

## Bell Work

Reporting Category: LIFE SCIENCE 2: Heredity

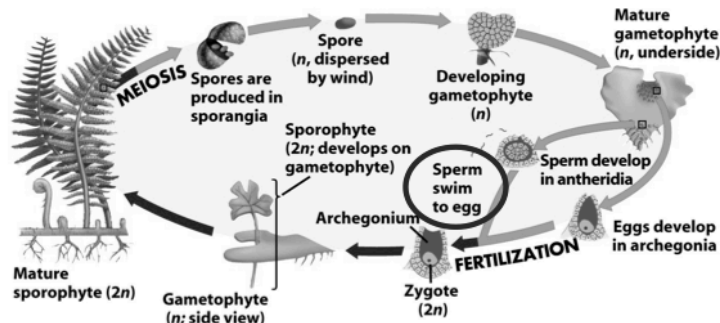
Performance Indicator: 0707.4.1 Classify methods of reproduction as sexual or asexual.

- 17** Which statement correctly describes a difference between sexual and asexual reproduction?
- A Sexual reproduction only happens in animals, while asexual reproduction only happens in plants.
  - B Sexual reproduction requires fertilization of one gamete by another gamete, while asexual reproduction requires only one parent to produce an offspring.
  - C Sexual reproduction only happens in single-celled organisms, while asexual reproduction only happens in multicellular organisms.
  - D Sexual reproduction only happens when cells have a nucleus, while asexual reproduction only happens when cells do not have a nucleus.

After you answer this question and write your explanation, please clear off your desk except for your paper to take notes and your composition book.

## Seedless vascular plants

**Ferns:** Sporophyte is large and long lived but, when young, depends on gametophyte for nutrition.



## Seedless Reproduction

### Chapter 7 Section 2 Part 1

Compare and contrast the fundamental features of sexual and asexual reproduction.

Classify methods of reproduction as sexual or asexual.

## Round Table

- I am giving one person in each table a piece of paper.
- That person should write PLANT REPRODUCTION large in the center.
- When I say go, that person will write somewhere on the piece of paper something he or she knows about plant reproduction.
- He or she will then pass it to their neighbor. They will then write something they know.
- It will keep going around the table until I stop you.
- If it comes back to you, write something else. NO REPEATS!

## SEEDLESS REPRODUCTION

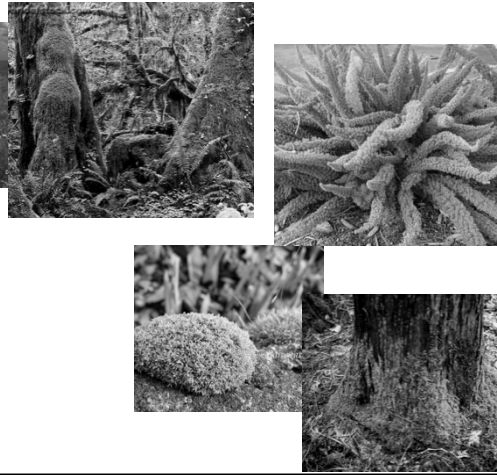
- <http://www.brainpop.com/science/diversityoflife/seedlessplants/>

## Vascular v. Nonvascular

### Vascular



### Nonvascular



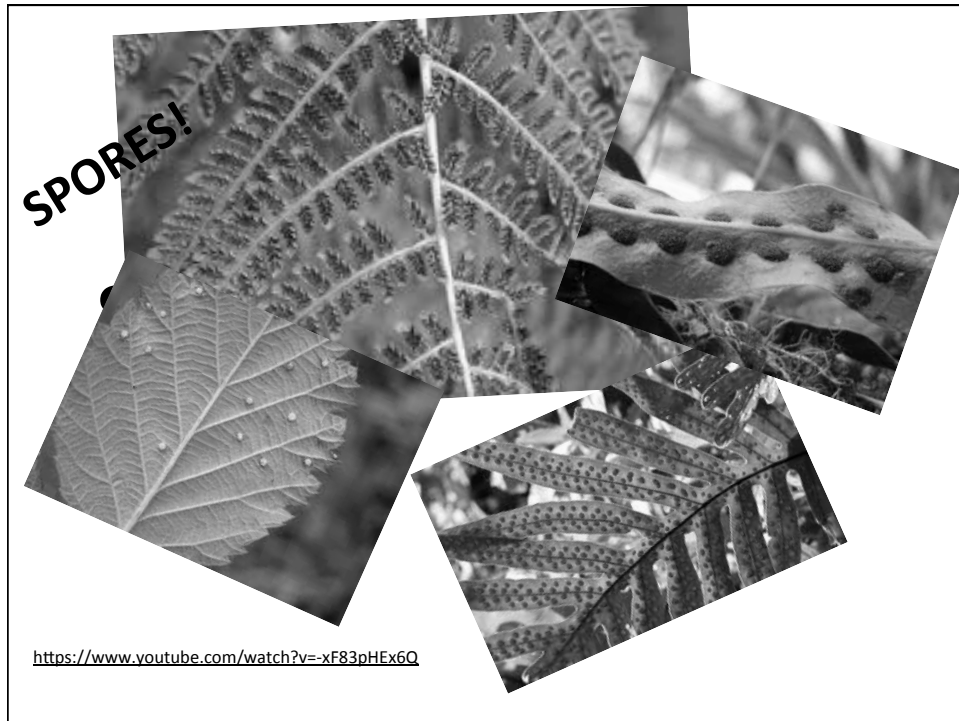
## Vascular v. Nonvascular

### Vascular

- Has roots
- Has stems
- Has leaves
- Has vascular bundles that can transport water
- Larger in size
- Is better able to store water in cells

### Nonvascular

- No roots
- No stems
- No leaves
- No vascular bundles, which means not able to transport water
- Smaller in size
- Must live in damp conditions

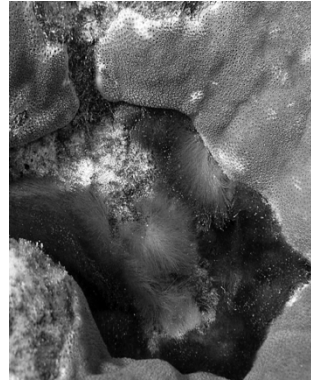


## The Importance of Spores

- If you want to grow ferns and moss plants, you can't buy seeds. They don't produce seeds.
- You can grow them from \_\_\_\_\_.
- The \_\_\_\_\_ stage of these plants produces haploid spores in structures called spore cases.
- When the spore case breaks open, the spores are released and spread by wind and water.
- The spores can grow in plants that will produce sex cells.

## Seedless Plants

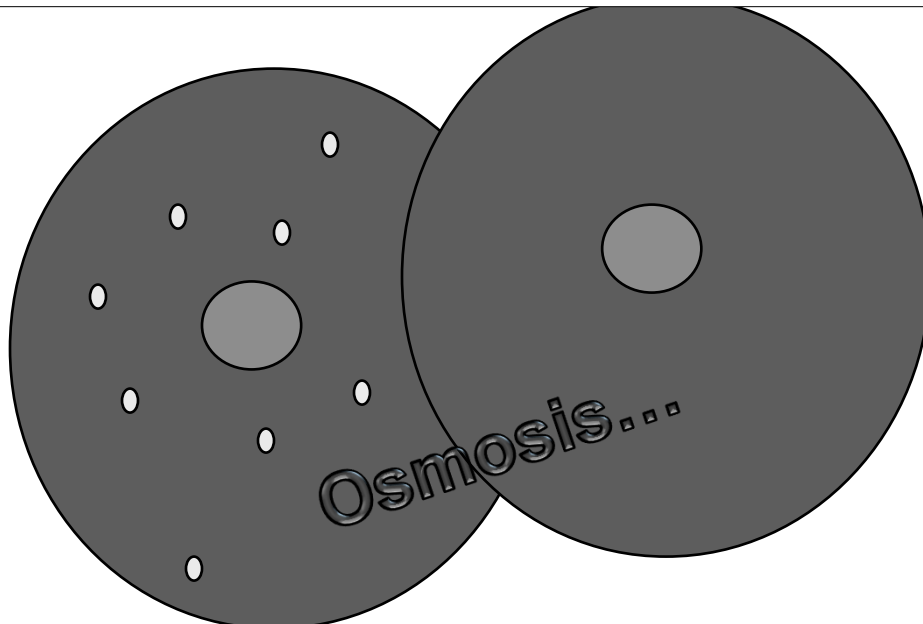
- Seedless plants include ALL nonvascular plants and SOME vascular plants.
- REMEMBER!
  - Nonvascular Plants
    - do not have structures that transport water and substances throughout the plant.
    - Instead, water and substances simply move from **cell to cell**.
  - Vascular plants
    - have tube-like cells that transport water and substances throughout the plant.



Vascular means  
VEINS!



## Moss Cells



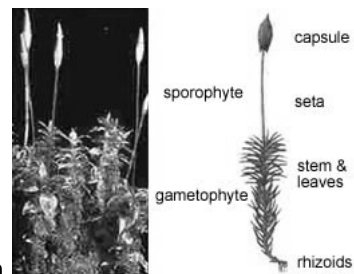
## Nonvascular Seedless Plants

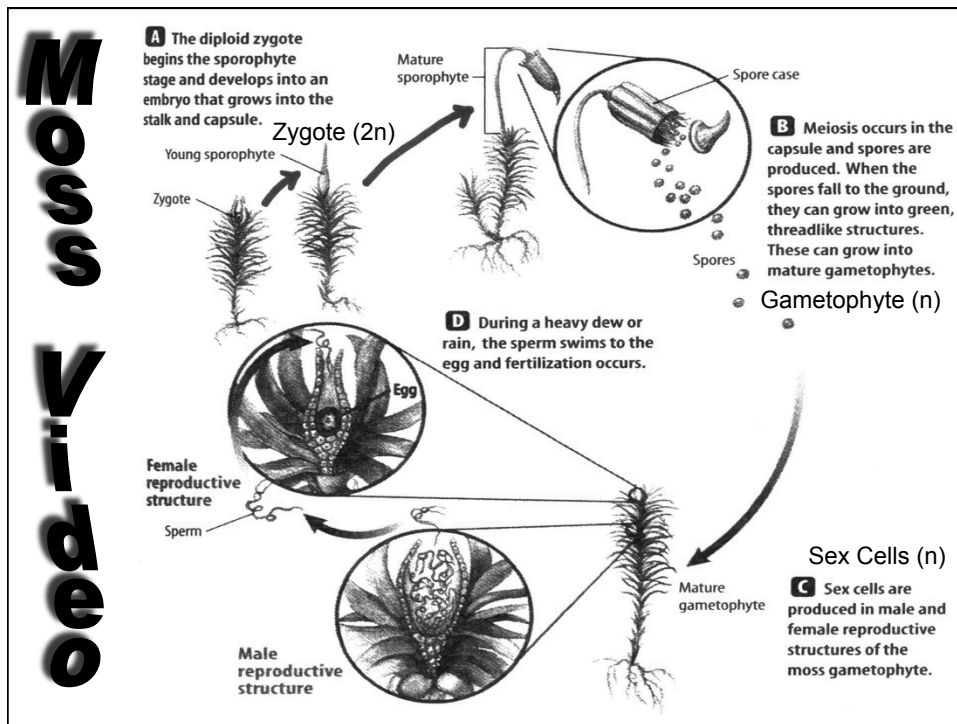
- Mosses, liverworts, and hornworts are all nonvascular plants.
- The sporophyte stage of most nonvascular plants is so small it can be easily overlooked.
- Moss plants have a life cycle typical of how sexual reproduction occurs in this plant group...



## The Moss Life Cycle

- Mosses that are green and low-growing masses are in the gametophyte stage. This stage produces the sex cells.
- Mosses that are brownish stalks growing from the tip of the gametophyte plants are in the sporophyte stage. This stage does not carry out photosynthesis.
  - It relies on the gametophyte for nutrients and water.
- On the tip of the stalk is a tiny capsule.
  - Inside the capsule is millions of spores that have been produced.
- If conditions are right, the capsule opens. The spores either fall to the ground or are blown away by the wind.
- New moss gametophytes can grow from each spore and the cycle begins again.





## Exit Ticket

- Describe the life cycle of mosses. Make sure your description includes the following terms:
  - Capsule
  - Gametophyte
  - Sporophyte
  - Spore