

Student Competency Level Goals for Technology

The following competency levels reflect the National Educational Technology Standards (NETS) and support the Guntersville City School's curriculum and Alabama Course of Study.

These competency levels should be considered when integrating technology into the curriculum and incorporating the use of technology into the classroom. As these levels are implemented specific grade level and subject curriculum committees would help further develop and refine these goals as lifelong learners.

Educational technology competencies can be divided into five broad domains of skill development. These domains include a number of skills and concepts that will assist students in achieving success in learning, communication, and future work environments.

DOMAIN 1: Basic Operations and Concepts

There is a basic framework of concepts and skills essential for effectively using technology tools and resources. These concepts and operational skills provide a foundation for use of technology to support learning throughout the curriculum. Students have a sound understanding of the operation of technology systems, terminology, basic concepts, limitations and uses of technology, connectivity and compatibility concepts, and awareness of adaptive technologies. Students develop attitudes toward technology, which supports life-long learning, collaboration, personal pursuits, and productivity.

Grades PK-2

To achieve this standard, the student:

- 1.1** demonstrates proficient mouse skills
- 1.2** starts up and shuts down a computer system
- 1.3** demonstrates optimal posture and position at the computer station
- 1.4** starts and quits an application software package
- 1.5** recognizes and uses basic computer vocabulary, especially generic terms
- 1.6** uses input devices to navigate the graphic interface on multimedia learning resources
- 1.7** operates commonly used media devices
- 1.8** uses printers to produce hard copy of student products

Grades 3-5

To achieve this standard, the student:

- 1.9** demonstrates the ability to locate keys on keyboard using optimal posture and position
- 1.10** independently operates computer hardware and software with simple trouble shooting abilities for class or personal use
- 1.11** uses appropriate terminology related to computers and technology in written and oral communications
- 1.12** identifies the physical components of a computer system as input, output or processing devices
- 1.13** independently operates classroom media devices(e.g. laser disc player, digital camera, video camera)
- 1.14** demonstrates proficient file management skills associated with opening, closing, saving, and deleting files
- 1.15** identifies terms related to computer generated productions(e.g., desktop publishing, clip art, hypertext, multimedia, laser disc, CD-ROM, VCR, scanner, camcorder)

Grades 6-8

To achieve this standard, the student:

- 1.16 demonstrates correct keyboarding skills using correct posture and position
- 1.17 solves basic technical problems encountered during regular use of computers and software
- 1.18 demonstrates file management skills associated with file format, platform, file copy, file transfer, and file download
- 1.19 identifies the functions and purposes of a computer operating system
- 1.20 interprets basic system error messages or commands
- 1.21 identifies and uses drivers/extensions needed to interface with peripheral devices
- 1.22 operates a calculator and other content-specific devices
- 1.23 describes and implements basic troubleshooting techniques for multimedia computer systems with related peripheral devices
- 1.24 identifies and uses terms related to data communications(upload, download, bulletin board, e-mail, etc.)
- 1.25 makes memory management adjustments as needed to operate software

Grades 9-12

To achieve this standard, the student:

- 1.26 identifies sources (on-line, commercial, print, human) of information on hardware and software purchases
- 1.27 determines optimum configuration for a computer system to support their long-term needs
- 1.28 compares the services and resources of on-line providers
- 1.29 evaluates system security and virus protection resources and software
- 1.30 assesses needs to identify and price essential software resources for their personal computer systems

DOMAIN 2: Social, Ethical, and Human Issues

The rate of change surrounding technology is staggering. Students understand the historical and societal impact that technology has had, is having, and is likely to have. They understand worker issues related to automation and retraining. Students evaluate new information resources and technological innovations based on their appropriateness to specific tasks and the individual's personal preferences, requirements and resources; they are sophisticated technology consumers. Students understand privacy, copyright, licensing, intellectual property rights issues, and they make responsible decisions and exhibit ethical behavior related to them.

Grades PK-2

To achieve this standard, the student:

- 2.1 works cooperatively when using technology
- 2.2 respects the privacy of others
- 2.3 identifies computers as tools for accessing current information
- 2.4 takes turns using the computer
- 2.5 demonstrates respect for the computer work of others
- 2.6 demonstrates appropriate care and handling of technology equipment and software

Grades 3-5

To achieve this standard, the student:

- 2.7 identifies the computer as a machine that helps people work and plan
- 2.8 identifies uses of technology at home and at school
- 2.9 states that violation of copyright law is a crime
- 2.10 identifies the role of technology in a variety of careers
- 2.11 identifies technological skills required for various careers
- 2.12 models ethical behavior and acceptable practice in use of technology and technological resource
- 2.13 states the need for protection of software and hardware from computer viruses
- 2.14 describes the need for protection of software and hardware from vandalism
- 2.15 identifies, as intellectual property, work created using a computer
- 2.16 contributes to 'end project', total group effort; values everyone's contribution

Grades 6-8

To achieve this standard, the student:

- 2.17 identifies the ways technology has changed the lives of people in communities
- 2.18 identifies the ways in which technology has influenced and changed the lives of people in the United States
- 2.19 describes the right of an individual to ownership of his/her created computer work
- 2.20 analyzes and discusses the future impact and trends of technology in the home, work, society, entertainment, school
- 2.21 understands and models ethics relating to copyright laws
- 2.22 identifies uses of technology in the community
- 2.23 identifies ways that telecommuting promotes a global community
- 2.24 identifies examples and analyzes the societal impact of advanced and emerging technologies
- 2.25 explains that the copyright law protects what a person or company has created and placed on a diskette
- 2.26 cites electronic sources properly and identifies examples of copyright law violations
- 2.27 discriminates between types of data as to which are public and private
- 2.28 demonstrates knowledge of safe and ethical procedures related to sharing personal information
- 2.29 participates in ethical situations, experiences(e.g., role playing, elimination of jobs, intellectual property, case studies)

Grades 9-12

To achieve this standard, the student:

- 2.30 interprets computer advertising to make good consumer decisions
- 2.31 acknowledges sources of information and awareness of legal/ethical issues

DOMAIN 3: Productivity Tools

There is a set of universally used tools that support both individual and group work. These tools support more complex, specific, and emerging technologies. Students are well versed in the use of these tools to support their productivity in a wide variety of endeavors. Topics in this domain include word processing, databases, spreadsheets, utility programs, telecommunications, multimedia, emerging technologies, collaboration process tools, and content-specific software.

Grades PK-2

To achieve this standard, the student:

- 3.1 uses instructional software in various content areas
- 3.2 develops entry level multimedia projects
- 3.3 uses simple drawing/publishing software to express and/or present individual as well as group ideas
- 3.4 with teachers or group support, creates basic video productions
- 3.5 uses electronic resources to access and retrieve information
- 3.6 works with a group to send electronic mail messages to other classes and groups

Grades 3-5

To achieve this standard, the student:

- 3.7 uses computer-based simulations to explore hypotheses
- 3.8 uses a word processing program to load, enter, edit, save, and print text
- 3.9 uses a word processing program to copy and move text
- 3.10 describes the advantages and disadvantages of using computers to generate various types of products
- 3.11 creates basic video productions
- 3.12 uses productivity tools for designing and creating multimedia presentations
- 3.13 uses a word processor to edit and write reports

Grades 6-8

To achieve this standard, the student:

- 3.14 identifies terms and functions associated with database management
- 3.15 uses a prepared database to enter and edit data
- 3.16 creates and displays presentations to support a persuasive speech
- 3.17 gathers data, design/creates a spreadsheet, and then makes charts and graphs displaying information contained in a spreadsheet
- 3.18 uses commercial software to organize and visually display data to draw conclusions
- 3.19 uses imaging devices such as scanners, digital cameras, and/or video cameras with computer systems and software
- 3.20 identifies methods for transferring, downloading or converting graphic files
- 3.21 identifies methods for transferring, downloading or converting sound files
- 3.22 identifies methods for transferring, downloading or converting video files
- 3.23 performs simple database searches to answer research questions
- 3.24 uses on-line collaborative tools to develop team projects
- 3.25 adds pictures(drawn, scanned, digital camera) to word-processing documents
- 3.26 creates no-linear(hypermedia) products to represent learning
- 3.27 uses a word processor, graphic utility, and a simple desktop publisher to prepare and present information in a variety of formats
- 3.28 uses a word processing program to publish a report that contains centering, tabs, and more than one paragraph
- 3.29 routinely uses specialized word processing utilities(e.g., thesaurus, spellchecker, grammar checker, document statistics) in the production of written materials
- 3.30 creates word processed document explaining the process of their research and a discussion of their results
- 3.31 selects and uses productivity software to facilitate collaborative projects
- 3.32 selects and uses productivity software to effectively present individual and team projects
- 3.33 gathers data, design/creates a database, and then generates varying types of reports to graphically display information contained in the database
- 3.34 uses Boolean logic and keyword searching to access a wide range of information sources
- 3.35 uses specialized software and devices for different content areas(e.g., geometry simulators, science probes)

- 3.36 uses a data base to sort records
- 3.37 conducts real research for a local government, business, or other organization, and then presents the data in an appropriate form to the “customer”
- 3.38 uses a data base to search for desired information: given one criterion and given two criteria(using “and” or “or” connectors where necessary)
- 3.39 develops multimedia presentation based on principles of layout and design to communicate ideas and research

Grades 9-12

To achieve this standard, the student:

- 3.40 given a prepared database, uses sorting and searching techniques to solve problems
- 3.41 uses technology tools and resources for managing finances
- 3.42 uses a prepared spreadsheet to enter and edit data, to explain the results of the changes, and to test “What if” statements
- 3.43 integrates word processing, spreadsheet, and database applications to prepare and present information in variety of formats

DOMAIN 4: Technology Tools For Communications

The teacher and textbook are no longer the sole sources of information in the classroom. Students obtain information from a variety of sources and media. Students use their knowledge of information tools to deal with the exponentially increasing and rapidly changing sources of information available to them. Topics in this domain include traditional and emerging research skill, remote information resources, electronic communication, distance learning and teleconferencing, networking, and research skills.

Grades PK-2

To achieve this standard, the student:

- 4.1 develops and illustrates thoughts, ideas, stories, and problems using technology
- 4.2 communicates using e-mail, with assistance of others
- 4.3 accesses, with teacher help, age-appropriate Web-based information

Grades 3-5

To achieve this standard, the student:

- 4.4 communicates using e-mail without the assistance of others
- 4.5 uses telecommuting hardware and software to communicate at a distance
- 4.6 identifies and describes how telecommuting promotes a global community
- 4.7 identifies and uses functions associated with e-mail (e.g., attachment, list serves, and others)
- 4.8 participates in a project that shows value of communication tools
- 4.9 uses telecommunication tools to participate at distance in collaborative projects and learning activities
- 4.10 uses bookmarks to access World Web pages
- 4.11 accesses the World Wide Web independently
- 4.12 searches and retrieves on-line documents for uses in a class project

Grades 6-8

To achieve this standard, the student:

- 4.13 uses telecommunications and collaborative tools to investigate curriculum-related concepts, issues, and information
- 4.14 uses telecommunications and collaborative tools to build or enhance a knowledge base related to a curricular topic
- 4.15 collaborates electronically with students in other countries
- 4.16 uses hyper linked multimedia tools to design and publish or present group products

- 4.17 accesses a variety of on-line information resources
- 4.18 uses net resources to document work, conduct on-line research, link to other sources
- 4.19 compares the process of sending and receiving messages: electronically vs. non-electronically (e.g., e-mail vs. US mail, electronic bulletin board vs. classroom bulletin board)
- 4.20 performs file compression, transfer, and expansion for sharing and accessing information
- 4.21 participates in development of a World Wide Web page based on class research project

Grades 9-12

To achieve this standard, the student:

- 4.22 routinely uses on-line services to acquire information
- 4.23 routinely uses on-line services for publishing
- 4.24 routinely use telecommunications for group and individual communications
- 4.25 identifies on-line resources to support life-long learning
- 4.26 uses distance education to support learning

DOMAIN 5: Technology Tools for Research, Problem-Solving, and Decision-Making

The environment that our graduates will face when leaving the school system is increasingly complex. Therefore, the strategies for success must be more sophisticated. As students progress through school, they continuously improve their abilities to combine and match technology tools and resources to meet the learning challenges they encounter. Students apply effective strategies to assess the credibility of information sources and to resolve conflicting information. Topics in this domain include locating technology tools and information about them, using specialized personal productivity tools, self-monitoring of effectiveness, developing collaborative skills, resolving information conflict, critically consuming information, and using intelligent agents and sophisticated search techniques to support research, problem-solving, and decision-making.

Grades PK-2

To achieve this standard, the student:

- 5.1 Identifies with Internet as a resource for information and utilizes information from a locally approved Internet site

Grades 3-5

To achieve this standard, the student:

- 5.2 explores the credibility of information obtained through on-line resources
- 5.3 uses telecommuting tools to participate at a distance in collaborative problem-solving and knowledge creation
- 5.4 uses telecommunications to extend school-based learning activities and to pursue self-directed learning
- 5.5 identifies appropriate technology tools to address tasks commonly encountered
- 5.6 illustrates and explains results of investigations using multimedia, Web development, hypermedia, or graphing tools and software

Grades 6-8

To achieve this standard, the student:

- 5.7 selects and applies appropriate content-specific tools and resources to support learning
- 5.8 uses the Web independently as a research and publication tool
- 5.9 selects productivity tools appropriate for creating an interactive presentation to communicate ideas and research

- 5.10 participates in sophisticated, collaborative problem-solving using a variety of computer and telecommunication ideas and research
- 5.11 uses hypermedia tools to develop a product that is nonlinear in operation to communicate ideas and research
- 5.12 selects an appropriate tool to create a visual display derived from information/research gathered via e-mail or the Internet
- 5.13 collaborates electronically with students in the global community in problem solving activities
- 5.14 uses telecommunications to collaborate at distances to build or enhance a knowledge base related to topics of personal interest
- 5.15 identifies and independently uses computer hardware and software to design and develop products
- 5.16 selects appropriate computing resources and conducts research, for example using CD encyclopedias and other on-line resources
- 5.17 given a specific problem, selects and uses appropriate technology tools to organize and report findings in multiple forms
- 5.18 participates in critical analysis of information gathered from multiple resources and then presents findings in a coherent and organized fashion
- 5.19 explores the credibility of information obtained through on-line resources
- 5.20 storyboards, edits, and creates a video using multiple resources

Grades 9-12

To achieve this standard, the student:

- 5.21 identifies and assesses a variety of technology-based resources to support life-long learning and career interests
- 5.22 investigates uses of experts systems as aids to personal productivity and decision-making
- 5.23 interprets computer advertising to make good consumer decisions
- 5.24 routinely uses technology tools, software, and on-line resources to gather, evaluate, analyze, organize, and convey information pertinent to academic and personal interests

Implementation of the State Required Computer Applications Competencies for High School Graduation

Students in grades 7-8 are required to take a class in computer applications. In this course, students receive instruction in the computer competencies required by the State Board of Education and are tested to check their mastery.

Students in grade 9 are required to take Keyboarding/Computer Applications for the technology credit required for high school graduation. A course in word processing is also offered as an elective.

Needs Identified to Fully Implement the Technology Plan

- New communication system with voice mail
- Fully equipped Teacher Resource Center – multimedia computers and computer furniture, page scanner, projection device, printer(s), copier, television/VCR/DVD, telephone, laminating machine, and technology training materials.
- Upgrade existing network software as needed i.e. Skillsbank, Cornerstone, Accelerated Reader, STI and S.T.A.R.
- Continue tech support plans for applicable network software.
- Increase number of classroom computers K-12
- Increase number of computers in media centers K-12
- Additional digital cameras for grades K-12
- Video projectors for grade K-12
- Video capture capabilities Grades 6-12
- Additional page scanners for grades K-12