

# **Overview of Informal Science Education**

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## **GOALS AND OBJECTIVES**

Informal Science Education (ISE) supports projects designed to increase public understanding of science, mathematics, and technology. All ISE projects have as their primary audience the informal learner. Informal learning is the lifelong process in which every person acquires knowledge, skills, attitudes, and values from daily experiences and resources in his or her environment.

Informal learning, in contrast with formal learning, occurs outside formal classroom settings and is not part of a school program, activity, or assignment. Informal learning is voluntary, self-directed, lifelong, and motivated mainly by intrinsic interests, curiosity, exploration, fantasy, task completion, and social interaction. Informal learning can be linear or non-linear and often is self-paced and visual- or object-oriented. It provides an experiential base and motivation for further activity and learning. The outcomes of an informal learning experience in science, mathematics, and technology (SMT) include a better understanding of concepts, topics, processes, and thinking in scientific and technical disciplines, as well as increased knowledge about career opportunities in those fields. While ISE projects are aimed primarily at the informal learner, the ISE program encourages linkages to formal education.

The goals of the ISE program are to produce significant positive changes that:

- increase the number of youth, particularly from underrepresented groups (e.g., minorities, women and girls, persons with disabilities) who are excited about SMT and who pursue SMT activities both in- and out-of-school;
- promote linkages between informal and formal education, creating a synergy that strengthens SMT education in many learning environments;
- stimulate parents and other adults to become effective proponents for higher quality and universally available SMT education in both informal and formal settings;
- encourage parents and other primary caregivers to support their children's SMT endeavors in the home and elsewhere;
- bring informal science education programs and activities to areas that are currently without, or minimally reached by, SMT opportunities (e.g., rural and inner city environments);
- improve the scientific and technological literacy of children and adults so that they are informed about the implications of SMT in their everyday lives, are motivated to pursue further experiences in these areas, and are aided in making informed, responsible decisions about SMT policies that have societal implications; and
- strengthen SMT education, as well as the ISE program and its supported activities, through applied research about informal learning.

The ISE program especially encourages projects that provide creative and innovative informal learning activities that reflect and apply recent research in SMT education. Projects should contribute to strengthening the infrastructure of informal science education through activities such as electronic networking, technical assistance, and professional development of informal science educators.