

Information Technologies in Agriculture

More and more farmers use information technologies (ITs) to improve their bottom line and produce food and other biological materials with improved efficiency and environmental safety.

Explorer's Guide

Before You Start

Individually, share your agricultural experience with your group and name several typical field or farmstead operation that you observed. Which ones would you consider difficult, dangerous, or boring? Does it have to be this way?

Learning by Doing

1. Together with your leader, recreate several chains of events that need to occur in order to grow crops, domestic animals and other farm produce. Watch relevant video materials discussing evolution of agricultural practices around the world.
2. List various types of information technologies that help us in everyday life. What did you hear about recent space explorations, implementation of artificial intelligence, smart robots, and new usage of the Internet?
3. Break into small (3-4 participants) groups to identify common agricultural operation that can be improved using these information technologies.

How Does It Work

Information technologies include most computer-based systems that function by means of digital data exchange (processing of information). Therefore, in modern world, you become a user of information technologies when you pick up a phone, watch TV, play a computer game, turn on a microwave, and/or use any other appliance whose functionality depends on the flow of information (e.g., voice and picture transmission, joystick and keypad inputs, sensors, etc.).

Robotics, Global Positioning System (GPS) as well as Geographic Information Systems (GIS) represent examples of information technologies that will be explored through the follow-up activities. These technologies have an endless number of applications. We, however, are going to focus on agriculture and management of natural resources, since the future of our world is heavily dependent on our ability to sustain the quality of our environment when producing food, conducting recreational activities or make other contact with the surrounding nature.

Additional Challenge

Try to count all events when you will be using information technologies tomorrow.

Vocabulary

Information Technology is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware", as defined by the Information Technology Association of America (ITAA).

Interesting to Know

In the United States, \$3,690 was spent on information and computation technologies per each person in 2006.

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Last updated: May 12, 2008*