Name: _____ Surface Processes

Date: _____ Period: _____ Earth Science

Packet: Weathering and Soils

CLASS NOTES

- Weathering - _____

  _____

- Sediments - _____

  _____

- Weathering occurs when rocks are exposed to:
  - _____
  - _____
  - Actions ofd Living Things

- Chemical Weathering - _____

  _____

  - The rate of chemical weathering increases in _____ and _____ climates
  - Oxidation - _____

    _____

  - Effects of Water on Rock:
    - Sometimes called the _____, because given enough time water can dissolve nearly anything
    - Water can combine with _____ to form carbonic acid
    - Carbonic acid can _____ most rock [e.g. limestone]
  - Sinkhole - _____

    _____

Packet: Weathering and Soils

- Physical Weathering - _____

  _____

  - Abrasion - _____

    _____

    - Characteristics: round shaped rocks
  - Frost Action - _____

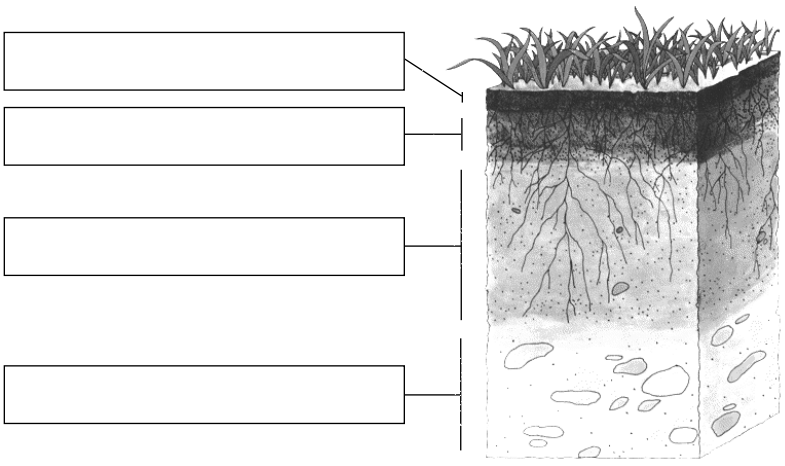
    _____

    - Water _____ cracks in the rock and when it freezes expands [approximately 10%] to _____ the rock apart
    - Infiltration - the process which water penetrates into soil or rock
  - Plant Root Growth - _____

    _____

  - Abrupt Temperature Changes - as temperature increases rocks expand and fracture

- Physical and chemical weathering processes are important in the formation of _____
- Soil is a mixture of weathered rock particles and organic matter that supports rooted plants
- Humus - part of the soil that serves as a source of plant nutrients



Packet: Weathering and Soils

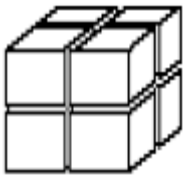
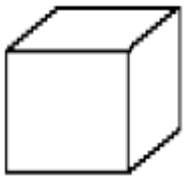
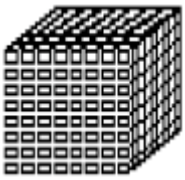
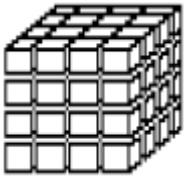
PART I QUESTIONS: MULTIPLE CHOICE

1. Which is the best example of physical weathering?
    a. the cracking of rock caused by the freezing and thawing of water
    b. the transportation of sediment in a stream
    c. the reaction of limestone with acid rainwater
    d. the formation of a sandbar along the side of a stream

2. A large rock is broken into several smaller pieces. Compared to the rate of weathering of the large rock, the rate of weathering of the smaller pieces is
    a. the same
    b. less
    c. greater

3. Which change in the climate of New York State would most likely cause the greatest increase in chemical weathering of local bedrock?
    a. lower humidity in winter
    b. greater precipitation in summer
    c. lower temperature in winter
    d. higher atmospheric pressure in summer

4. Four samples of the same material with identical composition and mass were cut as shown in the diagrams below. When subjected to the same chemical weathering, which sample will weather at the fastest rate?

a.  b.  c.  d. 

5. Which is not an example of chemical weathering?
    a. The oxidation of a nail left outside for an extended about of time.
    b. A tombstone that has had the letters washed away by acid rain.
    c. The enlarging of a pothole from cycles of freezing and thawing.
    d. An underground cave created from carbonic acid.

6. Which change is most likely to occur in a landscape if its climate changes from humid to arid?
    a. Wind will become a more important agent of erosion.
    b. Surface features will become more rounded.
    c. Chemical weathering will increase.
    d. Vegetation will increase.