

Lab 6: Seedless Plants

pp. C19, 365-370, 372 (top), 374-377, 378

GOALS:

- Know the four main events in the evolution of plants and the four plant types that we will study in labs 6 and 7.
- Understand the plant life cycle: alternation of generations.
- Describe and understand the major characteristics of the 2 types of seedless plants including sporophyte, gametophyte, where gametes are produced, where fertilization takes place and where the zygote develops.

KEY TERMS:

embryo protection	vascular tissue	seeds
flowers	sporophyte	generation
gametophyte	gamete(s)	egg
sperm	zygote	haploid
alternation of generations	diploid	moss
antheridia	archegonia	sporangium
spore(s)	fern	prothallus
sorus/sori	frond	annulus

I. Seedless plants: Introduction, evolution and diversity:

pp.365-367: read and answer questions.

II. Nonvascular plants:

pp. 368-370: read and answer questions; start filling out chart on C19.

- a. Materials for **moss** observations are on the front bench.
 - i. Live moss gametophyte.
 - ii. Demo-slide of moss male reproductive structures (antheridia).
 - iii. Demo- slide of moss female reproductive structures (archegonia).
 - iv. Live and/or preserved moss sporophyte.

III. Seedless vascular plants:

pp. 372 (top), 374-377: read, follow directions and answer questions. Fill in chart on C19.

- a. Read & answer questions on page 372 (top).
- b. **SKIP** Whisk ferns, club mosses and horsetails
- c. **Ferns:** read and answer questions on page 374-377.
 - i. Samples are on the side benches.
 - ii. Frond with sori – observe w/ dissecting microscope.
 - iii. Slide with the cross-section of sorus
 - iv. Slide with fern prothallus (antheridia & archegonia on same slide) – observe with microscope
 - v. Demo Slide of fern prothallus with sporophyte attached.

IV. Review – Seedless plants:

p. 378: answer questions: 1-9, 11, 13-16