

BIOLOGY 321 – FIELDTRIP TO BEATY MUSEUM

Station 1. Human uses of mosses

(Cabinets 15.19-15.26, 16.01-16.18, 17.09-17.16)

Part A. Go through the displays at your station and answer the following questions.

How many species of bryophytes are found in British Columbia?

Granite moss (Andreaeaceae) diverged early in the evolution of mosses. Identify features of granite mosses (from the pictures) that are different from the Bryopsids we have learned about.

Name two mosses commonly found in lawns.

Examine the displays having to do with human uses of moss. Can you think of features of mosses that make them useful in the flower industry and as pollution indicators?

Part B. Critique the displays at your station. (Is there inaccurate information, wording that could be improved, information lacking, etc?)

Part C. Treasure hunt questions (Finish as many as possible while time allows).

Who is the most prominent bryologist and collector in the herbarium?

In the evolution of mosses, Takakiaceae, Sphagnaceae, Andreaeaceae, and Andreaobryaceae are the first ones that diverged. How many genera does each family have? How do their sporangia dehisce (open) to release spores?

Find the diagram showing the moss life cycle. Can you find the error(s)?

What family do dung mosses belong to? What are the advantages/disadvantages of their life style?

Name the functions of mosses (two human uses and two in the ecosystem).

The dominant plant in Camosum bog (in Pacific Spirit park) is *Sphagnum*. How many species of *Sphagnum* are found there?

There is a timeline on the side wall showing the evolution of life on earth. When did land plants arise?

Find the picture of Ying!!!!

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Station 2: Land-plant evolution

(Cabinets 16.19-16.26, 17.01-17.08, 18.09-18.26, 19.01-19.08)

Part A. Go through the displays at your station and answer the following questions.

What is the scientific name for the snake moss?

Part of your display is on land-plant evolution (the display between cabinets 19.03 and 19.04). According to the display, which bryophyte group diverged first? Which bryophyte group is the closest relative to tracheophytes?

There are two definitions of 'plants' mentioned in the display. Which one do you prefer? Why?

What plant structure is the earliest land-plant fossil? Why are there very few fossils of other parts of early land plants?

Identify adaptations of mosses to terrestrial life.

Part B. Critique the displays at your station. (Is there inaccurate information, wording that could be improved, information lacking, etc?)

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Station 3: Mosses in an ecosystem

(Cabinets 18.01-18.08, 19.10-19,26)

Part A. Go through the displays at your station and answer the following questions.

Who is the genus *Schofieldiella* named after?

What features of mosses make them ideal habitats for small insects and other arthropods?

Why might it be advantageous for mosses to harbour small insects and other arthropods?

What other roles could mosses play in an ecosystem?

Part B. Critique the displays at your station. (Is there inaccurate information, wording that could be improved, information lacking, etc?)

Part C. Treasure hunt questions (Finish as many as possible while time allows).

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Station 4: *Sphagnum*

(Cabinets 20.01-20.08, 21.19-21.26, 22.01-22.08, 23.09-23.16)

Part A. Go through the displays at your station and answer the following questions.

Define ethnobryology? Give two examples.

How many genera are there in the family Sphagnaceae?

There are many human uses of *Sphagnum* (Sphagnaceae). Name three.

What features of *Sphagnum* contribute to its useful qualities?

Part B. Critique the displays at your station. (Is there inaccurate information, wording that could be improved, information lacking, etc?)

Part C. Treasure hunt questions (Finish as many as possible while time allows).

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Station 5: Reproduction and spore dispersal

(Cabinets 20.09-20.26, 21.01-21.18)

Part A. Go through the displays at your station and answer the following questions.

To what family do hair-cap mosses belong?

What the scientific name for goblin moss?

Identify mosses with sporophytes that are different from Bryopsids. Find at least two different types and indicate to what family each belongs?

Compare them with the Bryopsids (at least one point on sporophyte structure, and one point on spore dispersal)?

Part B. Critique the displays at your station. (Is there inaccurate information, wording that could be improved, information lacking, etc?)

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Station 6: Liverworts and hornworts

(Cabinets 22.09-22.26, 23.01-23.08, 24.01-24.08)

Part A. Go through the displays at your station and answer the following questions.

Which liverwort causes logger's itch?

Which organism studied so far in BIOL 321 is most similar to hornworts (gametophytically)? Describe the gametophyte of hornworts.

Contrast the sporophyte of hornworts and Bryopsida mosses.

Contrast spore dispersal in hornworts, liverworts, and mosses.

Part B. Critique the displays at your station. (Is there inaccurate information, wording that could be improved, information lacking, etc?)

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