

3.2e: Evaluate Hester Dendy & Suggest Improvements

Step 1. Before you open up your Hester-Dendy to look for macroinvertebrates, **write down any changes to the Hester Dendy that you can observe**, such as **color changes, attachment of leaves or debris, or anything that is broken or damaged**. Note these on your diagram from **3.2d (prototype drawing)**.

Step 2. Slowly take apart the Hester-Dendy, plate-by-plate, to see where macroinvertebrate have attached to the plates. Note on your **3.2d** prototype drawing and the table below where the macroinvertebrates are found:

Plate # (top down)	# of Macroinvertebrates	Types of Macroinvertebrates

Step 3. Analysis

- a. Was your Hester Dendy damaged, or did it show signs of wear and tear anywhere? How or why do you suspect this occurred?

- b. Where there any locations on your plates where more macroinvertebrates were found? How were these locations different than the rest of the plate (depth, materials, width between plates)?

- c. **Compare** the amount and variety of macroinvertebrates found in your Hester Dendy with the standard (control) Hester Dendy. If your sampler performed better than the standard, **explain what features** you think increased its performance. If your Hester Dendy performed worse than the standard, **explain what design elements** you think reduced the performance of your Hester-Dendy.
- d. Consider the **methods and process** you used for your sampler. How could you improve this? Would you change the location in the stream, time left in the stream, or any other factors? Why or why not?

Step 4. Suggested Improvements & Next Generation Design

Given what you have learned from your stream sampling, **provide 3 ways that your macroinvertebrate samplers could be improved**. Suggestions could be to the physical design, or to the process of collecting samples. Explain your reasoning for each suggestion.

Suggestion 1:

Reasoning:

Suggestion 2:

Reasoning:

Suggestion 3:

Reasoning:

Next Generation Sampler

On another piece of paper or in your notebook, provide a diagram that shows how you would incorporate your suggestions into the Hester Dendy sampler.