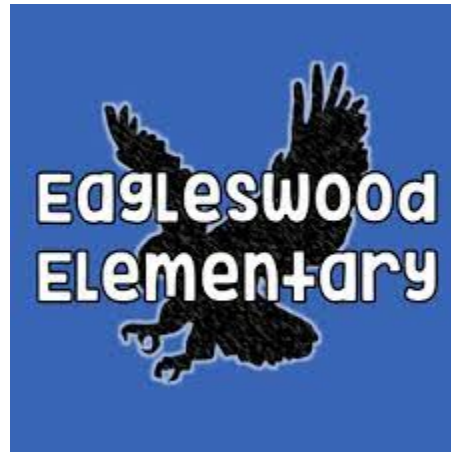


Eagleswood Township Elementary
School District



Computer Curriculum

Grade K

Adopted by the Eagleswood
Board Of Education
August 15, 2022

Content Area: Computer Technology
Grade Level: Kindergarten
Date Created: August 2022
Author(s): Heather Wawrzyniak

Pacing Guide

Unit 1: Computer Basics	Marking Period 1
Unit 2: Mouse Basics	Marking Period 2
Unit 3: Keyboarding/ Coding	Marking Period 3
Unit 4: Introduction to STEAM	Marking Period 4

Unit 1- NJ Student Learning Standards - [Computer Science and Design Thinking](#)

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.

8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.

8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network.

8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.

8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.

8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.

8.1.2.AP.4: Break down a task into a sequence of steps.

8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes.

8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops.

NJSLS for 21st Century Skills (standard 9)

- CRP2 Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation
- CRP11 Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate

these risks.

NJSLS for ELA

- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJSLSA.SL2. Integrate and evaluate the information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- SL.K.1.A Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups (Follow agreed-upon norms for discussions e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
- SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly.

NJSLS Grade for Math

- K.CC.B.4.a When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object
- MP1 Make sense of problems and persevere in solving them.
- MP5 Use appropriate tools strategically.
- MP6 Attend to precision.

NJSLS Grade for Social Studies

- 6.1.P.D.1 Describe characteristics of oneself, one's family, and others.
- 6.1.P.D.3 Express individuality and cultural diversity
- 6.1.4.D.4 Explain how key events led to the creation of the United States and the state of New Jersey.

Unit 1

Central Idea/ Enduring Understanding

Students will...

Understand proper use and care for the computer and how other technological tools help students to appreciate the value of technology in our lives.

Guiding Questions

- What is a network?
- How does a computer work?
- How can I make use of a computer?
- What is the correct behavior for using hardware and software?
- How to identify and care for basic computer components, including the keyboard, mouse, monitor, speakers/headphones, and printer?

	<ul style="list-style-type: none"> • How each basic computer component can be classified as an input device or an output device? • What are the symbols of technology and how are they used? • What is the Internet?
<p>Content</p> <ul style="list-style-type: none"> • Parts of the computer/vocabulary {computer, mouse, keyboard, printer, icon, CPU, application, monitor, headphones, volume control, left button, right button, double click, scroll wheel} • Compare different digital devices and their advantages vs disadvantages • Define products produced by technology or nature • Mouse skills- click, click and drag, drag & drop • Basic computer troubleshooting 	<p>Skills (objectives)</p> <ul style="list-style-type: none"> • Understanding the concept of being online. • Understand correct behavior involved in using a computer. • Identify components of a computer and their uses. • Become familiar with the concept of a processor (the brain) • Learn to properly care for a computer • Learn to identify input, output, and processing devices. • Understands that symbols (icons) can represent functions of technology.
<p>Performance Tasks</p> <ul style="list-style-type: none"> • Formative Assessment • Open-Ended Problems • Project-Based Assessment • Self-Assessment • Performance Based Assessments 	<p>Other Evidence of Learning</p> <ul style="list-style-type: none"> • Class-Work Review • Teacher Observation
<p>Learning Opportunities and Strategies</p> <ul style="list-style-type: none"> • Create wallpaper • Explore online learning sites • Practice dexterity and coordination using online tools and games • Drag and Drop activities 	<p>Resources</p> <ul style="list-style-type: none"> • Smartboard/projector • Internet • Application software • Code-a-pillar • Seussville

Unit 2- NJ Student Learning Standards - [Computer Science and Design Thinking](#)

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.

8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.

8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals,

places, information, and ideas through a network.

8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.

8.1.2.DA.3: Identify and describe patterns in data visualizations.

8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.

8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.

8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks.

8.1.2.AP.4: Break down a task into a sequence of steps.

8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes.

8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops.

NJSLS for 21st Century Skills (standard 9)

- CRP2 Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation
- CRP11 Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

NJSLS for ELA

- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- RF.K.1.C Demonstrate understanding of the organization and basic features of print. (Understand that words are separated by spaces in print)
- RF.K.1.D Demonstrate understanding of the organization and basic features of print. (Recognize and name all upper- and lowercase letters of the alphabet)
- SL.K.1.A Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. (Follow agreed upon norms for discussion)
- SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly.

NJSLS Grade for Math

- K.CC.A.1 Count to 100 by ones and by tens.
- K.CC.A.2 Count forward beginning from a given number within the known sequence

(instead of having to begin at 1).

- K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
- K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
- MP1 Make sense of problems and persevere in solving them.
- MP5 Use appropriate tools strategically.
- MP6 Attend to precision.
- MP8 Look for and express regularity in repeated reasoning.

Unit 2

<p>Central Idea/ Enduring Understanding Students will... Understand that technology is constantly changing and requires continuous learning of new skills. Understand that the selection of technology should be based on personal and/or career needs assessment.</p>	<p>Guiding Questions What a pointer is and how a pointer device (or mouse) is used? What is the difference between the left and right side of the mouse? What is the function of the right side of the mouse?</p>
<p>Content</p> <ul style="list-style-type: none"> ● Mouse Skills- click, click and drag, drag and drop ● Hour of Code ● Introduce Keyboarding ● Basic computer troubleshooting 	<p>Skills (objectives) What objects look like and how to distinguish them To select items, one at a time. To change from one selection to another To double-click an item How to highlight and pressing enter To use a mouse To move objects (drag and drop an item) from one location to another To distinguish between the right and left side of the mouse To use scroll wheel to move up or down on a page</p>
<p>Performance Tasks</p> <ul style="list-style-type: none"> ● Formative Assessment ● Open-Ended Problems ● Project-Based Assessment ● Self-Assessment 	<p>Other Evidence of Learning</p> <ul style="list-style-type: none"> ● Class-Work Review ● Teacher Observation
<p>Learning Opportunities and Strategies</p>	<p>Resources</p>

<ul style="list-style-type: none"> • Create cards using microsoft publisher 	Mouse Keyboard Internet ABCya.com
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Unit 3- NJ Student Learning Standards - [Computer Science and Design Thinking](#)

- 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
- 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
- 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
- 8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network.
- 8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others.
- 8.1.2.NI.4: Explain why access to devices need to be secured.
- 8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.
- 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
- 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks.
- 8.1.2.AP.4: Break down a task into a sequence of steps.
- 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes.
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NJSLS for ELA

- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to

comprehension or expression.

- RL.K.10 Actively engage in group reading activities with purpose and understanding.
- RI.K.1 With prompting and support, ask and answer questions about key details in a text.
- SL.K.1.A Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. (Follow agreed-upon norms for discussions)
- SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly

NJSLS Grade for Math

- K.CC.B.5 Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
- MP1 Make sense of problems and persevere in solving them.
- MP5 Use appropriate tools strategically.
- MP6 Attend to precision.
- MP8 Look for and express regularity in repeated reasoning.

NJSLS Grade for Science

- K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Unit 3

Central Idea/ Enduring Understanding

Students will...

- Technology is constantly changing and requires continuous learning of new skills.
- Selection of technology should be based on personal and/or career needs assessment.

Guiding Questions

- How to locate all of the letters of the alphabet on the computer keyboard?
- How to change the case of letters on the computer keyboard?
- How to locate all of the numbers on the computer keyboard?
- How to locate and use arrow keys

Content

- Coding/ Robots
- Digital to draw
- Locate and Open Programs
- Basic Computer Troubleshooting

Skills (objectives)

- The relationship between pressing keys on the keyboard and seeing letters on the screen
- To identify and key the letters of the alphabet.
- To change the case of letters of the alphabet

	<ul style="list-style-type: none"> ● Use a username and password to log on to a network.
Performance Tasks <ul style="list-style-type: none"> ● Formative Assessment ● Open-Ended Problems ● Project-Based Assessment ● Self-Assessment 	Other Evidence of Learning <ul style="list-style-type: none"> ● Class-Work Review ● Teacher Observation
Learning Opportunities and Strategies <ul style="list-style-type: none"> ● Online software/games 	Resources <ul style="list-style-type: none"> ● MS Word ● Code-a-pillar ● MS Paint ● ABCya.com ● Readingeggs.com

<u>Differentiation Strategies</u>			
High Achieving Students	On Grade Level Students	Struggling Students	Students with Special Needs
<p>Create a PowerPoint presentation summarizing the lesson or introducing a topic</p> <p>Students create a Prezi on a given topic and present it to the class.</p> <p>Differentiate fact from opinion and fix the opinions to make them facts.</p> <p>Use of multiple texts, supplementary materials and computer programs</p> <p>Independent and small group projects chosen by students based on interest</p> <p>Student centered activities with the teacher as a guide</p>	<p>Differentiate fact from opinion in the reading.</p> <p>Visual learners create a graphic organizer of the topic.</p> <p>Auditory learners give an oral report.</p> <p>Break some students into reading groups to discuss the assignment.</p> <p>Allow students to read individually if preferred.</p> <p>Use of student created charts and models</p> <p>Adaptive assessments that get easier or harder depending on how a student is performing.</p> <p>Learning activities in small groups, which are</p>	<p>Offer alternate assessments/ assignments</p> <p>Adapt reading levels</p> <p>Provide textbooks for visual and word learners.</p> <p>Visual learners create a graphic organizer of the topic.</p> <p>Break some students into reading groups to discuss the assignment.</p> <p>Supply note taking organizers and peer buddies</p> <p>Assign reading partners</p> <p>Choral reading/</p>	<p>Offer alternate assessments/ assignments</p> <p>Match vocabulary words to definitions.</p> <p>Read a passage of text and answer related questions.</p> <p>Provide textbooks for visual and word learners.</p> <p>Allow auditory learners to listen to audio books.</p> <p>Give kinesthetic learners the opportunity to complete an interactive assignment online.</p> <p>Visual learners create a graphic organizer of the topic.</p> <p>Break some students into reading groups to</p>

<p>Use of Jigsaw</p> <p>Think, Pair, Share</p> <p>Carousel activity to review or introduce material</p> <p>Portfolios for Essay</p> <p>Writing E-pals to share essays</p> <p>Google Classroom</p> <p>Google docs to turn in and complete work</p> <p>Adapt reading levels</p>	<p>designed around student strengths and weaknesses so that they can tutor each other.</p> <p>Think, Pair, Share</p> <p>Allow for individual, partner and group work</p> <p>Carousel activity to review or introduce material</p> <p>Google Classroom</p>	<p>answering</p> <p>Supply highlighted texts & worksheets</p> <p>Think, Pair, Share</p> <p>Google Classroom</p> <p>Carousel activity to review or introduce material</p> <p>Allow students to read individually if preferred.</p> <p>Have students define terms with pictures rather than words.</p> <p>Excel charts to compile information</p> <p>Kahoot to introduce/conclude lessons</p>	<p>discuss the assignment.</p> <p>Allow students to read individually if preferred.</p> <p>Funbrain: quizzes/puzzles/games</p> <p>Kahoot to introduce/conclude lessons</p> <p>Internet Scavenger Hunts</p> <p>Google Classroom</p> <p>Google docs to turn in and complete work</p>
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NOTE: Teachers should follow the specific curricular accommodations for students with individualized learning plans such as IEPs and 504

Accommodations for Various Learners

Students that are English Language Learners:

1. Retell content information in easier English
2. Use simple sentence structure (verb-subject-object)
3. Use high frequency words
4. Avoid negative phrasing such as all, but, except
5. Actively help students build connections and associations in order to access background knowledge or previously taught information
6. Present students with written as well as oral messages (provide outlines or a copy of the notes of a classmate)
7. Always write assignments on the chalkboard
8. Modify assignments (fewer questions or fewer vocabulary)
9. Provide taped lessons
10. Provide concrete examples of vocabulary words through the use of visuals
11. Model Think Alouds to increase student comprehension
12. Directly teach learning strategies

13. Provide small group instruction
14. Provide preferential seating
15. Provide individual or study carrel
16. Use color overlays or templates
17. Provide oral reading of test questions in English
18. Provide oral reading of reading passages in English
19. Provide frequent monitored breaks
20. Provide extended time
21. Assess whether the student has the necessary prerequisite skills. Determine whether materials are appropriate to the student's current functioning levels

Students with Disabilities:

1. Seat student near model (student/teacher)
2. Seat student near instruction
3. Use a highlight marker to identify key words, phrases, or sentences for student to read
4. Provide manipulative objects for student to use in problem solving
5. Have peers deliver directions or explanations
6. Buddy in class to assist and clarify
7. Provide specific guidelines for prewriting
8. Provide mnemonic devices
9. Repeat major points of information
10. Provide visual cues (posters, number lines, gestures, use of technology)
11. Provide study guides
12. Highlight new vocabulary and key words
13. Use advance organizers
14. Allow for frequent breaks (sensory/brain)
15. Be aware of student's preferred learning style and provide matching instruction materials

Students listed as Gifted & Talented:

1. Modify the content through acceleration, compacting, variety, reorganization, flexible pacing, and the use of more advance or complex concepts, abstractions, and materials
2. Provide content that is thematic, broad based, and integrative rather than just single-subject areas
3. Provide opportunities to generalize, integrate, and apply ideas to content
4. Encourage students to move through content at their own pace
5. Provide enrichment activities for content such as critical thinking, problem finding, and problem solving
6. Modify process to be more intellectually demanding that require a higher level of response or open-ended questions that stimulate inquiry, active exploration, and discovery
7. Require students to think about topics in more abstract and complex ways
8. Activity selection should be based on student interests and encourage self directed learning
9. Align objectives with Bloom's Taxonomy

10. Modify the learning environment that encourages inquiry and independence. It should include a wide variety of materials, provides some physical movement, and connects the school experiences with the greater world
11. Modify product expectations and student responses. They should demonstrate what they have learned in a wide variety of forms that both reflect knowledge and ability to manipulate ideas
12. Assess curriculum effectiveness by accelerating the mastery of basic skills through testing-out procedures and reorganization of the curriculum according to higher level skills and concepts.

Students with 504 Plans:

Environmental Strategies

- Provide a structured learning environment
- Possible adapting of non-academic times such as lunch, recess, and physical education
- Change student seating
- Alter location or personal or classroom supplies for easier access or to minimize distraction
- Provide sensory breaks
- Provide a written or picture schedule

Presentation Strategies

- Record lessons so the student can review
- Use computer-aided instruction and other audiovisual equipment
- Select alternative textbooks, workbooks, or provide audio books
- Highlight main ideas and supporting details in the book
- Prioritize drill and practice activities for relevance
- Vary the method of lesson presentation using multi-sensory techniques
- Ask student to repeat/paraphrase context to check understanding
- Simplify and repeat instructions
- Vary instructional pace
- Reinforce the use of compensatory strategies, i.e. pencil grip, mnemonic devices, “spell check”
- Reinforce study skills strategies (survey, read, recite, review)
- Pre-teach and/or re-teach important concepts
- Prepare advanced organizers/study guides for new material

Behavioral Strategies

- Use behavioral management techniques consistently within a classroom and across classes
- Implement behavioral/academic contracts
- Utilize positive verbal and/or nonverbal reinforcements
- Utilize logical consequences
- Establish a home/school communication system for behavior monitoring
- Cooperatively generate rules and consequences for classroom behavior
- Reinforce self-monitoring and self-recording of behaviors

Organizational Strategies

- Model and reinforce organizational systems (i.e. color-coding)
- Write out homework assignments, check student's recording of assignments
- Set time expectations for assignments
- Provide clues such as clock faces indicating beginning and ending times
- Teach study/organizational skills

Evaluation Methods

- Limit amount of material presented on page
- Provide a sample or practice test
- Provide for oral testing
- Provide tests in segments so that student hands in one segment before receiving the next part
- Provide personal copy of test tools and allow for color-coding/highlighting
- Adjust time for completion
- Modify weights of tests when grading

Students that are At Risk:

1. Provide a structured learning environment
2. Provide sensory breaks
3. Change student seating
4. Select alternative textbooks, workbooks, or provide audio books
5. Vary the method of lesson presentation using multi-sensory techniques
6. Provide small group or individual instruction
7. Reinforce the use of compensatory strategies
8. Reinforce self-monitoring and self-reflecting strategies
9. Buddy in class to assist and clarify
10. Actively help students build connections and associations in order to access background knowledge or previously taught information
11. Directly teach learning strategies
12. Repeat major points of information
13. Provide visual cues (posters, number lines, gestures, use of technology)

Universal Design

The goal of UDL is to use a variety of teaching methods to remove any barriers to learning and give all students equal opportunities to succeed. It's about building in flexibility that can be adjusted for every student's [strengths](#) and needs. That's why UDL benefits all kids.

- Universal Design for Learning (UDL) is a way of thinking about teaching and learning that helps give all students an equal opportunity to succeed.
- This approach offers flexibility in the ways students access material, engage with it and show what they know.
- Developing lesson plans this way helps all kids, but it may be especially helpful for kids with learning and attention issues.

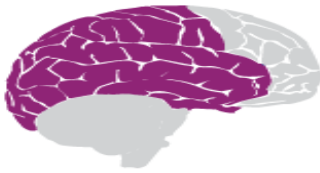
[The Difference Between UDL and Traditional Education](#)

[UDL in the Classroom](#) (5 Practices)

Universal Design for Learning

Recognition Networks

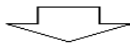
The "what" of learning



How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks.



Present information and content in different ways



**Principle #1:
Provide Multiple Means of
Representation**

Strategic Networks

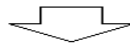
The "how" of learning



Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.



Differentiate the ways that students can express what they know



**Principle #2:
Provide Multiple Means of
Action and Expression**

Affective Networks

The "why" of learning



How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.



Stimulate interest and motivation for learning



**Principle #3:
Provide Multiple Means of
Engagement**

Works Consulted

The Technology Curriculum of the following districts were reviewed during the development of this curriculum document:

Mount Olive School District, Mount Olive, NJ

Pemberton School District, Pemberton, NJ

Westampton School District, Westampton, NJ