

THE GOALS OF SCIENCE TEACHING

Source:

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Becoming a Secondary School Science Teacher

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Scientific Knowledge

- ⦿ There is a body of knowledge concerning biological and physical systems.
- ⦿ For over 200 years our programs have aimed toward informing students about these natural systems.
- ⦿ This goal had been and will no doubt continue to be one of great importance for science teachers.
- ⦿ Stated formally this goal is:
Science education should develop a fundamental understanding of natural systems.

Scientific Method

- ◎ The use and understanding of the methods of scientific investigation.
- ◎ The goal can be stated:

Science education should develop a fundamental understanding of, and ability to use, the methods of scientific investigation.

Societal Issues

- ◎ Science education exists in society and should contribute to the maintenance and development of the culture.
- ◎ This goal is especially important when there are social issues that are directly related to science.

- ◎ This goal is:

Science education should prepare citizens to make responsible decisions concerning science-related social issues.

Personal Needs

- ◎ All individuals have needs that are related to their own biological/psychological systems.
- ◎ Briefly stated this goal is:
Science education should contribute to an understanding and fulfillment of personal needs, thus contributing to personal development.

Career Awareness

- ① Scientific research, development and application continue through the work of individuals within science and technology and through the support of those not directly involved in scientific work.
- ① Therefore, one important goal has been:
Science education should inform students about careers in the sciences.

General Outcomes of Science Teaching

- Ability to formulate questions about nature and seek answer from observation and interpretation of natural phenomena.
- Development of students capacities for problem solving and critical thinking in all areas of learning.
- Development of particular talents for innovative and creative thinking.
- Awareness of the nature and scope of a wide variety of science and technology-related careers open to students of varying aptitudes and interests
- The basic academic knowledge necessary for advanced study by students who are likely to pursue science professionally
- Scientific and technical knowledge needed to fulfill civic responsibilities, improve the student's own health and life and ability to cope with an increasingly technological world
- Means for judging the worth of articles presenting scientific conclusion