

PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI
LESSON NOTES

Year/Level: 12C/D

week 11

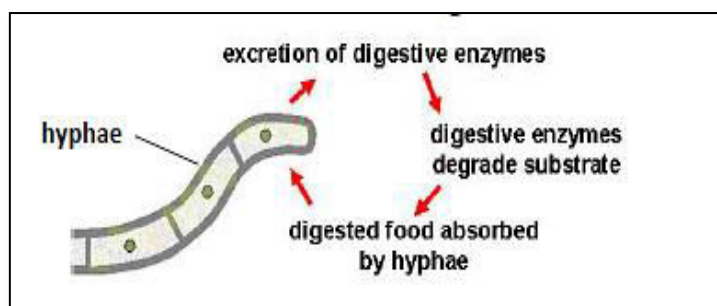
Subject: Biology

Strand	1 structure & life processes
Sub Strand	1.4 comparative form and function in plants and animals
Content Learning Outcome	-Identify the difference between external and internal digestion. -Discuss the process of digestion in selected organisms.(bacteria and cnidarian)

DIGESTION

- Digestion mechanical and chemical processes to break up food into smaller or simpler constituent parts that can be absorbed by the body.
- Different organisms have different methods to digest food.
- The two common modes of digestion are **external digestion** and **internal digestion**.

External digestion is where food is digested from the outside through secreting enzymes that degrade food material and then absorbed through diffusion.



- Cnidarians as well as some bacteria and parasites also employ external digestion for obtaining nutrients.
- But most bacteria and fungi are decomposers, or saprophytes. They secrete digestive enzymes onto dead matter and wait for the enzymes to decompose the food which is then absorbed into their cells using active transport.
- External digestion is not suitable for mobile organisms as it requires the organisms to stay with food until it has completed digestion and absorption.
- Whilst, most bacteria and fungi species are not motile, external digestion saves them the energy expense of taking in large molecules and having digestive organs.

Importance of Decomposers

- Without decomposers, the world would soon be buried in dead leaves, animal corpses (dead body) and faeces.
- Plants would run out of minerals and without minerals, plants would not photosynthesize and the living world would suffocate and starve as it runs out of oxygen and food.
- Saprophytic bacteria and fungi quietly go about their business of acquiring energy from dead organic matter, and keep the world community alive by breaking down dead organisms and releasing minerals.

Exercise

Fungi and bacteria have external digestion.

(i) Explain what external digestion means.

(ii) What is the potential disadvantage of external digestion?

(iii) Why is this disadvantage not a problem for fungi?

2. Organisms who feed on dead organic matter and carry out extracellular digestion are

- A. birds.
- B. protists.
- C. insects.
- D. bacteria.