

LESSON NOTES

Subject: Basic Science

Year/Level: 10

Week 9

Strand	1 : LIVING THINGS AND THE ENVIRONMENT
Sub Strand	1.3 : BIODIVERSITY, CHANGE AND SUSTAINABILITY
Content Learning Outcome	Research the importance of the marine ecosystem and investigate man's activities that have influenced the resources of the different communities of this ecosystem and describe measures taken to conserve them.

Human threats on Coral Reefs

- overexploitation especially:
 - destructive fishing
 - mining of corals and sands.
- **Activities on land pose the greatest threat**
 - ✓ increasing rate of sediment and nutrient pollution caused by growing populations in coastal areas.
 - ✓ increasing range of global threats are driven by climate change.
 - ✓ Increased sea surface temperatures are stressing and killing corals through bleaching.
 - ✓ **Coral Bleaching:**
 - occurs when corals lose their symbiotic algae –zooxanthellae that provide them with most of their energy, resistance to UV radiation and their colour.

Effects of Human Threats on Corals:

- **Increase Carbon dioxide concentration:**
 - ✓ Makes seawater more acidic
 - ✓ reduces the calcium in corals.
- an increase incidence in coral diseases and plagues of coral predators such as crown of thorns starfish.

MARINE RESOURCES

1. **Mangroves**

- ✓ trees that grow in intertidal salty environments because they can't tolerate frequent flooding and are able to obtain fresh water from salt water.
- ✓ secrete excess salt through their leaves and block absorption of salt at their roots some more than others.

✓ **Importance of Mangroves:**

- Habitat
- providing food
- shelter
- nursery areas for fish, birds, crustaceans and other marine life.
- provide a source of livelihood for many humans around the world, including:
 - ❖ wood for fuel
 - ❖ charcoal
 - ❖ timber
 - ❖ areas for fishing
- form a buffer that defends coastlines from:
 - ❖ flooding and erosion
 - ❖ land stabilization
 - ❖ nutrient cycling
 - ❖ processing pollutants (including absorption of heavy metals)

Note:

- Many types of marine and terrestrial life utilize mangroves.
- Animals inhabit (live):
 - ✓ the mangrove's leafy canopy
 - ✓ waters underneath the mangrove's root system
 - ✓ nearby tidal waters and mudflats.

ACTIVITY:

1. State two human threats on Corals.

a) _____

b) _____

2. Define Coral Bleaching.

...STAY SAFE... 