CLASS NOTES

- **Sedimentary Rocks**

- **Sediment** - solid fragmented material that is transported and deposited in layers on Earth’s surface
  - Synonyms for Sediment:

  - **Clastic**
    - Examples: Conglomerate and Breccia
  - **Crystalline**
    - Examples: Rock Salt and Rock Gypsum
  - **Bioclastic**
    - Examples: Coal and Limestone

- Methods to classify sedimentary rocks:
  1. **Texture** - the physical makeup of the rock including size, form and orientation of the pieces
    - **Clastic**
      - Examples: Conglomerate and Breccia
    - **Crystalline**
      - Examples: Rock Salt and Rock Gypsum
    - **Bioclastic**
      - Examples: Coal and Limestone
Packet: Sedimentary Rocks

- Methods used to classify sedimentary rocks [continued]:

2. **Grain Size** - individual size of the grains when measured

3. **Lithification** - 
   - **Cementation** - 
     - Dissolved minerals in water hold the clasts together after evaporation
   - **Compaction** - 
     - Usually results in a more tightly packed form with a decrease in pore space
   - **Chemical Action** - 

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[Graph showing particle diameter vs. stream velocity]
4. **Characteristics** - additional properties and traits that may help identify a sedimentary rock
   - Form __________ or __________ Earth’s surface
   - Forms in ________________ layers
   - May contain ________________
PART I QUESTIONS: MULTIPLE CHOICE

1. Which sedimentary rock would be formed by the compaction and cementation of particles 1.5 centimeters in diameter?
   a. shale
   b. conglomerate
   c. siltstone
   d. sandstone

2. Some sedimentary rocks form as the direct result of the
   a. melting of minerals
   b. solidification of molten magma
   c. cementation of rock fragments
   d. recrystallization of material

3. Which rock is most likely a sedimentary rock?
   a. a rock composed of distorted light-colored and dark colored mineral bands
   b. a rock consisting of intergrown crystals
   c. a rock containing dinosaur bones
   d. a rock with a glassy texture

4. Limestone is a sedimentary rock which may form as a result of
   a. biologic processes
   b. melting
   c. recrystallization
   d. metamorphism

5. A sediment contains particles that range in diameter from 2 to 4 centimeters. Which sedimentary rock would be formed when this sediment is compressed and cemented together?
   a. sandstone
   b. shale
   c. siltstone
   d. conglomerate

6. Which rock was formed by the compaction and cementation of particles 0.07 cm in diameter?
   a. sandstone
   b. basalt
   c. limestone
   d. shale

7. The sedimentary rock, gypsum, forms as a result of
   a. evaporation of seawater
   b. metamorphism of limestone
   c. weathering of siltstone
   d. faulting and folding of shale
8. Sedimentary rocks formed by compaction and cementation of land-derived sediments are classified on the basis of
   a. particle size
   b. rate of formation
   c. composition
   d. type of cement

9. Which sedimentary rock is composed of fragmented skeletons and shells of sea organisms compacted and cemented together?
   a. shale
   b. sandstone
   c. gypsum
   d. limestone

10. Which is a sedimentary rock that forms as a result of precipitation from seawater?
    a. shale
    b. gypsum
    c. conglomerate
    d. basalt

11. Most sedimentary rocks form by which processes?
    a. subduction and melting
    b. heat and pressure
    c. melting and solidification
    d. compaction and cementation

12. Most of the sediment that is compacted and later forms shale bedrock is
    a. clay
    b. sand
    c. silt
    d. pebbles

13. Which mineral precipitates from oceans and forms rock salt?
    a. quartz
    b. halite
    c. fluorite
    d. olivine

14. Most rocks that form from fragmental rock particles are classified as
    a. extrusive igneous
    b. intrusive igneous
    c. clastic sedimentary
    d. chemical sedimentary
15. This rock should be classified as
   a. an intrusive igneous rock
   b. an extrusive igneous rock
   c. a bioclastic sedimentary rock
   d. a clastic sedimentary rock

16. What is the name of the rock?
   a. limestone
   b. breccia
   c. sandstone
   d. conglomerate

17. Which observation about the rock best supports this classification?
   a. The rock is composed of several minerals.
   b. The rock contains fragments of other rocks.
   c. The rock has a vesicular texture.
   d. The rock shows distorted and stretched pebbles.

18. The beaches along Fire Island consists of particles with diameters from 0.01 cm to 0.1 cm. Identify the sedimentary rock that will form when burial and cementation of these sediments occur.
   a. siltstone
   b. shale
   c. sandstone
   d. breccia