

Review Questions Topic 16: A River Runs Through It

List all of the main watersheds of North America and whether they are open or closed

What do we call the boundaries between watersheds?

Compare and contrast ephemeral and permanent streams

Explain the difference and nature of dendritic, radial, and rectangular drainage patterns. What controls each?

Define: tributary, trunk stream

What is the “normal geometry” of a tributary compared to its trunk stream?

Explain the four major mechanism by which a stream cuts its channel

Differentiate between dissolved, bed, and suspended load

Using the concept of base level, explain what controls whether a river can carve a deep channel through the landscape, or merely a shallow one

What factors control the cross-section of a river valley?

How can you tell what a river is “capable” of becoming in flood stage, even when it is not in flood?

Compare the characteristics of meandering and braided streams

Describe how water flow velocity varies in a meandering stream

Explain the concept of lateral stream migration (include scroll-bar wedges in your explanation)

Explain how an oxbow lake forms. How does it ultimately get plugged by clay?

What are the worlds, tallest, voluminous, and widest waterfalls in the world?

Explain the three major causes of waterfalls

Explain the concept of knickpoint migration and how this deepens a river channel significantly

How is the Niagara Escarpment related to the Niagara Falls?

Which two lakes are connected by the Niagara river?

Explain how undercutting of rock layers sustain the Niagara river

Why has the erosional rate of the Niagara river seen a dramatic reduction in the 20th century?

What is a river gap? Provide at least TWO explanations of how they might form

How do barbed tributaries form?

What is stream piracy?