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GEO 101: Mon, Wed 1:00 to 2:15PM

Review Exam 2 Questions

3/1/2018

**4. What factors affect how fast or how much chemical weathering can occur?**

Climate – The more water in the air and the hotter the temperature of an area the faster weathering.

Surface area – A rock will weather more quickly the more surface area it has.

Rock Composition – Some minerals resist weathering more than others. For example, calcite and feldspar will weather faster than quartz which weathers more slowly.

Chemical Reactions – Chemical reactions can speed up weathering if for example, carbon dioxide dissolves in rainwater it can produce a carbonic acid.

**5. How does mechanical weathering influence chemical weathering?**

Mechanical weathering increases the rate of chemical weathering because since the result of mechanical weathering is breaking rock into smaller pieces exposing more surface area of a rock, therefore increasing more places for chemical weathering to occur.

**6. What is spheroidal weathering? Where and how does it occur?**

Spheroidal weathering is the chemical weathering process in which rock weathers greatly along the corners and edges of exposed rock.

**9. What are the necessary ingredients in order for a soil to support life? What is pore space and how does this affect a soil?**

Air (CO2), water (H20), minerals (dissolved elements), and organic matter (living and non-living) are the necessary ingredients for soil to support life.

Pore space is the empty space in soil or rock and it affects soil because it determines how much water or air can fill that pore space.

**10. What factors control how and at what rate a soil forms?**

Factors: Surface Area, H2O, Temperature, Plant/Animal (Organisms), Time, Topography

**16. What is the difference between clastic and chemical sedimentary rocks (both in the way they form and their texture)?**

Clastic sedimentary rocks are formed by weathering processes of breaking down a rock and transported to a separate location where they form a new rock cemented together by pressure where a hardened sedimentary rock forms.

Clastic sedimentary rocks texture is sorting and rounding where the grains are not interlocking but instead held together by a cement.

Chemical sedimentary rocks form from water solutions and from chemical residues because of the precipitation of crystals.

Chemical sedimentary rocks texture is a crystalline texture where there is interlocking.

**21. Why are fossils more commonly preserved in sedimentary rocks than in other types of rocks?**

Sedimentary rocks are more commonly preserved in sedimentary rocks because fossils are organic products that are preserved in the earth crust and sedimentary are formed on the Earth surface. In other words, fossils cannot form too deep into the Earth’s surface, allowing sedimentary to be able to interact with these organic materials the most.

**23. What conditions change to metamorphose a rock?**

Conditions: Increase pressure, Increase temperature, Increase fluid activity

**31. Name one nonmetallic resource and explain how it is used in society.**

Coal is used in society as an energy source for heat or electricity. For example, at a power plant the coal is combusted to boil water and produce steam to operate generators and turbines, which produce electricity.

**29. KNOW THE ROCK CYCLE!!**

WETDL – Weathering, Erosion, Transportation, Deposition, Lithification

TPFA – Temperature, Pressure, Fluid, Activity

**Magma**

Melt

TPFA

TPFA

WETDL

TPFA

Melt

Melt

WETDL

Cool

WETDL

**Sedimentary**

**Metamorphic**

**Igneous**