

**Earth Science Regents
Watersheds & Drainage Basins
Lab**

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Name _____

Lab # _____

Period _____

Part 1: New York State Drainage Exercise

NOTE: You'll need pages 2 and 3 of your ESRT to complete this exercise.

1. On the accompanying NYS river system map (pg. 2), find and label the following rivers/bodies of water:

- | | |
|-------------------|--------------------|
| Hudson River | St. Lawrence River |
| Mohawk River | Lake Erie |
| Susquehanna River | Lake Ontario |
| Delaware River | Lake Champlain |
| Genesee River | |

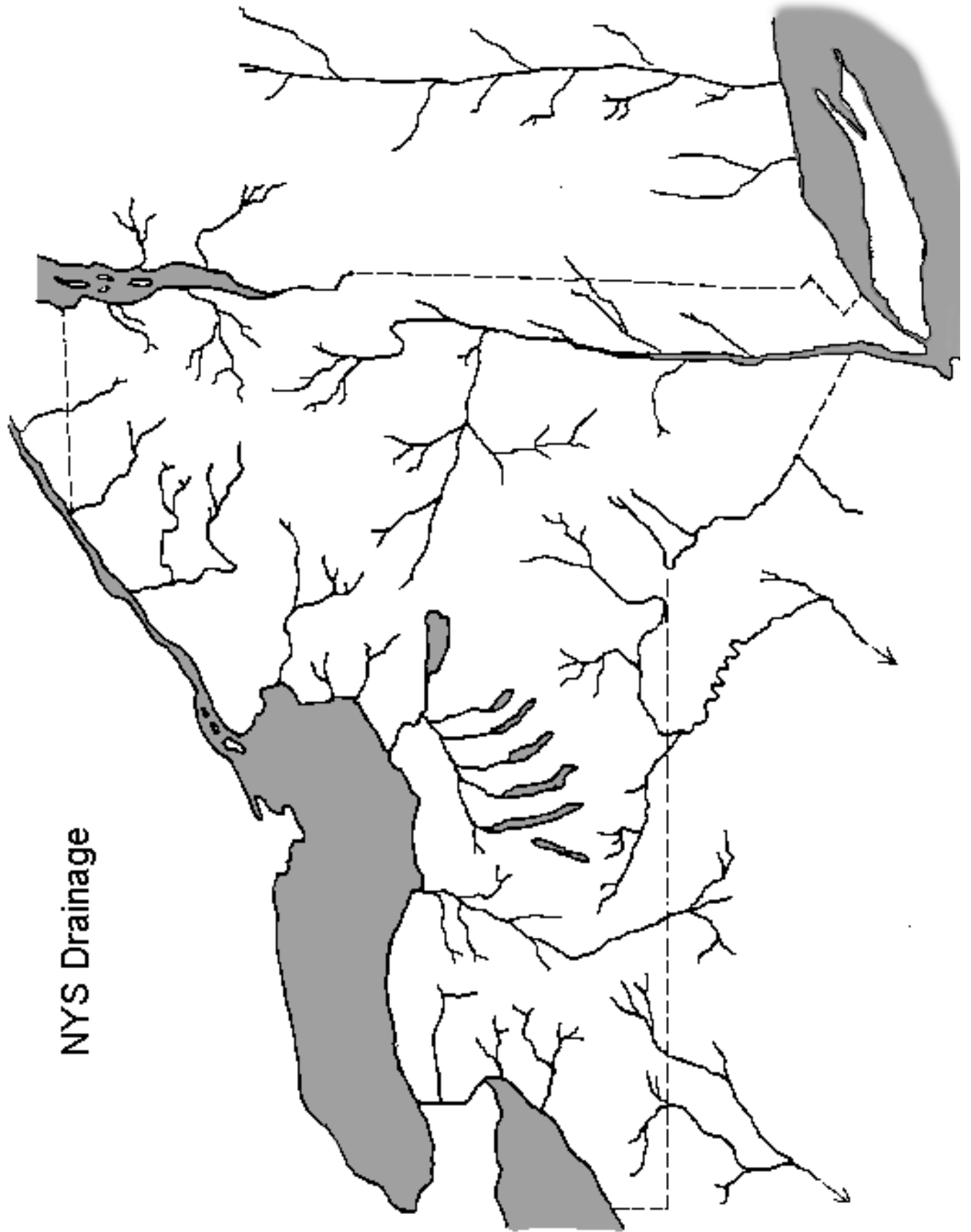
2. Use a colored pencil to trace the Hudson River and all of the tributaries to it.
3. Use another color to trace all the rivers and tributaries that ultimately flow into the Great Lakes system (that is, Lake Erie, Lake Ontario, and the St. Lawrence). Using that same color, lightly shade in the area of the 2 Great Lakes.
4. Use a third color to trace the streams that drain into Lake Champlain. Using that same color, lightly shade in the area of Lake Champlain.
5. Finally, use a fourth color to trace the streams of the Delaware and Susquehanna system.
6. Use a pen or pencil to draw in the approximate position of the divides of the major drainage systems in NYS.

ANSWER the following questions:

1. Significant farming occurs on the Appalachian Plateau of NYS. What bodies of water may be affected by the use of pesticides and fertilizers in that part of the state?

2. List the names of the major cities/towns that have developed along the Hudson River.

3. List the names of the landscape regions that the Hudson flows through— in order - in its trip from source to mouth.



NYS Drainage

Part 2: US Drainage Exercise

Open the FL Geoscience home page (<http://stevekluge.com/geoscience/default.html>) and click "Images" on the top of the website. Resize/move the window to fill just the left hand 1/3 of your screen. Scroll down to Drainage Systems - you'll be using images from there. Click the United States Drainage map. Resize/move the window that opens to fill the right hand 2/3 of your screen. Images you select from the left hand browser window will open in the right hand window.

Click and view the "United States Drainage" map to do/answer the following:

4. Notice the area drained by the Mississippi River (yellow). About what percentage of the total surface area of the US is drained by the Mississippi?

5. Notice the basins shaded in purple. What body of water do all the rivers in those basins ultimately drain into?

6. Look at the Mississippi basin, and the basins shaded in green. What body of water do all the rivers in those basins ultimately drain into?

7. On the grayscale map provided with this lab, use a pencil or pen to trace the divide that separates all the drainage that ultimately ends up in the Atlantic from all the drainage that ends up in the Pacific.

That major divide has a special name...the "**Continental Divide**". Label it on your map.

8. **Click and view** the Physiographic Map of the Western US. What physiographic (landscape) feature(s) seems to correspond with the divide you just labeled?

9. **Click and view** the Physiographic Radar Composite Map of the Eastern United States. What physiographic (landscape) feature seems to correspond with the divide between the Mississippi Basin and the smaller river systems that flow east across the Atlantic Coastal Plain (shaded green)?

10. Explain how/why a mountain range can create a drainage system divide. _____

Click and view the United States Drainage map.

11. Examine the rivers in the basin that's shaded in blue. List the noticeable differences between those rivers and the others on the map.

12. If you haven't already done so, notice that the rivers in the blue shaded basin appear to 'just end', that is, they don't flow ultimately to the oceans. What do you suppose happens to the water in those rivers (where DOES it go?)

13. One of those rivers in the blue basin flows into the Great Salt Lake (which has no outlet). The river water flowing into the Great Salt Lake comes largely from Rocky Mt. snow melt which is not salty (though it picks up a little tiny bit of various salts as it flows over the earth on the way to the lake). Review or rethink your answer to #9 above and then explain why Great Salt Lake is so darn salty.

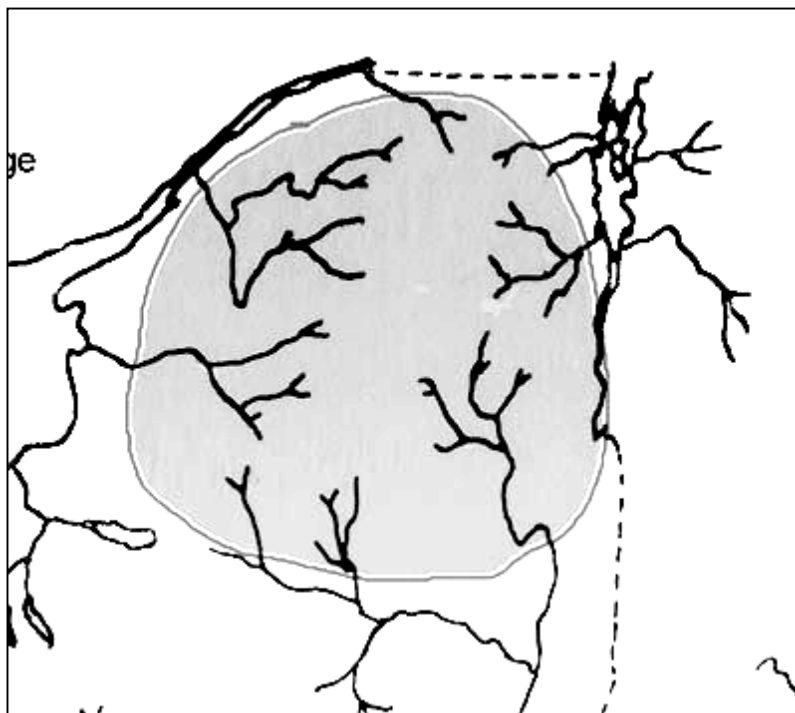
14. **Click on the Adirondack Drainage image link** and refer to the image of the Adirondack drainage in this packet. Estimate the position and draw the divides of the streams that drain the Adirondack Mts. Remember, no area on Earth's surface is not part of some drainage basin (so don't leave any space that is not part of one of the stream drainage basins).

15. Describe the pattern that the streams draining the Adirondacks make. _____

16. Use your ESRT to find Mt. Marcy, the highest point in NYS, and plot it's position on the map in this packet. Is Marcy near the point where your basins meet? You can stand on Mt. Marcy and by just rotating 360 degrees you can see 4 different drainage basins. What basin would you be looking into when you face south?

Where does the water in streams NE of Mt. Marcy drain into? _____

Adirondack Drainage:



Interesting extra credit: On the images web page, scroll to Glaciers and click either Continental Glaciation Map to determine what forms the divide between the Mississippi basin and the Great Lakes.

United States Drainage Basins

