

PRIMARY TECHNOLOGY

Program of Studies – Technology – Primary School

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. The technology program of studies at the primary level includes beginning competencies related to technology literacy. Students are involved in the use of technology for communicating and collaborating with others and in developing ideas and opinions. Students interact with developmentally appropriate applications (e.g., interactive books, graphic organizers, reading and writing assistants, mathematical and scientific tools). Through this experience, students gain a positive view of technology as tools for learning.

The technology content standards at the primary grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues; and 3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry.

Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Academic Expectations

- 1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
- 1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
- 3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
- 6.1** Students connect knowledge and experiences from different subject areas.
- 6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills and experiences.

Primary Enduring Knowledge – Understandings

Students will understand that

- technology is used in all content areas to support directed and independent learning.
- appropriate terminology, computer operations and applications assist in gaining confidence in the use of technology.
- technology requires proper care and maintenance to be used effectively.
- technology is used to communicate in a variety of ways.

Primary Skills and Concepts – Information

Students will

- investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)
- use and care for technology (e.g., computers, cell phones, digital cameras, scanners, multimedia) at home, school and community
- use appropriate technology terms (e.g., hardware, software, CD, hard drive)
- demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., left hand for left side keys and right hand for right side keys, special keys such as space bar, enter/return, backspace, shift, delete)

Primary Skills and Concepts – Communication

Students will

- use technology to communicate in a variety of modes (e.g., recordings, speech to text, print, media)
- participate in group projects and learning activities using technology communications

Primary Skills and Concepts – Productivity

Students will

- explain how information can be published and presented in different formats
- create a variety of tasks using technology devices and systems to support authentic learning

Big Idea: Safety and Ethical/Social Issues

Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Academic Expectations

- 2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
- 3.6** Students demonstrate the ability to make decisions based on ethical values.
- 4.3** Students individually demonstrate consistent, responsive and caring behavior.
- 4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
- 4.5** Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.

Primary Enduring Knowledge – Understandings

Students will understand that

- responsible and ethical use of technology is necessary to ensure safety.
- technology enhances collaboration to contribute to a learning community.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- technology is used in jobs and careers to support the needs of the community.
- assistive technology supports learning to ensure equitable access to a productive life.

Primary Skills and Concepts – Safety

Students will

- explain the importance of safe Internet use (e.g., iSafe skills)
- use safe behavior when using technology

Primary Skills and Concepts – Ethical Issues

Students will

- use responsible and ethical behavior in using technology
- adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws

Primary Skills and Concepts – Social Issues

Students will

- work cooperatively with peers, family members and others when using technology
- collaborate with peers, family members and others when using technology
- explain how technology is used in jobs and careers

Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Academic Expectations

- 1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
- 2.3** Students identify and analyze systems and the ways their components work together or affect each other.
- 5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
- 5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
- 5.4** Students use a decision-making process to make informed decisions among options.
- 5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
- 6.1** Students connect knowledge and experiences from different subject areas.

Primary Enduring Knowledge – Understandings

Students will understand that

- technology assists in gathering, organizing and evaluating information from a variety of sources to answer an essential question.
- technology is used to analyze real world data and support critical thinking skills through inquiry/problem-solving in order to produce results and make informed decisions.

Primary Skills and Concepts – Research

Students will

- use teacher-directed Internet sources as a resource for information
- use electronic resources to access and retrieve information

Primary Skills and Concepts – Inquiry/Problem-solving

Students will

- gather technology information/data and use for problem solving in all content areas
- describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving software, troubleshooting technology issues)

Primary Skills and Concepts – Innovation

Students will

- use technology for original creations/innovation in classroom
- express creativity both individually and collaboratively using technology