

# LESSON NOTE FOR WEEK FIVE (5)

**SUBJECT TEACHER:** MR. PRINCEWILL WILSON

**TOPIC:** Environmental Hazard – Soil Erosion

## OBJECTIVES

In today's class, we will be talking about soil erosion. Enjoy the class!

### Environmental Hazard – Soil Erosion

An environmental hazard is the state of events, which can threaten the immediate natural environment and adversely affects every living organism that inhabits the environment. This is brought about as a result of the introduction of toxic chemicals, biological or physical elements into the natural environment. These elements are introduced into the environment by either Human activities or natural process. Types of environmental hazard include soil erosion, bush burning, flooding, etc.

### Soil erosion

Soil erosion is the wearing away of the topsoil which may be caused by wind, water and other human activities. It mostly occurs in two steps, these are:

1. The detachment of soil particles.
2. The movement of the eroded soil particles down a slope.

### Types of erosion

The different types of erosion are:

1. **Sheet erosion:** Sheet erosion is the uniform-wearing or washing away of the topsoil. In the topsoil layer, soil particles are mostly removed by the forces of raindrops and are transported away from their original location.
2. **Gully erosion:** Gully erosion occurs when the surface flowing water rapidly removes soil particles from the land.
3. **Rill erosion:** Rill erosion is caused mainly by rainwater on cultivated farmland. It occurs when rainwater does not sink into the soil, it then accumulates and runs through the land by removing the topmost soil particles.
4. **Wind erosion:** Wind erosion is a natural process in which wind removes the topsoil of land and transports it to another location. This type of erosion usually occurs on flat, dry and sandy land.

### Causes of soil erosion

Some human activities lead to soil erosion, they are:

1. **Farming:** Agricultural processes such as planting, bush clearing, tilling of land, etc. usually expose the land and makes it vulnerable to erosion.
2. **Bush burning:** Burning bush for hunting purpose and burning of the cleared-out bush to prepare for a new planting season can destroy the soil structure, makes the land vulnerable to soil erosion.

3. **Construction:** construction works involve clearing of bush and use of several heavy types of equipment such as bulldozers, etc. Bush clearing exposes the ground while heavy equipment results in tearing of the soil, all these acts aid erosion.

4. **The slope of the land:** The slope of the Land determines the rate at which erosion will occur on such land, i.e., the steeper the slope, the greater the speed of the water running across the land, thereby subjecting the land to more erosion.

5. Desertification
6. Heavy rainfall
7. Deforestation
8. Industrialization
9. Overgrazing

### **Control of soil erosion**

Soil erosion can be controlled in the following ways:

1. **Mulching:** Mulching is done by covering beds, ridges, with dry grasses. Mulching helps to protect the soil structure, soil temperature and at the same time control soil erosion.
2. **Terracing:** terracing is making series of ridges across a slope. It makes the water flowing across a slope to slow down, thus breaking the speed of the flow.
3. **Planting of cover crops:** Planting of cover crops helps to cover the soil and thereby preventing them from being exposed to agents of erosion.
4. **Crossbars:** Crossbars are ridges made on land to reduce flood. The ridges are made on hillside farmland so that the flood that runs down the slope will be blocked and reduce erosion.
5. Careful tilling of the soil
6. Avoid bush burning
7. Provide good water control system
8. Avoid overgrazing

### **Effects of soil erosion**

Some of the effects of soil erosion include:

1. It destroys soil structure.
2. It can lead to water pollution.
3. Loss of soil fertility.
4. It can lead to the collapse of buildings.
5. It can make road transportation difficult.

### **ASSIGNMENT**

1. What is Soil Erosion?
2. What are the causes of Soil Erosion?
3. How can Soil Erosion be controlled?