Name: _____ Date: _____

Module G: Section 4.1 Notes: Surface Water

Objectives:

- ◊ **You will learn to identify the causes of runoff.**
- ◊ **You will learn to compare rill, gully, sheet, and stream erosion.**
- ◊ **You will learn to identify three different stages of stream development.**
- ◊ **You will learn to explain how alluvial fans and deltas form.**

Vocabulary for Section 4.1:

***Erosion (p.)**

–_____

_____

–

***Gravity (p.) –**

_____

_____

Runoff (p.)

–_____

_____

–

Channel (p.) –

_____

_____

***Rill erosion (p.) –**

_____

_____

***Gully erosion (p.) –**

_____

_____

Sheet erosion (p.) –

_____

_____

***Stream erosion (p.) –**

_____

_____

Drainage basin (p.) –

_____

_____

***Young stream (p.) –**

_____

_____

***Mature stream (p.) –**

_____

_____

Meander (p.) –

_____

_____

***Old stream (p.) –**

_____

_____

***Delta (p.) –**

_____

_____

***Alluvial fan (p.) –**

_____

_____

Runoff

(Pg. 92)

1. **List three things that happen to rainwater when it falls to Earth:**
    1. _____
    2. _____
    3. _____

(Pgs. 92-93)

2. **List four factors that affect runoff:**
    1. _____
    2. _____
    3. _____

(Pg. 93)

3. **Water runs downhill because of Earth's _____.**
4. **When water begins to run down a slope, it picks up _____ and _____.**

Water Erosion

(Pg. 94)

5. **When water travels down the same slope time after time, it wears a path. The movement of soil and rock from one place to another is called _____.**

(Pgs. 94-95)

6. **List and explain each of the four types of water erosion:**
    1. _____ - _____
    2. _____ - _____
    3. _____ - _____
    4. _____ - _____

River System Development

(Pg. 96)

7. **Streams are part of _____.**

8. **A _____ has many parts. _____ enters small _____, which join together to form larger _____. Larger _____ come together to form _____. _____ grow and carry more water as more streams join.**
9. **A _____ is the area of land from which a stream or river collects _____.**
10. **All the water in a river system eventually flows to one location – the _____, or trunk.**
11. **The largest _____ in the United States is the _____ Drainage Basin.**

Stages of Stream Development

(Pg. 97)

12. **_____ come in a variety of forms because they are in different stages of development.**
13. **These stages depend on the _____ of the ground over which the stream flows.**
14. **Streams are classified as _____, _____, or _____. NOTE: The names of the stages of development are not always related to the actual age of a river.**
15. **Explain at least three characteristics of a young stream:**
    1. _____
    2. _____
    3. _____
16. **Explain at least three characteristics of a mature stream:**
    1. _____
    2. _____
    3. _____

(Pg. 100)

17. **Explain at least two characteristics of an old stream:**
    1. _____
    2. _____

Too Much Water

(Pg. 100)

18. **Sometimes heavy rains or a sudden melting of snow can cause large amounts of water to enter a river system. What happens when a river system has too much water in it?**

    _____

    _____

19. **What kind of damage can a river, that overflows its banks, do?**

    _____

    _____

20. **_____ and _____ are built in an attempt to prevent flooding.**
21. **A _____ is built to control the water flow downstream.**
22. **What are levees?**

    _____

    _____

23. **_____ and _____ are built to prevent rivers from overflowing their banks.**
24. **Floods that completely change the surface of Earth in a large region are called _____.**

Deposition by Surface Water

(Pg. 101)

25. **As _____ moves throughout a river system, it loses some of its _____. As a result, sediment is _____ at the bottom of the stream.**

(Pg. 102)

26. **Sediment that is deposited as water empties into an ocean or lake forms a triangular, or fan-shaped, deposit called a _____.**
27. **When the river waters empty from a mountain valley onto an open plain, the deposit is called an _____.**

Do you have any questions???

(In the area below, write down any questions you have about Section 4.1: Surface Water; ask these questions during class once you are given the opportunity to!)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____