

ES202 Video Exercise – Part 2 of the Earth Revealed “Sedimentary Rocks” Video
Focus on Stratigraphy and Sedimentary Structures
(Start Video at Time Mark 10:30)

1. Describe the “principle of uniformity” or “law of uniformitarianism”? How is it applied to sedimentary rocks and interpreting Earth history?
2. True or False: Earth surface systems today have existed in the past, their processes producing sedimentary rock products.
3. Define the term “sedimentary structure”; how does this term differ from the concept of a “sedimentary rock”?
4. Define bedding? What is a bedding plane? Draw and label a sketch of several sedimentary beds to illustrate your answer.
5. True or False: A stack of sedimentary beds represent a continuous recording of geologic time and events in geologic history.
6. Describe the law of original horizontality, as applied to sedimentary beds. Draw a sketch to illustrate your answer.
7. Draw a sketch of “cross-bedding”. List some example environments in which cross-bedded sand will develop.
8. True or False: The angle and direction of tilt in cross beds can give clues as to which way fluids (liquid air or water) were flowing in the geologic past?
9. Draw a sketch to support your answer in the previous question. Show cross-bedding and the direction of transport that formed the structure.
10. Define the term “ripple marks”. Draw a sketch of asymmetric ripple marks, show the direction of wave motion.

11. What are mud cracks? Draw a sketch. Explain the sedimentary conditions in which mud cracks are formed.

12. From the example of the “Ridge Basin” in southern California; list the FOUR sedimentary features that are indicative of deposition in a lake basin.

13. What is a “delta”; how is it formed, and what are some of the sedimentary features that indicate such an environment of deposition.

14. Draw a sketch of a “scour-and-fill” structure. What does scour and fill indicate about ancient sedimentary environments.

15. True or False: Scour and fill structures would be highly likely in a deep lake or deep ocean environment.

16. What does the occurrence of angular and poorly sorted gravel fragments indicate about the sedimentary history along the margins of the Ridge Basin California.

17. True or False: sedimentary rocks are commonly the source of fossils fuels such as oil, natural gas, and coal?

18. True or False: sedimentary rocks are commonly used as building and construction materials.

19. True or False: I love geology.