

Harvard Summer Program Immunology Project Resource Information Form	
Title	Parasites, Viruses, and Bacteria, Oh My!
Resource Type	<input type="checkbox"/> Lesson Plan <input type="checkbox"/> Activity <input type="checkbox"/> Lab Activity <input checked="" type="checkbox"/> Web-quest
Description	This webquest guides students through a series of resources that reviews the function of the immune system in the context of three important global diseases. Students will work in teams to characterize how HIV, Malaria, and Tuberculosis specifically attack humans and how the human immune system mounts a response. Ultimately, the students will compare and contrast the immune response to the three diseases and consider the diversity of both microbial invaders and the complexity of the immune response.
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Author Institution(s)	Science Teacher Needham High School
Objective	The purpose of this assignment is for students to gain an appreciation for the complexity and versatility of the human immune system. Students will also consider the diversity of pathogens that humans fight against and the role of medical science in assisting the immune system.
Key Concepts	<ul style="list-style-type: none"> • Major components of the immune system (i.e. B-cells, cytotoxic T cells) • Innate vs Adaptive response • Diversity within the microbial world - difference between parasites, viruses, and bacteria • Characterization of major diseases - Malaria, HIV, Tuberculosis • Issues and Problems in combatting disease (drugs, vaccines, poverty)
Student Prep	A strong understanding of the immune system
Materials	Access to the Internet, Campbell Biology 6th Edition Text (or equivalent), supplies for poster
Grade level(s)	AP Biology
Teacher Prep Time	none
Class Time	If students are working in groups, time should be designating for students to meet and discuss their finding. This may during class time or afterschool.
National Standards	See attached

State Standards	See attached
Sources	Campbell Biology 6th Edition
References	See assignment - all resources are referenced as part of the webquest
Assessment	