	------------

Step 1. _____

Step 2. _____

Step 3. _____

Step 4. _____

Step 5. _____

- B. **Directions:** Reflect on the following questions and answer it on a separate sheet of paper.

1. Think of a community where recycling does not exist.
What is likely to happen in this community?
2. If you are given an opportunity to encourage your classmates and friends about recycling, what would you do or say to encourage them?



Assessment

Multiple Choice

Directions: Choose the letter of the best answer and write your answer on a separate sheet of paper.

1. The final step of recycling where you start working with your materials then producing into useful products is known as _____.
A. Sorting
B. Processing
C. Collecting
D. Cleaning
2. _____ is classifying collected materials according to category or kind.
A. Sorting
B. Processing
C. Collecting
D. Segregating
3. It is the process where non-recyclable and recyclable materials are being separated.
A. Sorting
B. Processing
C. Collecting
D. Segregating
4. It is the first step of recycling where you gather materials from different sources.
A. Sorting
B. Processing
C. Collecting
D. Segregating
5. Washing, sterilizing and disinfecting recyclable items is involved in this process.
A. Sorting
B. Processing
C. Collecting
D. Cleaning
6. Cleaning is one important step in recycling. What is the importance of this step?
A. for sanitation purposes
B. for enjoyment
C. for extra work
D. for extra expenses
7. These are agents and materials used to clean and sanitize items.
A. finishing materials
B. tools
C. disinfectants
D. personal protective gears

8. To ensure the safety and health of person while recycling, the best thing to do is _____.
 - A. wear personal protective equipment
 - B. used available tools in working
 - C. work with the project with bare hands
 - D. All of the above

9. When working on the project that is new to you, what is best thing to do before you start?
 - A. Ask assistance from your classmates.
 - B. Ask the assistance of experts.
 - C. Ask the assistance of a friend.
 - D. Ask assistance of person available.

10. What do you call the process of turning old and used materials into usable new products?
 - A. Refilling
 - B. Reducing
 - C. Recycling
 - D. Recollecting



Additional Activities

Directions: Read and reflect on the questions below. Write your answer on separate sheet.

A. What do think are the wonderful effects of recycling? Cite as many as you can.

1. To yourself: _____

2. To your school: _____

3. To your environment: _____

B. Directions: Put a check mark (✓) under SA if the statement shows importance of recycling. If not, put a check mark (✓) under SD.

Importance of Recycling	SA (Strongly Agree)	SD (Strongly Disagree)
1. Recycling preserves natural resources.		
2. Recycling reduces pollution caused by waste.		
3. Recycling contradicts with the principle of 3R's (reduce, reuse, recycle)		
4. Recycling provides income to the family.		
5. Recycling promotes employment.		
6. Recycling is a waste of time and can cause extra workload for the family.		
7. Money can be earned through selling of recycled products.		
8. Lots of energy is lost when someone in the family engaged in recycling.		
9. Natural resources will be endangered if more and more people continue to do recycling.		
10. Recycling brings livelihood to family and community.		



Answer Key

<p>What I Have Learned</p> <ol style="list-style-type: none"> 1. Recycling 2. Energy, proper 3. Collecting, <p>segregating, sorting, cleaning, processing</p>	<p>What's More</p> <p>Activity 1.1</p> <ol style="list-style-type: none"> 1. reduce 2. resources 3. sorting 4. disinfectants 5. sterilizing <p>Activity 1.2</p> <ol style="list-style-type: none"> 1. True 2. True 3. True 4. False 5. False <p>Activity 1.3</p> <ol style="list-style-type: none"> 1. D 2. C 3. B 4. E 5. A 	<p>What's In</p> <ol style="list-style-type: none"> 1. Systematized/ Set in order 2. Sweep 3. Sustain 4. Standardized 5. Three R's 6. Sort 7. Electronic Waste 8. Municipal solid waste 9. Construction and demolition waste 10. Recycling 	<p>What I Know</p> <ol style="list-style-type: none"> 1. D 2. D 3. C 4. B 5. D 6. B 7. B 8. B 8. B 9. B 10. B
<p>Additional Activities</p> <p>A. Answers may vary. Teacher will facilitate checking</p> <p>B.</p> <ol style="list-style-type: none"> 1. SA 2. SA 3. SD 4. SA 5. SA 6. SD 7. SA 8. SD 9. SD 10. SA 			

References

Department of Education Curriculum Guide 2016, EPP 6, Industrial Arts pages 38 – 41

Department of Education MELCs in EPP/TLE Grade 6 Industrial Arts pages 353 – 354

<https://en.wikipedia.org/wiki/Recycling>

https://en.wikipedia.org/wiki/Materials_recovery_facility

https://en.wikipedia.org/wiki/Waste_management

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