



Biomedical Engineering and Quality of Life Improvements

Guide for Curriculum Unit 06.05.03
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This unit is designed to help teachers and students in grades seven and eight to become familiar with observational or natural experiments. Many of our students have an interest in investigating topics that do not allow for the traditional manipulative experiment. To perform an observational or natural experiment, the student does systematic and experimental work using experiments and research that has been done by others. This unit gives suggestions for doing a health-related project.

Developing a hypothesis is the first step for the process. After their hypothesis has been approved by the teacher, students begin to gather information from several sources that may or may not support their hypothesis. The activity will be of value and interest to the student, as he/she will have an opportunity to investigate an illness or disease of interest. They may have a family member or a friend dealing with an illness and wish to become more knowledgeable on how biomedical engineering has improved their chances of living with or being cured of a particular disease.

The investigation should include the following:

- What is the name of your disease?
- What is your hypothesis?
- What are some causes of your disease?
- How widespread a problem is your disease?
- Is there a particular group more susceptible to this disease?
- Are there preventative measures that can be taken to lessen the impact or prevent this disease?
- How is the disease detected?
- What is the treatment(s) for this disease?
- What are the pros and cons of the treatment(s)?
- How has biomedical engineering helped in the treatment and/or prevention of this disease?

Following these suggestions should lead to a successful project.

(Developed for Science Fair Tutoring, grades 5-8; recommended for Science/Life, grades 7-8)

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