



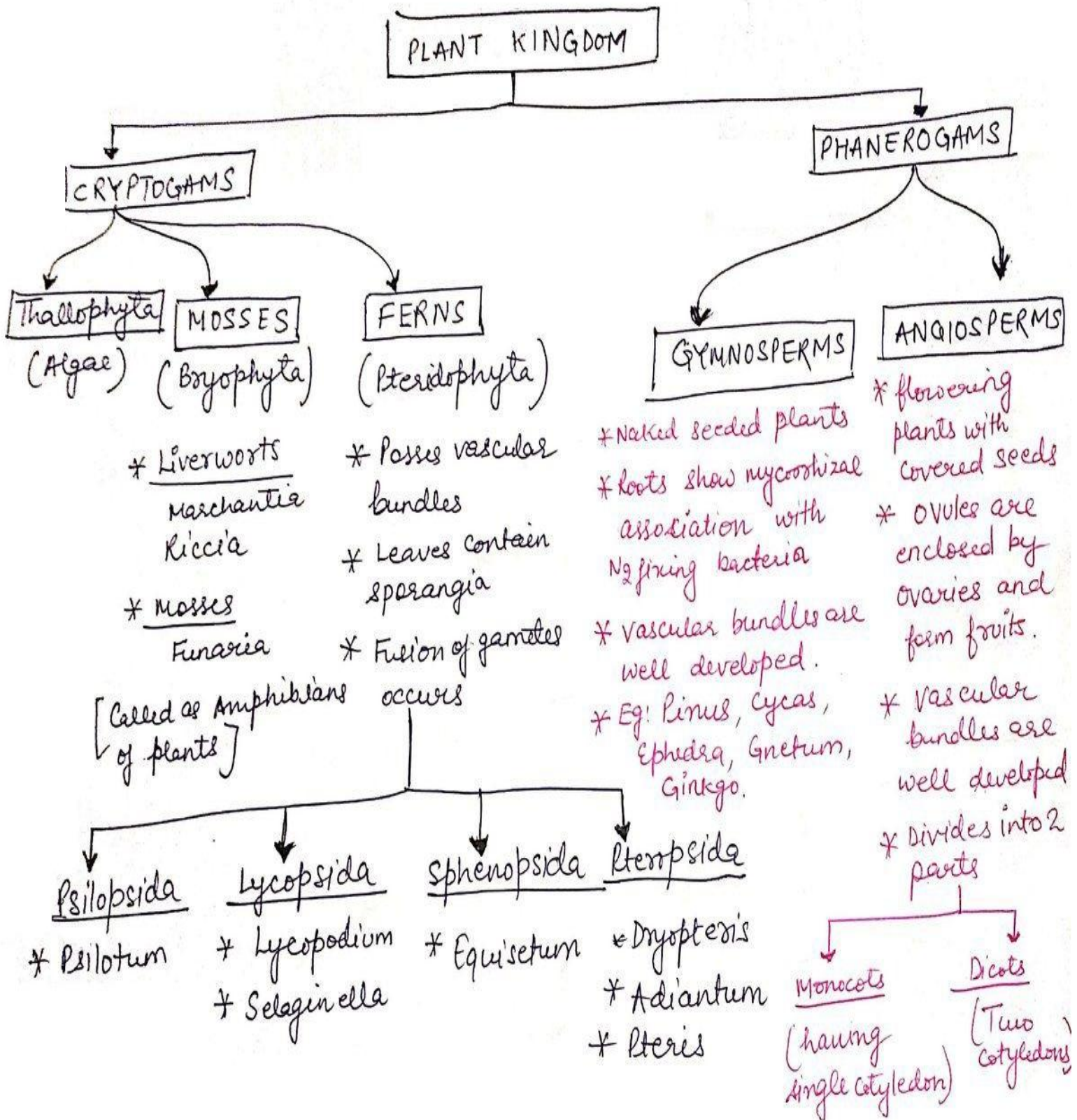
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# Plant Kingdom Part-2

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# Plant Kingdom (Part-2)

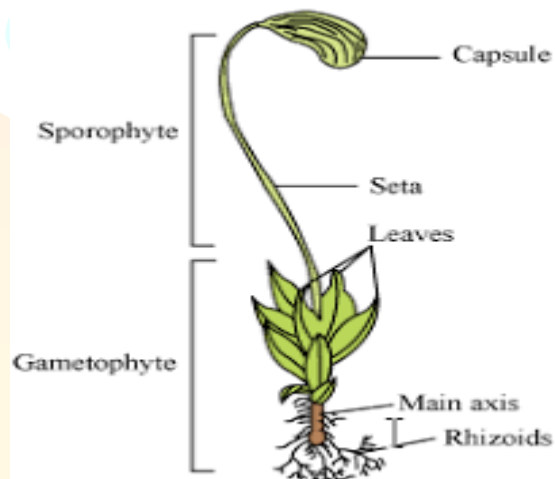


## BRYOPHYTA:

- Known as amphibians of plant kingdom,
- Dominant phase is gametophyte.
- Sex organs are known as Antheridium and Archegonium (female part)
- Divides into two types on the basis of their structure and reproduction
  - I. Liverworts - *Marchantia* and *Riccia*
  - II. Mosses – *Funaria*



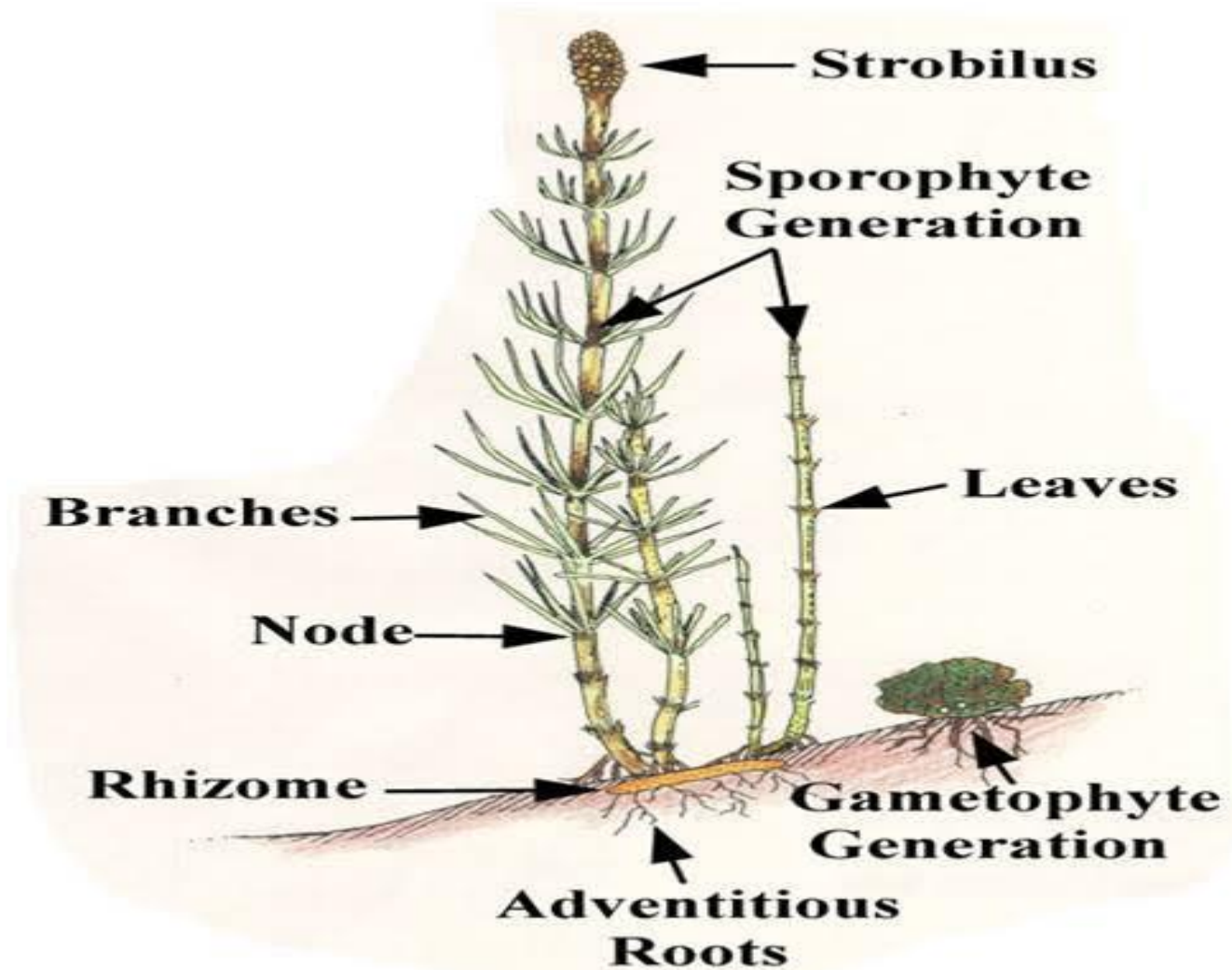
Marchantia



Funaria

## Pteridophyta:

- First terrestrial plants to possess vascular tissues and need water for fertilisation.
- Dominant phase is 'sporophytic'.
- Leaves modified to form sporophylls bearing: sporangia. Sporangium undergoes to form spores.



Equisetum

### Gymnosperm:

- Plants are shrubs, moderate tree or largest tree. (sequoia is the giant/largest tree)
- Vascular bundles are well developed
- reproductive organs are antheridia and archegonia

## Angiosperms:

- These are called flowering plants as the reproductive organs are borne on flowers.
- Vascular bundles are well developed, where Xylem has vessels and tracheids and helps in Translocation of water and nutrients where as phloem has sieve cells and companion cells and helps in transpiration of food sugar). prepared by leaves by the process of photosynthesis
- Flowers are reproductive structure, may be bisexual or unisexual and plants may be monoecious or dioecious.  
Eg: All flowering plants.
- **True fruits** - when thalamus is not included in the formation of fruit,
- **False fruits** - when thalamus is included in the formation of fruit.  
Eg ; Strawberry and Apple.
- In Angiosperms female sex organs of a flower is the pistil/ gynoecium. Pistil has three parts ovary, style, and stigma.
- Male sex organs, stamen, has two parts - a filament and an anther

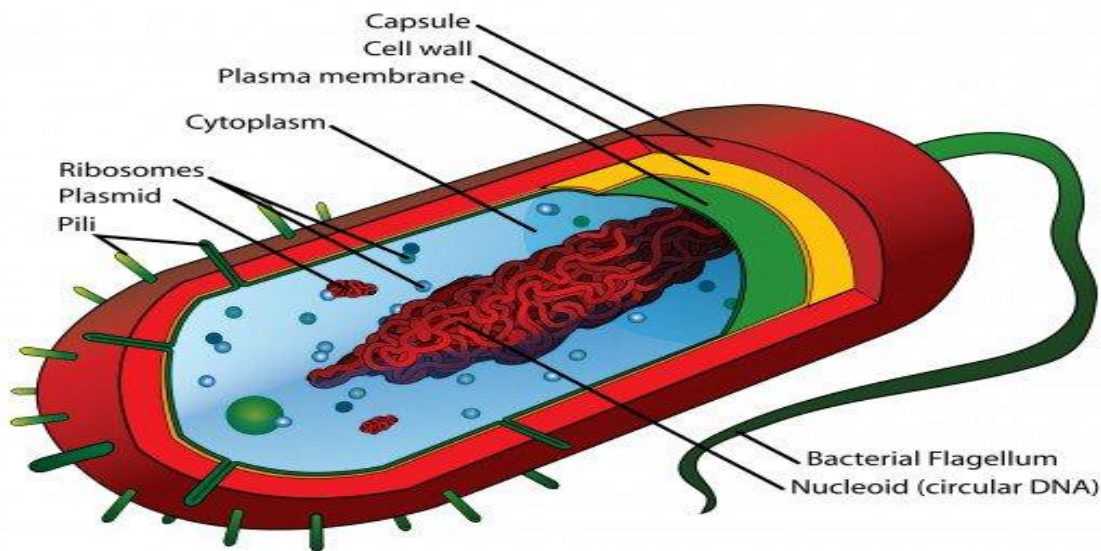
## **BACTERIA**

- Antonie van Leeuwenhoek (known as the father of microbiology)
- Discovered bacteria and classified it under kingdom- Monera
- Word bacteria was coined under the Christian Ehrenberg

## General characteristics



- unicellular ,prokaryotic
- the most primitive organism on earth
- found in every possible habbata  
eg :methenogens halophiles thermoacidophiles
- survive both in presence of oxygen and absense of oxygen



**Aerobic-** in the presence of oxygen

**Anaerobic** - in the absence of oxygen

- obligative when exposed to oxygen the die
- facultative – when exposed to oxygen , they can survive

Smallest- Mycoplasm (0.1micro meter)

Largest – Epulopicium feshelsoni (600 micro meter)

### **Classification of bacteria:** (according to the nutrition requirement)

- Autotrophic
- Phototrophic –depending on light energy to synthesize there organic food.
- Chemotropic – which oxidize inorganic chemicals to synthesize organic there food
- Symbiotic
- Saprophytic
- Pathogenic

### **Classification of bacteria:** (according to shape, size and number )

- **Spherical**- cocci eg:-monococcus, diplococcus,streptococcus,staphylococcus
- **Rod shaped** –bacilli eg:-Bacillus cereus
- **Comma shaped** –vibrio eg:-cholerae
- **Spiral** – spirillum eg:-spirillum volutans

Prokaryotic cell have a cell wall (except mycoplasma).

In addition to chromosomal DNA a circular DNA present known as plasmid.

Cell envelope of prokaryotic ( 3 layer structure )

- a) Outermost structure glycocalyx,
- b) Middle layer , cell wall
- c) Innermost , cell membrane

### **Gram positive and gram negative**

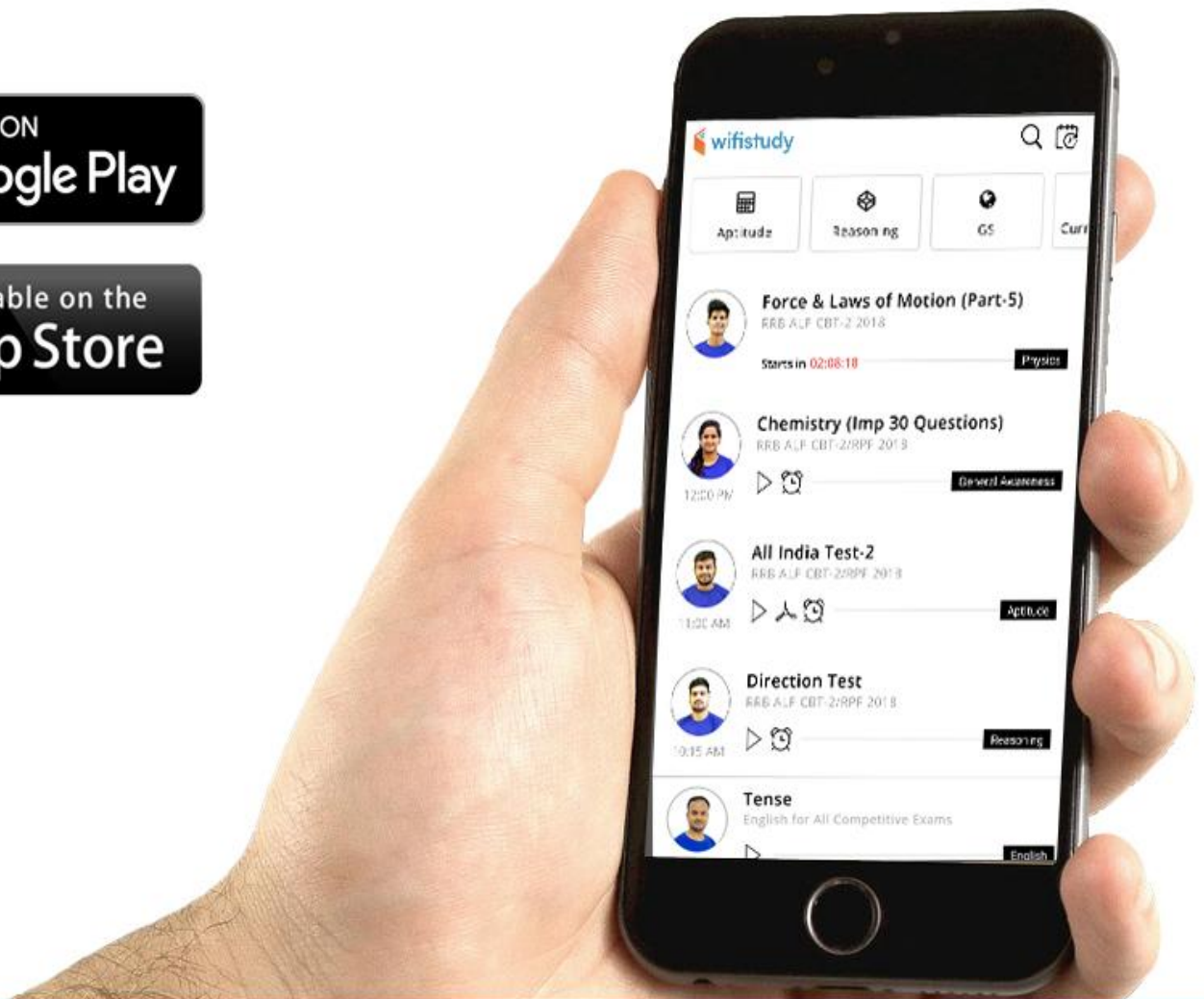
- Gram positive – stain gaining
- Gram negative – do not gain stain

### **Mesosomes:-**

- Extensions of plasma membrane
- Help in –cell wall formation
  - DNA replication
  - Increase the surface areas of plasma membrane



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