Computer Applications

Course Description:

Computer Applications (1 of 1) explores online networks and software. Topics include word processing software, organizing data, selecting the correct digital tools, analysis of data, visual representation of data, and troubleshooting software and operating systems. Additional topics include safe digital citizenship, data security, intellectual property, file management, and intellectual property rights.

Course Objectives:

- Describe various ways technology affects people and people affect technology.
- Explain risks on the internet and how to avoid them.
- Discuss the legal and ethical use of intellectual property.
- Describe various types of computer hardware and software and their use.
- Develop word processing skills.
- Describe and use online networks.
- Describe multiple uses of different technologies.
- Research online ethically and effectively.
- Use digital tools to present research.
- Describe how ideas become products and products progress over time.
- Use the design process.
- Communicate to different audiences in different digital formats.
- Create spreadsheet workbooks using basic and advanced features.
- Use data to make predictions, communicate ideas, and solve problems.
- Develop an understanding of real-world ideas and issues using digital tools.
- Create and publish original digital work.
- Work effectively with others on a digital project.

Required Materials:

- presentation software (like Google Slides or Microsoft PowerPoint)
- spreadsheet software (like Google Sheets or Microsoft Excel)
- word processing software (like Google Docs or Microsoft Word)

Schedule of Work:

Unit 1: Digital Citizenship

- **Lesson 1: A Computerized World**
  - Activity 1: Instruction: The Impact of Computers
  - Activity 2: Practice: The Impact of Computers
  - Activity 3: Instruction: Issues in Technology
  - Activity 4: Practice: Issues in Technology
  - Activity 5: Checkpoint: A Computerized World
- **Lesson 2: Personal Data**
  - Activity 1: Warm-Up: The Impact of Computers
  - Activity 2: Instruction: Your Digital Identity
  - Activity 3: Practice: Your Digital Identity
  - Activity 4: Instruction: Send Information Safely

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- Activity 5: Practice: Send Information Safely
- Activity 6: Checkpoint: Personal Data

- **Lesson 3: Digital Citizenship**
  - Activity 1: Warm-Up: Send Information Safely
  - Activity 2: Instruction: How to Behave Online
  - Activity 3: Practice: How to Behave Online
  - Activity 4: Instruction: Use Digital Content Responsibly
  - Activity 5: Practice: Use Digital Content Responsibly
  - Activity 6: Checkpoint: Digital Citizenship

Unit 2: Use the Internet and Word Processing Software

- **Lesson 4: Hardware and Devices**
  - Activity 1: Warm-Up: The Impact of Computers
  - Activity 2: Instruction: Hardware and Connections
  - Activity 3: Practice: Hardware and Connections
  - Activity 4: Instruction: So Many Devices!
  - Activity 5: Practice: So Many Devices!
  - Activity 6: Checkpoint: Hardware and Devices
- **Lesson 5: Software and Troubleshooting**
  - Activity 1: Warm-Up: So Many Devices!
  - Activity 2: Instruction: Software
  - Activity 3: Practice: Software
  - Activity 4: Instruction: Troubleshooting
  - Activity 5: Practice: Troubleshooting
  - Activity 6: Checkpoint: Software and Troubleshooting
- **Lesson 6: Word-Processing Applications**
  - Activity 1: Warm-Up: Software and Troubleshooting
  - Activity 2: Instruction: Basic Word Processing
  - Activity 3: Practice: Basic Word Processing
  - Activity 4: Instruction: Sharpen Your Word Processing Skills
  - Activity 5: Practice: Sharpen Your Word Processing Skills
  - Activity 6: Checkpoint: Word Processing Applications

Unit 3: Conduct Research and Present Information

- **Lesson 7: Do Research**
  - Activity 1: Warm-Up: Make and Use Digital Content Responsibly
  - Activity 2: Instruction: Sharpen Your Research Skills
  - Activity 3: Practice: Sharpen Your Research Skills
  - Activity 4: Instruction: Research a Topic
  - Activity 5: Practice: Research a Topic
  - Activity 6: Checkpoint: Do Research
  - Activity 7: Project: Environmental Concern - Ask Questions
- **Lesson 8: Evaluate Sources**
  - Activity 1: Warm-Up: Sharpen Your Research Skills
  - Activity 2: Instruction: How to Recognize Good Sources
  - Activity 3: Practice: How To Recognize Good Sources
  - Activity 4: Instruction: How to Use Sources
  - Activity 5: Practice: How to Use Sources

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- Activity 6: Checkpoint: Evaluate Sources
- Activity 7: Project: Environmental Concern - Find Information

- **Lesson 9: Organize and Present Information**
  - Activity 1: Warm-Up: How to Use Sources
  - Activity 2: Instruction: Organize and Cite Information
  - Activity 3: Practice: Organize and Cite Information
  - Activity 4: Instruction: Present with Digital Tools
  - Activity 5: Practice: Present with Digital Tools
  - Activity 6: Checkpoint: Organize and Present Information
  - Activity 7: Project: Environmental Concern - Show Findings
  - Activity 8: Project: Environmental Concern - Submission

Unit 4: Plan a Process

- **Lesson 10: Solve Problems**
  - Activity 1: Warm-Up: The Impact of Computers
  - Activity 2: Instruction: The Design Process
  - Activity 3: Practice: The Design Process
  - Activity 4: Instruction: Design to Solve a Problem
  - Activity 5: Practice: Design to Solve a Problem
  - Activity 6: Checkpoint: Solve Problems
- **Lesson 11: Design a Program**
  - Activity 1: Warm-Up: The Design Process
  - Activity 2: Instruction: Invention and Innovation
  - Activity 3: Practice: Invention and Innovation
  - Activity 4: Instruction: Design a Computer Program
  - Activity 5: Practice: Design a Computer Program
  - Activity 6: Checkpoint: Design a Program
- **Lesson 12: Choose the Right Tool**
  - Activity 1: Warm-Up: Design a Computer Program
  - Activity 2: Instruction: Use Digital Tools to Design
  - Activity 3: Practice: Use Digital Tools to Design
  - Activity 4: Instruction: Use Digital Tools to Communicate
  - Activity 5: Practice: Use Digital Tools to Communicate
  - Activity 6: Checkpoint: Choose the Right Tool

Unit 5: Computational Thinking

- **Lesson 13: Learn to Use Spreadsheet Programs**
  - Activity 1: Warm-Up: Use Digital Tools to Design
  - Activity 2: Instruction: Getting Started with Spreadsheets
  - Activity 3: Practice: Getting Started with Spreadsheets
  - Activity 4: Instruction: More Spreadsheet Tools
  - Activity 5: Practice: More Spreadsheet Tools
  - Activity 6: Checkpoint: Learn to Use Spreadsheet Programs
- **Lesson 14: Collect and Analyze Data**
  - Activity 1: Warm-Up: More Spreadsheet Tools
  - Activity 2: Instruction: Algorithms and How to Use Them
  - Activity 3: Practice: Algorithms and How to Use Them
  - Activity 4: Instruction: Analyze Data

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    - Activity 5: Practice: Analyze Data
    - Activity 6: Checkpoint: Collect and Analyze Data
- **Lesson 15: Analyze and Solve Problems**
- Activity 1: Warm-Up: Analyze Data
- Activity 2: Instruction: Analyze Problems
- Activity 3: Practice: Analyze Problems
- Activity 4: Instruction: Use Data to Solve Problems
- Activity 5: Practice: Use Data to Solve Problems
- Activity 6: Instruction: Use Simulations to Solve Problems
- Activity 7: Practice: Use Simulations to Solve Problems
- Activity 8: Checkpoint: Analyze and Solve Problems

Unit 6: Use Creative Software

- **Lesson 16: Create Original Work**
    - Activity 1: Warm-Up: Use Digital Tools to Communicate
    - Activity 2: Instruction: Use Slideshows to Communicate
    - Activity 3: Practice: Use Slideshows to Communicate
    - Activity 4: Instruction: Publish Your Work!
    - Activity 5: Practice: Publish Your Work!
    - Activity 6: Checkpoint: Create Original Work
- **Lesson 17: Broaden Your Horizons**
    - Activity 1: Warm-Up: Issues in Technology
    - Activity 2: Instruction: Broaden Your Mind with Digital Tools
    - Activity 3: Practice: Broaden Your Mind with Digital Tools
    - Activity 4: Checkpoint: Broaden Your Horizons
    - Activity 5: Project: Country Profile - Choose a Country
- **Lesson 18: Collaborate Using Digital Tools**
    - Activity 1: Warm-Up: Broaden Your Mind with Digital Tools
    - Activity 2: Instruction: Work Together Using Technology
    - Activity 3: Practice: Work Together Using Technology
    - Activity 4: Checkpoint: Collaborate Using Digital Tools
    - Activity 5: Project: Country Profile - Create a Presentation
    - Activity 6: Project: Country Profile - Present Your Work
    - Activity 7: Project: Country Profile - Submission

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