



YALE NATIONAL INITIATIVE

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Curriculum Units by Fellows of the National Initiative
2011 Volume VII: Organs and Artificial Organs

A Recipe for Success: The Semi-sweet Pancreas

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Various individuals have learned how organs work and what causes organs to stop working in the case of illness or disease. Mankind has also discovered ways in which to create some artificial organs to replace those that have been damaged by disease or trauma. This curriculum unit will focus on the pancreas, diabetes, and the effect of diabetes on the female student's self-esteem. The unit can serve as a culminating set of lesson plans after teachers have taught cells, organs, and organ systems. The students will learn about the pancreas in a manner in which they can apply the knowledge to their personal lives. The unit starts with a description of the pancreas and its normal role within the body. The next section describes the differences in a diabetic pancreas as compared with a normal pancreas. The various types of diabetes are presented with a focus on Type I diabetes. The unit also addresses ways to encourage students to prevent diabetes. Finally, the unit describes artificial pancreases that have been created. The learning experience that students will gain from this unit will enable students to live healthier lives and share their learning experience with their families at a parents' night event.

(Developed for Life Science, grade 7; recommended for Life Science, grade 7 ,and General Biology, grade 9)

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