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Summer Assignment, IB Marine with Mrs. Karasick

Welcome to IB Marine! I look forward to teaching you next year. For those of you who will have me as a teacher for the first time I can't wait to get to know you!

The content of the class is about learning how different dynamics of the ocean. So we are really investigating the intersection of the physical and chemical attributes of the environment and how those different attributes influence life in those parts of the ocean – and the entire Earth as a whole which is all interconnected.

There are three key components of the IB Marine class.

1. The “Internal Assessment” process. This is one of my favorite parts of the class, so I really encourage you to make the most of this opportunity. In this process, you will develop a research idea, plan for investigation, and then write up the results. When you hear this, you may think – oh no, I have to design a science experiment with wild flashbacks to elementary science fair. YES, you will be designing an experiment BUT I am going to guide you all along the way. I am going to encourage you to pick a topic that you LOVE about the ocean and I will help you find data to explore those questions. Alternatively, maybe you want to DO an experiment. I will guide you in doing that so that your experiment will be well designed and implemented.
 - a. Here are some examples of the research questions from IB Marine last year that investigated questions using databases from scientists:
 - Correlation Between Average Billfish Caught and Sea Surface Temperature of Florida’s Atlantic Coast
 - The Correlation Between Hurricane Frequency and *Karenia brevis* Occurrence
 - The Effect of Human Population Growth on Northern Fur Seals Population
 - The Connection Between the Sexual Maturity of Tiger Sharks and the Cumulative Catches of the Queensland Shark Control Program
 - b. Here are some questions that were explored through experimentation:
 - The Biodiversity of Plankton Found in Algae at Siesta Key
 - Does depth affect the feeding patterns of Florida bass?
 - Cigarette and Juuls’ Chemical Releases Impact on the Oceans and Marine Life
 - Effects of Surrounding Land Use on Sedimentary Microplastic Abundance

- Glowing with the flow: Measuring the Effect of Temperature on Bioluminescent Plankton
- The Correlation Between Environmental Conditioning in Captivity and Juvenile Snook Behavior After Release

2. The second component is major component of the course is the end of year written exam. All questions are written short answer or may be up to a paragraph (example is four compare and contrast statements about two environments). Don't worry about this part! It is up to you and me working together in the course to prepare you for this exam.

If you do not pass either component of these components you will still get a high school science credit, so whether you are super strong in science or not this will be a fun year of learning. Some of you will get college credit, some of you won't -- but either outcome will have the same impact of a fun year learning together.

For your summer homework, I really wanted to extend an invitation to you to start work on your research project now. It will give you a great excuse to get outside and start developing an appreciation of the outside world when you still have lots of time to explore the topics you want to explore. I have been talking to our partner organizations (Mote Marine Laboratory, Sarasota Bay Estuary Program, Sarasota County Mosquito Control, New College, USF, and so many more). They would be thrilled to help you design an experiment that caters to your interests and passions with great methods, a scientific mind and approach, and the right tools.

The sooner you start on this project, the more fun you will have, the better your data will be, the more you will have time to feel confidence in your knowledge about the science around your subject area. Once school starts again, we all get so very busy that our best intentions of doing the research thoroughly get pulled under the current of all the activities that we have, classwork, homework, etc.

To take advantage of this opportunity to use your summer to do great research, contact me with three ideas of what you are interested in studying. Sea turtles are nesting right now, snook are moving between the bay and the Gulf, water clarity and color at the beach are changing, trash is washing ashore, and washing into the ocean... there are so many wonderful things to do outside!

I look forward to meeting you in the fall and hearing from you this summer!

You can contact me through the summer at:

Sharon.karasick@sarasotacountyschools.net

941-321-1573 (pls text not call ☺)

Thank you!

Mrs K

