A Review of "Whale of a Tale" lesson (as offered by MBARI)

Background

Part of the AP Biology curriculum is to understand and be able to use the BLAST (Basic Local Alignment Search Tool) and the applications of BLAST in the scientific world. In this lesson, there are three different scenarios that the teacher may choose to use for their students. Each scenario uses the four provided DNA sequences to be "BLASTed" and to solve the given scenario.

Pros:

The basic BLAST activity provided by Collegeboard has been used and overused over the years. Though it is still a good activity, to have a fresh look at how BLAST can be used is a nice companion activity for students.

Students are able to easily follow the directions to the activity without much guidance. I did demonstrate how to use the BLAST program, but beyond that, students were easily able to copy and paste and BLAST the given DNA.

The three scenarios provided are also each fun for students to read and had many having deeper discussions as to how BLAST could be used in today's world.

I also liked the additional pre-activity that had students exploring mitochondrial DNA as a precursor to the actual BLAST activity.

Cons:

The follow-up questions to the activity are only one reflective question. I would have preferred more in-depth questioning to be sure students understood what they were doing and then reflect on the overall idea of the activity.

The fact that all students use the same four DNA sequences easily led to students skipping the BLAST portion of the activity and simply copying their neighbors. In order to prevent this in the future, I may look for additional DNA from organisms that are *not* whales. In this way, the students will receive four samples of DNA, but some may not be whale and what they receive will be randomized so as to prevent cheating.

Overall reflections:

Overall, I very much liked this activity. It was different from the BLAST activities I had done in the past, and so I enjoyed seeing how my students faired. Many seem to have enjoyed it; I used the scenario in which whale meat may have been sold at a restaurant. As one student tole me, “I felt like a detective!”