

6th Grade Computer Applications

LENGTH OF TIME: Every other day, 90 minutes class, 45 days

GRADE LEVEL: 6

COURSE STANDARDS:

Students will:

1. Manage an operating system. (PA Std 3.7.7c)
2. Demonstrate skill in applying a variety of programs. (PA Std 3.7.7d)
3. Create reports using correct formatting. (PA Std 3.7.7d)
4. Create graphic organizers. (PA Std 3.7.7d)
5. Demonstrate basic design principles (PA Std 3.6.7 b)
6. Import and manipulate graphics. (PA Std 3.7.7d)
7. Create basic spreadsheets and graphs. (PA Std 3.7.7d)
8. Manipulate basic spreadsheet formulas. (PA Std 3.7.7d)
9. Create and deliver presentations. (PA Std 3.6.7b)
10. Use the Internet for gathering and analyzing information. (PA Std 3.7.7e)
11. Evaluate Internet sources. (PA Std 3.7.7e)
12. Understand Internet safety precautions and responsibilities. (PA Std 3.8.7a,c)
13. Manage time and tasks for a long term multi-step project. (PA Std 3.7.7d)
14. Demonstrate age-appropriate knowledge and skills related to career acquisition, advancement, and retention. (PA Std 13.1.8a,e,f; 13.2.8b,e)

RELATED PA ACADEMIC STANDARDS FOR SCIENCE & TECHNOLOGY

- 3.6.7 B. Apply communications technology to relay a thought
- 3.7.7 C. Explain and demonstrate basic computer operations and concepts
 - D. Apply computer software to solve specific problems
 - E. Explain basic computer communications systems
- 3.8.7 A. Identify changes in society as a result of technological development
 - C. Describe positive and negative expected and unexpected effects

RELATED PA ACADEMIC STANDARDS FOR CAREER EDUCATION

- 13.1.8 A. Relate careers to individual interests, abilities, and aptitudes
 - E. Analyze economic factors that impact employment
 - F. Analyze the relationship of interests and experience to career preparation
- 13.2.8 B. Evaluate resources available in researching job opportunities
 - E. Explain the importance of essential workplace/skills and knowledge

PERFORMANCE ASSESSMENTS:

Students will demonstrate achievement of the standards by:

1. Using basic computer terminology. (Standard 2)
2. Creating basic spreadsheets. (Standard 6)
3. Composing on the keyboard. (Standard 2,3)
4. Creating documents and reports. (Standard 2,3,5)
5. Using correct format for documents. (Standard 3)
6. Preparing a document. (Standards 2,4,5)
7. Using software to organize and evaluate information. (Standard 3,4,6)
8. Preparing a spreadsheet for personal use. Ex. grades. (Standard 6)
9. Using formulas to add and multiply in an assignment. (Course Standards 7, 8)
10. Demonstrating an understanding of Internet safety and responsibilities (Standards 9,10)
11. Demonstrating an understanding of Internet safety basics (Standards 8,9,10)
12. Researching a topic and summarizing findings. (Course Standards 2,8)
13. Using specific evaluation criteria, determining content validity. (Standard 9)
14. Presenting information from notes to a peer audience. (Standards 2,3,5,6,7,8,9,10,11,12)
15. Demonstrating basic data storage and manipulation skills. (Standards 2,5)
16. Demonstrating self evaluation and reflection of all major projects. (Standard 11)

DESCRIPTION OF COURSE:

This course provides students with the opportunity to learn how to manage a computer in an academic environment. Students will work on composing and editing their work in proper format. They will learn to gather information and assess information from the Internet. They will be aware that Internet use carries responsibilities that extend beyond the school community. Students will use technology to gather, organize, evaluate, and analyze information. They will learn to present information visually and orally.

THEMATIC UNITS (not necessarily in this order):

1. Introduction to the online classroom and each other
2. Documents: Creating and managing a text document
 - Learning about career opportunities
 - Formatting text and design elements
3. Presentations: Developing and delivering a presentation
 - Demonstrating an understanding of copyright
 - Conveying a clear message effectively
4. Spreadsheets: Reviewing graphs and using calculations
 - Column and pie charts
 - Functions and formulas

5. Internet Research: Researching current technology
 - Collecting, storing, analyzing, and summarizing information
 - Reviewing document formatting
 - Exploring technology benefits and risks
6. Computer Science: Exploring computer programming
 - Introduction to algorithmic thinking
 - Purposeful programming
7. Image Creation: Exploring image creation and editing software
 - Design principles
 - Image creation and manipulation techniques
8. Review Lessons

SAMPLE INSTRUCTIONAL STRATEGIES:

1. Cooperative learning
2. Individualized instruction
3. Projects
4. Oral presentations
6. Online tests and review games
7. Writing
8. Visual presentation
9. Demonstrations
10. Peer Assistance and evaluation

MATERIALS

1. Networked modern computer with required software

METHODS OF ASSISTANCE AND ENRICHMENT:

1. Course is individualized where needed
2. Online tutorials are available for remedial work and enrichment
3. Students may extend the requirements of a project for enrichment
4. Peer practice and feedback
5. Remedial and enrichment work done during resource period or after school

PORTFOLIO DEVELOPMENT:

1. Self Assessment
2. Artifacts of exemplary work stored on student drives

METHODS OF EVALUATION:

1. Quizzes
2. Class participation
3. Teacher observations
4. Student self assessment

5. Group work
6. Completed projects
7. Multimedia presentation
8. Grading criteria (rubrics)

INTEGRATED ACTIVITIES:

1. Concepts
 - Demonstrate age-level proficiency with current academic hardware and software
 - Demonstrate understanding of the safe and responsible use of the Internet
 - Understand the basic ethics and responsibilities of a computer use
2. Communication
 - Describe procedures
 - Use correct terminology
 - Exchange information
 - Present acquired information
3. Thinking/Problem Solving
 - Access information to draw conclusions, form opinions, and make critical judgements
4. Application of Knowledge
 - Use software and hardware to present, evaluate, and communicate
 - Link computer skills and concepts to the core curriculum
 - Relate spreadsheet concepts to math
5. Interpersonal Skills
 - Demonstrate the ability to listen and communicate effectively through writing, speaking, and computer generated communications