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Curriculum Units by Fellows of the National Initiative
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It'll Make Your Skin Crawl – Microbes and Skin Physiology

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Knowing the diversity of microbes that call the skin home is enough to make even the most hardened microbiologist cringe. Reading internet articles and social media posts, the public has realized that microbes really are not invisible. In fact, beneficial and pathogenic microbes are all around us. The study of the Integumentary System cannot be taught without presenting students the idea of inter-relatedness, varied host-microbe interactions, and pathogenesis. Physiology students at Mt. Pleasant High School struggle with critical reading. Often cries of "this is hard" or "I can't read this" are uttered when a student encounters a difficult passage or non-fiction text. Using the microbes and skin anatomy and physiology as an overarching theme, this unit encourages students to engage in difficult text in order to make science meaningful and tangible. Next Generation Science Standards challenges students and teachers to re-think how they teach their content. Thus, this unit incorporates multiple disciplines of science, with English, and a little history, not only meeting multiple standards, but promoting creative thinking rather than memorization. My unit allows students to study fundamentals of skin physiology, but with a microbial focus on the skin microbiome and its inhabitants.

(Developed for Anatomy and Physiology, grade 11-12; recommended for Anatomy and Physiology, grades 11-12, and Health, grades 9-12)

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