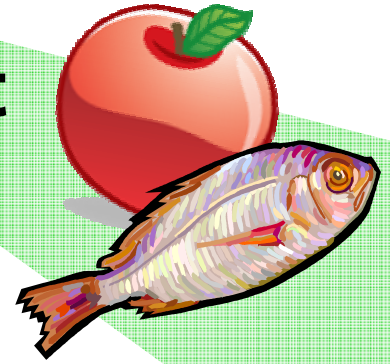


# Help Me, I Can't Stand Up!



**QUESTION:** What are the characteristics of bryophytes?

**MATERIALS:**

- |                     |                          |
|---------------------|--------------------------|
| magnifying lens     | liverwort sample (fresh) |
| moss sample (fresh) |                          |

**PROCEDURE:**

1. Look closely at a sample of moss and identify the following structures:

calyptra	rhizoids
female shoot	sporangium
gametophyte generation	spores
male shoot	sporophyte generation
operculum	
2. In the Data section, make a detailed sketch of your moss labeling the following structures:

female shoot	sporangia
male shoot	sporophyte plant
3. Look closely at a sample of liverwort and identify the following structures.

antheridium	gemma spores
archegonia	male gametophyte
female gametophyte	rhizoids
gemma cup	thallus
4. In the Data section, make a detailed sketch of your liverwort, labeling the following structures:

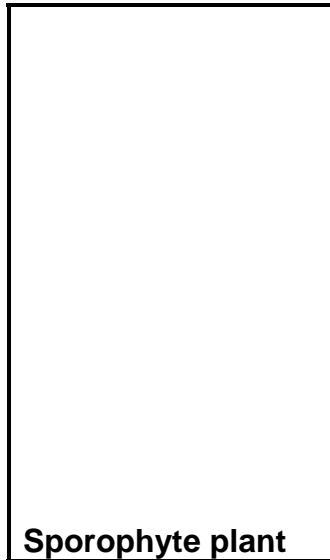


female gametophyte
male gametophyte
thallus with gemma, gemma spores and rhizoids

**DATA:** See next page

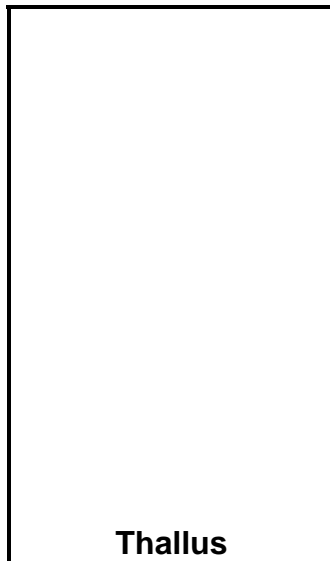


## LS – Activity #17

Data Table:

### Moss Sketch

		
<b>Sporophyte plant</b>	<b>Female shoot</b>	<b>Male shoot</b>

### Liverwort Sketch

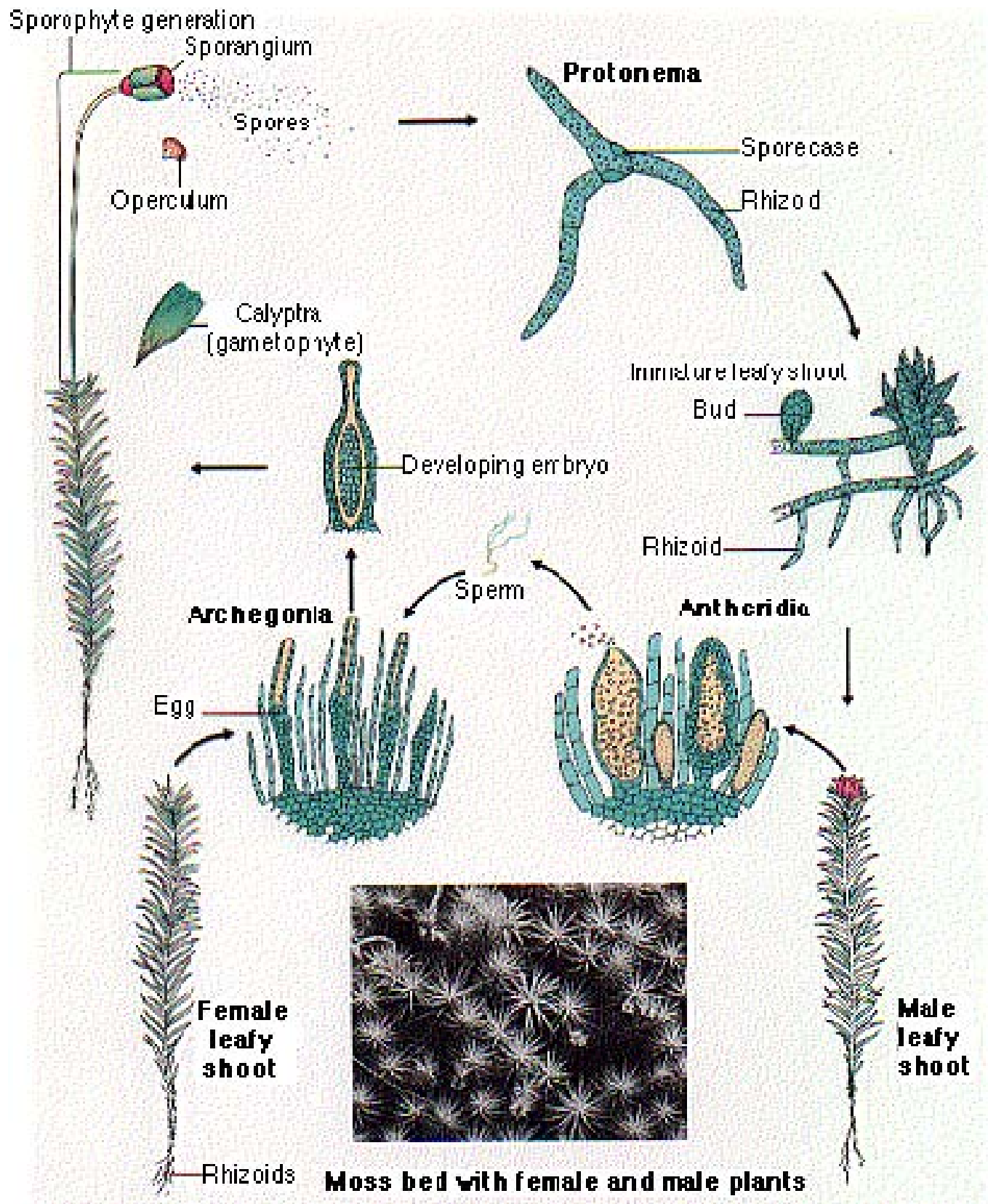
		
<b>Thallus</b>	<b>Female gametophyte</b>	<b>Male gametophyte</b>

## **LS – Activity #17**

### **QUESTIONS:**

1. Why are bryophytes, generally small in comparison to other plants?
2. One of the characteristics of the plant kingdom is that these organisms demonstrate alternation of generation. What does this mean?
3. In relation to chromosome number, how do the reproductive cells of the sporophyte plant compare to the reproductive cells of the gametophyte plant?
4. Bryophytes lack true roots to absorb water and nutrients. What do they have instead?
5. Why is it common for bryophytes to be found in moist areas?
6. What are gemma cups? Where are they found?
7. On a moss plant, what is the sporangia? What is the calyptra?
8. In addition to oxygen production and food for animals, what role do bryophytes play in ecosystems?

# Moss Life Cycle



# Liverwort Life Cycle

