



# YALE NATIONAL INITIATIVE

*to strengthen teaching in public schools®*

Curriculum Units by Fellows of the National Initiative  
2017 Volume VI: Engineering of Global Health

---

## **Micro Life in a Macro World: Understanding Life at the Microscopic Scale and the Spread of Disease**

Guide for Curriculum Unit 17.06.07, published September 2017  
by Beth Valentine Pellegrini

In *Micro Life in a Macro World* ten to thirteen year old students learn how invisible creatures affect our lives. Students are introduced to the building blocks of matter and the states in which it exists. Atoms and their parts, the elements and molecules are covered. Units of measure at the microscopic level are explored to help students understand that tiny things vary greatly in size. Abiotic and biotic matter and the Kingdoms of Living Things are studied. Cells, cell types, organelles and their functions, and DNA are analyzed. Students learn about microbes and how they live and proliferate. Bacterial disease is contrasted with non-bacterial disease, such as genetic disorders. Treatment for illness is addressed. Viruses and their traits are investigated. Human behaviors that promote or inhibit the spread of disease are identified. Students conduct and present research on careers in science related to any segment of the unit. Next Generation Science Standards (NGSS) Science and Engineering practices are intrinsic to teaching the unit. Crosscutting Concepts and Principles of Learning are woven throughout the lessons.

(Developed for Science, grade 5; recommended for Science, Life Science, and Biological Science, grades 5-7)

---

<https://teachers.yale.edu>

©2023 by the Yale-New Haven Teachers Institute, Yale University, All Rights Reserved. Yale National Initiative®, Yale-New Haven Teachers Institute®, On Common Ground®, and League of Teachers Institutes® are registered trademarks of Yale University.

For terms of use visit [https://teachers.yale.edu/terms\\_of\\_use](https://teachers.yale.edu/terms_of_use)