

Mosses and Ferns

Try This...

1. How are algae classified?

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2. What are the three types of algae?

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3. Are all algae unicellular?

4. How do algae move water and food into their cells?

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5. How do algae hold their "leaves" up to the sun?

6. How can some algae live in deep water while others can't?

Plants Invade the Land

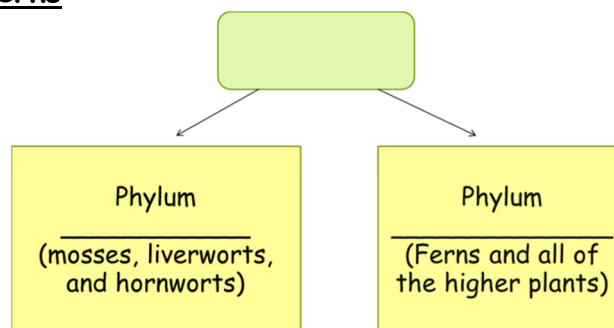
- First multicellular organisms evolved in _____

- Over time some organisms adapted to life in drier environments

- o In order to do this they had to evolve structures that would allow them to carry out all processes necessary for survival

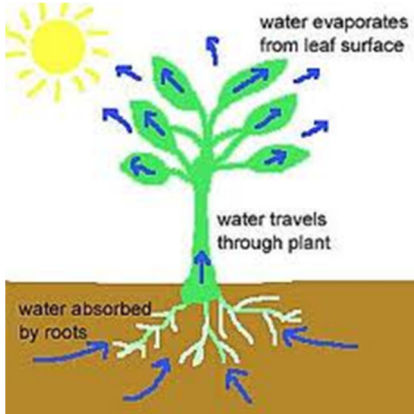
Eg. _____

Evolution of Mosses and Ferns



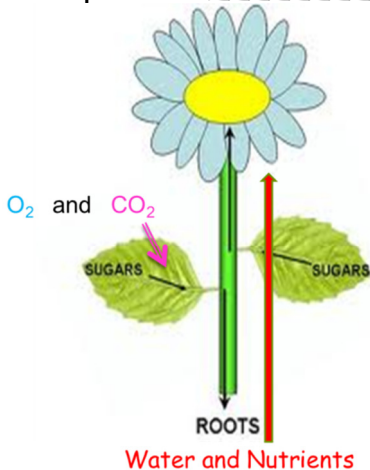
Adaptations of Plants to Life on Land

- Land plants must transport _____ to all of their cells AND protect themselves against _____ loss via _____
- Land plants need _____ to hold their _____ up so that they are exposed to the sun (required for _____)



Adaptations of Plants to Life on Land

- Land plants must transport _____ and _____ up from their _____ to the rest of the plant, and the food down from their leaves to the rest of the plant
- Land plants must _____ with the environment, but prevent water loss in the process
- Land plants must be able to _____ without relying on water for the sperm to _____ in



Phylum Bryophyta: Mosses

Major Characteristics:

- Only a few _____ tall
- Each moss plant has a _____ (looks like a stem with tiny leaves)
- _____ (lack a tube like-system to transport water and other substances)
- Lack a protective covering to prevent _____ (drying out)
- Root-like structures that serve to anchor moss are called Rhizoids

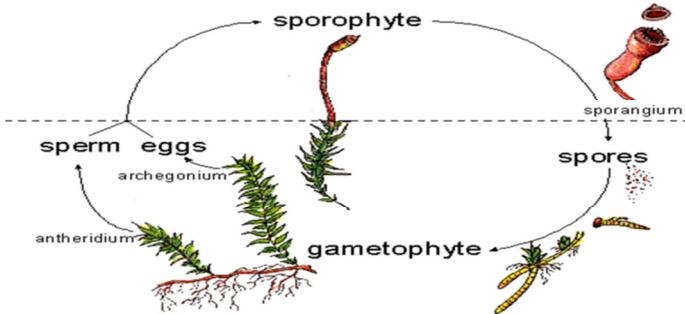
Moss Habitats

- Must live in _____ because they lack _____
 - Bryophytes pass _____ from cell to cell by _____
 - This method only works over _____ distances which is why they do not grow tall

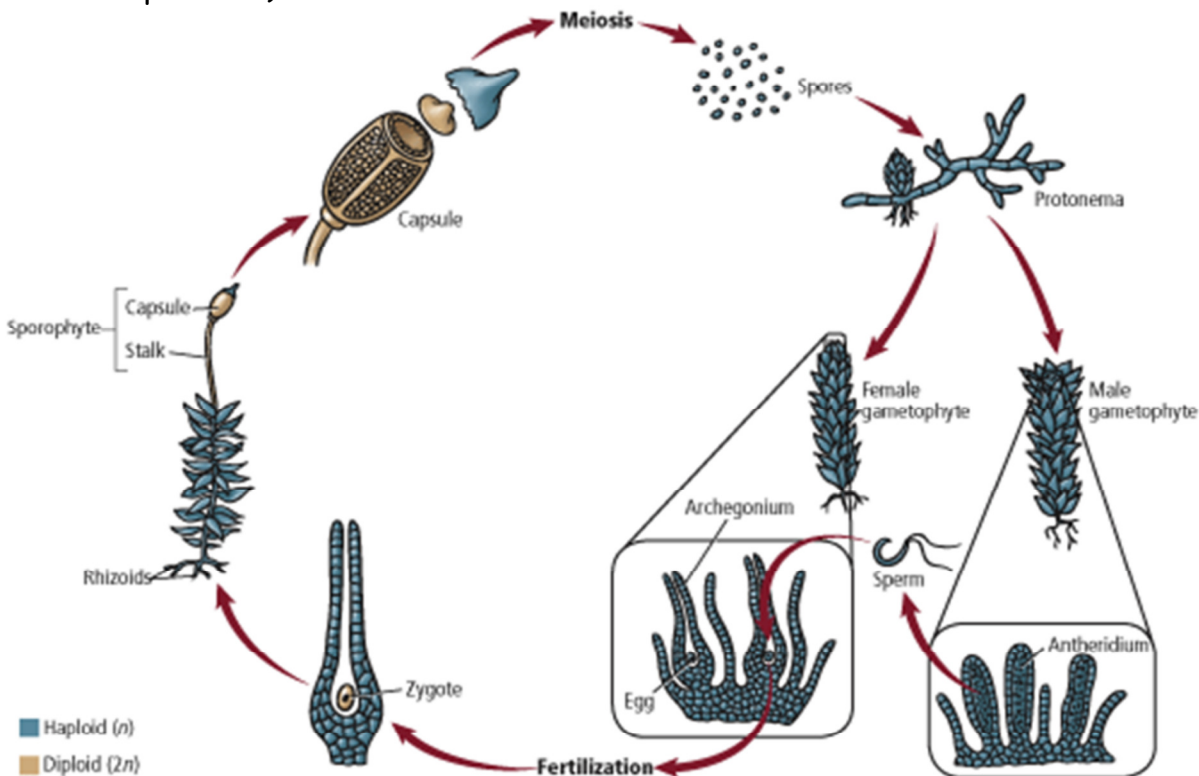


Moss Life Cycle

- **Alternation of Generations** between _____ stage and _____ stage
- Note: _____ is required for sexual reproduction to occur. Sperm must swim to fertilize eggs



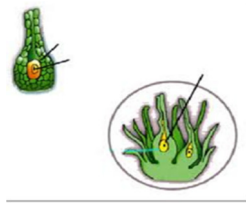
- The _____ is the _____ and obvious stage
- Water is required for reproduction
 - Sperm leave the _____ and swim to the egg in the _____
 - The _____ grows from the _____ (acts like a parasite)



Alternation of Generation in Mosses

- At the tips of the gametophyte are _____ structures called
 - _____ – produce tiny flagellated sperm cells
 - _____ – produce eggs

These reproductive structures are designed to _____ the gametes from _____



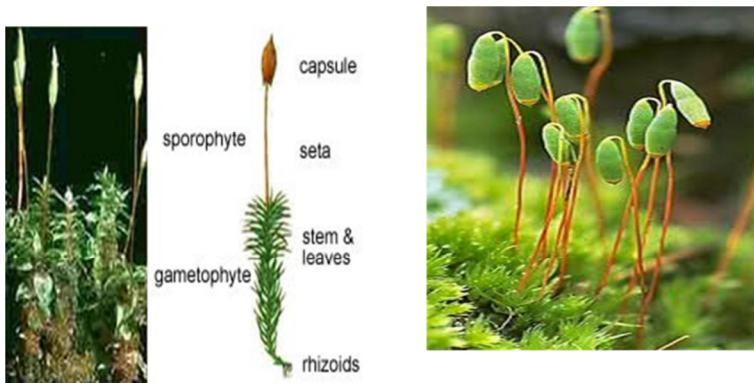
- The sperm swims to an egg and the gametes fuse
 - Process of fusing games to produce a diploid zygote is called _____

Alternation of Generations in Mosses

- When zygote begins to grow it produces a diploid _____
- The sporophyte is supplied with _____ by the _____
- The sporophyte can not live independently of the gametophyte



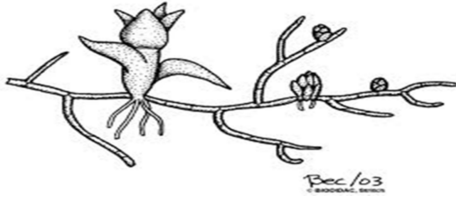
The sporophyte is made up of a " _____ " that is stuck in the gametophyte, a _____ and a _____



- Inside the capsule _____ are produced by _____
- When the capsule matures, _____
- Spores are shaken out and carried off by wind and water



- If a spore lands in a moist place, it grows into a mass of tangled green filaments called
 - As the protonema grows it forms _____ that grow into the ground and shoots that grow into the air
 - Shoots develop into the gametophyte and the cycle continues



Moss Life Cycle

