**Weathering, Soil, and Mass Movement/Glacier and deserts study guide**

1. What is mechanical weathering?

The process when physical forces break rock into smaller pieces without changing the rocks chemical composition.

1. What is chemical weathering?

When characteristics in chemical composition of weathered materials have been altered.

1. What is frost/ice wedging?

Weathering process that involves the constant freezing and thawing of water.

1. When water freezes, it’s volume?

Increase

1. When rocks shapes have been changed, what type of weathering causes this deformation?

Mechanical weathering

1. The chemical weathering of feldspar produces?

Clay minerals

1. What atmospheric gas forms a mild acid when dissolved in water?

Carbon dioxide

1. What type of weathering would cause the inscription on marble gravestones to become harder and harder to read overtime?

Chemical weathering

1. Which climate would chemical weathering be most effective?

Warm, humid climates

1. If granite and marble were exposed in an area with hot and humid climate?

The marble would weather most rapidly

***You must know how to read this soil triangle!***

1. What are the major component of soil?

Mineral matter, air, humus, organic matter, parent material

1. What factor has the greatest effect on soil formation?

Climate

1. A soil’s texture is determined by?

 Particle size

1. The main source of organic matter in soil comes from?

Plants

1. What are the layers of the soil profile?

The uppermost layer is the A horizon, it contains Humus (topsoil)

The B horizon, clays

The C horizon, leeching moisture from the upper horizons.  Also contains fragments a parent material

Parent material, bedrock

1. The rate of soil erosion depends on which factors?

 Climate, slope steepness, the type of vegetation

1. Since humans have appeared, the amount of sediment carried by Rivers has?

 Increased dramatically

1. What is mass movement?

 It is a process responsible for moving material downslope under the influence of gravity.  Gravity is the force behind mass movement.

1. These things are true about mass movements.

 Some mass movements are too slow to be seen, gravity is the driving force behind all mass movement, mass movement is always down slope

1. What are some factors that commonly trigger mass movements?

 Saturation of surface material with water, earthquakes, removal of vegetation

1. Why can the removal of vegetation trigger a mass movement?

The plant roots find the soil and regolith together.

1. During what type of season would you expect mass movements to be a greater threat?

 In a wet spring before vegetation is growing

1. What is the difference between a slide and a fall?

A slide is a mass movement that involves the sudden movement of a block of material along a flat, inclined surface.

A fall is a mass movement that involves the sudden movement of a block of material down a vertical column.

1. What is the mass movement slump?

 It is when a block of material moves downslope along a curved surface

1. What is the slowest type of mass movement?

 Creep

1. What is a thick ice mass that forms over the land from the accumulation, compaction, and recrystallization of snow?

A glacier

1. Icebergs are produced when large pieces of ice break off from the front of the glacier during a process called?

Calving

1. Why can a heavy rain shower cause a large amount of erosion in a desert area?

There is a lack of vegetation to hold the soil in place.

1. The rust colored tent of some desert landscapes is the result of what type of weathering?

 Chemical weathering