

Geology 101, Fall 2007

Name:

Assignment 3: Weathering, soils, sedimentary and metamorphic rocks

Due Monday, October 15, noon

Compare/contrast **physical** (mechanical) weathering vs. **chemical** weathering

Name an example of each type of weathering listed above.

Compare/contrast **soil** vs. **regolith**

Given the two terms above, what would the meteorite-impact-weathered material on the surface of the Moon be considered?

Give a reason, using at least one **soil horizon**, for the poor quality of most tropical rainforest soils.

Compare/contrast **compaction** vs. **cementation**

Compare/contrast **clastic** (detrital) rocks vs. **chemical** sedimentary rocks

What do rocks with **cross-beds** tell you about the **depositional environment** of that area, compared to rocks showing flat-lying **graded beds**?

What do rocks with **mudcracks** tell you about the depositional environment of that area?

Compare/contrast hydrothermal **alteration** vs. true **metamorphism**

Between **lithostatic** pressure and **directed** pressure, which leads to **foliated** metamorphic rocks?

List the **three types** of metamorphism and one factor that distinguishes each from the others.

Compare/contrast **index mineral** vs. **metamorphic grade**