

Practice exam session #1

GROUP 1:

Explain the role of water in weathering processes?

GROUP 2:

A company is considering establishment of a mountain bike trail in a humid region with annual precipitation of 1,200 mm (similar to Vancouver). They are considering two potential sites for this mountain bike trail, and those sites have a similar topography but very different soil textures. **Site A** is characterized by textural class of loamy sand, while **Site B** has textural class that is clay loam.

Focusing on the textural classes and their implications for other soil properties of relevance for a biking trail establishment and use, compare these 2 sites and provide your recommendation on which one is better suited for the mountain bike trail. Briefly explain your answers.

GROUP 3:

How are soil aggregates formed, and which constituents and processes are responsible for their stability? Explain.

GROUP 4:

List and briefly describe the key effects of 5 factors of soil formation on soils at UBC campus.

Hint – information about this can be found in APBI 200 lab manual (p. 6-8) posted at

<https://wiki.ubc.ca/Course:APBI200>

GROUP 5:

Two soil samples with similar texture are placed in close contact; one has a matric potential [ψ_m] of -1 m and the second -0.01 m. Which soil likely has the higher water content (θ)? In which direction will water move and why? Explain.

GROUP 6:

The forestry company you work for has asked you to assess the potential impact of heavy machinery on a forest landing (areas where harvested trees are processed and loaded onto trucks). The soil at your site is a well aggregated clay. How would you expect the bulk density & pore size distribution to change due to use of the heavy machinery? What are the potential implications for soil water movement?