

Integrating the North Carolina Computer Skills Curriculum

by Gerry Solomon

To support the North Carolina Computer Skills Curriculum, consultants at the North Carolina Department of Public Instruction and educators throughout the state have collaborated to create lesson plans that integrate the instruction of computer skills with other areas of the curriculum. Each guide contains lessons by grade level with cross-curricular objectives, activities that encourage cooperative planning and instruction between teachers and media coordinators, measures for evaluation, and worksheets for duplication.

Educators will find the lesson ideas helpful in designing computer experiences that will prepare students for the Computer Skills Test that will be administered to eighth graders in the state of North Carolina starting in 1996-97. The lessons stop at the eighth-grade level because the goal is to have students continue practicing and expanding their skills during their high school years. The following reviews are arranged in the order in which teachers might begin instruction in each of the skill areas.

Terms, Operation and Care, Gr. K-3. \$5.00 EM124.

At each grade level from kindergarten to third grade, students have the opportunity to become familiar with basic computer terminology. This guide contains brief lessons that use pictures, overhead transparencies, flashcards, computers, and diskettes to reinforce computer terms and the proper handling of equipment. For example, a lesson at grade two centers on the dangers of sand scratching monitor screens, clogging the disk drive, and interfering with the function of the printer or keyboard. The second part of the guide has lists of computer vocabulary arranged in three sections: by alphabetical order, by computer skills strand, and by grade level.

Keyboarding, Gr. K-4. \$5.00. EM125.

This guide helps teachers prepare students for the performance portion of the Computer Skills Test. Lessons for grade one are designed to teach letter and number keys, and special keys such as shift, delete/backspace, arrows, caps lock, escape, and return/enter. At grade two, students practice correct keyboarding posture and finger placement on the home row keys. For grades three and four, activities and worksheets focus on correct finger placement when keying in words and paragraphs. Keyboarding terminology and definitions are provided at the end of the guide.

Societal Impact, Gr. K-8. \$5.00. EM126.

How people use computers for work and play and the impact of computer technology on our lives provide the focus for the lessons in this guide. Young children visit the media center and other areas of the school to observe the use of computers in order to make charts of what can and cannot be done with a computer. Visits by community members, inter-

views with adults, and research in the media center help students learn how technology has affected jobs and various aspects of life in North Carolina and across the United States. At fifth grade, students begin to explore ways to access current information through online services by drawing cartoons that show how this capability has changed the way people work. Upper-grade students conduct surveys, make posters, and use graphing software to demonstrate ways that telecomputing promotes a global community, and learn what technological skills are needed for careers in today's world. The lesson plans include worksheets, overhead transparency masters, and reprints of relevant newspaper articles.

Ethical Issues, Gr. 1-8. \$5.00. EM127.

This guide provides lessons for teaching respect for an individual's right to the ownership of computer work. At grades one and two, group activities help students differentiate their own work from that of others. Third grade students are introduced to copyright law using a commercially produced videotape, *Don't Copy that Floppy*. During the upper elementary grades, students explore copyright law and the protection of software and hardware from vandalism with the media coordinator. Lessons for middle school students include research on copyright law violations and scavenger hunts for examples of original work that represent intellectual property. By eighth grade, students learn to distinguish between data that is public and private, and how to protect hardware and software from computer viruses. The guide includes reprints of newspaper articles, lesson plans for using *Don't Copy That Floppy* with various grade levels, and the 1987 Policy Statement on Software Copyright by the International Council for Computers in Education.

Word Processing, Gr. 2-8. \$5.00. EM131.

Primary students are taught the fundamentals of word processing by creating rhyming words with home row keys and developing a journal to record the growth of lima beans. Upper elementary students learn more advanced word processing techniques by working in groups to research and record information about North Carolina historical sites. There are also activities for checking local newspapers to write about North Carolina cultural events and keeping personal logs of leisure activities. Students at the middle-school level gain experience with word processing utilities and desktop publishing functions by adding clip art to a prepared data file on "North Carolina and the American Revolution." Worksheets and a glossary of terms are included.

Databases, Gr. 4-8. \$5.00. EM129.

This guide provides a progression of activities to help students understand how information in databases is organized and used. Fourth graders learn the difference between print and computer databases by visiting the media center where they can find information in a variety of formats. Students compare data from various sources and participate in a "Database Track Meet" by looking up topics and recording the number of pictures, number of other references, time taken to find the topics, etc. Fifth and sixth graders work in groups to record information on index cards that can be sorted and searched by files, records, and fields. A variety of activities with sets of colored objects introduce the concept of searching databases with Boolean connectors. In another activity, students use a computer graphing program to record cereal content and draw conclusions about nutritional value. At the seventh- and eighth-grade levels, students use searching and sorting techniques with prepared databases to solve problems. These include simulations of gathering weather information from various locales to assist travelers and using a database of North Carolina counties to help a California firm relocate to an area near the coast. The guide includes sample worksheets for some activities.

Spreadsheets, Gr. 6-8. \$5.00. EM130.

Students at the middle-school level begin the study of spreadsheets with activities that record information such as batting statistics and food nutrients. After learning spreadsheet terms such as column, row, cell, and value, they learn to use a computer spreadsheet to record temperatures and test hypotheses about the behavior of heat in the classroom. "What if" statements are tested with activities such as the "Astronomy Mission Spreadsheet" in which students record their weights and determine if they have enough fuel to visit various planets. Eighth graders continue to explore "what if" statements using a shrimp spreadsheet file in order to determine what polluting industries would have to spend to eliminate pollution and the resulting increase in income for shrimpers. The guide includes transparency masters and activity sheets that teachers need for the lessons.

Telecomputing, Gr. 4-7. \$5.00. EM128.

Teachers can use the activities in this guide to introduce students to the world of telecommunications. After they complete an interview activity to learn various telecomputing terms and how people use computers to access information, students observe a teacher conducting an online session. They perform skits to learn the difference between e-mail and the U.S. mail in preparation for conducting an e-mail survey on an electronic bulletin board in the United States. The guide includes a sample message with questions that students might ask. In the sixth grade, students expand the survey activity by exchanging essays with students in other parts of the world. Students docu-

ment their impressions of other countries before and after the exchange of e-mail communication. In a "Global Environment Project," students conduct research on environmental issues in Europe and the former Soviet Union by using a variety of resources in the media center. Information is compared with essays collected from e-mail requests. Seventh-grade students collect weather data each week and exchange it via e-mail with classes in other parts of North Carolina to complete a weather map. Worksheets, sample surveys, and a glossary of telecomputing terms are included.

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Complete set of eight lesson plan guides, \$35.00. EM122.

Computer files created to accompany many of the lessons also are available from school system technology coordinators or by sending a blank diskette for each file and requesting the platform and the program needed (e.g., Claris Works for MAC or Microsoft Works for IBM or MAC) to:

Martha Campbell

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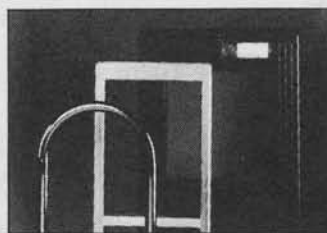
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