APBI 200 - LAB # 6, FOREST FLOOR

1. Fill in the blanks:

(a) The forest floor refers to just organic (L, F, H) horizons, while forest humus forms include both forest floor (i.e., well drained organic horizons) and the _____ horizon.

(b) The _____ organic horizon with numerous faunal droppings and active mixing of organic and mineral material by fauna.

(c) The Oh horizon is characterized by presence of well-_____ plant residues, largely transformed into humic materials.

(d) The Fm horizon is characterized by abundant _____ and _____.
[*Note – 1st portion of your answer requires multiple words*]

(e) The mutually beneficial symbiotic relationship between a plant and a fungus is known as _____.

(f) Long threadlike **filaments** of fungi are called _____.

(g) **The network** of fungal hyphae twisted together is known as _____.

(h) The forest humus form that tends to have upper organic horizons with fungal mycelia and faunal casts, overlying Ah horizons of mixed organic faunal casts and mineral soil, is called _____.

(i) The _____ is characterized by more complete decomposition of organic residues and higher nutrient availability than the other two forest humus orders.

(j) In _____there is an abrupt boundary between mineral and organic layers, since there is limited decomposition and mixing of organic residues

[10 points]

2. Identify the **soil horizon** according to the following descriptions:

(a) Organic horizon, present on poorly drained sites with identifiable plant residues that are poorly decomposed.

(b) Dark coloured organic horizon, with a limited number of mineral particles, greasy when rubbed between fingers.

(c) Dark coloured mineral horizon, with apparent mineral particles apparent, and granular soil aggregates.

(d) Organic horizon in which organic matter is held together strongly, with abundant fungal mycelia and roots, but with few or no faunal droppings.

(e) Organic horizon, dominated by brownish tree needles.

[5 points]

3. Fill in the following table, highlighting key properties of each forest humus form order.

	Mor	**Moder**	**Mull**
Diagnostic horizon			
Key characteristics of diagnostic horizon			
Dominant decomposers			
Commonly present in this forest type			

[6 points]

4. Briefly describe differences between coniferous and deciduous litter and their relative decomposition rates?
To help you answer this question, please watch "***In the Ecosystem***" video posted at http://forestfloor.soilweb.ca/definitions/forest-floor/)

[4 points]

5. Briefly describe Frankia and their role in soils.
[*Note - bonus mark for a photo taken in your lab; it does not need to be from your sample*]

[3 points]

6. The coniferous site at the UBC Farm, described in "***In the Ecosystem***" video clip (https://forestfloor.soilweb.ca/definitions/forest-floor/), is unusual since it has little to no F horizon. What has likely caused this?

[1 point]

Attachment:

- Data Collection Sheet **[6 points]**

Total for this lab assignment [35 points]