Class 11th | Biology

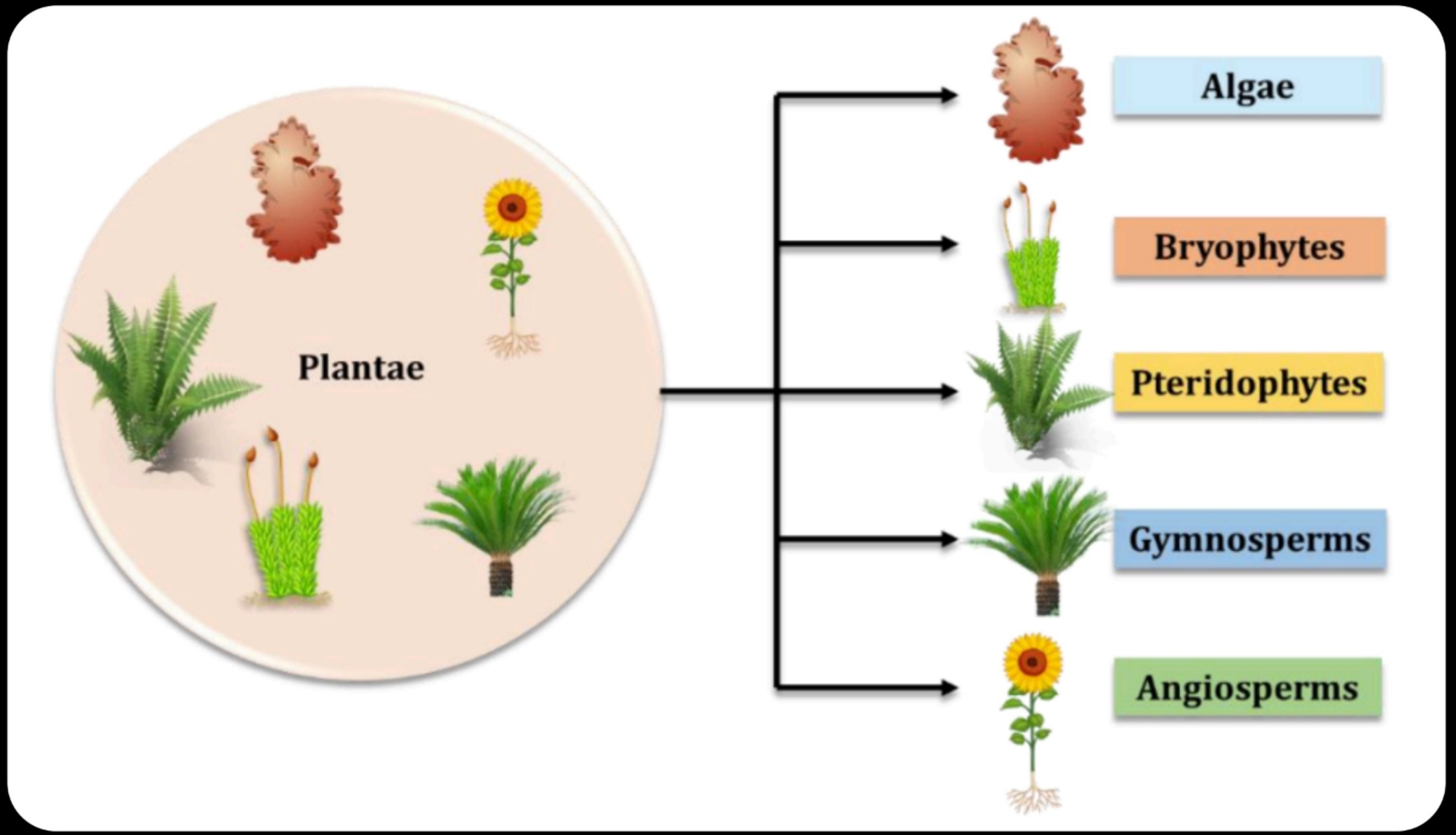
प्रारंभ BATCH

# PLANT KINGDOM

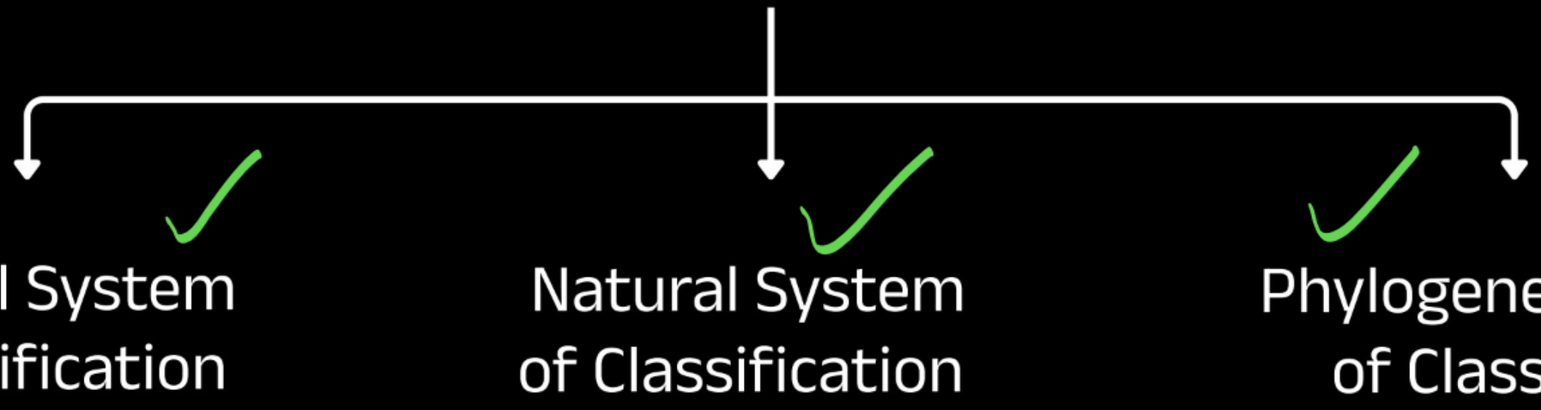
## LECTURE-1


Welcome
Appy's Squad
Chapter
PLANT
Kingdom


HELLO LOVELIESSS AND CUTIESS
PLANT KINGDOM L-1
FROM AAPU MAM <3
APPY KINGDOM FIZZ
BY - Jyotisikha


Plantae
Algae
Bryophytes
Pteridophytes
Gymnosperms
Angiosperms

# CLASSIFICATION OF PLANT KINGDOM



# ARTIFICIAL SYSTEM OF CLASSICATION

- In this type of classification plants are classified on the basis of one or few superficial morphological characters like habit, colour, number and shape of leaves. i.e. over all morphology is not considered.
- Classification proposed by Linnaeus is Artificial, Based on Androecium structure and numbers.
- In this system equal weightage is given to both vegetative and reproductive characters.
- Not acceptable because vegetative characters are more easily affected by environment.

# FASHION SHOW CLASSIFICATION (Plants)

# NATURAL SYSTEM OF CLASSICATION

- NATURAL CLASSIFICATION: - In this type, plants are classified on the basis of their complete (gross) morphological characters of (stem, root, leaves, flowers etc.). Based on natural affinities among the organism and consider not only the external character, but also internal features, like ultra-structure, anatomy, embryology, and phytochemistry.
- Natural classification of flowering plants was given by George Bentham and Joseph Dalton Hooker also.

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# ARTIFICIAL SYSTEM

is like judging people by clothes.

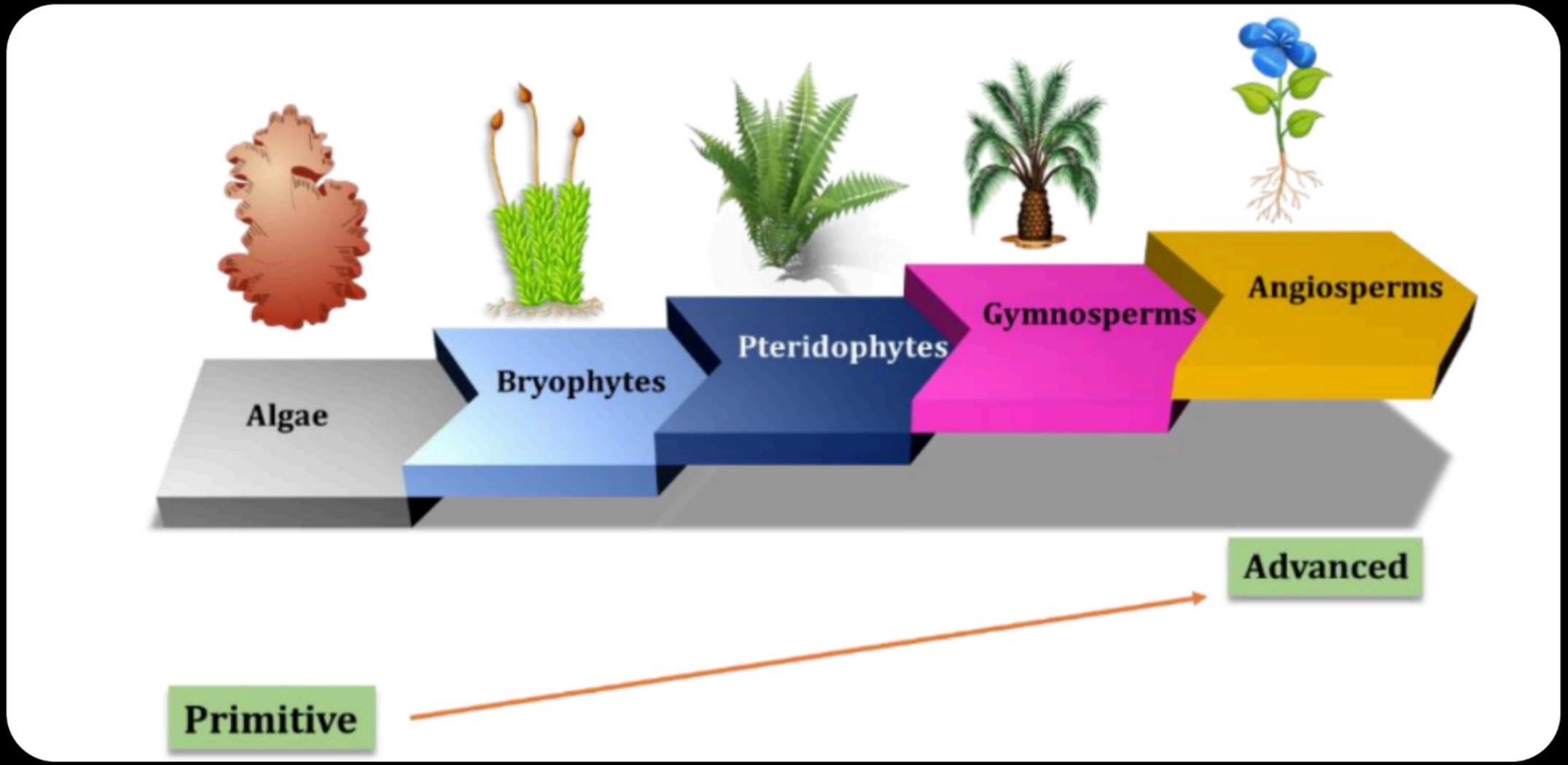
# NATURAL SYSTEM

is like knowing them by personality, family history, and habits.

# PHYLOGENETIC SYSTEM OF CLASSIFICATION

- In phylogenetic classification, the plants are arranged on the basis of their evolution (organisms belong same taxa have a common ancestor.)

A → B → P → G → A


Algae
Bryophytes
Pteridophytes
Gymnosperms
Angiosperms
Advanced
Primitive

# ADVANTAGES

## Artificial System of Classification

- Easy to use
- Easy to change

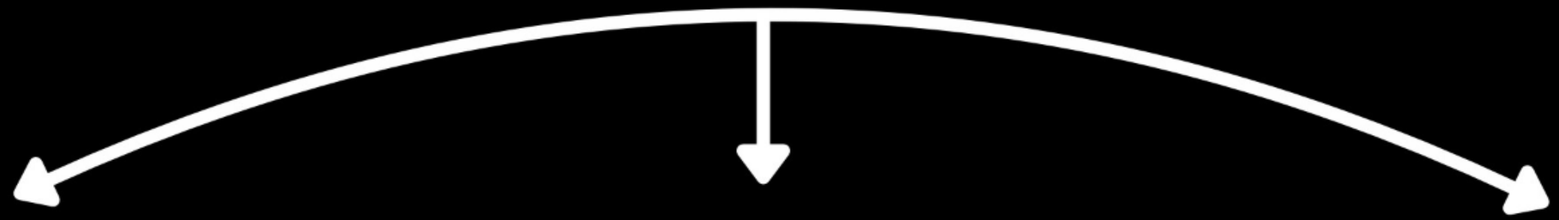
## Natural System of Classification

- Avoid heterogenous grouping of unrelated organism
- Indicate natural relationship among organisms

## Phylogenetic System of Classification

- Clear view of organisms evolutionary relationship

# BRANCHES OF TAXONOMY



Numerical Taxonomy or Phenetics

Cytotaxonomy or Karyotaxonomy

Chemotaxonomy

# “THREE WAYS TO SOLVE THE MYSTERY OF PLANT RELATIONSHIPS!”

# PHENETIC CLASSIFICATION OR NUMERICAL CLASSIFICATION:

- In it plants are classified on the basis of numbers of similarities and dissimilarities.
- This classification is easily carried out by using computers and it is based on all observable characteristics.

- In this classification number and codes are assigned to all the characters and the data are prepared and then processed. Those organisms which have maximum similarities are placed in same group. In this way eacH character is given equal importance and at the same time hundreds of characters can be considered.

# QUESTIONS

Which System of classification was proposed by Linnaeus?

a. Artificial
b. Natural
c. Sexual
d. Artificial and sexual

(A)

# QUESTIONS

Which of the following classification is based on complete or gross morphological characters?

a. Artificial classification
b. Practical classification
c. Natural classification
d. Cladistic classification

# QUESTIONS

Choose the incorrect statement regarding the artificial classification :-

a. It was given by Linnaeus also.
b. Equal weightage is given to both vegetative and reproductive characters.
c. Based on few morphological characters.
d. Most acceptable classification.

(D)

# QUESTIONS

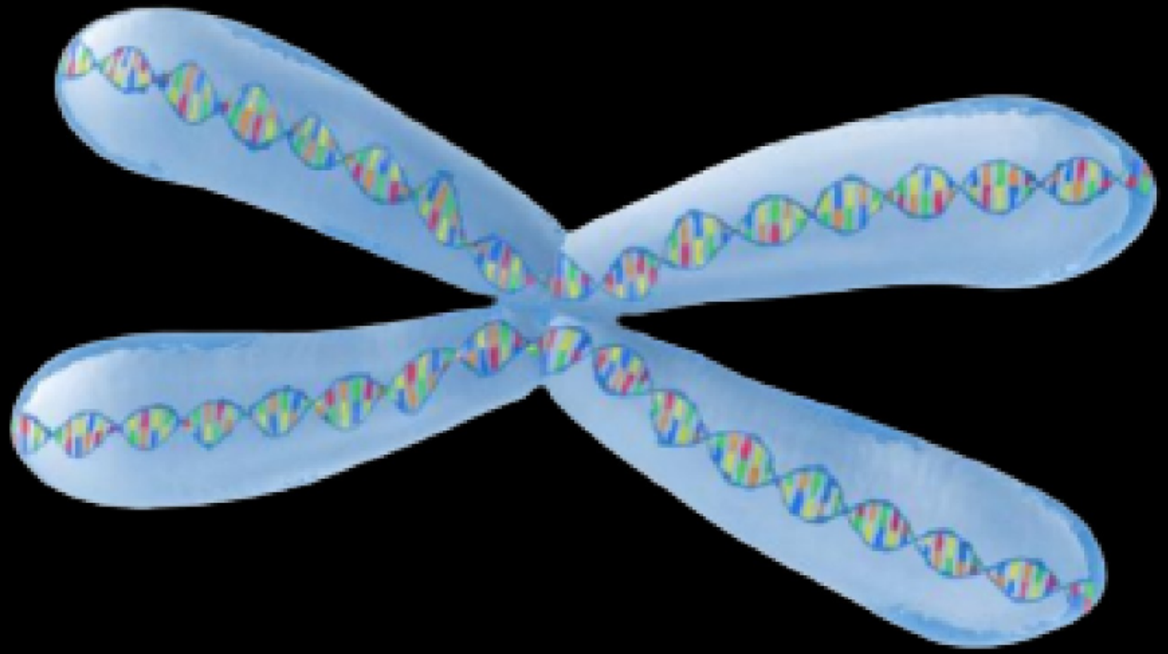
Natural classification of flowering plants was given by: -

a. Linnaeus
b. Theophrastus
c. Aristotle
d. Bentham and Hooker

cell 2nd step nucleus

## (2) CYTOTAXONOMY or Karyotaxonomy

- The use of cytological characters of plants in classification or in solving taxonomic problems is called cytotaxonomy. Cytotaxonomy is based on cytological information like chromosome number, structure and behaviour etc.



# CHEMOTAXONOMY:

3 Step

- It is based on the chemical constituents of plants. The basic chemical compounds used in chemotaxonomy are alkaloids, carotenoids, tannins, polysaccharide, nucleic acids, fatty acids, amino acids, aromatic compounds etc.

# QUESTIONS

Cytological informations like chromosome number, structure and behaviour are related with :-

a. Numerical taxonomy
b. Cytotaxonomy
c. Chemotaxonomy
d. All of these

(B)

# TERMINOLOGY (A|B|P|G|A)

1 **Embryo**
- Present (EMBRYOPHYTES) B|P|G|A
- Absent (Non-Embryophytes) A

2 **Vascular System**
- Present (Tracheophytes) eg: P|G|A
- Absent (Atracheophytes) eg: A|B

3 **Seed Formation**
- Spermatophyte (✓) eg: G|A
- Aspermatophyte (✗) eg: A|B|P

4 **Sex Organs**
- Cryptogams (hidden) A|B|P
- Phanerogams (visible) G|A

# STAY CONNECTED

## KEEP LEARNING

*Thank You*

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