

NAME: _____ DATE: _____

CLASS: _____ TEACHER: _____

Stages of River Development Earth Science Assignment

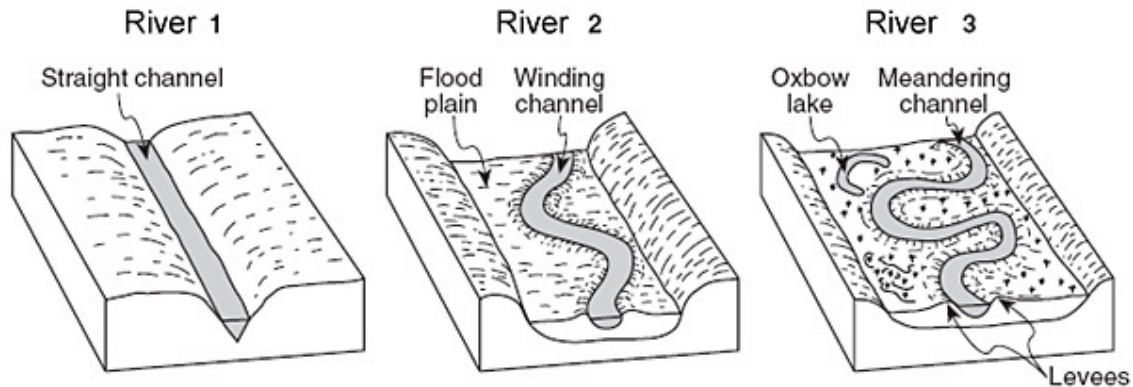
This worksheet was designed to accompany the following Geoteach.com lesson: **Three Stages of River Development**. You may find it helpful in answering these questions.

Directions: Look at the following illustration which shows 3 different stages of river development.

Answer all questions, basing your answers on the illustrations below, the lesson link above and your knowledge of Earth Science.

Place your answers in the spaces provided or as directed.

Short Essay Responses should be written in complete sentences and placed inside the **text box** provided for each response.



1. Directly under each of the 3 rivers in the illustration above, write the words: Young River, Mature River and Old Age River, as they apply to each one of the 3 drawings.

2. Describe the evolutionary changes that take place as a river goes from a Young River, through the Mature stage to an Old Age River stage.

Be sure to include the following in your response:

- Slope of the Land* in the area
- Channel Shape,*
- River Water Velocity,*
- Type of Erosion* that takes place (Downcutting, Lateral or both)
- Floodplains,*
- and any other overall characteristics visible in the drawings.

The Text Box for your answer is on Page 2.

Text Box for Question 2:

3. Describe the ways that sediment is carried in all 3 river stages:

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Text Box for Question 3:

4. State the sediment sizes that each river stage is capable of transporting, assuming no flooding is taking place:

Young River: _____

Mature River: _____

Old Age River: _____

5. State the relationship between the velocity of river water and how fast sediments will travel in the river water:

Text Box for Question 5:

6. In a cross-sectional consideration of a river channel, describe the location where river water molecules would be moving fastest.

Answer: _____

7. In the channel of an Old Age River, compare the water velocity on the outside curve of a meander versus the inside meander curve.

Answer: _____

8. A family is planning a trip in which they will include a "*white water rafting adventure*". Which River Stage would provide the most exciting rafting trip and why?

Text Box for Question 8:

9. As rivers flow over the land for many thousands of years, what happens to the overall gradient of the land in the area?

Answer: _____

10. Rivers ultimately flow to and deposit sediments at **Base Level**, which can be a lake or the ocean.
Assuming, for this question, that the ocean is Base Level, which of the 3 river stages will deposit sediments in that ocean and on what do you base your answer?

Text Box for Question 10:



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