Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2008 Volume VI: Depicting and Analyzing Data: Enriching Science and Math Curricula through Graphical Displays and Mapping

Seeing in 3D: Interpreting Two-Dimensional Diagrams of Three-Dimensional Objects

Guide for Curriculum Unit 08.06.03
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This curriculum unit is written for a high-school anatomy and physiology class. It comes out of a need that I have seen in my anatomy and physiology class. I have noticed that my students have quite a bit of trouble understanding the three-dimensionality of the human body when they learn about it from a two-dimensional drawing in their textbooks. Essentially, they have trouble interpreting the two-dimensional diagrams as three-dimensional realities. So, the primary objective of this unit is to teach students how to see three-dimensional objects when they look at a two-dimensional diagram. Secondarily, this unit will be used to teach about differing intelligences and how they relate to student learning. Specifically, I want my students to understand that what they have been previously taught as “proper note taking techniques” are merely guides that work well for some people but that there may be other ways to take notes which work better for their type of learning. Finally, I also hope to teach my students some basic drawing skills for two reasons. First, much of anatomy requires that students know how body parts relate to each other, and the easiest way to show this is to draw it. So a basic understanding of drawing should make the process of recording information less frustrating for my students who choose to take notes this way. Second, my hope is that if students are taught how to draw objects, they will observe them more closely and more carefully. Anatomy and physiology, and science, in general, contain many important details that students frequently overlook.

(Recommended for Anatomy and Physiology, grades 9-12)