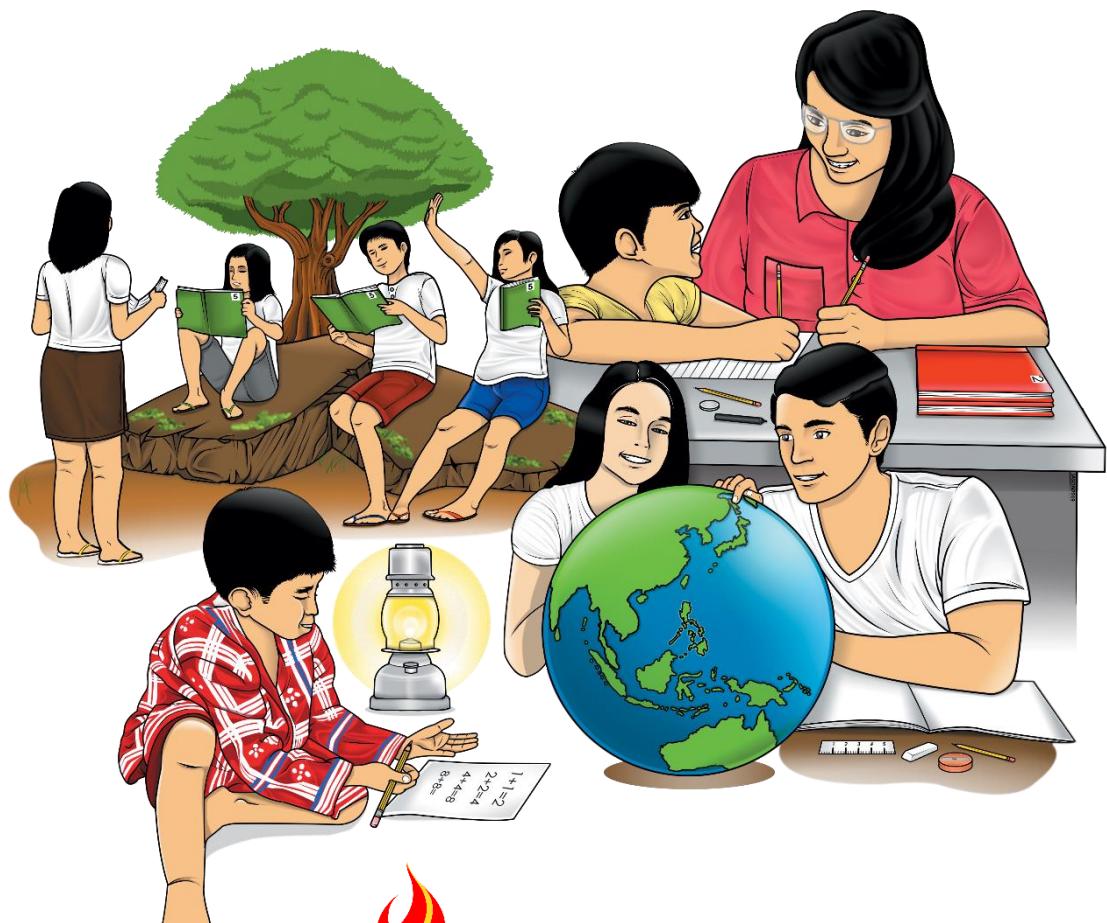


Science

Quarter 1 – Module 2

Lesson 3: Changes in Matter and Its Effect in the Environment



GOVERNMENT PROPERTY
NOT FOR SALE



What I Need to Know

The physical and chemical changes that materials undergo have important roles in our day to day activities. Unfortunately, not all changes that take place in matter are good. Some are harmful and even dangerous. It is important to learn the changes that matter undergo and its effect on our environment.

In this module, you will be able to explain how changes in matter affect the environment.

Note: All the answers to the activities should be written in a separate sheet.



What I Know

Directions: Read the questions carefully. Explain how changes in matter affect the environment. Write the letter of the best answer.

1. The following materials undergo a physical change. Which of the changes in matter has a bad effect on the environment?
 - A. freezing of meat to preserve in a long period of time
 - B. using spray paint to cover the rust in tin cans
 - C. cutting of the fabric to be made into clothes
 - D. evaporation of rainwater

2. The following materials undergo chemical change. Which of these changes in matter has a good effect on the environment?
 - A. burning of plastic
 - B. composting of biodegradable wastes
 - C. exposing alcohol to direct heat or fire
 - D. combustion of gasoline in the car's engine

3. Cutting of trees has its advantages and uses to the people. Which of the following is a bad effect of this activity?
 - A. Cutting of trees may result in house construction.
 - B. Cutting of trees may result in paper production.
 - C. Cutting of trees may result in furniture making.
 - D. Cutting of trees may result in flooding.

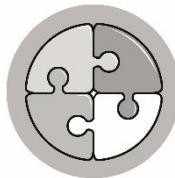
4. The following activities can be done to pieces of wood, which of these can cause harm to the environment?
- burning pieces of wood to be made as charcoal
 - shaping pieces of wood to be made into a chair
 - using pieces of wood to be made as furniture
 - forming pieces of wood as junior fence
5. Your father has celebrated his birthday yesterday, there were many empty plastic bottles of soft drinks left. What is the best way you can do with these empty plastic bottles in order to protect the environment?
- throw the empty plastic bottles into the seashore
 - make the empty plastic bottles as flower vases
 - dump the empty plastic bottles in the landfill
 - burn the empty plastic bottles
6. Families in rural areas do the laundry in the river. In doing this, which of the following should they avoid?
- Throwing of detergents into the river.
 - Using the river water in rinsing the clothes.
 - Putting the washed clothes in the big stones along the riverside.
 - Bringing home the empty plastic containers of the detergents used.
7. When food spoils, you cannot eat it anymore, or else you will be poisoned. What is the best way to make spoiled food useful to the environment?
- use it for composting
 - reheat the spoiled food
 - feed the spoiled food to house pets
 - throw it in the non-biodegradable garbage bin
8. Burning old tire is strictly prohibited by the government. Why is this so?
- Burning the tire can release smoke and toxin that enter the air which contributes to the greenhouse effect.
 - Stagnant water that serves as a house of dengue carrying mosquitos can usually be found in old tires.
 - When an old tire is burned it cannot be sold anymore, thus it cannot give profit to the government.
 - An old tire can still be made into something useful material.
9. Non-biodegradable waste materials can still be reused or recycled to lessen the garbage in the environment. Why is it important to lessen the garbage in the environment?
- When land is dumped with garbage, the land becomes occupied.
 - Garbage releases toxins that can cause land and air pollution.
 - We can make money out of recycled materials.
 - We can save money out of the reused materials.

10. As a Grade five learner, which of the following should you NOT do in protecting the environment?

- A. turning waste plastic into different containers
- B. using melted candle as floor wax
- C. throwing extra paint in the soil
- D. shaping old tires into a flower pot

**Lesson
3**

Changes in Matter and Its Effect in the Environment



What's In

Directions: Identify what will happen to the objects when heat is applied. Match the objects in column A to the products in Column B

A

- 1. fish
- 2. wood
- 3. sugar
- 4. egg
- 5. bread

B

- A. charcoal
- B. boiled egg
- C. dried fish
- D. toasted bread
- E. syrup



What's New

Directions: The following materials undergo either physical or chemical change. Identify whether the change in the materials shows good or bad effects on the environment.

1. Making old tires made into garden pots



<https://www.needpix.com/photo/550330/tire-recycling-grass-green-gold-painted-flower-pot-garden-recycling-tire>

4. Decaying unsegregated wastes



<https://www.needpix.com/photo/424328/landfill-waste-management-waste-the-garbage-society>

2. Burning of waste materials



<https://www.publicdomainpictures.net/en/view-image.php?image=54932&picture=burning-fire>

5. Cutting of century old trees



https://commons.wikimedia.org/wiki/File:Cut_tree.jpg

3. Cutting of fabric or clothes



https://commons.wikimedia.org/wiki/File:Cutting_the_fabric.jpg



What is It

Changes in matter can cause a good or bad effect on the environment.

Some changes in matter results in good effects in the environment. Composting, recycling, and the use of technology are some examples of the good effects of the changes in materials. Composting is a way of decomposing plant or animal matter into fertilizer. Recycling helps lessen garbage by reusing them like plastic, Styrofoam, old tires, and paper.

Evaporation and condensation are forms of physical change in matter. Evaporation is a crucial part of the water cycle. Water from all areas on Earth will not be recycled if they will not evaporate into water vapor as clouds in the sky. Condensation is important in transforming water vapor to droplets water stored in clouds.

Some changes in matter may result in negative effects like pollution, destruction of habitat, and loss of lives. Improper disposal of garbage, harmful chemicals and human waste can cause changes. It can pollute air, land and water. Burning of garbage materials releases dangerous toxic chemicals that contribute to the greenhouse effect and global warming. Smoke from the burning of oil and coal and wood can also cause air pollution. Cutting down trees is also harmful to our environment. It affects the quality of air that we breathe. It causes a rapid change in the temperature and in turn changes the weather patterns, which leads to other environmental concerns. Throwing into the river the detergents used for washing the clothes makes the river become polluted because these contain toxic substance. Polluted water kills living organisms like fish and water plants. When land is dumped with garbage, the land becomes polluted, if this happens, the polluted land will serve as the breeding places for pests that carry germs, hence dangerous to human health.

We have to do our share in maintaining a healthy environment. We must avoid too much use of electricity and gasoline. We must also avoid burning rubber tires and plastics. We must avoid practices that will produce acid rain, increase global temperature, or deplete the ozone layer. No matter how big or small contribution you give, what matters most is you've made a difference for our environment.



What's More

Activity 1

Directions: Identify which bad effect to the environment results from the following changes in matter. Choose the letter of the best answer.

- A. Air pollution
- B. Deforestation
- C. Soil Pollution
- D. Water Pollution

1. illegal logging of trees
2. burning of wood
3. using disinfectant sprays
4. dumping rusted tin cans in the sea
5. making rice fields into a residential lot

Activity 2

Directions: The following are activities whereby materials undergo change. As a Grade Five learner, how will you change these activities in order to have a good effect on the environment.

1. You have a loaf of bread which was not eaten for two weeks already. When your mother checked the bread, she saw some mold on it. Your mother throws these bread inside the trash bin together with the other non-biodegradable waste materials.
2. At home, you have a pile of tin cans with rust. Your brother dumped these tin cans in the land at your backyard.
3. Your family went to the beach. While swimming, you and your cousins used a shampoo and rinsed it in the sea.
4. Your father is fond of reading news in the newspaper. Over the years, he has collected many piles of newspaper stocked in your house. Your mother sees these newspapers as something that occupies space in the house, so she decided to burn all these.
5. Mang Kanor has poultry. He always throws the chicken manure into the river at the back of his house.

Activity 3

Directions: Write YES if the following changes in matter have a good effect on the environment and NO if it has a bad effect.

1. Burning of trash



<https://www.publicdomainpictures.net/en/view-image.php?image=54932&picture=burning-fire>

4. Decomposting of garbage at the canal



<https://pxhere.com/en/photo/1171049>

2. Stitching holes of clothes



<https://www.pxfuel.com/en/free-photo-oqqjh>

5. Emission of unfiltered gas from factories



<https://www.pxfuel.com/en/free-photo-eynis>

3. Rotting trash from unkept trashbins



<https://www.pexels.com/photo/food-city-road-people-2865954/>



What I Have Learned

Directions: Fill in the blanks with the correct answer to complete the thought of the paragraph.

Some changes in matter may results to 1._____ or 2._____ effects in the environment. We have to do our share in maintaining 3._____ environment. We must 4._____ too much use of electricity and gasoline. We must also avoid 5._____ rubber tires and plastics. We must avoid practices that will produce acid rain, increase global temperature, or deplete the ozone layer.



What I Can Do

Directions: List down activities that you can do with the following materials to save and protect the environment.

1. left-over food
2. rusted tin cans
3. empty boxes

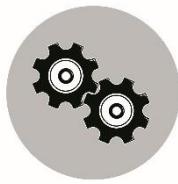


Assessment

Directions: Read and answer the questions carefully. These focus on explaining how changes in matter affect the environment. Write the letter of the best answer.

1. The following activities cause a change in matter. Which of these has a bad effect on the environment?
 - A. slicing fruits
 - B. sewing clothes
 - C. peeling vegetables
 - D. breaking empty bottles of liquor
2. The following are effects in the environment by the changes in matter. Which of these has a good effect on the environment?
 - A. air pollution
 - B. composting
 - C. deforestation
 - D. water pollution
3. Many families use wood as fuel in cooking food. What is the bad effect on the environment of this activity?
 - A. deforestation
 - B. air pollution
 - C. land pollution
 - D. water pollution
4. The following activities can be done to candy wrappers. Which of these can help protect and save the environment?
 - A. throw garbage into the river
 - B. scatter candy wrappers in the backyard
 - C. cut out candy wrappers to make pillows
 - D. burn candy wrappers because these are biodegradable wastes
5. Water pollution is one of the bad effects in the environment by the changes in matter. Which of the following can minimize bad effects in the bodies of water?
 - A. oil spills from a cargo ship
 - B. bringing trash bins when having a picnic in the beach
 - C. throwing detergents and other chemicals in the river
 - D. using bath soap and shampoo in swimming at the beach

6. Your mother is a dressmaker. At home, you have plenty of strips of cloth. To avoid bad effect on the environment, what is the best way to do with these strips of cloth?
- A. Make the strips of cloth as charcoal.
 - B. Keep these strips of cloth in the bodega
 - C. Make these strips of cloth as rags.
 - D. Throw these strips of cloth to the landfill.
7. Typhoon Ursula caused landslide and flood. Which of the following should we do to avoid these things to happen again?
- A. Make forest into residential areas.
 - B. Throw garbage anywhere you want.
 - C. Plant more trees in our surroundings.
 - D. Cut more trees to build more things at home.
8. Tin cans with rust are being recycled by putting spray paint. Why does this activity cause harm to the environment?
- A. Spray paints are expensive.
 - B. Spray paints can prevent the spread of rust.
 - C. Spray paints are sometimes unavailable in the market.
 - D. Spray paints have a poisonous chemical that makes the air polluted.
9. When land is dumped with garbage, the land becomes polluted. The polluted land will serve as the breeding places for pests that carry germs, hence dangerous to human health. As a child, you can do the following activities to avoid this problem, except one.
- A. Make a compost for all decaying materials.
 - B. Recycle and reuse non-biodegradable waste materials.
 - C. Throw all waste materials in one area in your backyard.
 - D. Segregate waste materials into biodegradable and non-biodegradable.
10. Gas when exposed to heat can produce smokes. These smokes can release chemicals that contribute to global warming. As a Grade Five Learner, which of the following should you do to lessen the production of smokes in our environment?
- A. Burn dry leaves.
 - B. Use charcoal in cooking.
 - C. Use a lamp with gas in studying at night
 - D. Walk only to places with near distance instead of riding in a vehicle.



Additional Activities

Directions: Study the activities below. Draw a happy face (☺) if it shows good effect on the environment and a sad face (☹) if not.

1. sewing of clothes
2. building houses
3. making of toys
4. selling of old newspaper
5. burning of tires



Answer Key

Assessment	Activity 1	Activity 2	Activity 3
What's More	Additional Activities	What I've Learned	What I Know
What's In	What I've Learned	What I Know	What's New
Answer Key	Answer Key	Answer Key	Answer Key

Assessment

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

Activity 1

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

Activity 2

1. I will tell my mother to use the bread for composting.
2. I will tell my brother to recycle the tin cans.
3. I will tell my cousins not to rinse their hair in the water but in the shower.
4. I will tell my mother to sell the newspaper.
5. I will tell Manning Kanner to use the chicken manure for the newspaper.

Activity 3

1. NO 2. YES 3. NO 4. NO 5. NO

What's In

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

What I've Learned

1. good 2. bad 3. healthy 4. avoid 5. burning

What I Know

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

What's New

1. good 2. bad 3. good 4. bad 5. bad