



Yale-New Haven  
Teachers Institute®

Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2010 Volume III: Geomicrobiology: How Microbes Shape Our Planet

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## Life Underground

Guide for Curriculum Unit 10.03.03  
by Carol Boynton

Microbes are everywhere. There are more of them on a person's hand than there are people on the entire planet! Microbes are in the air we breathe, the ground we walk on, the food we eat; they're even inside us! We couldn't digest food without them, plants couldn't grow, garbage wouldn't decay, and there would be a lot less oxygen to breathe. In fact, without these invisible companions, our planet wouldn't survive as we know it!

Five activities will provide a platform for teaching this unit on microbial life to students from first to fourth grade. The students will grow plants from a variety of seeds, develop an aquatic habitat and build a terrarium, create and maintain an underground worm environment and an ant colony or farm. As scientists, the students will make observations and learn about organisms, including microorganisms, through inquiry and hands-on experiences and participation in these examples of life. Science journals will allow students to track and report scientific findings while observing these five environments and to express different ways the organisms sustain life. How they are breathing and eating will be an obvious connection to human life as well. Included is a fundamentals section that can be useful to science teachers at all grade levels.

(Developed for Science, grade 1; recommended for Science, grades 1-4)

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