LS-HHMI Outreach Curriculum Project Information	
Title	\<List the name of each file you have created for your project.> A Shoreline Tour & the Simpson Diversity Index
Resource Type	Lesson Plan ☐ Classroom Activity ☒ Laboratory Activity ☐ Homework Assignment ☐ Bioinformatics ☐ Other ☐ \<Specify>
Description	\<Write a 50-word description of your resource for publication on the Web.> This lesson introduces "richness" and "evenness" terminology into the biodiversity vocabulary of the students. Students are given sample data from two shoreline environments and asked to assess and compare their biodiversity using the Simpson diversity index.
Author(s)	\<Your name(s)> Susan W. Taylor
Author Institution(s)	\<Your high school or other educational institution>The Prout School
Objective	\<State the teaching objective of your project> Students will be familiar with the Simpson diversity index. Students will be able to use provided data to calculate biodiversity using the Simpson diversity index. Using the Simpson diversity index, students will be able to assess how the diversity of an environment compares to another environment. Students will be able to define "evenness" and "richness" in regards to biodiversity.
Key Concepts	\<List the key scientific concepts that your project covers.> Biodiversity evenness & richness The Simpson diversity index
Student Prep	\<What prior student knowledge is necessary?> General knowledge regarding biodiversity & computational skills in solving algebraic equations
Materials	\<What materials are necessary?> A calculator is required and the provided computation data sheet is suggested.
Grade and Level(s)	\<For which grade(s) and level(s) (basic, introductory or advanced/AP) is the project most appropriate?> Introductory, High School Biology (also Advanced- International Baccalaureate Biology)

Teacher Prep Time	\<How much preparation time is needed?> ½ hour	**Class Time**	\<How much class time is needed?> ½ hour

National Standards	\<To which National Science Education Standards does the project correlate?> a smattering of Content Standard C & E from **Chapter 6: Biological Evolution p. 185, Interdependence of Organisms p. 186, Matter, Energy and Organization in Living Systems p. 186, The Behavior of Organisms p. 187, Natural Resources p. 198, Science and Technology in Local, National and Global Challenges p.199, Nature of Scientific Knowledge p. 201**
State Standards	\<To which State Standards does the project correlate?> Rhode Island Standards LS2(9-11) 3 & 4, LS3(9-11) 6, 7 & 8, LS4(9-11) 9
Sources	\<List all your sources (previously published material with publication, dates, university names COMPLETE websites, etc. If a website, we need to find your source with one click or less.> •Allott, Andrew, Biology for the IB Diploma, Oxford: Oxford University Press, p. 156. •Damon, Alan, McGonegal, Randy, Tosto, Patricia & William Ward, <u>Higher Level Biology</u>, Edinburgh Gate, Harlow, Essex: Heinemann International, 2007, p.572-3. •Common Starfish Image. http://en.wikipedia.org/wiki/File:Starfish.jpg. •Horseshoe Crab Image. http://en.wikipedia.org/wiki/File:Horseshoe_crab_female.jpg. •Lobster Image. http://en.wikipedia.org/wiki/File:Lobster_NSRW.jpg#globalusage. •Mussels Image. http://en.wikipedia.org/wiki/File:CornishMussels.JPG. •Periwinkle Image. http://en.wikipedia.org/wiki/File:Littorina_littorina.jpg. •Shoreline Image. http://en.wikipedia.org/wiki/File:RI_towns_Narragansett.png.

References	<Cite any other sources that you referred to (unpublished faculty talks, etc.).>
Assessment	<Make recommendations for assessment> Multiple choice and or open response questions could be developed to assess the students' familiarity with the Simpson diversity index, as well as the definitions of richness & evenness. Computationally oriented questions could be developed where students are given data & asked to compute the diversity of various environments & compare their diversity. Students could be asked to acquire or design their own environmental data, and present to their classmates in order to aid in their familiarity with the Simpson diversity index.