

TECHNOLOGY

LENGTH OF TIME: Integrated as part of other curricular areas throughout the entire school year

GRADE LEVEL: 2

COURSE STANDARDS:

Students will:

1. Identify ways to use technology at work & play (PA Academic Std 3.6B, 3.8A, 3.8B; NETS 2)
2. Demonstrate respect for the work of others. (PA Academic Std 3.6B, 3.8A, 3.8B; NETS 2)
3. Recognize an individual's rights of ownership of computer-created work. (PA Academic Std 3.6B, 3.8A, 3.8B; NETS 2)
4. Demonstrate correct care & use of computers. (NETS 2)
5. Recognize that multimedia is use of the computer to present text, graphics, video, animation, and sound in an integrated way. (PA Academic Std 3.7A, 3.7C, 3.7E; NETS 1, 3, 4, 5)
6. Identify the internet as a source of information. (PA Academic Std 3.7A, 3.7C, 3.7E; NETS 5)
7. Identify communication technologies (phone, fax, email, and internet) that are used to transmit data and hence enable us to locate information. (PA Academic Std 3.7A, 3.7E; NETS 4, 5)
8. Identify the physical components of a computer system (keyboard, monitor, CPU, mouse, printer). (PA Academic Std 3.7A, 3.7C; NETS 1)
9. Identify the function of physical components of a computer system. (PA Academic Std 3.7A, 3.7C; NETS 1)
10. Identify essential computer terms: start, icon, desktop, menu, toolbar, exit, shut down, quit, and open. (PA Academic Std 3.7A, 3.7C; NETS 1)
11. Place the cursor at a specified location. (PA Academic Std 3.7C; NETS 1)
12. Locate & use letters, numbers, & special keys on a keyboard. (PA Academic Std 3.7C; NETS 1)
13. Know placement of individual letter keys. (PA Academic Std 3.7C; NETS 1)
14. Identify basic word processing terms: file, print, open, arrow keys, backspace, enter/return key, shift key, spell check (red and green underscores), font formatting (style, size, color). (PA Academic Std 3.7C; NETS 1)
15. Recognize the benefits of word processing. (PA Academic Std 3.7C; NETS 1, 3)
16. Use word processing to enter, save, print & retrieve text. (PA Academic Std 3.7C, 3.7D; NETS 1, 3)
17. Use search strategies to locate information electronically.* (PA Academic Std 3.7E; NETS 3, 5, 6)
18. Use electronic databases to locate information.* (PA Academic Std 3.7E; NETS 5)
19. Search & sort prepared databases for information to use in classroom projects.* (PA Academic Std 3.7E; NETS 3, 5, 6)

20. Search & sort information using one criterion (i.e. keyword or author or title or subject).* (PA Academic Std 3.7E; NETS 3, 5, 6)
21. Select search strategies to obtain information.* (PA Academic Std 3.7E; NETS 3, 5, 6)
22. Use Excel to enter data & graph the results. (PA Academic Std 3.7D; NETS 3, 4)
23. Gather, organize & display data as a class activity. (PA Academic Std 3.6B; NETS 3, 4)
24. Participate in the creation of a class/group multimedia that uses any combination of text, graphics, video, animation, or sound to present information. (PA Academic Std 3.6B, 3.7D; NETS 4)

RELATED PA ACADEMIC STANDARDS FOR SCIENCE AND TECHNOLOGY

- 3.6 Technology Education
 - B. Information Technology
- 3.7 Technological Devices
 - A. Tools
 - C. Computer Operations
 - D. Computer Software
 - E. Computer Communication Systems
- 3.8 Science, Technology and Human Endeavors
 - A. Constraints
 - B. Meeting Human Needs

RELATED NETS (NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS FOR STUDENTS) STANDARDS

1. Basic operations and concepts
 - Students demonstrate a sound understanding of the nature and operation of technology systems.
 - Students are proficient in the use of technology.
2. Social, ethical, and human issues
 - Students understand the ethical, cultural, and societal issues related to technology.
 - Students practice responsible use of technology systems, information, and software.
 - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
3. Technology productivity tools
 - Students use technology tools to enhance learning, increase productivity, and promote creativity.
 - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
4. Technology communications tools
 - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
 - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
5. Technology research tools
 - Students use technology to locate, evaluate, and collect information from a variety of sources.

- Students use technology tools to process data and report results.
 - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.
6. Technology problem-solving and decision-making tools
- Students use technology resources for solving problems and making informed decisions.
 - Students employ technology in the development of strategies for solving problems in the real world.

PERFORMANCE ASSESSMENTS:

Students will demonstrate achievement of the standards by:

1. Illustrating ways people use technology (Course Standards 1, 2)
2. Showing respect for others work and computer care (Course Standards 3, 4)
3. Listing characteristics of multimedia (Course Standard 5)
4. Identifying publications from various sources (Course Standards 6, 7)
5. Identifying computer parts and terms (Course Standards 8, 9, 10)
6. Creating sentences, stories, and writing/presentation pieces (Course Standards 11, 12, 13, 14, 15, 16)
7. Using search strategies to locate information electronically (Course Standards 17, 18, 19, 20, 21)
8. Using Excel to enter data and graph results (Course Standards 22, 23, 24)

DESCRIPTION OF COURSE:

Technology is not a separate course but rather a curriculum that is integrated and taught through other curricula. Technology is a valuable tool that students will explore through integrated activities in other subjects. The technology curriculum will be the responsibility primarily of the grade level teacher, with concepts introduced, modeled, reinforced, and practiced, with the eventual goal of mastery. The librarian will facilitate the searching and sorting of databases to locate information. Curriculum at each grade level will reinforce the previous, while at the same time providing for the introduction and practice of new skills.

TITLES OF UNITS:

time/unit – on-going integrations

1. Technology and Society
 - a. Technology use
 - b. Personal responsibilities of technology
2. Computer Conceptual knowledge
 - a. Technology types
 - b. Computer hardware and terms
3. Word Processing
4. Database/Data Organization
 - a. Information access and retrieval
5. Skill Communications/Graphs/Presentations
 - a. Graphing
 - b. Presentation

SAMPLE INSTRUCTIONAL STRATEGIES:

1. Discussion
2. Modeling
3. Demonstrations
4. Oral presentation
5. Visual presentation
6. Role-play
7. Sequencing
8. Brainstorming
9. Independent/self-paced practices
10. Peer assistance/partner or group work

MATERIALS:

1. Networked computers equipped with Windows XP or upgrade (minimum of 6 per class)
2. Teacher computer station with display device (TV or projector or smart board)
3. Color printer
4. Digital camera
5. Software:
 - Power Library – Access PA
 - Spectrum Card Catalog
 - Microsoft Office 2003 Package (including Publisher)
 - Kidspiration
 - TimeLiner
6. Poster of computer parts

METHODS OF ASSISTANCE AND ENRICHMENT:

1. Technology skills are reinforced in all curricular areas, including Specials
2. Students have opportunities to use technology to explore various curricular topics in depth, allowing for differentiation
3. Individualized assistance is available as needed (teachers, teaching assistants, peers)
4. Remedial and enrichment work can be done during computer lab time, during recess or before/after school, and during class time when appropriate

PORTFOLIO DEVELOPMENT:

1. Student work demonstrating technology integrations can be saved electronically in student folders

METHODS OF EVALUATION:

1. Teacher observation
2. Class participation
3. Group work
4. Completed projects - Technology skills are evaluated as part of integrated projects in curricular areas
5. Oral and visual presentations

INTEGRATED ACTIVITIES:

It is expected that as technology skills are integrated into other curricular areas, technology will be used: to reinforce concepts; as a communication tool; in thinking/problem solving; to show application of knowledge; and to enable students to practice and reinforce interpersonal skills.

1. Concepts

- Demonstrate understanding of computer as an important tool
- Demonstrate correct care and use of computers
- Understand the basic ethics and responsibilities of a computer use

2. Communication

- Describe procedures
- Use correct terminology
- Exchange information
- Present acquired information in a media presentation

3. Thinking/Problem Solving

- Use computer generated, organized and presented information to draw conclusions, form opinions and make judgments

4. Application of Knowledge

- Use software, hardware to present, evaluate and communicate

5. Interpersonal Skills

- Demonstrate the ability to listen and communicate effectively through writing, speaking, and computer generated communications