

After reading one of the reviewer's responses about the authenticity of the engagement activity that I used last year, I recreated this scenario when our fifth graders just began a similar experience leading up to our January trip this coming year.

This past summer, again the mangrove propagules washed ashore after a storm, though a few weeks later than the year before. My fascination with them on the shore still intrigues me. As I strolled along photographing them floating along the waves and watching the birds dodging them, I also noticed that they were much longer in length this year. Could the calm hurricane season with no real storms to date affect the length of the propagules?

Thinking about how I introduced this mystery the year before with the mystery box and how I could authenticate the engagement in this year's lesson, I was steered into a brainstorm. What if we, all fifth grade teachers, created a shoreline with sandy shore of beach wrack to simulate the traveling of the mangrove propagules and tickle students' curiosity about a future planned field trip?

Remembering what we did prior, we set the scene Friday before leaving school and fate intervened with a Saturday monsoon that drenched our area. When students arrived on Monday morning, they were surprised at the door with a message in a bottle that floated along with the storm. Students trudged through the sand, shells, beach weed, mangrove seeds and driftwood remembering the weekend storm and wondering what they would be observing in science this day.

As students gathered, their interests peaked and soon I instructed them to walk along the shore and retrieve one sea treasure they would like to inquire about. In my first group of fifth graders, not one student chose a seed propagule. They observed, recorded

and measured the physical properties of matter in their science notebooks which we had been focusing on. They communicated like scientists and shared their beach treasures in their groups.

The following day, since no one selected a mangrove seed to observe, I simply asked them, “What is this mystery object that washed ashore with the other beach treasures?” In this class, no one had a clue and we began to observe many in the beach wrack that were ignored because most students, like adults on the beach, picked up shells. This extended the opportunity to make observations again on an object that no one had any prior knowledge of. Students recorded qualitative and quantitative data as well as wonderings about the mystery seed. We discussed ways to separate the solids in the mixture of sand, seaweed, shells, mangrove propagules, driftwood and even iron filings.

Research followed after students heard Lynne Cherry’s book, The Sea, The Storm and The Mangrove Tangle. Our fifth grade language arts teachers introduced the topic of Cockroach Bay to connect with their seed research and to help prepare for an upcoming field trip to build background knowledge, while in science class, students inquired about the conditions needed for seed germination and survival in brackish environments. Soon, we had mangrove seed propagules around campus in various habitats, designed by students, to test their hypotheses for which conditions would be ideal for germination.

Interestingly, the brother of the student who asked if the seeds were from the mangrove tree last year, came into another class and reported immediately that “those are mangrove seeds.” Again, I inquired about where he had seen mangrove trees and the same response was given, “My grandpa takes us to Shell Island.”

Students continued with similar experiences as last year's group...if the seeds germinate, we have permission from an environmental biologist for Hillsborough Community College, Peter Rossi, to bring and plant the seedlings on our next trip to Snake Key in Cockroach Bay.