

# Kingdom Plantae

## Why are plants important?

Take notes

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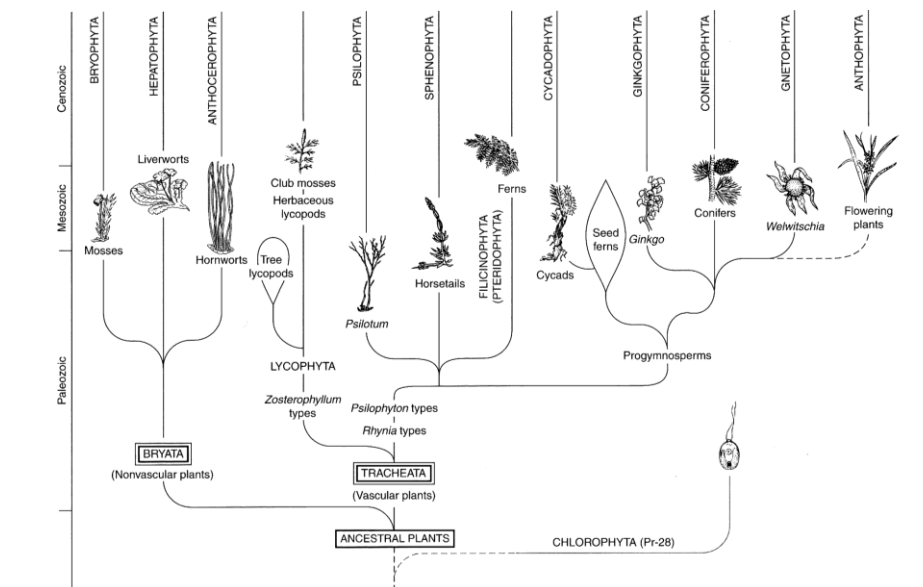
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### Characteristics of Plants

- All plants:
  - are multicellular eukaryotes
  - have cells with a cell wall and chloroplasts
  - are sessile
  - display an alternation of generations life cycle



# Bryophytes

Name the three types of bryophytes

(A) \_\_\_\_\_

(B) \_\_\_\_\_

(C) \_\_\_\_\_

What are the main limitations for bryophytes?

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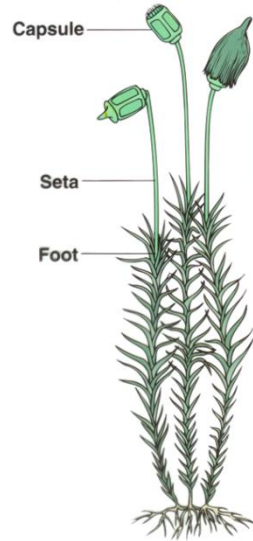
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In what types of environments are you most likely to find bryophytes today?

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**Antheridium:**

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**Archegonia:**

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**Sporangium:**

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**Rhizoid:**

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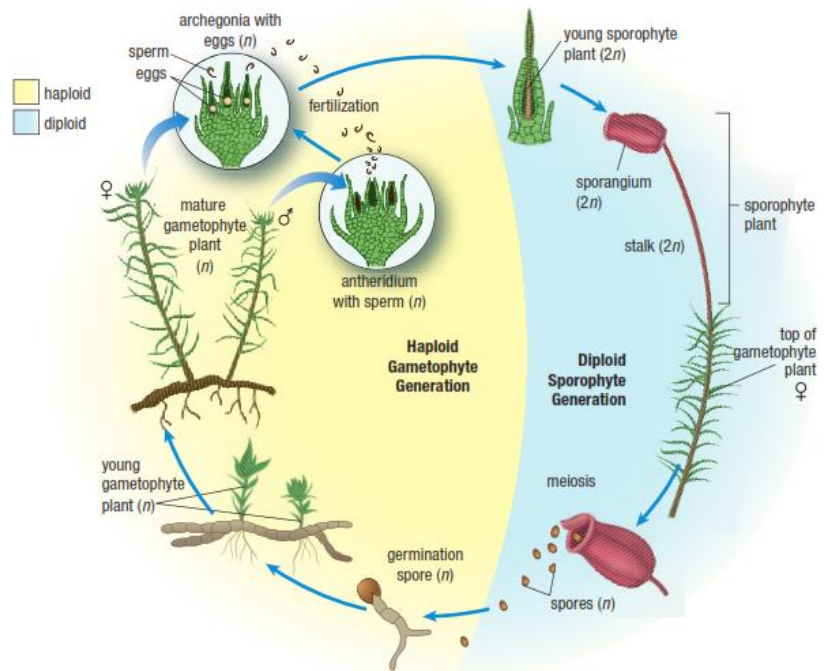


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## Lifecycle of a Bryophyte



## The Evolution of the Sporophyte

What 2 key evolutionary adaptations did sporophytes develop that bryophyte gametophytes lacked?

(1) \_\_\_\_\_

(2) \_\_\_\_\_

## Lycophytes and Pterophytes: The Ferns

Describe the 3 main parts of a fern sporophyte

Fron: \_\_\_\_\_

Rhizome: \_\_\_\_\_

\_\_\_\_\_

Sori: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

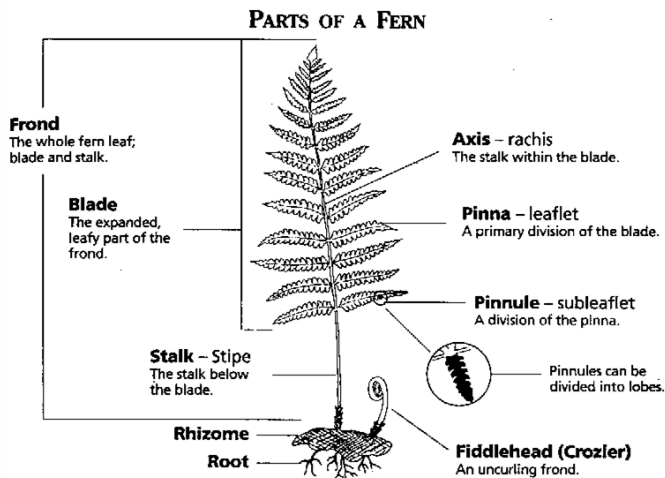
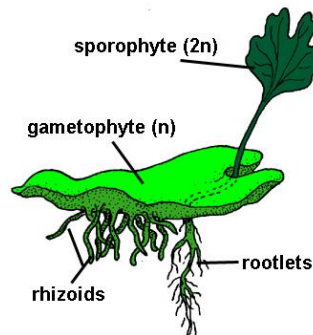
What are the main limitations for ferns?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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What is the difference between a rhizoid and a root?

\_\_\_\_\_

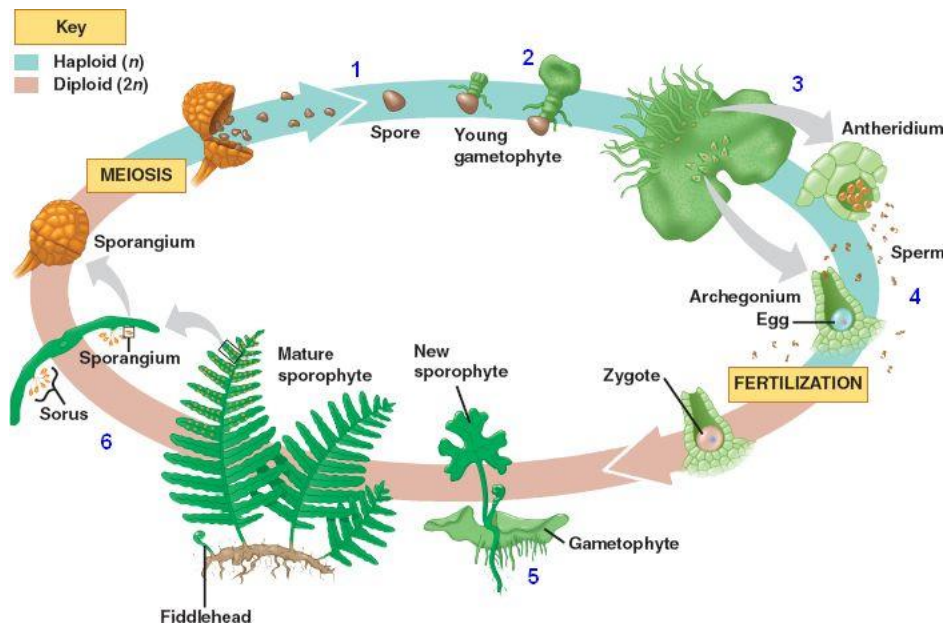
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What is the advantage of fronds over gametophyte "leaves"?

\_\_\_\_\_

\_\_\_\_\_

## Lifecycle of a Fern



## Gymnosperms: The Naked Seed Plants

What has happened to the gametophyte generation of gymnosperms?

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What is contained in a seed?

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What is the advantage of seeds over spores?

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What is the main limitation of gymnosperms?

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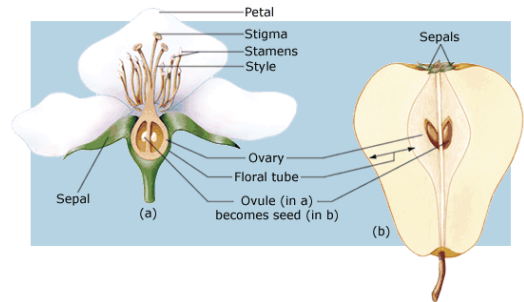
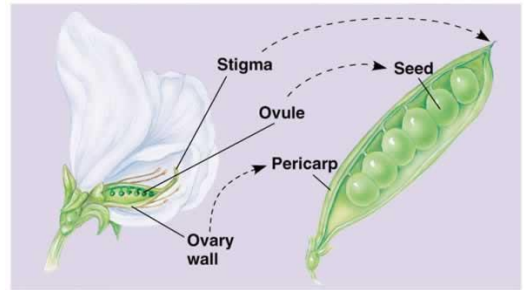
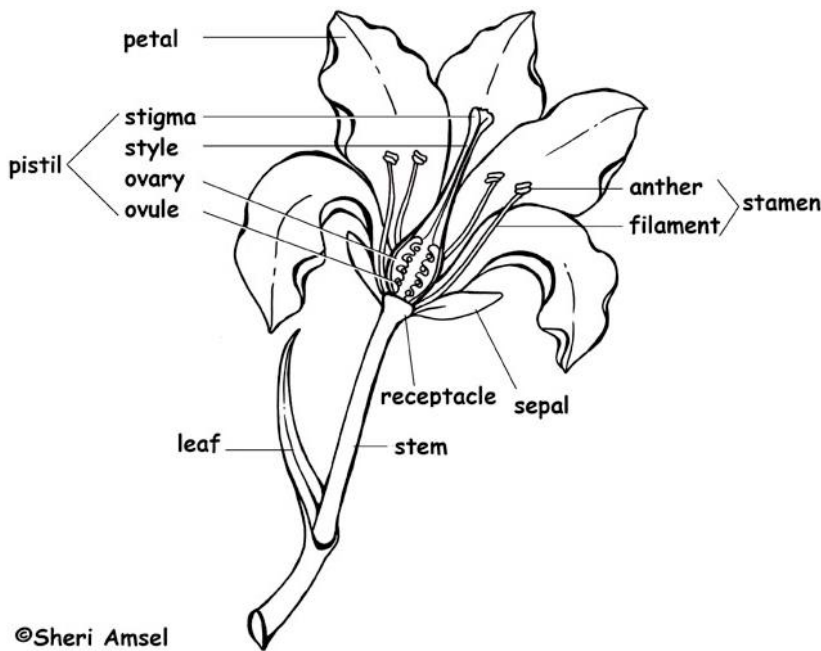


**Pollen** grains contain microscopic male gametophytes that produce sperm  
 Pine cones contain structures called **ovules**.  
 Each ovule holds a tiny female gametophyte.



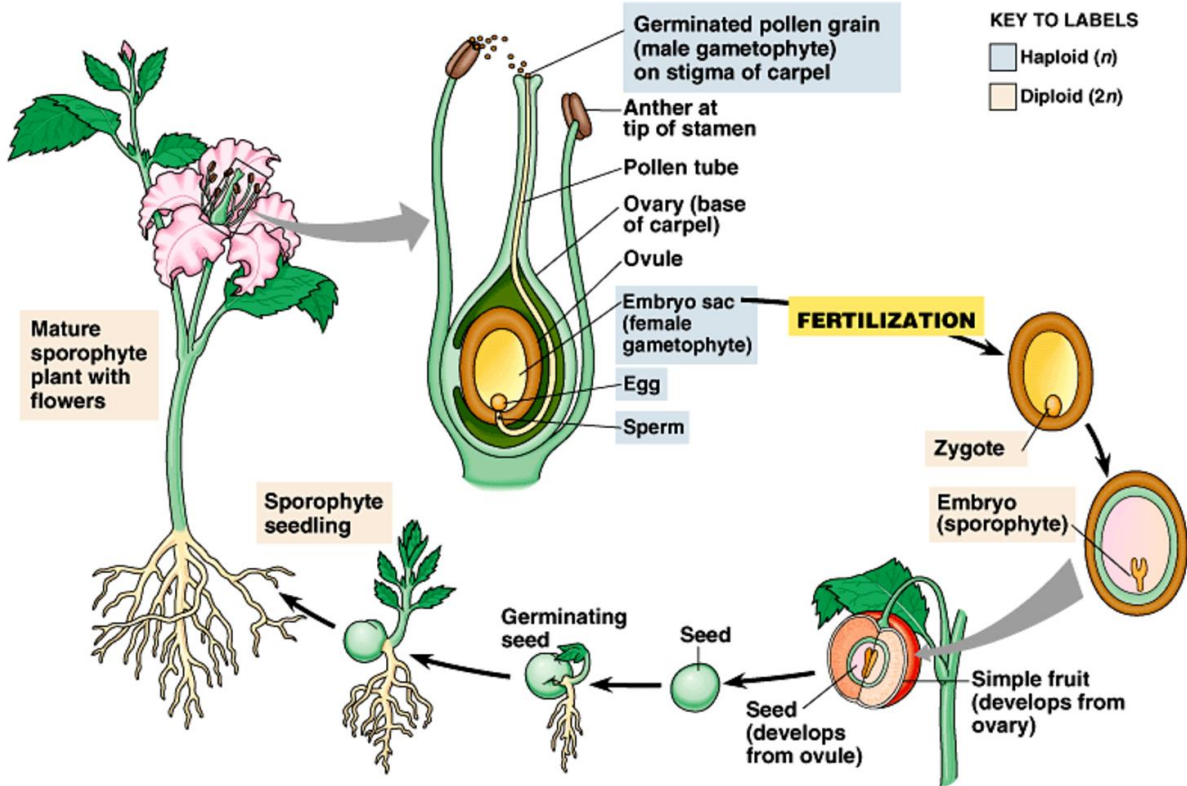
When an ovule is pollinated, it develops into a **seed**

# Angiosperms: The Flowering Plants



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Figure 38.1 Simplified overview of angiosperm life cycle



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What is the main difference between gymnosperm ovules and angiosperm ovules?

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What is the main advantage for angiosperms of producing flowers?

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Why does evolution favour fewer pollinating species over many for each species of plant?

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Why do some angiosperms produce fruits or nuts?

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Use your textbook to answer the following two questions:

What is a cotyledon?

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Name the two main sub-groups of flowering plants

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