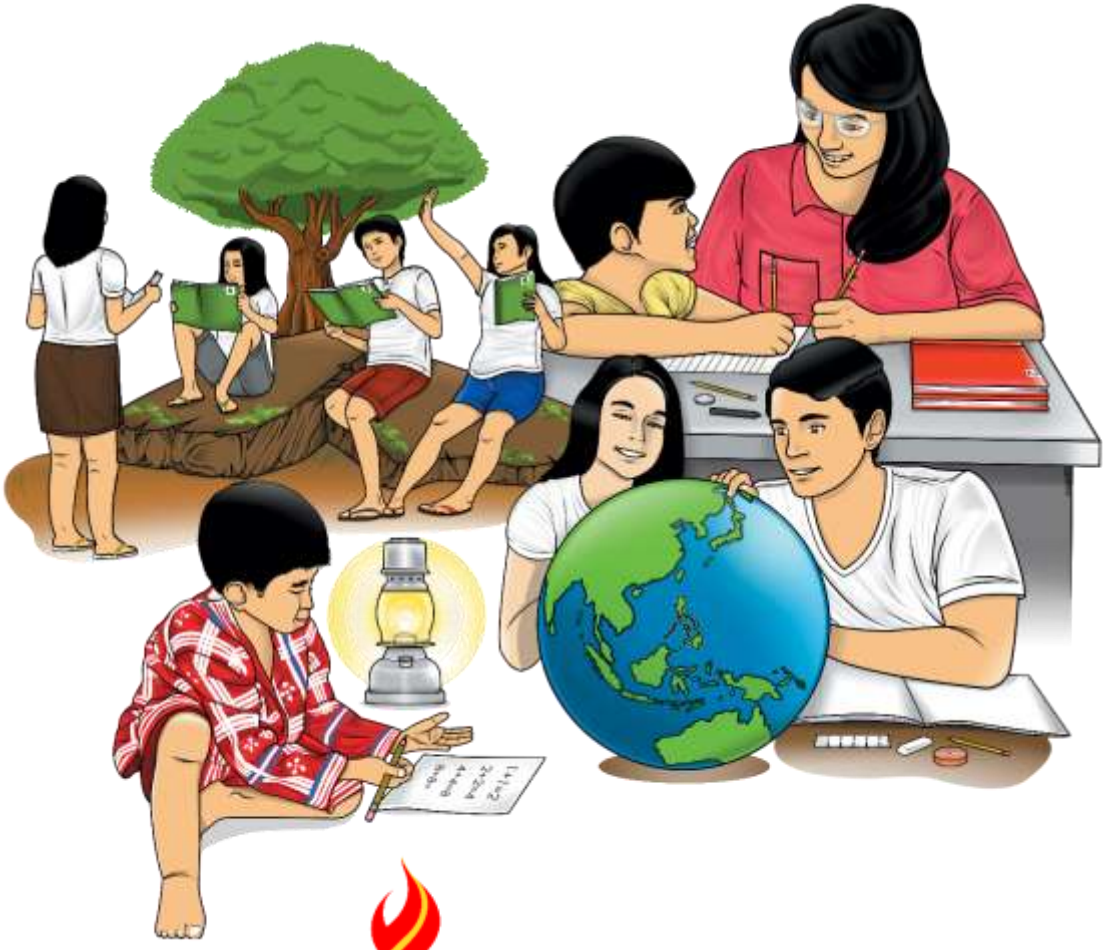
5

DepED
DEPARTMENT OF EDUCATION

# Science

## Quarter 1 – Module 3:
## Designing Recyclable Materials into Useful Products



ALTERNATIVE DELIVERY MODE
ADM

**Science– Grade 5**
**Alternative Delivery Mode**
**Quarter 1 – Module 3: Designing Recyclable Materials into Useful Products**
**First Edition, 2020**



Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

**Development Team of the Module**

| | |
|---|---|
| **Writers:** | Danilo D. Espera, Ma. Hedina L. Antigua, Melani M. Gorre |
| **Editors:** | Lainez C. Mendigo, Laarni Relado, Ronald R. Cabigon, Teodorico C. Peliño |
| **Reviewers:** | Nestor Allan Matutes, Allan Garnace, Christie Anne D. Bihag, Charity M. Nogra, Ryan R. Tiu |
| **Illustrators:** | Braderick Bollozos, Joseph Luzares, Brian Jessen Dignos Heavenne D. Bihag |
| **Layout Artists:** | Ismael T. Posion, Bella C. Alberca, Henrissa M. Sible |
| **Management Team:** | Ramir B. Uytico, Arnulfo M. Balane, Rosemarie M. Guino, Joy B. Bihag, Ryan R. Tiu, Rowena T. Vacal, Manuel P. Albaño Henrietta T. Managbanag, Sherlita A. Palma, Felicidad T. Espinosa, Ismael T. Posion, Mauricio M. Catan, Socorro B. Ausa |

**Printed in the Philippines by** _____

**Department of Education – Region VIII**

Office Address: Government Center, Candahug, Palo, Leyte
Telefax: (053) 832-2997
E-mail Address: region8@deped.gov.ph

5

# Science

## Quarter 1 – Module 3:
## Designing Recyclable Materials into Useful Products

DepED
DEPARTMENT OF EDUCATION

# 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.

Good luck and happy learning!

# *What I Need to Know*

The waste that we generate per day is more than what landfills can accommodate. This is why some wastes are left uncollected in different places. Uncollected waste causes land, water, and air pollution; and any form of pollution is harmful to all organisms. Therefore, we should practice 5Rs to manage waste in the environment and help make our surroundings clean and tidy.

One of these 5Rs is recycling which involves collecting and processing materials that would be thrown away as trash and turning them into new products with different use or purpose from its original form. Recycling can be beneficial to our community and to the environment.

Why should we recycle? What benefits do we get from recycling?

Recycling reduces the waste sent to designated dumping areas or landfills. It results in the conservation of our natural resources such as lumber, water, and other minerals. It also prevents pollution by reducing the need to collect new materials.

After going through this module, you will design a product out of local and recyclable materials to make useful products by understanding the waste management practices 5Rs: Reduce, Reuse, Recycle, Repair or Recover.

The module is divided into three lessons namely:

- Lesson 1: How Can We Manage Our Waste: The 5Rs Technique
- Lesson 2: Importance of Practicing the 5Rs
- Lesson 3: Designing a Product Out of Local and Recyclable Materials

At the end of this module, you will be able to:

- Describe how people manage their waste through the 5Rs: Reduce, Reuse, Recycle, Repair or Recover
- Recognize the importance of reduce, reuse, recycle, repair, or recover in waste management
- Design products out of recyclable solid or liquid materials to make useful products

*Note: Use a separate sheet for your answers in all the activities in this module*

# *What I Know*

A. Directions: Draw a happy face ☺ if the picture shows a recycled material and a sad face ☹ if it's not.

1. 

(*Celinebj, 2015*)

2. 

*("Marguerite, Flowers, Summer Flowers, Flower, Fragility Free Image | Peakpx" 2017)*

3. 

*(Daderot, 2017)*

4. 

*(Bag, 2016)*

5. 

*(Ilagan, 2008)*

B. Directions: Write the letter of the best correct answer.

6. Why are some wastes in other places left uncollected?
   A. The landfills have a lot of space for the wastes.
   B. The collected waste products are fewer everyday.
   C. The landfills cannot accommodate all the wastes.
   D. The collected waste products are burned everyday.

7. What will happen to uncollected waste?
   A. It can produce waste.
   B. It can cause pollution.
   C. It can produce plastic.
   D. It can cause garbage.

8. Why is it important to use the 5Rs technique?
   A. It can harm living things.
   B. It can produce more waste.
   C. It can pollute the environment.
   D. It can lessen the wastes every day.

9. What is the main reason for practicing the 5Rs?
   A. To solve or prevent environmental problems
   B. To worsen the environmental problems
   C. To throw the garbage everywhere
   D. To pile more trash in the landfill

10. What are the components of 5Rs techniques?
   A. Reducing, Remaking, Recycling, Recovering, Refilling
   B. Reselling, Reducing, Remaking, Recovering, Repairing
   C. Reducing, Reusing, Recycling, Recovering, Repairing
   D. Reusing, Reselling, Refilling, Recovering, Repairing

# Lesson 1 How Can We Manage Our Waste: The 5Rs Technique

## *What's In*

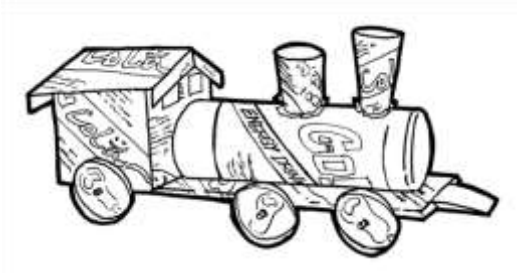
Directions: Study the pictures of the new products created or made and identify what common materials are used.

*(Shing.2008)*

*https://www.af.mil/News/Article-Display/Article/138033/civilian-*

(*Sally.2009)*

*https://www.jpl.nasa.gov/edu/teach/activity/roving-on-the-moon/*



*(Dignos.nd)*

*("Colored Pencils And Scissors In A Decorative Tin Can".2021)*

1. What materials are shown in the picture? What are they made of?
2. Where can we find these materials?
3. Are these materials common in our locality?

## *What's New*

Directions: The following shows the application of 5Rs. Label them correspondingly with Reduced, Reused, Recycled, Repaired, or Recovered.

1. 

*("Bag,Shopping,Eco-Friendly,Jute,Large - Free Image From Needpix.Com" 2021)*

Eco bags

2. 

*("Fence, Green, Grass Lawn" 2021)*

Scrap wood as fence

3. 

*("File:Tires Recycled And Transformed Into Seats Arranged At The Beach.Jpg - Wikimedia Commons" 2019)*

Tires remodeled into outdoor seats

4. 

*("Clear Glass Jar" 2021)*

Used jars made as containers/canisters

5. 

*(Barbour.2012)*

Animal manure

## *What is It*

What are the different ways of managing waste? What are the specific materials that can be reduced, reused, recycled, repaired, or recovered?

There are strategies that can be used in handling waste materials found in our home and community. This technique is composed of five (5) ways we can manage our wastes and known as the 5Rs.

(1) **Reducing** – decreasing the number of materials to be used, for exemple using alternative materials such as eco-bags instead of plastic cellophane to minimize wastes from plastics;

(2) **Reusing** – to use again the materials for the same purpose such as using old but usable shoes;

(3) **Recycling** – producing new product out of discarded materials such as making decoration (vase, figurines) from used/scrap papers;

(4) **Recovering** – making the most out of the waste by regenerating energy such as using peelings of fruits and vegetables as plant fertilizers; and

(5) **Repairing** – fixing broken things so that they can be used again such as sewing and mending old clothes.

As a whole, the 5Rs Technique helps in minimizing garbage and to solve or prevent environmental problems such as pollution in air, water, and land.

Now, think of some situations in your home or community that you have observed or experienced that use the 5Rs techniques. Have you practiced using the 5Rs techniques at home? In your community? If yes, you and your family are certainly caring for the environment! Congratulations!

## *What's More*

**Activity 1**

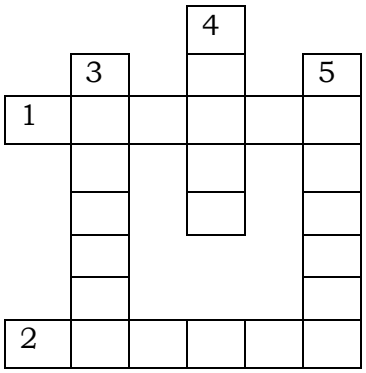
Directions: Copy the table and write the number of the sentence in the appropriate column as to reduce, reuse, recycle, repair, and recover.

| Reduce | Reuse | Recycle | Repair | Recover |
|---|---|---|---|---|
| | | | | |

1. Old jeans were donated to the victims of the typhoon.
2. Jason placed and carried his groceries in a big plastic grocery bag.
3. Margarette used empty plastic bottles as flowerpots.
4. Instead of buying a new bag for the coming school days, Denise washed and fixed her old one.
5. Mr. Cruz collected the chicken manure in his poultry and gave it to a shop that can convert biodegradable materials.

**Activity 2**

Directions: Answer the puzzle with different waste management technique. Base your answer from the description below.




**ACROSS:**

1. Simply means lessen the use of unnecessary materials
2. Fixing or restoring broken materials to be used again

**DOWN:**

3. Processing the waste materials to make another product
4. To use again if not by you, then by others
5. Taking energy or materials from wastes that cannot be used

# Lesson 2 Importance of Practicing the 5Rs

## *What's In*

Directions: Write **USEFUL** if the material serves a particular purpose or **HARMFUL** if it brings damage to us or the environment.

1. Empty bottles
2. Fruit peelings
3. Broken glass
4. Emptied candy wrappers
5. Expired medicines

## *What's New*

Directions: Study the pictures below and answer the questions that follow.

*("Royalty-Free Photo: Garbage In The Middle Of Green Grass | Pickpik"*

(*Prakash.2012)*

1. What can you say about the pictures?
2. What waste materials are commonly found?
3. Are those materials found in your community, too?
4 What do you think are the effects of excessive production of waste materials in your community?
5. What can you do to decrease the volume of waste materials in your community?

## *What is It*

**Wastes** refer to used or consumed products or materials. A very good example of this is garbage. Garbage emits foul odor and makes us sick.

**Waste management** refers to the practice of proper waste disposal. A kind of waste management we follow nowadays is the 5Rs of waste management which stands for **Reduce, Reuse, Recycle, Repair,** and **Recover**. This aims to promote a clean and healthy environment, to transform garbage into something useful, and to make the earth "zero waste" or free of any garbage or waste material.

The following is the definition of each R:

**Reduce -** it simply means reducing or lessening the amount of possible waste materials.

Example: using big ecobag to carry many items as one instead of individually placing the items to a plastic bag.

**Reuse -** it means to use again for the same purpose the materials as much as possible**.**

Example: Using old hand-me-down clothes.

**Recycle -** it means processing waste materials to make another product.

Example: Making old newpapers into paper ornament.

**Repair -** is fixing or restoring broken items so that these will be used again.

Example: Repainting tables and chairs.

**Recover -** it means taking energy or materials from wastes to be converted into new resources.

Example: Making animal manure into fertilizer for plants.

Designing a product out of local recyclable solid or liquid materials in making useful products is an application of the 5Rs of waste material.

Waste management is important for us and for the environment. This leds to the conservation of natural resources and can save space in landfills. We can be profitable from it by selling recyclable and recycled materials. It also decreases the amount of waste for disposal which thereby prevents the effects of pollution. Waste management is also important for public health.

Let us help combat environmental problems by managing our wastes properly!

## *What's More*

**Activity 1**

Directions: Put a check mark (✓) if the statement shows an application of the 5Rs or a wrong mark (**X**) if otherwise.

1. Renee has started to compost her food scraps and leaves/yard trimmings. When they all break down into soil, she'll use them for her garden.
2. Serena has grown older, so her mother decided to donate her used clothes to the victims of the typhoon in Samar.
3. The Grade 5 pupils are fond of throwing paper garbage in the trash can.
4. Tenten is collecting used empty plastic bottles for his Science project. He plans to make a lantern out of these bottles.
5. My older sister kept on throwing away used cooking oil.

**Activity 2**

Directions: Study the pictures and identify what waste management practice is shown. Write Reduce, Reuse, Recycle, Repair, or Recover.

1. 


*("File:Eco Bag IH.Jpg - Wikipedia" 2016)*

2. 

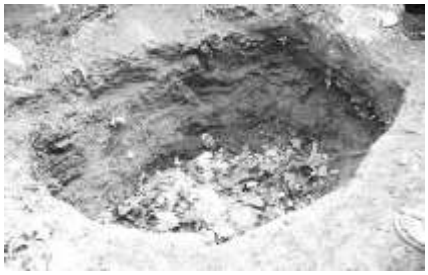
*("Clear Glass Jar" 2021)*

3. 

*("Design Blog Sociale - 4 August 2008 - Milk Crates Furniture B" 2008)*

4. 

*("Fixing The Bike (BN)" 2013)*

5. 

*(Schweitzer.2012)*

**Activity 3**

Directions: Study the pictures of the common practices observed in our place. Which of the following importance of the 5Rs is a direct result of the given practice? Choose the letter of the best answer.

A. promote a clean and healthy environment
B. transform garbage into something useful
C. make the earth "zero waste" or free of any garbage or waste material

1. 

*("File:Car Tires As Seats In Thailand.JPG - Wikimedia Commons" 2007)*

Chairs and table from old car tires

3. 

*(Rika C.2019)*

Organize and make use of all the things

2. 

*("File:Colorful Recycling Containers For Trash.Jpg - Wikimedia Commons" 2011)*

Trash bins for waste segregation

4. 

*("File:Boracay Cleanup EMB DENR R6.Jpg - Wikimedia Commons" 2018)*

Coastal cleanup activity

# Lesson 3 Designing a Product Out of Local and Recyclable Materials

## *What's In*

A. Directions: Identify the proper technique to minimize waste in each situation below. Choose your answer from the list of 5R's in the word below.

| Reduce | Reuse | Recycle | Repair | Recover |
|---|---|---|---|---|

1. Danny uses glue to reattach the sole of his shoes.
2. Lanie decides to give her small dresses to her cousin.
3. The Grade 5 class uses grass clippings for composting.
4. Eliza refuses to buy a new bag because she has three unused new bags.
5. Mrs. Flores leads a group of women to make flowers out of candy wrappers and used plastics.

B. Directions: Write AGREE if the statement is a correct and desirable practice and DISAGREE if not.

1. Put your leftover food together with other trash.
2. Burn the old tires and broken plastic toys at the backyard.
3. Segregate glass wastes from plastic, papers, and rubbers.
4. Bury dry leaves and rotten fruits and vegetables under the soil.
5. Use the empty mayonnaise jar as candy jars or food storage jars.

## *What's New*

Directions: Read the situation below then answer the question and do the task that follow.

Justine noticed that most of his classmates drink bottled drinks during recess. One morning their teacher told them to make a recycled product for their Science project. He decided to collect the empty bottles in the recycle bin for his project.

- What product can he make out of the empty plastic bottles?
- Draw the product you can think of.

## *What is It*

**Waste Management** refers to the practice of proper waste disposal. Waste Management is implemented anywhere to clean the environment. The kind of waste management we follow nowadays is the 5Rs in Waste Management (Reduce, Reuse, Recycle, Repair, and Recover).

The ultimate goal of the 5Rs waste management is to free planet Earth from any kind of garbage, referred to as zero waste. Each “R” focuses on a way to achieve “zero waste”.

Designing a product out of local recyclable solid and/or liquid materials in making useful products is an application of waste management. With this technique, the 5Rs in Waste Management will also be applied, which is more on recycling.

Recycling the materials to a new product design reduces waste as much as possible. Non-biodegradable materials such as plastic, metals, cans, and rubbers will be reduced through reusing and recycling.

Recycling is one of the simple things that you can do which results to a positive impact for the environment. Recycling is important to the natural environment and us. We must act fast as the amount of waste we create is increasing all the time.

**What items can and cannot be recycled?**

Almost all materials can be recycled depending upon its physical condition – wet or dry, whole or broken/cut to pieces, fragile or durable, among others.

Items that can be cut into pieces include paper, glass bottles/jars, plastics, clothes, metal cans, etc. Meanwhile, items that can't be recycled include used plastic wraps or bags, disposable diapers, syringe or medical waste, broken bulbs, etc.

Waste segregation is important because it reduces the impact the waste has on the environment and also the health issues that can occur from improperly disposal of waste and toxins. Waste segregation helps us organize the waste and we can easily take the materials for recycling and those materials applicable for the other 5Rs technique.

It is important that we put the right things in the recycling bin.

Recycling helps us save energy, water, sand, and trees.

We should only put recyclable materials in the recycling bin such as plastic bottles, plastic containers, cans, steel tins, glass bottles, paper, and cardboard.

While we place in the biodegradable bin the organic wastes like vegetable peels and waste food that can be converted into manure by burying them in compost pits.

Other bins include the non-recyclable hazardous for chemicals and medical waste.

Make sure to read first the bin's labels before placing your trash or waste.

So do the right thing and use the right bin!

(*Bollozos.nd)*

## *What's More*

**Activity 1**

Directions: On a separate sheet of paper, draw the items that can be placed in your recycle bin. Are all the waste materials recyclable?


*(Luzares.nd)*

**Activity 2**

Directions: Match the product that can be made from the following recyclable materials.

| **A (Recyclable Material)** | **B (Product)** |
|---|---|
| 1. Plastic bottles | A.  (*Rita.2019)* |
| 2. Old magazines | B.  (Celinebj.2015) |
| 3. Empty Tin Can | C.  ("Pikrepo" 2021) |
| 4. Water sprinkler | D.  ("Origami, Flower".2021) |
| 5. Egg shells | E.  ("Colored Pencils And Scissors In A Decorative Tin Can".2021) |

**Activity 3**

Directions: Draw a design of a useful product that can be made from any of the following recyclable materials**:**

- Plastic bottles
- Old newspapers/ magazines
- Cans
- Glass bottles
- Cardboard
- Plastic containers
- Bottle caps
- Old clothes

Be guided with the following questions in designing your product.

- What material is readily available in the community?
- What tools should I use in making the recycled product?
- What steps should I do in making the product?
- Will the product be useful?
- How will my recycled product look like?

## *What I Have Learned*

Directions: Fill in the blanks with the appropriate word/phrase. Choose your answer from the box below.

| | | |
|---|---|---|
| design | recycling | recyclable |
| non-biodegradable | useful | waste management |

Designing a product out of local _____(1)_____solid/liquid materials in making _____(2)_____ products is an application of___(3)____. With this technique, the 5Rs in Waste Management will also be applied.

Recycling the materials to craft and design a new product reduces waste and prevents pollution in land, sea, and air. __(4)__ waste materials such as plastics, metals, cans, and rubbers will be reduced through reusing and ____(5)___.

## *What I Can Do*

Directions: Reflect on what you have learned and answer the following questions on how you can apply waste management at your grade level.

1. How can you help practice proper waste disposal at home? In school? In the community?

2. What will you do to help other pupils be aware of the importance of proper waste disposal?

3. Do you believe in the saying, "There is cash in trash (May pera sa basura)?" Why or why not?

## *Assessment*

I. Directions: Match the ways on how you can recycle the waste materials below to the by products. The answer on the products from recycling can be used more than once. Write the letter only.

| **Waste Materials** | **Products from Recycling** |
|---|---|
| 1. old tires | A. food storage jar |
| 2. glass jar | B. origami flowers |
| 3. plastic bottle | C. pot for plants |
| 4. candy wrappers | D. window curtain |
| 5. colored magazines | E. Christmas lantern |
| | F. pillow stuffing |

II. Directions: Choose the correct answer in each situation on waste management.

1. Pedro used few big boxes to plant tomatoes instead of many small pots. What 5Rs technique did he apply?
   A. Recycling
   B. Reducing
   C. Reusing
   D. Repairing

2. Which of the following situations involves recycling?
   A. Sean Beda made a string notebook out of the unused pages of his old spiral notebook.
   B. Arianne Denise would always place oil on the gears of her bicycle to prevent rusting.
   C. Kent Denzel collected biodegradable waste materials then made a compost.
   D. CJ Kean made a bag out of his old worn-out pants.

3. Who among the learners did not show the importance of practicing 5 Rs?
   I. Jack is using a new plastic bottle for his drinking water every day.
   II. John is repairing the worn shoes by applying an adhesive.
   III. Ana is using her sisters' old bag in going to school.
   IV. Seth is making a wallet from plastic wrappers.

   A. Seth B. John C. Jack D. Ana

4. Why are we encouraged to apply 5 R's technique?
   A. It will make us rich.
   B. It will make our house more beautiful.
   C. It will not need to buy more trash bins.
   D. It will lessen the volume of garbage produced daily.

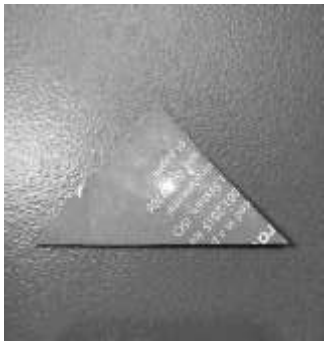
5. Which of the following is NOT a possible consequence or bad effect of not practicing 5Rs?
   A. Disease
   B. Clean Household
   C. Death of Animals
   D. Low Water Quality

## *Additional Activities*

A. Directions: Try any of these fun recycling activity ideas. Follow the steps as shown in the pictures. Use old magazines or newspapers.

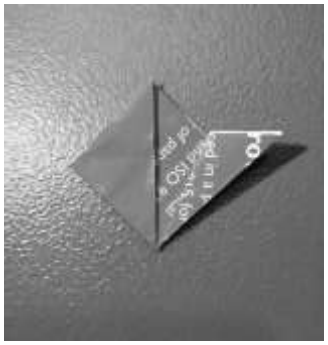
Step 1. Start by placing a piece of paper on the table.

Step 2. Fold the paper into a triangle.



Step 3. Bring the bottom corners of the triangle to the top corner and fold to form a diamond.

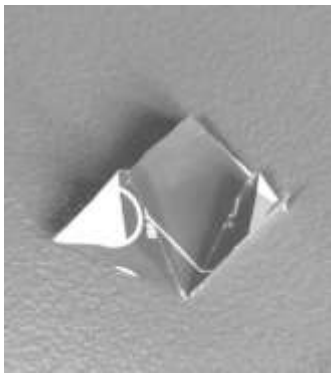
Step 4. Fold down the center sides to the bottom edge of the diamond.

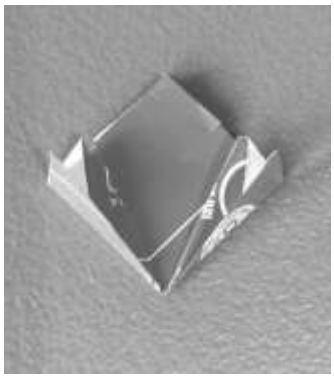


Step 5. Unfold the sides and insert your finger to form a cone. Push the cone flat (as shown in the picture).

Step 6. Fold the top corners of the flat cones (as shown in the picture below).

Step 7. Fold the sides in half toward the center as shown.





Step 8. Stick the sides together with a glue. You have just made one petal. Repeat the process to make five or six petals for each flower.

Step 9. Connect all petals together with a glue to make one flower.

*(Gorre.nd)*

# *Answer Key*

**What I Have Learned**

1. recyclable
2. useful
3. waste management
4. non-biodegradable
5. recycling

**What Can I Do**

Answers may vary

*Possible answers:*

1. By segregating and properly throwing my garbage and by applying the 5Rs
2. Tell other people to do the 5Rs and help in waste management
3. Yes because we can sell metal and plastic materials. We can also recycle them and sold the product.

**Assessment**

I. 1. C 2. A 3. E 4. D/F 5. B
II. 1. B 2. D 3. C 4. D 5. B

**Lesson 3**

**What's In**

**A.**

1. Repair 4. Reduce
2. Reuse 5. Recycle
3. Recover

**B.**

1. disagree 4. agree
2. Disagree 5. agree
3. agree

**What's New**

Answers may vary.

*Possible answer:*

- Decorative ornament bottles or tied plastic bottles to make into a trash bin or container
- *Designs may vary*

**Lesson 3**

**What's More**

**Activity 1**

Tin cans, news papers, plastic bottles, soft drink cans, milk container, motor oil container, old cups

**Activity 2**

1. B
2. D
3. E
4. C
5. A

**Activity 3**

Answers may vary

**Lesson 2**

**What's In**

1. Useful
2. Useful
3. Harmful
4. Useful
5. Harmful

**What's New**

1. Trash/Waste/Garbage are not properly throw. There is no proper waste management.
2. plastic bottles, papers, cans, glasses
3. Yes
4. It can cause land, air, & water pollution or may led to our sickness
5. Yes we can by using 5Rs on waste management

**What's More**

| **Activity 1** | **Activity 2** | **Activity 3** |
|---|---|---|
| 1. ✓ | 1. Reduce | 1. B |
| 2. ✓ | 2. Reuse | 2. A |
| 3.X | 3. Recycle | 3. C |
| 4. ✓ | 4. Repair | 4. A |
| 5.X | 5. Recover | |

**Lesson 1**

**What's In**

1.recyclable waste materials such as can, used magazines, plastic cups, cardboards, and sticks
2.At home, community, school
3. Yes

**What's New**

1. reduce
2. repair
3. recycle
4. reuse
5. recover

| **What's More Activity 1** | **What's More Activity 2** |
|---|---|
| 1.reuse | 1. reduce |
| 2. reduce | 2. repair |
| 3. recycle | 3. recycle |
| 4. repair | 4. reuse |
| 5. recover | 5. recover |

**What I Know**

**A.**

1. ☺
2. ☹
3. ☹
4. ☺
5. ☹

**B.**

6. C
7. B
8. D
9. A
10.C

# *References*

## A. Electronic Sources:


"File: Bottle Flower Pots.Jpg - Wikimedia Commons".

2015. Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Bottle_flower_pots.jpg.

"Marguerite, Flowers, Summer Flowers, Flower, Fragility Free Image | Peakpx".

2017. Peakpx.Com. https://www.peakpx.com/639703/marguerite-flowers-summer-flowers-flower-fragility.

"File: Vase, Japan, Meiji Period, Late 1800S AD, Enamel with Silver and Copper - Dallas Museum of Art - DSC05123.Jpg - Wikimedia Commons".

2017. Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Vase,_Japan,_Meiji_period,_late_1 800s_AD,_enamel_with_silver_and_copper_-_Dallas_Museum_of_Art_-

Bag, Snack. 2016. "Snack Wrapper Woven Shoulder Bag Free Image |

Peakpx". Peakpx.Com. https://www.peakpx.com/550665/snack-wrapper- woven-shoulder-bag.

Ilagan, Yvette. 2008. "File: Pink Birkin Bag.Jpg - Wikimedia Commons". Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Pink_Birkin_bag.jpg.

Shing, Choo Yut. 2008. "Christmas Decoration #3". Flickr. https://www.flickr.com/photos/25802865@N08/3047321982/.

"Plastic Basket". 2020. Flickr. https://www.flickr.com/photos/sarahracha/3615009752.

"Bag,Shopping,Eco-Friendly,Jute,Large - Free Image From Needpix.Com". 2021. Needpix.Com. https://www.needpix.com/photo/230404/bag-shopping-eco-friendly-jute-large-handle.

"Fence, Green, Grass Lawn". 2021. Public Domain. https://www.piqsels.com/en/public-domain-photo-fizmn.

"File:Tires Recycled And Transformed Into Seats Arranged At The Beach.Jpg - Wikimedia Commons". 2019. Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Tires_recycled_and_transformed_ into_seats_arranged_at_the_beach.jpg.

"Clear Glass Jar". 2021. Flickr.Com. https://www.pexels.com/photo/aroma-aromatic-assortment-containers-458796/.

Barbour, Ian. 2012. "Flickr". Flickr. https://www.flickr.com/photos/barbourians/7442875160.

Schweitzer, Terrie. 2012. "Compost Pit". Flickr. https://www.flickr.com/photos/terriem/6788436159.

"Royalty-Free Photo: Garbage In The Middle Of Green Grass | Pickpik". 2021. Pickpik.Com. https://www.pickpik.com/garbage-waste-container-waste-waste-bins -waste-disposal-environmental-protection-43474.

Prakash, Surya. 2012. "File:Garbage On A Roadside.JPG - Wikimedia Commons". Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Garbage_on_a_roadside.JPG.

"File:Eco Bag IH.Jpg - Wikipedia". 2016. En.Wikipedia.Org. https://en.wikipedia.org/wiki/File:Eco_bag_IH.jpg.

"Design Blog Sociale - 4 August 2008 - Milk Crates Furniture B". 2008. Flickr. https://www.flickr.com/photos/27620885@N02/2706553128.

"Fixing The Bike (BN)". 2013. Flickr. https://www.flickr.com/photos/frostis/8645947048/.

"File:Car Tires As Seats In Thailand.JPG - Wikimedia Commons". 2007. Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Car_tires_as_seats_in_Thailand.JPG.

C, Rika. 2019. "Zero Waste Plastic Free Minimalim". https://pixabay.com/photos/zero-waste-plastic- free-minimalism-4221633/.

"File:Colorful Recycling Containers For Trash.Jpg - Wikimedia Commons". 2011. Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Colorful_Recycling_Containers_for_Trash.jpg

"File:Boracay Cleanup EMB DENR R6.Jpg - Wikimedia Commons". 2018. Commons.Wikimedia.Org. https://commons.wikimedia.org/wiki/File:Boracay_Cleanup_EMB_DENR_R6.jpg.

Rita, Silvia. 2019. "Eggshell". https://pixabay.com/photos/eggshell-egg-cups-herbs-hairstyle-4042471/.

"Yellow Watering Can With Fruits On Green Grass Field During Daytime | Pikrepo". 2021. Pikrepo.Com. https://www.pikrepo.com/nfyin/yellow-watering-can-with-fruits-on-green- grass-field-during-daytime.

"Origami,Flower". 2021. Pxfuel.Com. https://www.pxfuel.com/en/free-photo-jdhhv.

"Colored Pencils And Scissors In A Decorative Tin Can. Recycled Tin Can For Storage Of Stationery Isolated On Wooden Background. Closeup". 2021. 123RF. https://www.123rf.com/photo_76885131_colored-pencils- and-scissors-in-a-decorative-tin-can-recycled-tin-can-for- storage-of-stationery-isol.html.

**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