

Name \_\_\_\_\_

# Physical Geography

## Lab Activity #18

Due date \_\_\_\_\_

### Building Streams

*COR Objective 6,7, SLO 3*

#### 18.1. Youthful Streams

Your handsome instructor will construct a “youthful” stream, meaning it represents one that just formed in nature. Draw the approximate shape of the stream in the space below:

**Head**

**Mouth**

Using a ruler, fill in the following chart:

| Location       | Width (cm) | Depth (cm) | Form Ratio (Depth/Width) |
|----------------|------------|------------|--------------------------|
| Head           |            |            |                          |
| Center         |            |            |                          |
| Mouth          |            |            |                          |
| Stream Average |            |            |                          |

#### 18.2. Mature Streams

Next we will run the water for a bit to represent a river entering maturity, meaning it has been around for a few years. Draw the overhead profile again

**Head**

**Mouth**

Using a ruler, fill in the following chart:

| <b>Location</b>       | <b>Width (cm)</b> | <b>Depth (cm)</b> | <b>Form Ratio (Depth/Width)</b> |
|-----------------------|-------------------|-------------------|---------------------------------|
| <b>Head</b>           |                   |                   |                                 |
| <b>Center</b>         |                   |                   |                                 |
| <b>Mouth</b>          |                   |                   |                                 |
| <b>Stream Average</b> |                   |                   |                                 |

1. Did the stream change its form ratio at all places at the same rate? Might it be possible for the lower regions of a stream to be in a different stage of development from the upper regions? Explain.
2. From your observation of the stream table, which stage of development in the life history of a stream is the shortest? Why?
3. Why does the stream begin to meander in early maturity?
4. If looking on a topographic map, how would you distinguish a youthful stream from a mature one?
5. What is the lowest level (base level) to which this stream can cut?
6. Why do most youthful streams have a V-shaped valley?

### 18.3. Old Streams

The next stage in stream development is full maturity or old age. To save time, your charming instructor will carve the full meanders into the sand. Once it is done, draw the new stream below and fill in the first row of the chart:

**Head**

**Mouth**

Using a ruler, fill in the following chart:

|                        | <b>Width (cm)</b> | <b>Depth (cm)</b> | <b>Length (cm)</b> | <b>Valley Side Angle</b> |
|------------------------|-------------------|-------------------|--------------------|--------------------------|
| <b>Before Starting</b> |                   |                   |                    |                          |
| <b>After 2 minutes</b> |                   |                   |                    |                          |
| <b>After Cutoff</b>    |                   |                   |                    |                          |

7. Rivers are often used as political boundaries. Based on what you have seen, how can this be problematic? Explain.
8. Explain why, in times of flooding, the safest spot may be on the very banks of the river.
9. If you were going to buy property and two identical lots were offered, one on the inside of a meander and one on the outside, which would you invest your money in? Why?

