

PUZZLE IT OUT Directions and answer key (Marine Science Fair, Science Fair Day, or at the end of the clam project Lesson 5)

This is a good exercise to use any time you wish to review work that students have completed. Simply summarize the work. The students could do this as a group without realizing what was going to be done with the summary.

Use the large font sentences that are provided, cut them up and put the words into separate envelopes. Give each student/group a sentence to figure out. Keep giving the sentences out until all are used and completed. (The sentence length is indicated for student ability) Tape up the completed sentences on the board, in the correct order. Review the steps together.

1. Harvesting soft-shell clams, *Mya arenaria*, provides an income for many of the local people in our communities. (medium sentence)
2. Our hypothesis is, "How does the place where juvenile clams, *Mya arenaria*, live on a tidal flat at the upper, middle, or lower tidal zone affect how clams grow and survive?" (long sentence)
3. We have the chance to help the industry thrive through the DEI clam project.
4. We need to find out how to help clams grow and survive in our area.
5. We prepared our clam containers and clam packets with juvenile clams.
6. We placed juvenile clams into the wild environment at the upper tidal zone, middle tidal zone, and lower tidal zone. (long sentence)
7. We used netting as a full protective cover on half of the experimental containers.
8. We wrapped a mesh fence around some containers, but we did not cover the tops of the containers. (medium sentence)
9. We left the containers in the mud from June until September.
10. We dug up the containers, placed them in plastic bags, and tagged them according to their location in the flat – high, middle, or low tidal zone. (long sentence)
11. We spread the contents of the containers onto a screen and sprayed water over the screen until the mud/sand was removed. (long sentence)
12. We placed the contents of each container including the living and dead shells and other debris into a plastic baggie with a label for that specific container. (long sentence)
13. We recorded our findings on data sheets.
14. We calculated each clam's initial length using calipers to measure the hatchery mark.
15. The hatchery mark is a disturbance line that was laid down in the shell of each clam at the time the experiment was initiated. (long sentence)
16. We measured the final length of each clam's shell.
17. All information was recorded on our data sheets.
18. Now we must determine what the information tells us and how it relates to our hypothesis.