



Diocese of Altoona-Johnstown Elementary Curriculum

Computers PK-8th Grade

PRE-K	KINDERGARTEN
<p>Appropriate Use and Care</p> <ul style="list-style-type: none"> • Discuss and demonstrate school rules for computer use • Recognize the need for proper use and care of equipment and classroom procedures • Correctly use equipment to accomplish desired results including proper hand placement on the mouse <p>Parts of the Computer/Terminology</p> <ul style="list-style-type: none"> • Locate and identify parts of the computer including but not limited to: keyboard, mouse, headphones, screen, monitor, printer • Show understanding of terms: click, drag, hold, press, point, enter, cursor, icons <p>Beginning Graphics</p> <ul style="list-style-type: none"> • Use age-appropriate tools to create a picture <p>Curriculum Integration</p> <ul style="list-style-type: none"> • Practice and build content-area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites 	<p>Basic Keyboard Navigation</p> <ul style="list-style-type: none"> • Perform basic actions using the mouse, including: click, enter, drag, point, press & hold • Recognize and use the enter key, letters, numbers, spacebar, and the shift key • Demonstrate ability to type own name • Demonstrate good posture at the keyboard <p>Curriculum Integration</p> <ul style="list-style-type: none"> • Practice and build content-area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites <p>Basic Graphics</p> <ul style="list-style-type: none"> • Use tools to create a picture • Create age-appropriate original works as a means of personal expression <p>Appropriate Use and Care of Computers</p> <ul style="list-style-type: none"> • Demonstrate/discuss school rules including AUP (Acceptable Use Policy) for proper computer use • Develop an awareness that computers are used as a means of communication that help people at school, work, and play • Recognize the need for proper use and care of equipment and classroom procedures <p>Basic Knowledge of Parts of the Computer/Terminology</p> <ul style="list-style-type: none"> • Show understanding of terms: numbers, letters, shift key, spacebar, enter key, backspace, delete, upper case, lower case, click, drag, hold, press, cursor, icons, desktop, CPU, program • Identify and correctly use different parts of the computer including but not limited to keyboard, mouse, headphones, screen, monitor, printer • Locate and use icons on desktop with assistance



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FIRST GRADE

Basic Graphics

- Change fonts, colors, size of text
- Create age-appropriate illustrated documents
- Use tools to create a picture
- Continue to work in draw/paint programs expanding skills with the use of the different drawing tools
- Demonstrate an ability to resize and reposition images

Appropriate Use and Care of Computers

- Demonstrate/discuss school rules including AUP (Acceptable Use Policy) for proper computer use
- Recognize the need for proper use and care of equipment and classroom procedures
- Develop an awareness that computers are used as a means of communication that help people at school, work, and play
- Identify basic hardware and software problems and seek assistance

Basic Keyboard Navigation

- Perform basic actions using the mouse, including: click, enter, drag, point, press & hold
- Demonstrate ability to type own name
- Demonstrate good posture at the keyboard
- Recognize and use the enter key, letters, numbers, spacebar, the shift key, arrow keys, delete, backspace

Word Processing Basics

- Input age-appropriate words, phrases, and sentences
- Create age-appropriate original works as a means of personal expression

Basic Knowledge -Parts of Computer/Terminology

- Identify and correctly use different parts of the computer including but not limited to keyboard, mouse, headphones, screen, monitor, printer, CD drive
- Locate and use icons on desktop with assistance
- To show understanding of terms: numbers, letters, shift key, spacebar, enter key, backspace, delete, upper case, lower case, click, drag, hold, press, cursor, icons, desktop, CPU, program, CD, word processing, font, type, color, size, arrow keys

Curriculum Integration

- Practice and build content-area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Introduction to Basic Universal Window Elements

- Recognize various desktop icons
- Open and close software applications



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SECOND GRADE

Curriculum Integration

- Practice and build content-area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Appropriate Use and Care of Computers

- Recognize that technology can be used to solve problems and make informed decisions
- Identify basic hardware and/or software problems and seek assistance
- Discuss and demonstrate school rules including AUP (Acceptable Use Policy) for proper computer use
- Recognize the need for proper use and care of equipment and classroom procedures

Basic Knowledge -Parts of Computer/Terminology

- Identify and correctly use different parts of the computer including but not limited to keyboard, mouse, headphones, screen, monitor, printer, CD drive
- Locate and use icons on desktop with assistance

Introduction to Basic Graphic Organizers

- Introduce graphic organizers as a means to collect, display, and organize data

Word Processing Basics

- Demonstrate the ability to create, name, save, open/close, and print documents
- Input age-appropriate words, phrases, and sentences
- Change fonts, colors, size of text
- Create age-appropriate original works as a means of personal expression
- Demonstrate basic formatting/editing skills; e.g., highlighting text, bold, italics, underline

Graphic Applications

- Demonstrate an ability to resize and reposition images
- Create age-appropriate illustrated documents
- Use tools to create a picture
- Continue to work in draw/paint programs expanding skills with the use of the different drawing tools

Internet Applications/Terms

- Locate address bar and type web addresses accurately
- Identify basic web terms such as home page, address bar, back/forward, single vs. double click, scroll bar, scroll box, hyperlinks
- Develop an awareness for Internet safety rules
- Show understanding of terms: Home page, address bar, back/forward, single click, double click, scroll bar, scroll box, hyperlinks

Introduction to Basic Keyboarding

- Demonstrate left hand/right hand region of keyboard
- Perform basic actions using the mouse, including: click, enter, drag, point, press & hold
- Recognize and use the enter key, letters, numbers, spacebar, the shift key, arrow keys, delete, backspace
- Understand preferred finger usage for home row keys
- Demonstrate good posture at the keyboard
- Use shift key, spacebar, enter key, backspace, delete, upper case, lower case, cursor, font, type, color, size

Introduction to Universal Window Elements

- Open and close software applications
- Recognize the universal parts of the GUI (graphic user interface); e.g., title bar, menu bar, tool bar, status bar; context (drop down) menu
- Recognize various desktop icons



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THIRD GRADE

Appropriate Use and Care of Computers

- Identify basic hardware and software problems and seek assistance
- Demonstrate/discuss school rules including AUP (Acceptable Use Policy) for proper computer use
- Recognize the need for proper use and care of equipment and classroom procedures

Knowledge of Computer Parts and Terminology

- Identify function of component; i.e., input/output
- Use peripherals located in the lab and/or classroom
- Identify and correctly use different parts of the computer
- Identify messages and solve simple recurrent problems with hardware and software; e.g., "send error report or don't send"
- Demonstrate understanding of basic keyboard parts (e.g., shift key, spacebar, enter key, etc.); basic parts/commands (click, drag, desktop, CPU, program, etc.); Internet terms (home page, address bar, hyperlinks, etc.); word processing commands (align left/right/center/justify, minimize, maximize, etc.)

Curriculum Integration

- Research topics to align with content areas
- Describe how different programs have different purposes
- Recognize that technology can be used to solve problems and make informed decisions
- Practice and build content-area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Basic Graphic Organizers

- Use graphic organizers as a means to collect, display, and organize data

Graphic Applications

- Demonstrate an ability to resize and reposition images
- Use tools to create a picture
- Continue to work in draw/paint programs expanding skills with the use of the different drawing tools

Internet Applications/Terms

- Practice basic Internet safety rules
- Access the Internet to locate requested information in a specific website(s)
- Locate address bar and type web addresses accurately

Basic Keyboarding

- Build accuracy/speed and develop touch typing skills
- Locate special characters on the keyboard
- Demonstrate familiarity with QWERTY keyboard
- Understand preferred finger usage for home row keys

Basic Operating System and Universe

- Recognize the universal parts of the GUI (graphic user interface); e.g., title bar, menu bar, tool bar, status bar; context (drop down) menu
- Recognize various desktop icons
- Locate and use icons on desktop with assistance

Presentation Tools and Techniques

- Create a new presentation via template
- View and navigate a slide show

Word Processing/Publishing

- Demonstrate the ability to create, name, save, open/close, and print documents
- Create age-appropriate illustrated documents



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FOURTH GRADE

Basic Operating System

- Organize and manage files
- Utilize desktop elements independently
- Understand window structure (e.g., Title/Drag bar, Menu Bar, Tool Bar, Address Bar)
- Employ multitasking techniques (e.g., understand there may be multiple functions running by observing the taskbar)
- Manipulate window: minimize, maximize, restore, close
- Demonstrate how to log on/off and properly shut down the computer

Computer Basics

- Store and retrieve files on computers or networks
- Troubleshoot simple system problems and error messages

Curriculum Integration

- Research topics to align with content areas
- Distinguish the different purposes of different programs
- Recognize that technology can be used to solve problems and to make informed decisions
- Practice and build content area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Digital Citizenship

- Discuss and demonstrate compliance with school rules for technology including the AUP (Acceptable Use Policy)
- Identify and discuss plagiarism, copyright and fair use guidelines
- Identify and discuss the concept of identity, privacy and the importance of not sharing personal information with others

Graphic Applications

- Incorporate graphics into additional applications; e.g., export a graphic from one application and insert it into a word processing document
- Format pictures and modify images

Graphic Organizers

- Brainstorm, translate, and organize concepts, data and ideas using appropriate digital tools and applications

Internet Applications

- Access teacher approved sites to gather data, research topics, and reinforce content areas
- Learn to cite web references
- Evaluate website content for validity and credibility
- Practice basic Internet safety skills

Keyboarding

- Build touch typing skills with increased speed and accuracy
- Locate special characters on keyboard (e.g., caps lock, shift key, tab, enter key, punctuation marks, symbols and backspace)

Presentation Tools and Techniques

- Create a new presentation via template or a blank presentation
- Open and edit an existing presentation
- Create a new slide
- Insert and format text elements such as text boxes, lists and tables as well as clip art, pictures, and/or sounds
- View and navigate the slide show

Introduction to Basic Spreadsheet Concepts

- Understand spreadsheet basics such as columns, rows, cell and cell name
- Describe the use of spreadsheets as a tool to collect, analyze, sort, and graph data

Word Processing/Publishing

- Format and edit a document; e.g., select font style/size/color; page setup (margins, justifications, etc.)
- Add additional page elements such as lists and graphics
- Plan, create, edit, and print an original formatted document



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FIFTH GRADE

Basic Operating System

- Explain the purpose of and how to use window items such as Title/Drag bar, Menu Bar, Tool Bar, Address Bar
- Employ multitasking techniques (e.g., understand there may be multiple functions running by observing the taskbar)

Computer Basics

- Store and retrieve files on computers or networks
- Explain and demonstrate the function of each component, (e.g., input/process/output)
- Transfer current knowledge to learning of new technologies
- Troubleshoot simple system problems and error messages

Curriculum Integration

- Research topics to align with content areas
- Practice and build content area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Graphic Applications

- Continue to work in draw/paint programs expanding skills with the use of the different drawing tools and programs
- Incorporate graphics into additional applications (e.g., export a graphic from one application and insert it into an original story created in a word processing document)
- Format pictures and modify images

Graphic Organizers

- Brainstorm, translate, and organize concepts, data and ideas using appropriate digital tools and applications

Introduction to Basic Spreadsheet Concepts

- Demonstrate a working knowledge of spreadsheet basics
- Describe the use of spreadsheets as a tool to collect, analyze, sort, and graph data
- Learn how to read and interpret charts

Digital Citizenship

- Discuss and demonstrate compliance with school rules for technology including the AUP (Acceptable Use Policy)
- Demonstrate netiquette
- Identify and discuss plagiarism, copyright and fair use guidelines
- Identify and discuss the concept of identity, privacy and the importance of not sharing personal information
- Discuss consequences for abuse of computer usage
- Explore the need for protection against viruses and vandalism

Internet Applications

- Recognize and use basic browser functions
- Access teacher approved sites to gather data, research topics, and reinforce content areas
- Practice basic Internet safety skills
- Use search engines to locate sources of information
- Locate and synthesize information from an on-line resource and transfer notes to a word processor with proper reference and citation

Keyboarding

- Demonstrate improved accuracy and speed

Presentation Tools and Techniques

- Create a new presentation via template or a blank presentation
- Open and edit an existing presentation

Word Processing/Publishing

- Plan, create, edit, and print an original formatted document
- Format and edit a document (e.g., select font style/size/color, page setup, borders, Word Art, bullets, numbers and tables)



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SIXTH GRADE

Curriculum Integration

- Research topics to align with content areas
- Recognize that technology can be used to solve problems and to make informed decisions
- Practice and build content area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Computer History, Hardware Usage and Terminology

- Demonstrate an understanding of the evolution of technology, the history of computers, and the impact of the Internet in our global society
- Store and retrieve files on computers or networks
- Explain and demonstrate the function of each component, e.g., input/process/output
- Transfer current knowledge to learning of new technologies
- Troubleshoot simple system problems and error messages

Digital Citizenship

- Discuss and demonstrate compliance with school rules for technology including the AUP (Acceptable Use Policy)
- Identify and discuss plagiarism, copyright and fair use guidelines
- Identify and discuss the concepts of identity, privacy and the importance of not sharing personal information
- Discuss consequences for abuse of computer usage
- Explore the need for protection against viruses

Graphic Applications

- Continue to work in draw/paint programs expanding skills with the use of the different drawing tools and programs
- Incorporate graphics into additional applications; e.g., export a graphic from one application and insert it into an original story created in a word processing or other application
- Manipulate pictures (e.g., scan) and modify digital images

Graphic Organizers

- Incorporate graphic organizers in collaboration with the classroom teacher

Basic Operating System

- Explain the purpose of and how to use window items
- Employ multitasking techniques

Internet Applications

- Recognize and use basic browser functions
- Access approved sites to gather data, research topics, and reinforce content areas
- Cite web references properly
- Practice basic Internet safety skills
- Use search engines to locate multiple sources of information

Presentation Tools and Techniques

- Create a new presentation
- Insert and format text elements such as text boxes, lists and tables and clip art, pictures, and sounds
- Add and/or customize slide transitions and animations
- Add hyperlinks

Keyboarding

- Demonstrate improved accuracy and speed

Spreadsheet Concepts

- Apply knowledge of basic spreadsheet skills and components previously introduced
- Organize information in a variety of formats
- Analyze and explain data represented

Word Processing/Publishing

- Plan, create, edit, and print an original formatted document
- Demonstrate proficiency in word processing skills when creating various documents



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SEVENTH GRADE

Curriculum Integration

- Research topics to align with content areas
- Select an appropriate program and/or digital tool to complete an assignment
- Practice and build content area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Computer History, Hardware Usage, Terminology

- Use all peripherals located in the lab and/or classroom appropriately
- Reinforce how computers communicate within a networked infrastructure including LANs (Local Area Networks), WANs (Wide Area Networks) and the Internet
- Demonstrate an understanding of technology, the history of technology, and the role of computers in the past, the present, and the future in a global society

Digital Citizenship

- Discuss and demonstrate compliance with school rules for technology including the AUP (Acceptable Use Policy)
- Identify the need for protection against viruses/vandalism
- Practice safe, legal, and responsible use of information and technology including but not limited to netiquette, concept of identity and privacy, etc.

Basic Operating System

- Organize and manage files
- Demonstrate proficiency in multitasking techniques
- Identify files by their file name extension, e.g., .doc, .xls, .bmp, .jpg, etc.

Graphic Organizers

- Incorporate graphic organizers in collaboration with the classroom teacher

Graphic Applications

- Incorporate graphics into additional applications, e.g., export a graphic from one application and insert it into an original story created in a word processing or other application
- Manipulate pictures (e.g., scan) and modify digital images

Internet Applications

- Demonstrate awareness of copyright laws, plagiarism, licensing, and sourcing and use them correctly in all documents, presentations, and reports
- Evaluate the validity of internet resources
- Gather and synthesize information from websites and other sources to create a report with proper reference citation
- Use a variety of search engines to locate information
- Demonstrate proficiency in web-browsing skills

Keyboarding

- Demonstrate improved accuracy and speed over the course of the school year
- Correctly use basic document formatting skills; e.g., margins, tabs, justification and line spacing

Presentation Tools and Techniques

- Create and present interactive multimedia presentations using advanced features of the student-selected program on an individual basis and in conjunction with others

Spreadsheet Applications

- Apply knowledge of basic spreadsheet skills and components previously introduced

Word Processing/Publishing Applications

- Create age-appropriate documents in student-selected software utilizing advanced program features, e.g., setting margins, multiple columns, inserting tables, using justification, setting tabs, borders/shading, and printing a formatted document



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EIGHTH GRADE

Computer History, Hardware Usage, Terminology

- Reinforce how computers communicate within a networked infrastructure including LANs, WANs, and the Internet
- Transfer current knowledge to new technologies
- Troubleshoot simple system problems and error messages
- Demonstrate an understanding of technology, the history of technology, and the role of computers in the past, the present, and the future in a global society

Basic Operating System

- Demonstrate proficiency in multitasking techniques (e.g., understand there may be multiple functions running by observing the taskbar; maximize/minimize window, etc.)
- Develop and use file management strategies (e.g., setting up folders, identifying file extensions, etc.)

Curriculum Integration

- Research topics to align with content areas
- Select an appropriate program and/or digital tool to complete an assignment
- Practice and build content area skills related to classroom curriculum through the use of appropriate software and/or pre-selected websites

Internet Applications

- Use a variety of search engines to locate information
- Gather and synthesize information from websites and other sources to create a report with proper reference citation
- Master web-browsing skills
- Demonstrate awareness of copyright laws, plagiarism, licensing and sourcing and use them correctly in all documents, presentations, and reports
- Evaluate the validity of internet resources -- the accuracy, relevance, appropriateness and bias of electronic information sources

Database Basics

- Explore the purpose and uses of a database
- Perform basic queries to retrieve data with specific criteria
- Design and create a database

Digital Citizenship

- Discuss and demonstrate compliance with school rules for technology including the AUP (Acceptable Use Policy)
- Identify the need for protection against viruses and vandalism
- Practice safe, legal, and responsible use of information and technology with an understanding of the concepts of netiquette, identity and privacy, etc.

Spreadsheet Applications

- Apply knowledge of basic spreadsheet skills and components previously introduced

Keyboarding

- Demonstrate improved accuracy and speed over the course of the school year
- Correctly use advanced document formatting skills

Presentation Tools and Techniques

- Create and present interactive multimedia presentations using advanced features of the student-selected program on an individual basis and in conjunction with others

Word Processing/Publishing Applications

- Create age-appropriate documents in student-selected software utilizing advanced program features



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All standards are derived from the following public resources:

- ❖ [Pennsylvania Department of Education: Academic Standards for Science and Technology](#)