EXPERIMENT 8 : PLANT DIVERSITY – BRYOPHYTES AND PTERIDOPHYTES

Course Learning Outcome:
Solve problems related to transport system processes, mechanisms for adaptations in living things, ecological and environmental issues in biology.
(C4, PLO 2, MQF LOC ii)

Learning Outcomes:
At the end of this lesson, students should be able to:
i. Identify and label the diagram of species in bryophytes and pteridophytes.

Student Learning Time:

Face-to-face	Non face-to-face
1 hour	1 hour

Direction: Read over the lab manual and then answer the following question.

Check this out: 

Among the primitive plants, mosses are called as the pioneer species because they are the first plants to grow back after a forest fire and volcanic eruption. They break down rocks and put nutrients into the earth so other plants can grow.

Let's take a look at the life cycle of moss here or scan the QR code provided.

Introduction

1. State the unique characteristics of plant in terms of its life cycle.

   _____

2. State **THREE** main divisions/ phyla of bryophytes.

   _____

   _____

   _____

3. State **TWO** main divisions/ phyla of pteridophytes.

   _____

   _____

4. State the major difference between bryophytes and pteridophytes.

   _____

   _____

5. Bryophytes have no true stem, leaves and root while pteridophytes have true stem, leaves and root. Briefly explain the transport system for bryophytes and pteridophytes.

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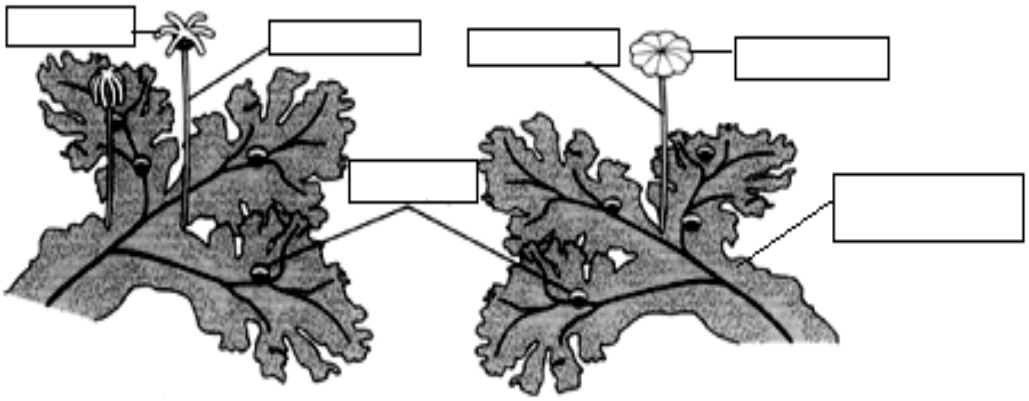
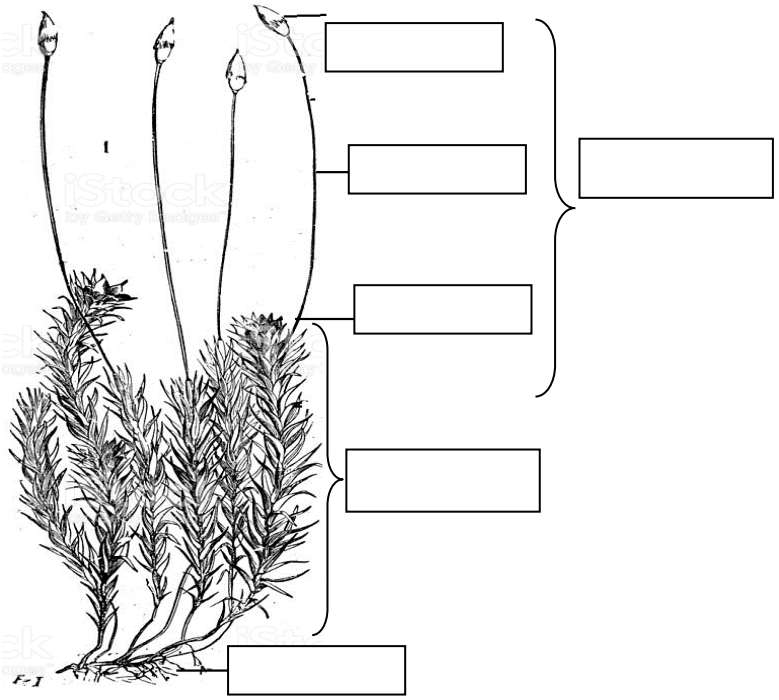
Experiment:

Identify the following structures:

A) BRYOPHYTES

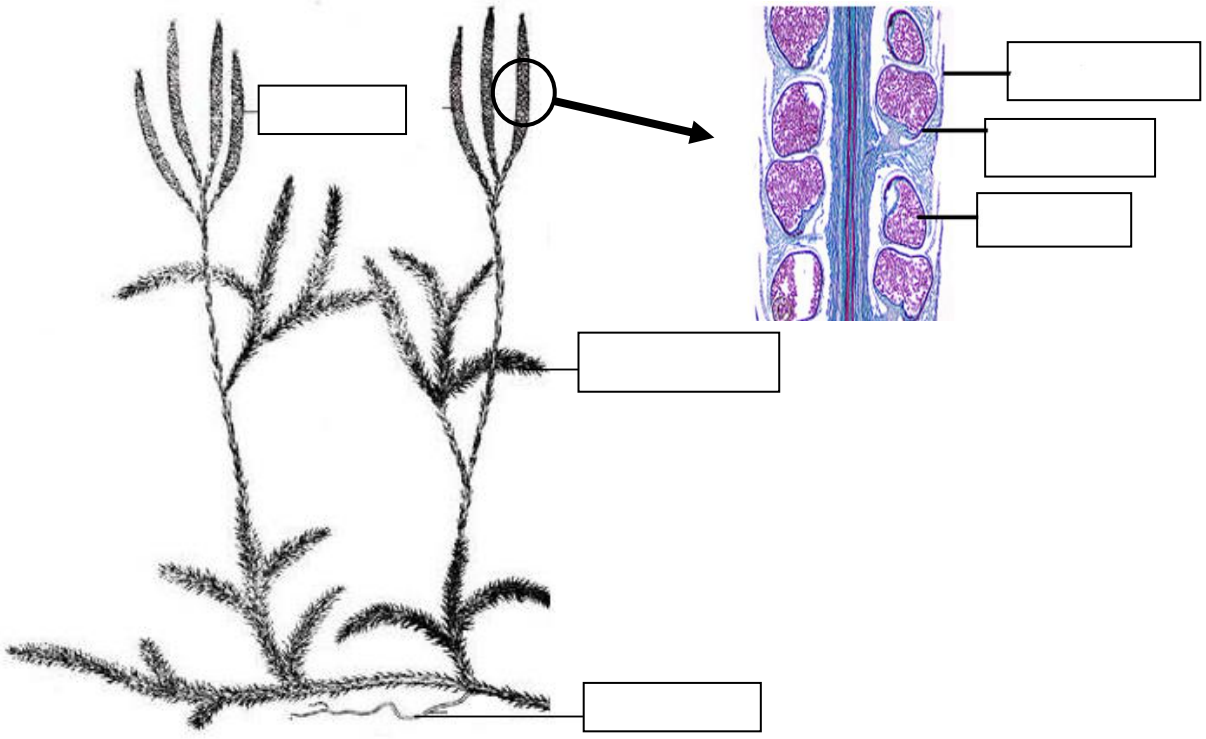


Marchantia sp.

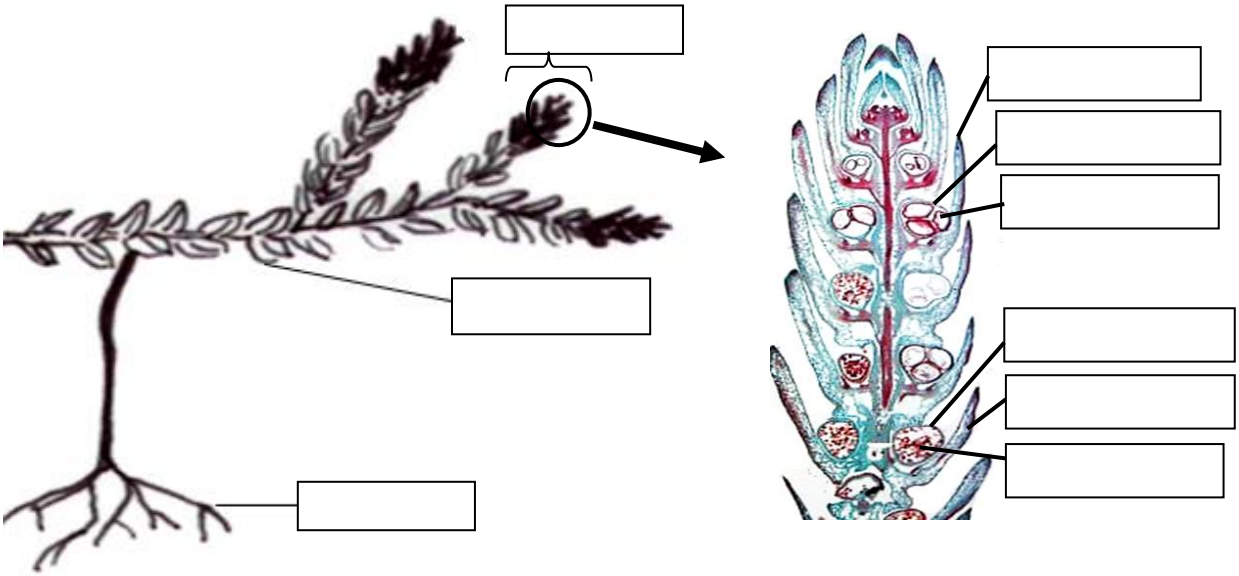


Polytrichum sp.

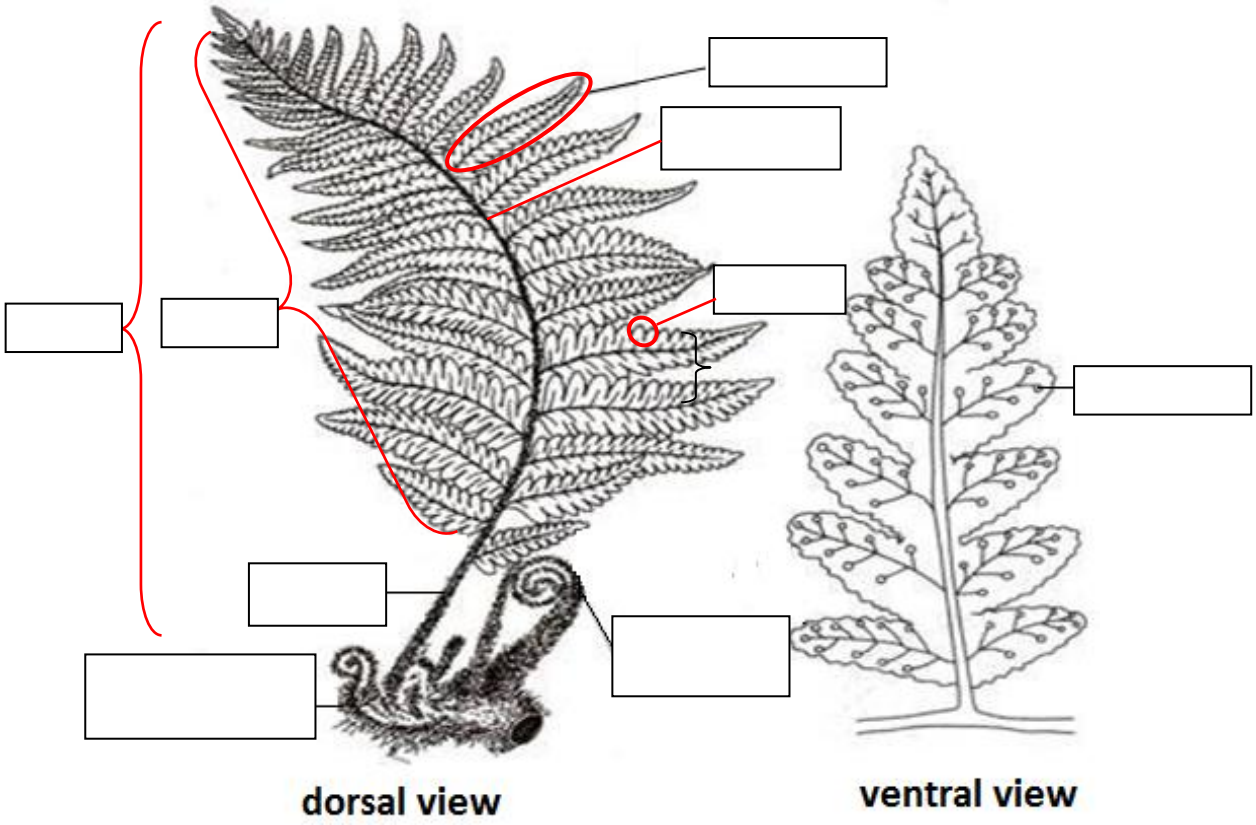
B) PTERIDOPHYTES



Lycopodium sp.



Selaginella sp.



Dryopteris sp.

1. Based on prepared slides observation, complete the table below:

Type of spore		Reproductive structure	
Homosporous	Heterosporous	archegonium/ antheridium	strobilus

2. List the structures that can be observed in longitudinal sections of

   Marchantia sp. capsule : _____

   Polytrichum sp. capsule : _____

   Lycopodium sp. strobilus : _____

   Selaginella sp. strobilus : _____

3. State the ploidy of spores produced in bryophytes and pteridophytes.

   _____

4. Name the spore bearing structure of *Marchantia* sp. and *Polytrichum* sp.

   _____