

Wallenpaupack Area School District Planned Course Curriculum Guide

**Department
BCIT**

**Name of Course
Computer Technology K-2**

**Business, Computer and Information Technology
(BCIT) Long Term Transfer Goals**

Students will be able to independently use their learning to continually upgrade and integrate technical knowledge and skills for professional/personal growth in a constantly evolving, competitive society.

Course Description:

In the early grades, technology should not replace the manipulative, pencil-and-paper, and other manual methods through which children acquire basic skills. The *Mathematics Curriculum Framework*, for example, stresses the importance of understanding basic arithmetic operations in elementary school. Given this context, the technology literacy standards for the earliest grade span allow the teacher flexibility in deciding when students are ready to use technology. For this reason, the competencies listed for K-2 are described as exploratory concepts and skills. These are skills that will be introduced and, in some cases, developed in elementary grades and mastered in middle and high school.

PA State Standards Addressed:

15.4 Computer and Information Technologies

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

15.4.2.A.-Identify various technologies used in the classroom and at home.

15.4.2.B.-Demonstrate responsible use of technology and equipment.

15.4.2.C.-With prompting and support, identify peripheral devices of computer system including input and output devices.

15.4.2.D.-Demonstrate the correct use of simple input technologies (e.g., mouse, touch screen, microphone, etc.).

15.4.2.G-With help and support, select and use various software/applications for an intended purpose.

15.4.2.K.-With help and support, identify similarities and differences between text, graphics, audio, animation, and video.

15.6.2.L-With help and support, use web browser to locate content-specific websites.

15.6.2.M.-With help and support, identify various technologies used in the workplace.

15.3 Communication

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

15.3.2.E.-With prompting and support, use digital tools for guided research projects.

15.3.2.J.-Reproduce active listening techniques modeled by familiar adults.

15.3.2.L.-Identify role models in various contexts (real vs fiction).

15.3.2.M.-With prompting and support, demonstrate proper etiquette while using technology.

15.3.2.N.-Identify positive work habits in the classroom.

15.3.2.O.-With prompting and support, ask and answer questions about various communication strategies used in diverse settings (classroom, home or social event).

15.3.2.S.-With prompting and support, ask and answer questions about electronic communication.

15.3.2.T.-With prompting and support, answer questions related to digital citizenship.

ISTE (International Society for Technology in Education) STANDARDS:

1. Creativity and innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- a. Apply existing knowledge to generate new ideas, products, or processes
- b. Create original works as a means of personal or group expression
- c. Use models and simulations to explore complex systems and issues
- d. Identify trend and forecast possibilities

2. Communication and collaboration

Students use digital media and environmental to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

- a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
- b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- c. Develop cultural understanding and global awareness by engaging with learners of other cultures
- d. Contribute to project teams to produce original works or solve problems

3. Research and information fluency

Students apply digital tools to gather, evaluate, and use information.

- a. Plan strategies to guide inquiry
- b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
- d. Process data and report results

4. Critical thinking, problem solving, and decision making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- a. Identify and define authentic problems and significant questions for investigation
- b. Plan and manage activities to develop a solution or complete a project
- c. Collect and analyze data to identify solutions and/or make informed decisions
- d. Use multiple processes and diverse perspectives to explore alternative solutions

5. Digital citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- a. Advocate and practice safe, legal, and responsible use of information and technology
- b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
- c. Demonstrate personal responsibility for lifelong learning
- d. Exhibit leadership for digital citizenship

6. Technology operations and concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

- a. Understand and use technology systems
- b. Select and use applications effectively and productively
- c. Troubleshoot systems and applications
- d. Transfer current knowledge to learning of new technologies

Revision Date: November 2015

Wallenpaupack Area School District Curriculum	
COURSE: Computer Technology	GRADE/S: K-2
Objective 1: Internet Safety	TIMEFRAME: Building specific

UNIT OBJECTIVES (SWBATS):

Objective 1: Students will discuss and apply appropriate online behaviors, act with online safety in mind, protect online privacy and display/support anti-bullying behaviors.

How do I go places safely on the computer?

- Discover that computers can be used to visit far-away places and learn new things
- Understand that staying safe online is similar to staying safe in the real world
- Learn rules for traveling safely on the Internet

How do you connect with others through email?

- Understand that the Internet provides a means of communicating with *real* people
- Describe how email messages are sent and received
- Demonstrate an appreciation of how real people send messages to one another on the Internet through a role-playing activity

How can I make sure my emails are clear and respectful?

- Understand how to show respect in social situations
- Recognize the importance of tone in both face-to-face and online communications
- Learn rules for writing clear and respectful emails by editing an email message

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

Objective 1 Instructional Strategies:

- Using materials approved to meet eRate requirements, students will complete assigned lessons about three CIPA-required topics: appropriate online behavior, safety and privacy, and cyberbullying. Teachers will sign a Teacher Verification Document, attesting that the lesson materials have been delivered. These verification documents will be given to the building principal for signature, and forwarded to the District Business Administrator for eRate documentation purposes.

Objective 1 Activities:

- With help and support, use a web browser to locate content-specific websites.
- With prompting and support, demonstrate proper etiquette while using technology.
- With prompting and support, ask and answer questions about electronic communication.
- With prompting and support, answer questions related to digital citizenship.
- With prompting and support, answer questions related to appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms.
- With prompting and support, answer questions related to cyberbullying awareness and response.
- Use teacher-selected Internet resources to view online information

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

Formative: Students will be able to answer the following questions:

- What rules do we have for visiting a new place in real life? What rules do we have for visiting places online?
- What is an email?
- What happens when you send an email?
- What are some ways you can be clear and respectful in the way you talk to others in school?
- What are some differences between saying something aloud to someone and writing it in an email?
- What are some ways to be respectful when sending an email?
- What should you do before you send an email?

Summative: Students will complete lesson assessment worksheet

EVIDENCE OF MASTERY:

- Completed worksheets
- Responses to formative assessment
- Completed summative assessment

DIFFERENTIATED INSTRUCTION (Remediation/Extension) (Process, Product or Content)

Remediation:

- Complete materials with assistance (Process)

Extension:

- Product: Students create poster showing places they would like to go online and applicable rules
- Product: Students create pictures of themselves sending an email, labeling with the words send, receive, email, and Internet. Volunteers share their drawings with the class and explain how people communicate through the Internet.
- Product: Students compose an email message to the teacher. (Message may be typed in a WP program rather than email) Students will edit to correct errors and follow the rules learned in the lessons.

RESOURCES (Websites, Blogs, Videos, Whiteboard Resources, etc.):

- eRate/CIPA materials (may include handouts, videos, teacher materials)
- Internet
- WP program
- Art materials (crayons, markers, paper, blank labels)

RESOURCE SPECIFIC VOCABULARY:

Online – Connected to the Internet on a computer

Distant – Far away, as in another part of the country or the world

Website – A place you can visit on the computer

Message – Something you want to tell or ask another person

Email – A kind of message you write and send on a computer

Internet – A network that links everyone's computers together

Respectful – In a way that shows you care about another person's feelings

Tone – The way something sounds and the feelings it expresses

Edit (verb) – To change something that is written to make it better

Wallenpaupack Area School District Curriculum	
COURSE: Computer Technology	GRADE/S: K-2
Objective 2: Beginning Technology Skills	TIMEFRAME: Building specific

UNIT OBJECTIVES (SWBATS):

Computer technology is a data management and communication tool essential for business and personal productivity, problem solving, and decision making in the global world.

- What are the considerations when selecting a technology tool to solve a problem, complete a task, or manage information?
- How do we use these tools?

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

Basic Operating Skills and Knowledge of Technology:

- Use headphones, mouse, keyboard, monitor
- Perform operations: locating and using the menu, logging on, restart
- Identify and use parts of a keyboard
- Use appropriate sitting position
- Networking: logging on and off, recognizing appropriate programs, maximizing, closing out of programs
- Recognize and use individual log ins and passwords
- Demonstrate responsible use of technology and equipment.

General Use of Software:

- Launch, navigate and quit programs
- Utilize menu options and commands: open, print, save, save as, file

Internet Resources:

- Launch internet and access websites
- Use teacher-selected Internet resources to view online information
- Correctly type a web address into the address bar

Information Literacy:

- Understand that technology is imperfect
- Use technology resources for communication of thoughts, ideas, and stories

Ethical Issues and Technology:

- Recognize and use individual log ins and passwords
- Understand and practice proper computer behavior
- Comply with acceptable use policy

Word Processing Applications

- Open/close programs and files
- Create a new document
- Create text
- Edit using copy and paste
- Edit, format, and vary font face, size, and color
- Insert graphics

Multimedia and Graphic Design Applications

- Create visual images using paint and drawing tools

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

Formative: Students will be able to demonstrate Computer Technology checklist skills

Summative: Computer Technology checklist skills will be assessed to determine if the skill is Beginning, Mastered or Self-Sufficient.

EVIDENCE OF MASTERY

- Completed assignments
- Responses to formative assessment

DIFFERENTIATED INSTRUCTION (Remediation/Extension) (Process, Product or Content)**Remediation:**

- Complete assignments with assistance (Process)

Extension:

- Student will be able to demonstrate Computer Technology Checklist skills on a self-sufficient level. (Process)
- Student will assist others in demonstrating skills. (Process)

RESOURCES (Websites, Blogs, Videos, Whiteboard Resources, etc.):

- Technology (computer, headphones, printer, mouse)
- Whiteboard or display device
- Teacher created materials
- Computer Technology Skills Checklist

RESOURCE SPECIFIC VOCABULARY:

Computer- a programmable electronic device designed to accept data, perform prescribed mathematical and logical operations at high speed, and display the results of these operations. Mainframes, desktop and laptop computers, tablets, and smartphones are some of the different types of computers.

Mouse- a palm-sized, button-operated pointing device that can be used to move, select, activate, and change items on a computer screen.

Headphones- headset designed for use with a computer system

Monitor-computer screen

Start- feature of the Windows operating system that provides quick access to programs, folders, and system settings.

Menu- user interface element that contains selectable commands and options for a specific program

Log on- the process of accessing a secure computer system or website.

Log off- the process of leaving a secure computer system or website.

Shut down- the process of turning off a secure computer system or website.

Maximize- When you maximize a window on your computer screen, it becomes larger.

User name- a name that uniquely identifies someone on a computer system.

Password- a string of characters used for authenticating a user on a computer system While usernames are generally public information, passwords are private to each user..

Launch-open

Navigate-move around in

Quit-exit; leave

Print-transfers data to paper

Save-places file on disk or drive

File- includes common file options such as New, Open..., Save, and Print.

Exit-leave, close

Open-make available for use

Close-leave, exit

Font- A font is a specific typeface of a certain size and style.

Font face-typeface

Graphics-pictures, clip art

Word processing-keyboarding and formatting documents

Paint-a program for drawing

Draw-an art based program

Web browser- an application used to access and view websites.

Acceptable Use Policy-school computer rules

Restart-clears the computer for the next user, logging off the prior user

Internet- global wide area network that connects computer systems across the world.

Save as-saves a document with a new name or in a new location

Web address- address of a specific Web site or file on the Internet.

Address bar- text field near the top of a Web browser window that displays the URL of the current webpage.

Wallenpaupack Area School District Curriculum	
COURSE: Computer Technology	GRADE/S: K-2
Objective 3: Hour of Code	TIMEFRAME: 1 class period

<p>UNIT OBJECTIVES (SWBATS):</p> <p>Computer coding is a form of communication that dictates how a computer behaves.</p> <ul style="list-style-type: none"> • How do we communicate with the computer? • How do algorithms work? <p>Effective communication relies on the purposeful use of information in a format appropriate to the task and the audience.</p> <ul style="list-style-type: none"> • What are the available communication tools to complete a task?
<p>INSTRUCTIONAL STRATEGIES/ACTIVITIES:</p> <ul style="list-style-type: none"> • With help and support, select and user various software/applications for computer coding. • Use teacher-selected Internet resources to complete computer coding activities. • Use algorithms for communication of computer commands
<p>ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):</p> <ul style="list-style-type: none"> • Define and explain algorithm (Formative) • Gallery walk enabling students to view work done by classmates (Formative) • Does the program work? (Summative)
<p>EVIDENCE OF MASTERY</p> <ul style="list-style-type: none"> • Completed program/activity functions properly
<p>DIFFERENTIATED INSTRUCTION (Remediation/Extension) (Process, Product or Content)</p> <p>Remediation:</p> <ul style="list-style-type: none"> • Pair with another student to assist <p>Extension:</p> <ul style="list-style-type: none"> • Student chooses another hour of code tutorial to learn further concepts
<p>RESOURCES (Websites, Blogs, Videos, Whiteboard Resources, etc.):</p> <ul style="list-style-type: none"> • www.hourofcode.com • www.code.org/learn • Thinkersmith • Materials will vary depending upon activity chosen
<p>RESOURCE SPECIFIC VOCABULARY:</p> <p>Algorithm-a list of steps that you can follow to finish a task</p> <p>Program-an algorithm that has been coded into something that can be run by a machine</p>

K-2

Technology Skills Checklist

The following is a checklist of skills and concepts that students should be exposed to upon completion of Grades K-2.

Basic Operating Skills and Knowledge of Technology:

- Use headphones, mouse, keyboard, monitor
- Perform operations: locating and using the menu, logging on, restart
- Identify and use parts of a keyboard
- Use appropriate sitting position
- Networking: logging on and off, recognizing appropriate programs, maximizing, closing out of programs
- Recognize and use individual log ins and passwords
- Demonstrate responsible use of technology and equipment.

General Use of Software:

- Launch, navigate and quit programs
- Utilize menu options and commands: open, print, save, save as, file

Internet Resources:

- Launch internet and access websites
- Use teacher-selected Internet resources to view online information
- Correctly type a web address into the address bar

Information Literacy:

- Understand that technology is imperfect
- Use technology resources for communication of thoughts, ideas, and stories

Ethical Issues and Technology:

- Recognize and use individual log ins and passwords
- Understand and practice proper computer behavior
- Comply with acceptable use policy

Word Processing Applications

- Open/close programs and files
- Create a new document
- Create text
- Edit using copy and paste
- Edit, format, and vary font face, size, and color
- Insert graphics

Multimedia and Graphic Design Applications

- Create visual images using paint and drawing tools

Students will be assessed on skill attainment level: Beginning, Mastered, or Self-Sufficient

Beginning: Able to perform with step-by-step or hand-over-hand instruction

Mastered: Able to perform with minimal direction

Self-Sufficient: Able to perform with no teacher intervention