Profiles for Technology Literate Students

A major component of the NETS Project is the development of a general set of profiles describing technology literate students at key developmental points in their pre-college education. These profiles reflect the underlying assumption that all students should have the opportunity to develop technology skills that support learning, personal productivity, decision-making, and daily life. These profiles and associated standards provide a framework for preparing students to be lifelong learners who make informed decisions about the role of technology in their lives.

The Profiles for Technology Literate Students provide performance indicators describing the technology competence students should exhibit upon completion of the following grade ranges:

- *Grades PreK–2*
- *Grades 3–5*
- *Grades 6–8*
- *Grades 9–12*

These profiles are indicators of achievement at certain stages in PreK–12 education. They assume that technology skills are developed by coordinated activities that support learning throughout a student's education. These skills are to be introduced, reinforced, and finally mastered, and thus, integrated into an individual's personal learning and social framework. They represent essential, realistic, and attainable goals for lifelong learning and a productive citizenry.

The standards and performance indicators are based on input and feedback from educational technology experts as well as parents, teachers, and curriculum experts. In addition they reflect information collected from the professional literature and local, state, and national documents.

Profile for Technology Literate Students

GRADES 6–8

Performance Indicators:

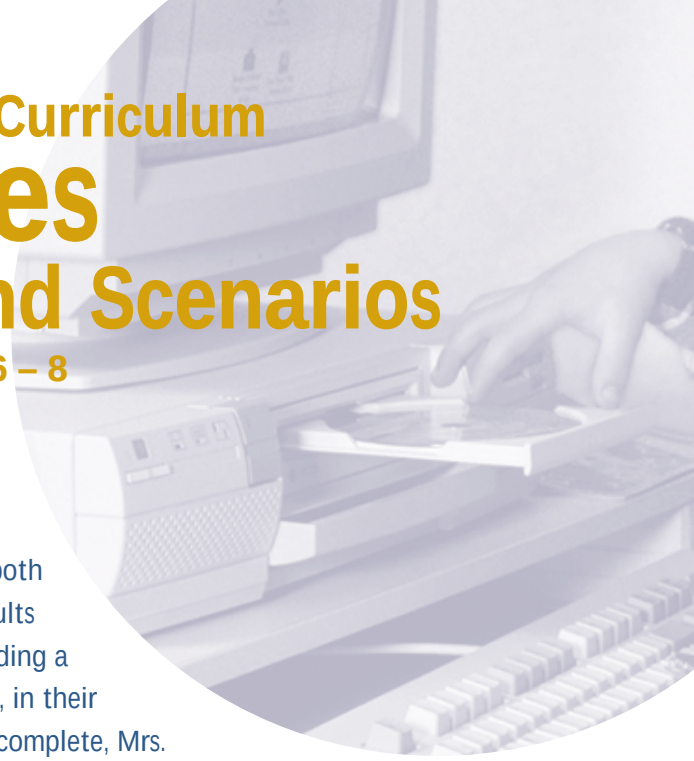
All students should have opportunities to demonstrate the following performances.

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked. The categories are:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

Prior to completion of Grade 8 students will:

1. *Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (1)*
2. *Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (2)*
3. *Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. (2)*
4. *Use content-specific tools, software and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. (3, 5)*
5. *Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. (3, 6)*
6. *Design, develop, publish and present products (e.g., Web pages, video tapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. (4,5,6)*
7. *Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. (4, 5)*
8. *Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. (5, 6)*
9. *Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and practical applications to learning and problem solving. (1, 6)*
10. *Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. (2, 5, 6)*



Curriculum Examples and Scenarios

GRADES 6–8

Scenario 1:
Using Technology to Learn about Rocks and Minerals

Grade Levels: 8

Technology Profile Performance Indicators: 4, 5, 6, 7

Subject Areas: Science, Social Studies

Source: Hemmer, Jeanie. (1998) Lakeisha's Year in Eighth Grade: Technology Integration Vignette, Part 3. *Learning and Leading with Technology.* 25(7), 27-31.

Lakeisha's eighth-grade class began a unit on rocks and minerals. They explored topics using CD-ROM encyclopedias and stored both the information they found and results from their laboratory sessions, including a week-long rock-simulation program, in their databases. When their studies were complete, Mrs. Perkins helped the students create HyperStudio presentations to share with the class. She also found an Internet site called "Ask a Geologist." Lakeisha and her classmates were then able to e-mail questions about rocks and minerals to the geologists who were sponsoring the site. Lakeisha and her friends were fascinated with the information they received on rocks and minerals in their native area. Lakeisha's science teacher organized a local geologic dig to help students begin their own rock and mineral collections.

Scenario 2:
The Louisiana Labor Market Lesson

Grade Levels: 8

Technology Profile Performance Indicators: 5, 6, 7, 8

Subject Areas: Mathematics, Social Studies

Source: Becky Callaway (1997) Teacher and Students Present LA Labor Lesson at the BESE Meeting. Louisiana Challenge Grant Newsletter. 2 (1), 9.*

At Marthaville Elementary, a small rural K-8 school, Laura Strahan and her eighth-grade students studied the Louisiana labor market in their math class. Students used the Internet to search for the top 20 projected occupations in the state on the Louisiana Department of Labor's Web site: (http:www.ldol.state.la.us/). The US Department of Labor updates its statistics daily and receives and distributes labor information from each state.

Students were divided into groups. Each group selected five occupations and developed a survey for them. Each survey was used to query other individuals regarding the estimated annual income for those occupations. The students then assisted in analyzing the survey results, comparing results to actual salaries as reported on the Department of Labor and other Internet sites, calculating averages of estimates, and displaying the information in appropriate graph format.

Students from Ms. Strahan's class presented their results to the Board of Elementary and Secondary Education to illustrate the importance of providing technology resources to schools in Louisiana. This lesson provides numerous opportunities for use of technology to access, analyze, and present information including access through telecommunications, document production using the word processor, data base manipulation, analysis using the spreadsheet, illustration of results using graphing software, and presentation of the results via Web or electronic slideshow software.

**Full plan at: http://www.challenge.state.la.us/k12act/dta/lalabor/index.html*