

Lesson
2



5 Rs Technique

Important Question

How can we manage waste materials?

You Already know how to recognize useful and harmful material. You can now apply what you have learned in the management of waste.

You may already learned about the 3Rs strategy in waste management. The three Rs stand for reduce, reuse, and recycle.

Other than the three Rs, environmentalists propose that to effectively manage waste, the 5Rs techniques can be practiced. For this lesson, you will learn about recover and repair in addition to reduce, reuse, and recycle.





1. REDUCE

To Reduce simply means to lessen the amount of waste in the environment. This can be done by using less materials that are readily disposable either biodegradable or nonbiodegradable.

It is therefore important to rethink on kind of products we are going to purchase and whether these products would benefit both humans and the environment.

We can do the following:

1. Buy rechargeable batteries instead of disposable batteries for our gadgets. This way, we can minimize waste and save money at the same time.
2. Buy products in bigger packs than those packed in small sachets, Small sachets prevents excessive use of a product, but such practice can increase the production of nonbiodegradable waste because more plastic sachets will be discarded.
3. Another way to reduce waste is to reuse materials .



2. REUSE

To Reuse means to use again or find other ways to use a material, and the examples are as follows:

1

Use eco-bags when shopping or going to the grocery store.

2

Use reusable containers when packing, storing food or drinks, and even when buying drinks.

3

Use the properties of a material and find some other use for it. For example, empty bottles may be sold to junk shops or small retailers that need small containers for packaging, which minimizes waste and generates extra income for the household.

4

Refrain from buying new materials when you still have supplies than can be reused. This way, existing materials with or without minor damage can be used again for the same or different purpose, for example, you can reuse water bottles as liquid containers.

5

Donate clothes and other useful materials to some organization that conduct relief operations during calamities.

6

Conduct a garage sale, not just for clothes but for other items that can still be reused.

Example of Reuse



Use eco-bags when going to the market or grocery. These are more durable compared to plastic bags and also environment friendly.



Cans, bottles, cardboard, and papers are examples of materials that can be reused or recycled.

3. RECYCLE

To Recycle means to create a new product using a material that has already served its purpose. Recycling is different from reusing. Recycling produces a new material out of discarded ones. While reusing uses the same material again for the same or different purpose. For example, glass bottles can be reused as containers of other liquids or materials. However, stained glass bottles can be recycled to form a new product like bottle chimes or paper weights. Instead of reusing the bottles, a new product may be formed in recycling. It's a new purpose should be formed in recycling . It's a new purpose should be different from its original function but the idea of minimizing waste has been achieved.



Old boots can be used as a decorative pots

RECYCLE

Recycling prevents wastage of a material than can actually be useful for a different purpose. It also reduces the use of raw materials.

For example, to make fresh paper, a tree has to be cut, but by recycling used papers to make writing paper, no tree needs to be cut anymore.

Recycling not only helps reduce waste. It also provides a source of income to families by selling the new products they formed from discarded materials.

LET'S GO BEYOND



There are two types of recycling the upcycling and downcycling. Upcycling is a way to make a higher quality material from its original value. On the other hand, downcycling converts waste materials into new product with lesser quality. Think some examples for each of these processes.

4. RECOVER

All forms of matter have energy. There are various ways of recovering energy from a certain material. So how can energy be recovered from waste? Plastic-to-oil technology is one way of generating energy from plastic wastes. This method involves heating plastic wastes in the presence of water and processing them to produce crude oil. Then, the oil can be used as a source of energy later on.

According to American Chemistry Society, the fuel from this technology cannot only significantly reduce the amount of waste in the environment but it can be used to oil and fuel in generating electricities for small communities.

Recovering wastes is not limited to recovering energy. It also involves segregation of materials in a recovery facility. Collected garbage does not go straight to dumpsites. Most of the time, the waste are segregated in a **Materials Recovery Facility** (MRF). In an MRF, collected garbage is segregated in order to recover recyclables and biodegradables materials that can be used as compost ingredients. Through MRFs, the amount of the waste to be disposed of in landfills is reduced.

5. REPAIR

To repair means to fix slightly broken things to make them useful again. Repairable materials include furniture, appliances, and clothes. Instead of discarding broken or busted materials, they can be checked for repairability. If still repairable, these should be repaired instead of buying new materials to replace them.





THANK YOU

