

BIOLOGY WORKSHEETS

based on

Know Want Learned Strategy



MITIGATION & WASTE MANAGEMENT

E PHASE

10TH GRADE SENIOR HIGH SCHOOL

Date:

WORKSHEETS

based on

Know Want Learned Strategy

Topic : Mitigation and Waste Management
School Grade : SMA
Grade/Semester : X/2
Time Allocation : 90 menit
Name : 1.....
2.....
3.....
4.....

Instructions

1. Start today's learning by praying
2. Form groups consisting of 3-4 students randomly
3. Fill in the group identity in the column provided
4. Before starting to work on the worksheets, read the work instructions carefully and work together as a group
5. Follow every command contained in the worksheets
6. Be honest in collecting and writing down observational data
7. Download/view the learning resources included in the worksheets or use other resources to help answer the questions on the worksheets
8. Ask for guidance from the teacher if there are unclear instructions or questions in the worksheets

Goals

1. Through discussion and QNA activities, students are able to analyze the causes and effects of the waste problems in their environment.
2. Through group discussion activities, students are able to formulate solutions to handle waste problems in their environment.
3. Through presentation activities, students are able to communicate methods for managing waste problems in their environment.

PHASE 1**What Did You Know?**

Before you learn about **Mitigation and Waste Management**, you must first fill in the column below which shows your initial knowledge about **Environmental Changes**.

What do you know about environmental changes?

Know

Explain the causes of environmental changes!

Know

PHASE 2**What You Want to Know?**

After you have written down what you know about environmental change, now write down **what you want to know**.

Explain the causes of environmental changes!

Want

Problem Orientation

ORGANIC WASTE DOMINATES 60% OF DAILY TRASH IN SURABAYA

The Surabaya Environmental Services Agency (DLH) has recorded that the volume of waste entering the Benowo Landfill (TPA) Benowo is around 1,600 tons per day. Of this waste volume, 60% is dominated by organic waste.

The Head of the Surabaya City Environmental Services Agency (DLH), Agus Hebi Djuniantoro, stated that 60% of the waste entering the Benowo Landfill is organic. The rest is inorganic waste.

"So, organic waste is around 60% according to our data. The most abundant type is organic waste, such as from food scraps and vegetables," said Agus Hebi Djuniantoro.

Investigation

After reading the news, answer the questions below to **gather the information** obtained.

In your opinion, why does organic waste dominate the waste that goes to the Benowo landfill?

What is the negative impact of organic waste on the environment?

One way to overcome the negative impacts caused by organic waste is to process the waste. How can you process the organic waste so that it can be more beneficial for the environment?

Planning Problem Solutions

After understanding the existing problem, create a design for a **real solution** to the problem.

Problem Statement

After understanding the existing problem, we knew that:

1. High volume of organic waste
2. We must find a solution to utilize existing organic waste into products that are useful for the environment so that it does not become a pile of rubbish

Designing an Experiment

After understanding the existing problem, create a design for a real solution to the problem. Before that, maybe this video can help you find a solution.



Solution to the Problem

Tools and Materials

Tools:

Materials:

PHASE 3

What Did You Learn?

From the activities you have carried out, write down what you have **learned** and **gained**. Connect it with the previous questions you have created in phase 2.

What have you learn from today's lesson?

Learn