



Yale-New Haven  
Teachers Institute®

Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2012 Volume III: Anatomy, Health, and Disease: From the Skeletal System to Cardiovascular Fitness

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## **Understanding the Effects of Diet and Fitness on the Human Body through Mathematical Equations and Statistical Analysis on Calorie Intake and Calories Expended**

Guide for Curriculum Unit 12.03.03  
by Ronald B. Coleman, Jr.

This unit gives an interactive twist to the study of human anatomy and basic algebra for students in grades 5 and 6. Science and math are generally taught as separate subjects, yet mathematics is an integral part of scientific discovery. In this unit, students will study the basic function and developmental needs of three systems in the human body: the skeletal system, the muscular system, and the cardiovascular system. Students will work individually to understand their own personal nutritional needs, and they will work collectively to analyze hypothetical situations and compare the diets of several professional and Olympic athletes. After students have a clear, practical understanding of the nutritional values of proteins, carbohydrates, fats, and sugars they will track their own diet on a daily basis. Students will read and watch short films on the importance of combining a healthy diet with consistent exercise. Subsequently, individual students will showcase their knowledge through a self-exploration project that tracks their daily caloric intake and physical activity. Students will be able to apply their newly acquired skills towards improving their own physical and mental health. Once they are familiar with the mathematics involved in calculating net caloric intake, they will use Microsoft Excel and PowerPoint to create a final presentation. The hope is that students come away from the unit understanding the importance of proper diet and fitness in preventing disease and poor health. Finally, students will reflect on their own diet and level of physical fitness and make changes to become more confident, healthy individuals.

(Recommended for Science, grades 5-8)

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