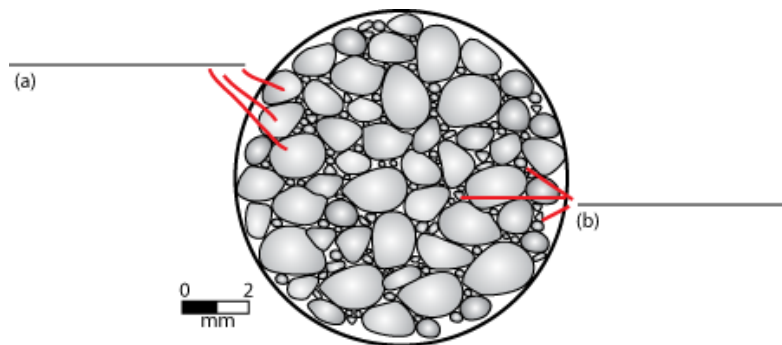


## Sedimentary Rocks – Practice Questions and Answers

Revised September 2007

1. Clastic sedimentary rocks are composed of \_\_\_\_\_ and \_\_\_\_\_  
\_\_\_\_\_ derived from pre-existing material.
2. What is physical weathering?
3. What is chemical weathering?
4. What are the three major agents of erosion?
5. What does the term sorting refer to?
6. The angularity of the edges and corners of grains in a sedimentary rock is referred to as
  - a. roughness
  - b. smoothness
  - c. rounding
  - d. abruptness
  - e. none of the above
7. In general the greater the distance sediment is transported the more \_\_\_\_\_ and \_\_\_\_\_  
\_\_\_\_\_ sediment becomes.
8. Grains of sand make up one component of a sandstone while grains smaller than sand make up another. The former is called the \_\_\_\_\_ while the latter is called the \_\_\_\_\_.
9. The pores of clastic sedimentary rocks are the \_\_\_\_\_ between grains.
10. The process of reducing pore space by depositing younger sediments on top of older material is referred to as
  - a. dilation
  - b. reduction
  - c. contraction
  - d. compaction
  - e. none of the above

11. The cement in a sandstone is typically the result of the precipitation of minerals like quartz and calcite from
- the atmosphere
  - organisms
  - fauna
  - flora
  - solutions
12. All clastic sedimentary rocks display a \_\_\_\_\_ or \_\_\_\_\_ texture.
13. Gravels (including pebbles) are pieces of older rock material greater than
- 2 mm
  - 4 mm
  - 64 mm
  - 256 mm
  - 0.06 mm
14. A sedimentary rock composed of rounded gravel is called a \_\_\_\_\_.
15. A sedimentary rock composed of angular gravel is called a \_\_\_\_\_.
16. The largest clast size in the range of gravel is
- pebble
  - cobble
  - very coarse sand
  - boulder
  - none of the above
17. Sand is cohesionless sediment ranging in size between \_\_\_\_\_ mm and \_\_\_\_\_ mm.
18. Sand that is cemented with calcite is called \_\_\_\_\_.
19. In the following illustration fill in the missing labels (a) and (b).



20. If a sandstone includes less than 15 percent matrix, and is composed of >90 percent quartz then it is called a
- feldspathic arenite
  - quartz arenite
  - quartz wacke
  - litharenite
  - quartz siltone
21. What would you call sandstone with the following characteristics: (a) a framework composed of greater than 25 percent feldspar, (b) the proportion of feldspar to feldspar + rock fragments in the framework is greater than 50%, and (b) the matrix is more than 15 percent?
- lithicfeldspatic wacke
  - feldspathiclithic wacke
  - feldspathic siltstone
  - feldspathic wacke
  - feldspathic arenite
22. What would you call sandstone with the following characteristics: (a) a framework composed of greater than 25 percent feldspar, (b) the proportion of rock fragments to feldspar + rock fragments in the framework is greater than 50%, and (b) the matrix is less than 15 percent?
- lithic wacke
  - lithic siltstone
  - lithic arenite
  - quartzolithic arenite
  - lithoquartzose arenite
23. A mudstone is composed of particles ranging in size from less than \_\_\_\_\_ mm to \_\_\_\_\_ mm.
24. Siltstones are coarser grained than
- sandstones
  - very fine grained sandstones
  - very fine grained siltstones
  - mudstones
  - claystones
25. What is the name of the clastic sedimentary rock composed of particles less than 0.004 mm in size?
26. How would you describe the property of fissility?
27. How does shale differ from a mudstone?

28. A mound shaped feature composed chiefly of the calcareous remains of sedentary marine organisms is a
- limestone mound
  - fossil mound
  - fossil burial ground
  - reef
  - none of the above
29. A common mineral found in carbonate sedimentary rocks is
- quartz
  - K-feldspar
  - plagioclase
  - calcite
  - gypsum
30. What would you call a carbonate rock composed of calcite and abundant pieces of clam shells?
31. Microfossils found in chalk are
- radiolaria
  - porifera
  - rudistids
  - coccolithophore
  - foraminifera
32. Oolitic limestone is an example of an organic carbonate rock. True or false
33. A dolostone is composed mostly of the mineral \_\_\_\_\_.
34. An example of a siliceous chemical sedimentary rock is
- quartz siltstone
  - quartz sandstone
  - quartz mudstone
  - chert
  - siliceous argillite
35. NaCl when found in rock form is referred to as \_\_\_\_\_.
36. Rock that is the result of compaction of variably decayed plant matter is referred to as \_\_\_\_\_.
37. Beds are thicker than \_\_\_\_\_ cm.

38. Laminations are thicker than beds. True or false
39. Formations are generally considered to be mappable at a scale of
- 1:48000
  - 1:24000
  - 1:12000
  - 1:6000
  - None of the above
40. What is a contact?
41. What is the significance of cross beds and ripples?
42. What do mud cracks signify?
43. Graded beds are the result of deposition by
- rivers
  - blowing wind
  - moving ice
  - turbidity currents
  - none of the above
44. Sediment always carried above the river bed in the moving current is classified as the
- solution load
  - bed load
  - suspended load
  - episodic load
  - continuous load
45. Sediment dragged, pushed, or bounced along the river bed is classified as the
- solution load
  - bed load
  - suspended load
  - episodic load
  - continuous load
46. The current adjacent to the cut bank is moving \_\_\_\_\_ than the current along the point bar side.

47. Alluvial fans develop at the base of
- the continental shelf
  - the continental slope
  - mountain fronts
  - fault scarp
  - none of the above
48. When rivers enter large bodies of standing water they typically debouche their loads forming
- alluvial fans
  - submarine fans
  - barrier islands
  - deltas
  - none of the above
49. Strips of sand and gravel lying above sea level and paralleling the adjacent coastline but separated from it by a narrow body of water are called
- alluvial fans
  - submarine fans
  - barrier islands
  - deltas
  - none of the above

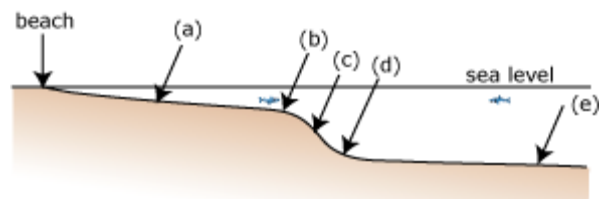
50. A \_\_\_\_\_ is a strip of sand and gravel extending from the low- to high-tide line.

51. What do you call accumulations of sand that are the result of blowing wind?

52. Where are sumarine fans found?

53. In the following illustration what are (a), (b), (c), (d), and (e) called?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



sea bed at (a) is inclined seaward at  $\sim 0.1^\circ$   
 sea bed at (c) is inclined seaward at  $\sim 4-5^\circ$   
 depth to sea bed at (b) is  $\sim 100 - 200$  m  
 depth to sea bed at (e) is  $\sim 500$  m

## Answers

1. minerals, rock fragments
2. The in situ mechanical break down of rock material by plants, animals, abrasion, and freezing and thawing
3. The chemical alteration of weathered material brought on by reactions with the hydrosphere, biosphere, and atmosphere
4. wind, water, and ice
5. The range in grain size of sediment in a given sample.
6. c. rounding
7. well sorted, rounded
8. framework, matrix
9. voids or empty space
10. d. compaction
11. e. solution
12. fragmental, clastic
13. a. 2
14. conglomerate
15. breccia
16. d. boulder
17. 0.06 and 2
18. calcareous sandstone or just simply sandstone
19. (a) = framework grains; (b) = matrix
20. b. quartz arenite
21. d. feldspathic wacke
22. c. lithic arenite
23. 0.004, 0.06 mm
24. e. claystones
25. claystone
26. Fissility refers to the characteristic of parting into even parallel sheets when struck with a rock hammer.
27. Shale exhibits fissility while a mudstone does not.
28. d. reef
29. calcite
30. bioclastic limestone
31. d. coccolithophore
32. false
33. dolomite
34. d. chert
35. rock salt
36. coal
37. 1
38. false
39. b. 1:24000
40. A contact is a 3D surface separating rocks of differing lithological aspect.
41. Cross beds and ripples are sedimentary structures that indicate the general direction of wind or water currents during deposition

42. Mudcracks signify the evaporation of water and the drying out of a sedimentary environment.
43. d. turbidity currents
44. c. suspended load
45. b. bedload
46. faster
47. c. mountain fronts
48. d. deltas
49. c. barrier islands
50. beach
51. dunes or sand dunes
52. Submarine fans are common features of continental rise environments.
53. (a) shelf; (b) shelf-slope break; (c) slope; (d) rise; (e) abyssal plain