



<b>Dan Dalke</b>	<b>Learning Classification using Hard Corals</b>
<b>The Lovett School</b>	
<b>Atlanta, Georgia</b>	<b>Marine Biology, Biology, Ecology</b>
<b>Summer 2004</b>	<b>Grades 9-12</b>
<b>Jamaica's Coral Reefs</b>	<b>2-3/ 1 hour sections</b>

Grade level: 11-12th grade Marine Biology class (could be adapted to 9th grade Honors Biology lesson on Linneaus classification)

Academic Standard addressed: This lesson plan will address the idea of classification (Linneaus system) and the significance of it to the scientific community

Abstract: Carolus Linneaus was the first to use binomial nomenclature (use of latin in naming organisms) to identify organisms. Students will get a quick introduction to classification and will then use laminated pictures of corals measured on the Jamaica's Coral Reef EathWatch expedition to learn how to identify them. I will use many different resources to help students in learning the name of the assigned coral, but the principal source will be the identification of Caribbean reef corals by Paul Humann. Once students learn the identity of their coral, they will then research the origins of it's scientific name, characteristics of the coral, distribution, occurrence, and significance.

Goal: Is for the student to use their observation skills to learn how to identify pictures of organisms from the field. The minute differences within species and between species of corals will make this job difficult at times. Students will learn also the use of Latin and Greek in Linneaus classification system.

Performance Indicators: Students should be able to recognize their assigned coral from new pictures and be able to explain the reasoning behind the scientific name of their assigned coral. A possible one page paper could be assigned on their specific coral.

Background Information: Students will use research skills to not only identify their coral, but to also learn how the Linneaus scientific nomenclature system works.

**Materials:** From the digital underwater pictures that I took during the expedition, students will identify laminated pictures of the same species of corals examined during the trip. I have many different coral identification books as well as some in the school library. I will use a digital projector to show pictures of the corals and pictures from the trip.

**Instructional Procedures:**

**Introduction:** Show pictures of coral reefs or a video (Blue Planet Series from the BBC has produced an excellent one recently). Discuss the significance of coral reefs and how corals are animals and not plants. Discuss that there are subtle differences between different types of corals and how could you tell them all apart? What would a scientist from Cuba call one versus a scientist from Jamaica? How does one categorize all the corals?

Discuss the reason for classification and the history of Carolus Linnaeus. Make sure to indicate the significance of using Latin as a universal language.

**Procedure:** Using pictures (copies from the internet, from pictures taken on a scuba trip) give either one student or a team of students a coral to identify (if you have coral skeletons that can be identified this could be used as well). Have them use identification books and/or the internet. Once they have identified their assigned coral, have the student/s research the scientific name and write a one page paper on their assigned coral. They could write down the taxonomic classification of their assigned coral, an introduction to why it was given its specific name, characteristics, where it is usually found on the reef, similar species, etc. They could also make a bibliography following your school's specific requirements.

**Closure:** Have each student report on their coral and some interesting facts as well. They could discuss the Latin meaning of the name and characteristics that make it different from similar species.

**Assessment:** Students will be assessed on their correct identification of the coral and if their report follows your established guidelines. You could make the written assignment a homework grade based upon your own grade rubric.

**Connection:** This unit could be connected with ecology, marine biology, language class (Latin) or any language.

**Extensions:** Students could build upon this and classify organisms in other animal phyla or move onto other classes, orders, and families of corals.

**Acknowledgments:** Thanks to Dr. James Crabbe for the opportunity to work with him on his coral assessment project.

Sources Used:

Reef Coral Identification by Paul Humann ISBN#1-878348-035

Blue Planet Series on Coral Reefs by the BBC

For questions please contact Dan Dalke at [ddalke@lovet.org](mailto:ddalke@lovet.org)

Photos:

