UNIT 1

MATTER

Objectives of this Unit

- Identify the properties of materials determine whether they are useful or harmful
- Describe how materials undergo changes due to oxygen and heat

BIG QUESTION

- What are the different properties of matter that can make it harmful or useful to minimize waste?

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

Matter has different properties that make them different from one another. Some type of matter 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 their properties. In the next chapter, you will learn how to identify the different properties of matter that can help us to determine whether it is harmful or useful.

CHAPTER 1

HOW ARE PROPERTIES OF MATERIALS USE TO MINIMIZE WASTE?

Objectives of this Chapter

- Identify the different characteristics of materials that make it useful, and harmful
- Learn how to segregate waste based on its properties

BIG IDEA

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

Knowing the different properties of materials will help you to minimize waste.

Earth has everything we need to survive. There are also things that can harm us. For example, it has all the food that we eat to get the nutrients and energy in order to live. However, food once rotten can harm and destroy us.

This is why it is important to know how to distinguish useful from harmful material. It can save us from danger and distress.

How can you identify if a certain material is useful or harmful? In this chapter, you will learn more about the properties that can make a material harmful and useful.

LESSON 1

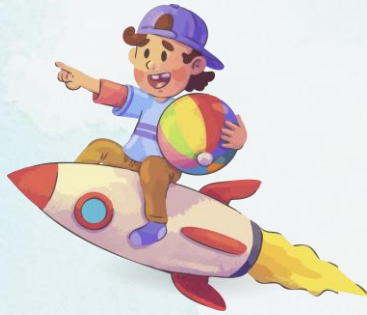
RECOGNIZING USEFUL AND HARMFUL MATERIALS

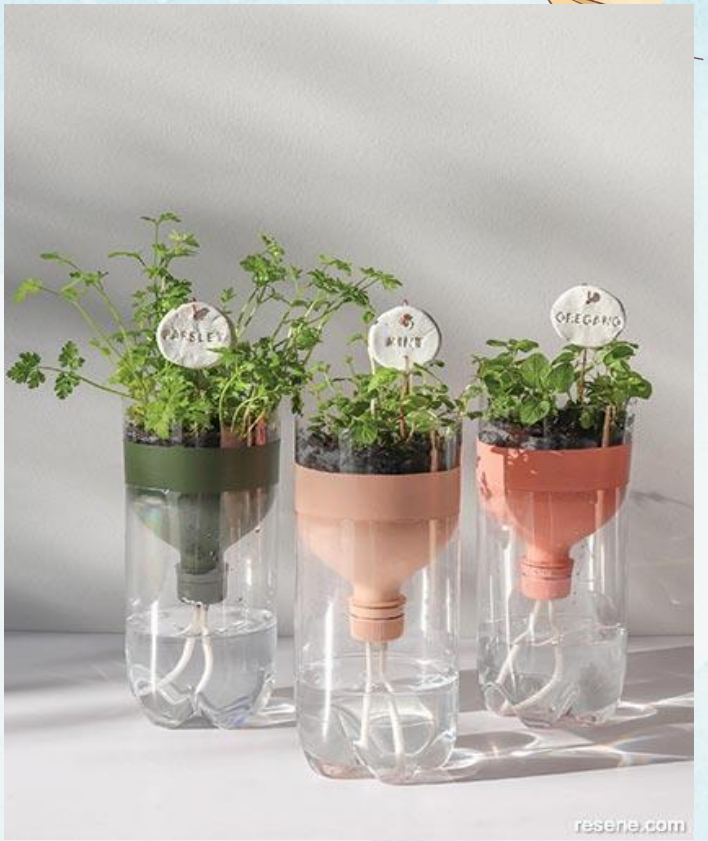
You use different materials for cleaning, cooking, eating, and repairing. The usefulness of a certain material depends on its properties. There are materials that are durable and therefore can be reused many times. Though there are some that are not meant to be reused, creative and inventive people still find other ways to use them.

There are also materials that are made for certain purposes only and can be harmful when not used or disposed properly.

In order minimize waste in our own household, we have to know which materials are still useful and which one should already be disposed.

Before throwing away any material, you must first check if it can cause harm to living things and the environment.





used water bottle can be made into a flower pot.

When is a material useful?

Materials are considered useful when it serves a purpose. These materials may have properties such as durability, resistance to water, heat, or acid, flexibility, elasticity, and hardness. Some useful materials can also be reused, take for example, a container for any solid or liquid material.

When is a material useful?

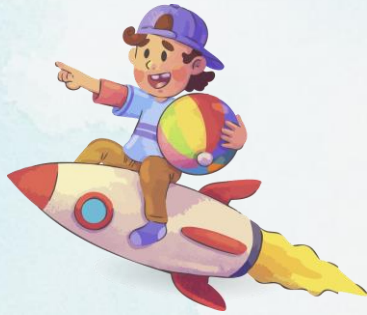
When it is already empty, it can still be used for other purposes—as a flower vase, a coin bank, or house décor. Whether a bottle is made of plastic or glass, it has a property that makes it reusable.

When is a material is harmful?

Some useful materials may also bring hazards. For example, broken glass jar can cause cuts or injury. Toxic substances may also be present in the things you commonly used such as paints, cleaners, fumes, gels, or powders.

When is a material is harmful?

These materials may bring harm to your health, environment, and other organisms when not used properly. That's why you should take precautionary measures when handling and using different materials.



When is a material considered waste?

When a material already served its primary use and can be discarded, it is considered a waste. Waste can be classified as biodegradable and nonbiodegradable.

- **Biodegradable materials** can be decomposed by bacteria or other living things. Examples include fruit peelings, dried leaves, leftover food, paper and the likes.

- **Nonbiodegradable materials** do not rot easily. Examples are plastic, Styrofoam, cans, glasses, and the likes.

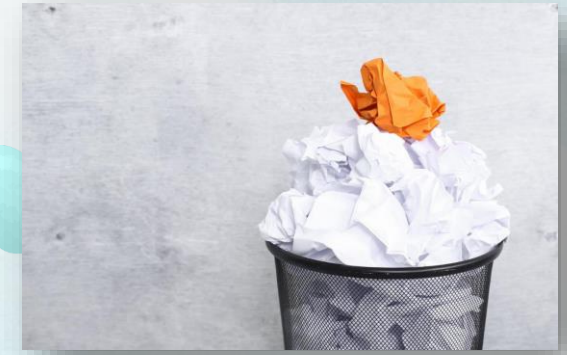
Waste materials are safely disposed into a landfill.

A **landfill** is a dumping site where waste materials are covered with layer or soil. This is done so as not to pollute the surrounding land.

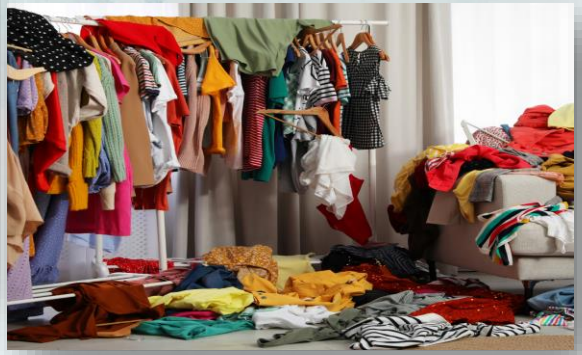
Waste materials thrown in a dumpsite can be safe or harmful. Safe waste materials are not poisonous or toxic. Some of it can even be reused or recycled. Example of waste materials include paper, clothing, plant parts, and food. Paper and clothing can be recycled while plant and food can easily decompose and can be used as source of organic fertilizer.

Ex. Of waste Materials

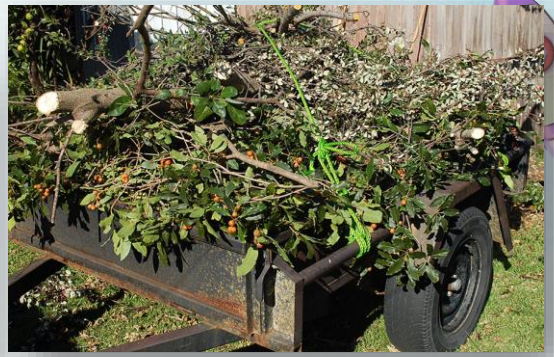
PAPER



CLOTHING



PLANT PARTS

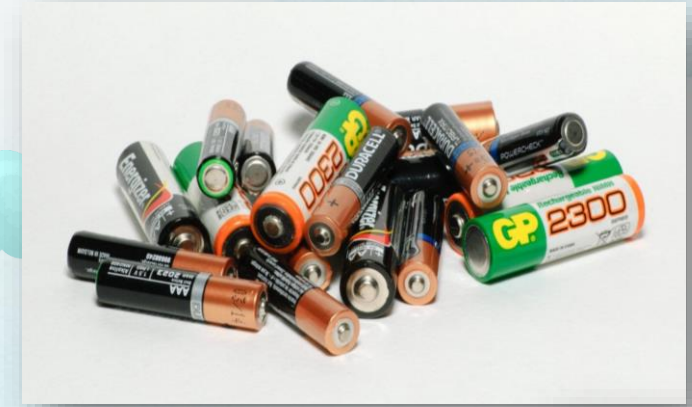


FOOD

Harmful waste materials, on other hand, cannot be dumped straight into a landfill. These materials can be toxic or harmful to living things when not disposed properly. Examples of toxic waste include batteries, rubber tires, and paint.

Ex. Of Toxic waste

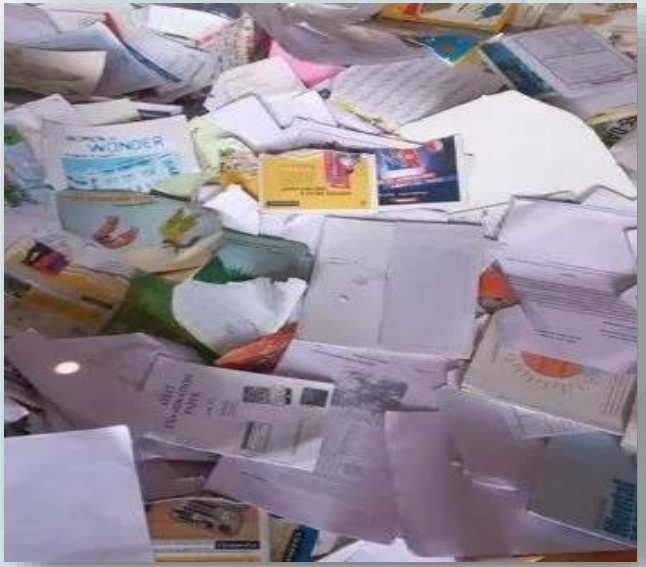
BATTEERIES



RUBBER TIRES

PAINT

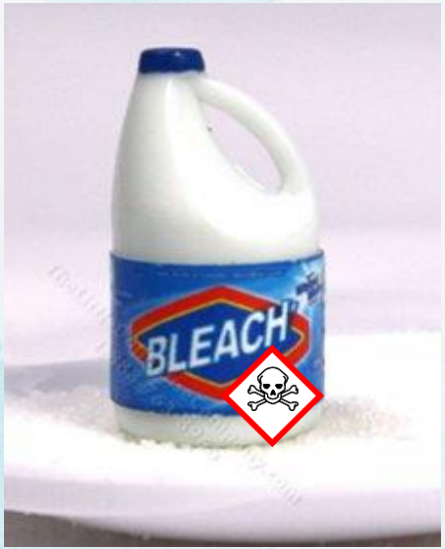
Paper and food scraps are examples of safe materials.



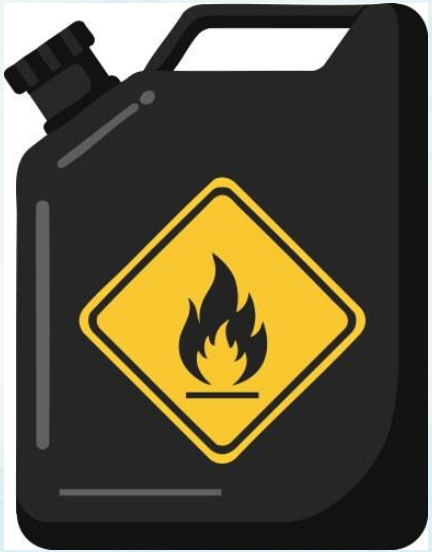
PAPER

FOOD SCRAPS

Are households materials with warning signs such as poison for bleach and flammable for gasoline



BLEACH



GASOLINE

THANK YOU!!!