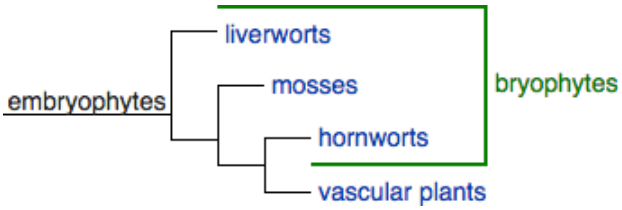
CONCEPT: NONVASCULAR PLANTS

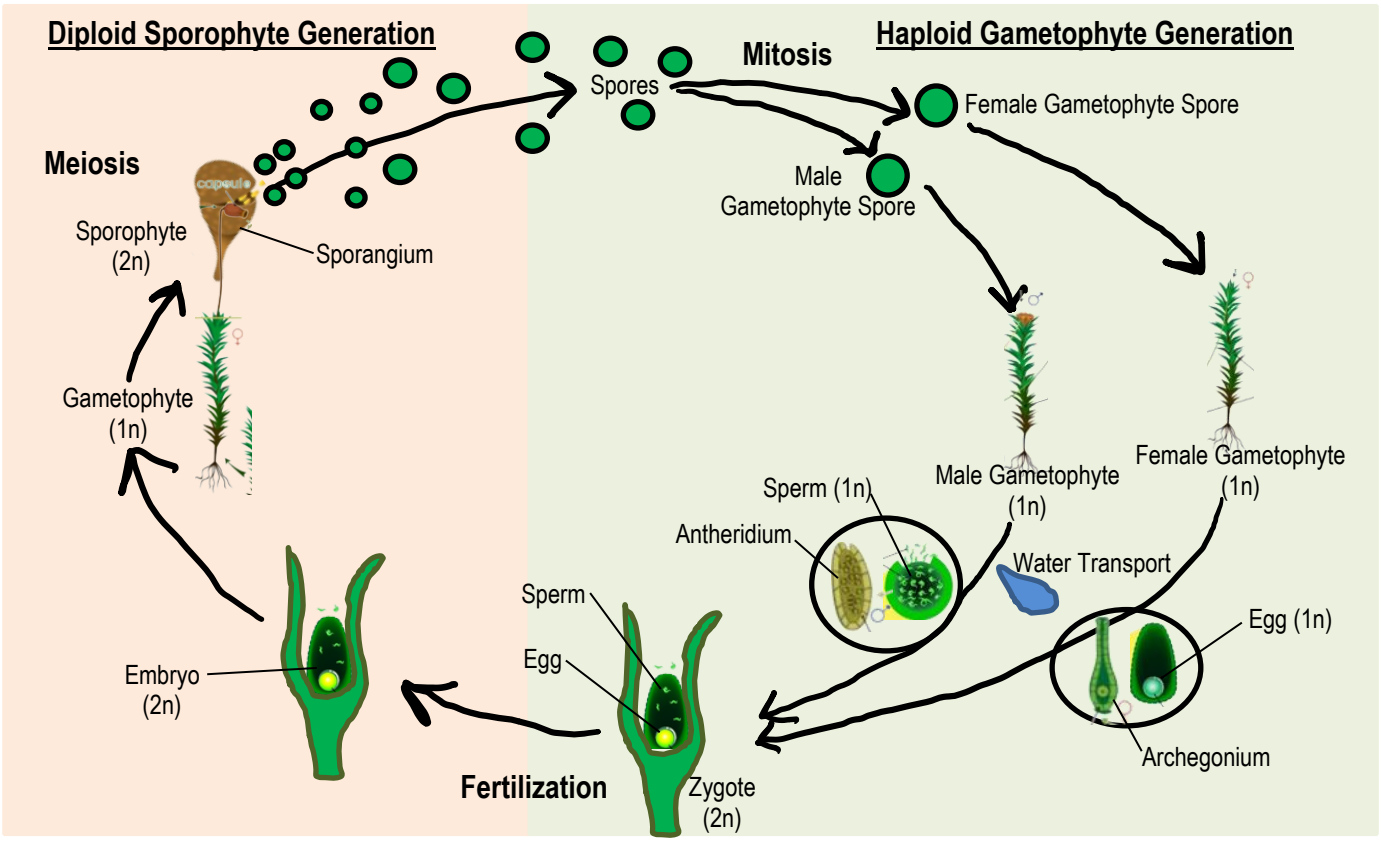
- ***Bryophytes*** – nonvascular plants that include mosses, liverworts, and hornworts
  - □ Don't contain vascular tissue reinforced with lignin, although many have transport tissues that use cellulose

EXAMPLE:



- □ Have gametophyte-dominant life cycle, and are homosporous
- □ Some species have bisexual gametophytes, but mosses have separate male and female gametophytes

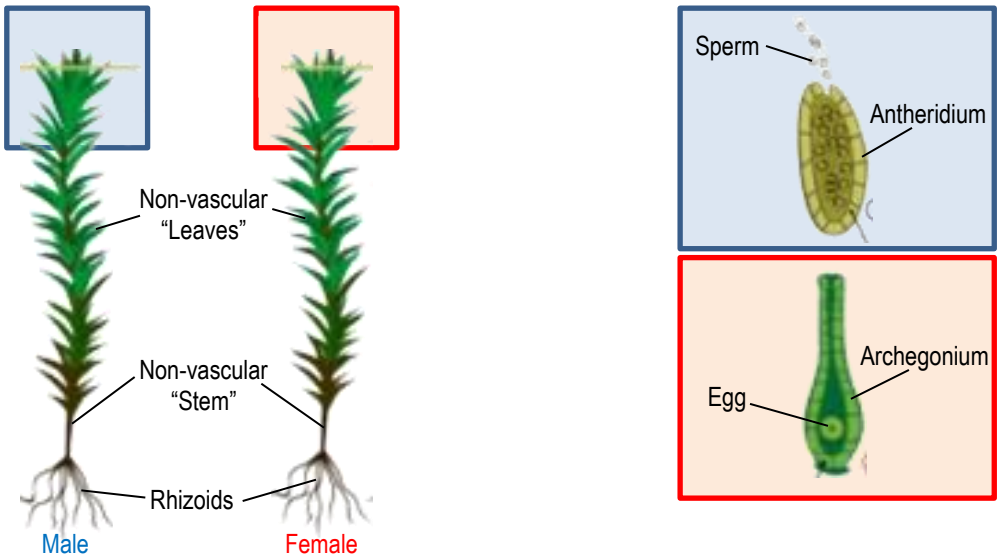
EXAMPLE:



CONCEPT: NONVASCULAR PLANTS

- ***Gametophytes*** – gamete producing part of bryophytes we are most familiar with, require water to move sperm to egg
  - □ ***Gametangia*** – organ or cell in which gametes are produced, contained in a ***gametophore***
    - ***Archegonia*** – female gametangia that produce egg cells, and are the sites of fertilization
    - ***Antheridia*** – male gametangia that produce sperm
  - □ ***Monoicious*** – plant bears sperm and egg on same gametophyte
  - □ ***Dioicous*** – plant bears sperm and egg on separate gametophytes
  - □ ***Rhizoids*** – function like roots, but are not made up of vascular tissues

EXAMPLE:



- ***Sporophytes*** – small structures in bryophytes that contain the sporangium in which spores are formed
  - □ ***Foot*** – absorbs nutrients from gametophyte
  - □ ***Seta*** – transports nutrients to capsule
  - □ ***Capsule*** – sporangium structure that produces spores via meiosis
- ***Protonema*** – chain of cells that grows from spores, develops into gametophyte

EXAMPLE: