

The Island Watershed Project (25 points)

name: _____

Put this handout in the IN Box at the end of each class period.

Part A: Make the Island and determine the drainage pattern. (5 points)

1. Lay the wax paper on your table and then use the clay to build an island. Sculpt the island so that the maximum height is less than 2 inches.
 - a. The island should have at least four distinct drainage basins. Each basin (watershed) must share a divide with at least one other basin.
 - b. One basin should be at least twice as large as any of the other basins (watersheds).
 - c. Do not include any craters or caves on the island.
 - d. Avoid cone-shaped peaks and unrealistic features. Also, avoid having large flat areas. Consider putting the highest part of the island away from the center of the island.
2. **Take your time on this part. Be thorough!** Use a medicine dropper and little water in a cup to determine the probable location of the island's four largest rivers and their watersheds. Do this by gently dropping water from 1-2 inches above various parts of the island. Watch the path of the drops as they drain off the island.
 - a. If a drop gets stuck add more water to the drop. Eventually it should flow off the island. If it still doesn't move, reshape the area to increase its slope.
 - b. Use the dropper to suck the water up once it has drained onto the wax paper.
 - c. You may reshape the island to get the rivers where you want them to be.

Part B: Mark the major river and watershed boundaries. (10 points)

1. Once you are satisfied with the drainage of the island use pieces of blue thread to mark the location of the island's 4 major rivers. Press the thread gently into the clay to keep it in place. You will need scissors to cut the thread.
2. Use pieces of red thread to mark the boundaries of the watersheds for each river that you have identified (at least four). The watershed should include all the land that would drain into a particular river.
3. Have your instructor check your island before going on to the next step.

Teacher initials will go here: _____

Part C: Make a detailed map of your island. (10 points)

1. Use a pencil to lightly scratch the clay to show the possible locations of at least 2 tributaries for each stream that you have identified with blue thread. Reminder: RIVERS FLOW DOWNHILL!
2. Next, obtain a piece of graph paper make so that you can make a map of your island. Using scissors, cut along the coastline to remove the excess wax paper from the island. Center the island on the graph paper, and then trace its coastline onto the paper. Set the model aside and draw each of the following onto the map: major rivers (blue), tributaries (blue), and boundaries of drainage basins (red).
3. Do each of the following to your map. You will need a freshly sharpened green pencil.
 - a. Put an arrow on your map to indicate (and label) NORTH. Position your map so that NORTH is at the top and then keep it in this position as you label it . . . so that the labels are all oriented the same way (right-side-up) as your teacher checks the map to determine your score.
 - b. Put a tiny red triangle (▲) on the map to mark the highest elevation on your island.
 - c. Give your island a name. Place the name at the top of the map.
 - d. Put arrows on all of the rivers (including tributaries) to show flow direction.
 - e. Name the major rivers (blue thread). Write these names along the rivers.
 - f. Put a green "UP" somewhere in the upper portion of the largest drainage basin.
 - g. Put a green "LO" somewhere in the lower portion the largest basin.
 - h. Put a green "M" at the mouth of your longest river.
 - i. Put a green "D" on one of the divides located on your map.
 - j. Put a green "C" at one of the confluences shown on your map.
 - k. Put a green "H" at the headwaters of your longest river.
 - l. Include a scale on your map. Design the scale so that the length of one side of each square on the graph paper is equal to either 1 mile or 1 km.

Extra Credit: For up to 3 points extra credit, use colored pencils to make your island (and the surrounding water) look attractive.

Set your map and this handout in the designated area. Set your island on top of the two papers.