

### **ES473 Introduction to River Processes Video Exercise**

Watch the Earth Explored River Video, and answer the following review questions.

H:\ES202\geo\_videos\e\_exp\_fluvial.mpeg

1. Draw and label a sketch of the hydrologic cycle, show all subcomponents and transfer processes.
2. What is the difference between potential energy and kinetic energy? What is the driving force associated with flowing water in a river?
3. What three factors determine the type and amount of work a stream can accomplish?
4. Stream velocity is related to what 3 channel characteristics? Draw and label a sketch.
5. How is stream velocity and channel slope related to discharge? Draw a sketch and provide governing equations.
6. What are the three mechanisms of sediment transport? How do rivers erode the Earth's surface over geologic time.
7. What changes occur in stream processes as rivers approach base level? Provide an example of ultimate base level and local base level for rivers.
8. True or False. The surface float velocity of a stream is the maximum velocity.
9. True or False. Turbulent flow is more common than laminar flow in natural streams.
10. True or False. A narrowing of stream channel width generally causes an increase in velocity.
11. True or False. Hydraulic lift causes a decrease in stream velocity.
12. True or False. Ultimate base level of a river system lies at sea level.