

Teaching and Applying The Technology Applications TEKS

(Examples included in the *Technology Applications Companion K-12*)

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Grades K-2

Between grades Pre K-2, a student will use a computer keyboard to increase motor skills and help in the learning of alphabetic and numeric concepts. The artistic intelligences will be addressed through the use of draw and paint programs. Authentic assessment will start through the creation of multimedia slide shows. CD-ROM technology will be used to motivate readers and increase vocabulary. (Patsy Lanclos, Writing Team Chair, testimony to the SBOE, 9/11/1996)

Leander ISD (*IMAGES of Technology in Texas Schools*, [Report #31](#), 1998) had Kindergarten students develop a project on the computer that included using stamps to demonstrate knowledge of colors and numbers. Students selected stamps and matched correct colors and numbers to text examples. Students used beginning keyboarding skills to create a title and use mouse skills to draw a self-portrait. First grade students expanded on this project to include basic drawing software to create original drawings. Second graders printed their stories, used spell check, used various fonts, and saved their personal products. These examples show uses of data input skills and uses of computer-based tools to create and modify solutions to problems. [TA TEKS (K-2) included, but not limited to: 1B, 2A, 2B, 2C, 2D, 2E, 7A, & 7B]

Helen Ball Elementary School in the Socorro ISD (*IMAGES of Technology in Texas Schools*, [Report #33](#), 1998) provides multiage groupings in K-2 classes. Online sources were used to enhance traditional curriculum offerings, providing access to resources and reference material. Students used word processing skills for writing production activities. Students regularly used e-mail to communicate with distant schools and used this correspondence as part of communication activities to develop individual skills and concepts. This is an example of students using research skills and electronic communication, with appropriate supervision, to create new knowledge. [TA TEKS (K-2) included, but not limited to: 2D, 2E, 4B, 7B, 8A & 8B]

Nissa Johnson's second grade class at Holland ISD (*IMAGES of Technology in Texas Schools*, [Report #24](#), 1998) researched beautification projects, resulting in a presentation to the town council requesting permission to complete a local project. Students developed the presentation using presentation software and used the resulting slideshow as the focus of the presentation. The council approved the request and the students placed large, decorated trash cans around the campus and the community. These students demonstrated several of the TA TEKS including using software to express ideas and solve problems and publishing information in a variety of formats. [TA TEKS (K-2) included, but not limited to: 4, 4A, 4B, 5, 5A, & 8B]

Second grade students at Escontrias Elementary School in the Socorro ISD (*IMAGES of Technology in Texas Schools*, [Report #33](#), 1998) gathered wind speed information and daily high/low temperatures. Data readings were converted into electronic graphs and were exchanged with a class in Minnesota. The Minnesota school exchanges similar data with Escontrias, allowing each site to compare distant data with local data. This is one example of how students can use appropriate computer-based productivity tools to create and modify solutions to

problems while using communication tools to participate in group projects. [TA TEKS (K-2) included, but not limited to: 4B, 5A, 7B, 8A, 8B, 10A & 10B]

Grades 3-5

Between grades 3 and 5, students will use accurate keyboarding techniques to input data into a word processor as writing skills increase. Students acquire information in a variety of ways, including, but not limited to, telecommunications, CD-ROM encyclopedias, and online catalogs in the library. Synthesized knowledge is communicated through spreadsheet charts, multimedia presentations, and word-processed files. (Patsy Lanclos, Writing Team Chair, testimony to the SBOE, 9/11/1996)

Fourth and fifth grade science students in Maud ISD (*IMAGES of Technology in Texas Schools, Report #30*, 1998) used a variety of centers that included technology. The Internet and various applications provided information students reformatted into report form. Students used keyboarding skills to enter the reports and created a group project for presentation. Students used appropriate software and electronic tools to build a knowledge base and solve problems. [TA TEKS (3-5) included, but not limited to: 2A, 2C, 2D, 2E, 4A, 4B, 5A, 6A, 6C, 7A, 7B, 7C & 8B]

Albany ISD (*IMAGES of Technology in Texas Schools, Report #28*, 1998) science students created notebook covers using standard and specialized software for science projects, e-mailed university students and professors, and used presentation software to create products for the science fair. The students used appropriate software to express ideas and solve problems while using a variety of data types. These students provided an example of the use of communications tools to participate with electronic communities as a learner. [TA TEKS (3-5) included, but not limited to: 2A, 2D, 2E, 4B, 7B, 7C, 8, 8A, 8C, 10A, 10B & 11B]

Curriculum-based projects at Rogers ISD included: (1) Intergenerational Fitness - students organized a fitness class for the elderly, including helping the residents to access the Internet, (2) a presentation to the school board on UV protection resulting in a solar safety hut on campus, (3) a presentation to the school board on organic farming resulting in a chemical ban in the school garden, and (4) a presentation to the school board and the city council to build a school-community park resulting in a successful grant application. Examples illustrated a focus on using software to express ideas and solve problems. (*IMAGES of Technology in Texas Schools, Report #24*, 1998) [TA TEKS (3-5) included, but not limited to: 7B, 7C, 8, 8A, 8B, 8C, 10A, 10B & 11B]

In the Lower Valley CPDT, students apply Technology Applications knowledge and skills through curricular contexts using multiple applications. Third-graders in the Lower Valley used word processing software for writing descriptive paragraphs, poems, and a book about magic with clip art. In addition, they used word processing for a table of contents, a report on Thanksgiving, an illustrated group booklet on the countries of North America, a persuasive writing paper called "A Homemade Quilt" with illustrations of a quilt, and paragraphs about New Year's resolutions and a happy memory. That was just part of the list for one month demonstrating data input skills to produce documents. (*IMAGES of Technology in Texas Schools, Report #22*, 1997) [TA TEKS (3-5) included, but not limited to: 2A, 2D & 2E]

An example of interdisciplinary, project-oriented learning experiences which applied the Technology Applications knowledge and skills was found at West University Elementary School at Houston ISD. In this example, second and third grade students in the West University Elementary School participated in a "Journey to the North" project sponsored by the University

of Minnesota. These students tracked the migration of Monarch butterflies, and organized their data into presentations and reports. They observed the butterflies migration paths, explored how wind and weather affect the journey, and learned about conservation needs on the wintering grounds and at points along the path. In doing so, students gained skills in understanding in science, mathematics, geography, and language arts. In addition, the students grew their own milkweed which they used to attract some of the butterflies and, over a cycle of two monarch generations, they observed all four stages of butterfly development. The students used e-mail facilities in the computer lab to report and communicate with project leaders in Minnesota. (*IMAGES of Technology in Texas Schools*, [Report #12](#), 1995) [TA TEKS (3-5) included, but not limited to: 4A, 4B, 5A, 6A, 6B, 7B, 8A, 8B & 8C]

Examples of using electronic communications were found at Poe Elementary School in Houston ISD. As one example of such use, when a student brought in a unique-looking dead insect found in South Texas, the science class made inquiries over the Internet and, within an hour, scientists at NASA had sent descriptive information plus several pictures (*IMAGES of Technology in Texas Schools*, [Report #12](#), 1995). [TA TEKS (3-5) included, but not limited to: 4B & 8C]

As a result of electronic connectivity, students of Jones Intermediate School were able to make informative contacts with subject matter experts in many locations. They communicated with NASA scientists, film makers, writers, and engineers. Many college students at Texas A&M and Prairie View A&M also worked with the students. (*IMAGES of Technology in Texas Schools*, [Report #20](#), 1997) [TA TEKS (3-5) included, but not limited to: 4B & 8C]

Grades 6-8

In grades 6-8, students continue their quest for technological literacy as skills are honed. Word processing documents have a more professional look as desktop publishing skills are acquired. Databases are created and data is disaggregated with Boolean searches provoking higher-ordered thinking skills. Forecasts and predictions are made using formula functions in a spreadsheet. Telecommunications projects with global neighbors increase awareness. Students incorporate digital images into published work and use multimedia in authentic assessments. By the time a student leaves 8th grade, they are literate with the productivity tools such as the word processor, database, spreadsheet, telecommunications, and multimedia and are able to collaborate with technological communities on networks in an acceptable manner. (Patsy Lanolos, Writing Team Chair, testimony to the SBOE, 9/11/1996)

Sanchez Middle School (*IMAGES of Technology in Texas Schools*, [Report #33](#), p. 5, 1998) in Socorro ISD piloted an integrated approach to technology in 1997-1998. Computer literacy teachers meet with classroom teachers and jointly planned lessons to make technology a part of the lesson and to meet the Technology Application TEKS. Through English classes, students worked on word processing skills while identifying subject-verb agreement. Students used their autobiographies and highlighted subjects and verbs. A reading of the Diary of Anne Frank included an Internet scavenger hunt on the Holocaust. Student production activities included a news story file, an image file, and a newsletter file, which were combined, along with other information to produce a newsletter. Students used appropriate strategies to locate information and published information in a variety of formats. [TA TEKS (6-8) included, but not limited to: 1C, 1F, 1H, 2A, 2C, 4, 4A, 4B, 5, 6A, 6B, 7A, 7E, 7G, 7J, 8C, 8D & 8E]

In the Leander ISD, (*IMAGES of Technology in Texas Schools*, [Report #31](#), 1998) all teams completed multimedia authoring projects. Sixth graders developed a project on the Titanic that

showcased factors that contributed to the disaster. One seventh grade team developed a multimedia presentation to the City Council about city park improvement. The council allowed the group to help with the development of a grant application for improvements. As a result of the presentation, students demonstrated proficiency in multimedia authoring systems while integrating acquired knowledge and skills into foundation and enrichment curriculum.[TA TEKS (6-8) included, but not limited to: 1C, 1F, 4A, 4B, 5, 6A, 6B, 7A, 7D, 7J, 8D & 8E]

Carroll Middle School (*IMAGES of Technology in Texas Schools*, [Report #32](#), 1998) students participated in an integrated unit based on bowling. Students went to a bowling alley and recorded the time it took for the bowling ball to travel to the pins. Data was placed in spreadsheet form for analysis. The Language Arts component included a persuasive paper to school administration about the benefits of the project. The Internet was used for research about the project. Students used appropriate data input skills and software to create and modify solutions to problems. [TA TEKS (6-8) included, but not limited to: 1A, 1C, 1F, 2A, 7A, 7B, 7G, 7J, & 8A]

These are several examples of schools that are teaching and applying the Technology Application TEKS, although the lines are quite blurred as to when teaching the knowledge and skills gives way to applying them in curricular activities.

Grades 9-12

The Technology Applications TEKS, Chapter 126, at the high school level (grades 9-12) is course-based. Students have a variety of options from the adopted courses which allow for growth, specialization, integration into other curriculum areas, and preparation for the technological world. The high school courses in Technology Applications, Chapter 126 include: Computer Science I, Computer Science II, Desktop Publishing, Digital Graphics/Animation, Multimedia, Video Technology, Web Mastering, and Independent Study in Technology Applications.

Technology Applications is also an important literacy skill, so it is intended that the thematic application of technology across the curriculum that is introduced at the K-8 level will continue through grades 9-12.