

## Pine Hill Public Schools Curriculum

Content Area:		Technology	
Course Title/ Grade Level:		First Grade	
Unit 1:	Basic Computer Operations	Duration:	September
Unit 2:	Computers to Communicate: Research/Non-Fiction	Duration::	October-November
Unit 3:	Coding & Internet Safety	Duration:	December-January
Unit 4:	Computers to Communicate: Fiction/Creative Writing/Stories	Duration:	Qtr. 3
Unit 5:	STEAM & Year End Review	Duration:	Qtr. 4
BOE Approved Revision:			
BOE Initial Adoption Date:		August 23, 2016	

<b>Pine Hill Public Schools</b>	
<b>Curriculum</b>	

<b>Unit Title</b> Basic Computer Operations		<b>Unit #: 1</b>
<b>Course or Grade Level:</b> First Grade		<b>Length of Time:</b> September
<b>Pacing</b>	4 sessions/weeks	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• What do usernames and passwords do?</li> <li>• What are the names of the tools in the computer lab?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Login Procedures</li> <li>• Vocabulary (username, password, CPU, mouse, headphones, tablet, internet)</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Log on to account</li> <li>• Identify parts of computer</li> </ul>	
<b>Assessments</b>	<ul style="list-style-type: none"> <li>• Student Work</li> <li>• Observation</li> </ul>	
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Peer/Partner work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Reading: sight words, vocabulary</li> <li>• Listening: following multi-step verbal directions</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• <a href="http://www.abcya.com/computer_vocabulary.htm">http://www.abcya.com/computer_vocabulary.htm</a></li> <li>• Teachers Pay Teachers Resource: Technology Teacher Planning Binder, Grade 1</li> </ul>	

<b>2014 NJCCCS</b>
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**Standard: 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.**

**Strand(s): A. Technology Operations and Concepts:** *Students demonstrate a sound understanding of technology concepts, systems and operations.*

<b>Content Statement(s):</b> Understand and use technology systems.	<b>CPI # / CPI(s):</b> 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.
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	8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
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<b>21<sup>st</sup> Century Themes</b>
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Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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<b>21<sup>st</sup> Century Skills</b>
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Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication and Collaboration		Information Literacy
Media Literacy	x	ICT Literacy		Life and Career Skills		

<b>Pine Hill Public Schools Curriculum</b>	
<b>Unit Title</b> Computers to Communicate: Research/Non-fiction	<b>Unit #: 2</b>
<b>Course or Grade Level:</b> First Grade	<b>Length of Time:</b> October-November
<b>Pacing</b>	6 weeks/sessions
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>● How can we use computers to share what we learn?</li> <li>● How can we use computers to learn new things?</li> </ul>
<b>Content</b>	<ul style="list-style-type: none"> <li>● Word Processing</li> <li>● Typing Sentences</li> <li>● Note Taking</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>● Create a document</li> <li>● Change font size</li> <li>● Type sentences with uppercase letters, spaces, and punctuation</li> <li>● Print finished work</li> <li>● Take notes in graphic organizer</li> </ul>
<b>Assessments</b>	<ul style="list-style-type: none"> <li>● printed work</li> <li>● graphic organizers</li> <li>● observation</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>● Peer/partner work</li> <li>● Letter sound/sight word chart</li> <li>● Visual cues with directions</li> </ul>
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>● Science: animals and plants</li> <li>● Social Studies: holidays</li> <li>● ELA: sentences, sight words, note taking</li> <li>● Listening: following multi-step verbal directions</li> </ul>
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>● Epic! ebooks</li> <li>● graphic organizers</li> <li>● Teachers Pay Teachers Resource: Technology Teacher Planning Binder, Grade 1</li> <li>● <a href="http://oakdome.com/k5/lesson-plans/first-grade-lessons.php">http://oakdome.com/k5/lesson-plans/first-grade-lessons.php</a></li> </ul>
<b>2014 NJCCCS</b>	
<b>Standard: 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</b>	
<p><b>Strand(s): A. Technology Operations and Concepts:</b> <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p> <p><b>B. Creativity and Innovation:</b> <i>Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.</i></p> <p><b>E: Research and Information Fluency:</b> <i>Students apply digital tools to gather, evaluate, and use information.</i></p>	
<b>Content Statement(s):</b> Select and use applications effectively and productively.	<b>CPI # / CPI(s):</b> 8.1.2.A.2 Create a document using a word processing application.

							8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
Apply existing knowledge to generate new ideas, products, or processes.							8.1.2.B.1 Illustrate and communicate original ideas and stories using multiple digital tools and resources.
Create original works as a means of personal or group expression.							
Locate, organize, analyze, evaluate, synthesize, and ethically use information							8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
<b><u>21<sup>st</sup> Century Themes</u></b>							
x	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
<b><u>21<sup>st</sup> Century Skills</u></b>							
x	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication and Collaboration	x	Information Literacy
	Media Literacy	x	ICT Literacy		Life and Career Skills		

<b>Pine Hill Public Schools Curriculum</b>	
<b>Unit Title</b> Coding and Internet Safety	<b>Unit #: 3</b>
<b>Course or Grade Level:</b> First Grade	<b>Length of Time:</b> December-January
<b>Pacing</b>	6 weeks/sessions
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>How do people communicate with computers?</li> <li>How can I stay safe when I use the computer?</li> </ul>
<b>Content</b>	<ul style="list-style-type: none"> <li>Coding/Programming</li> <li>Internet Safety</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>Creating an algorithm</li> <li>Evaluating Websites</li> <li>Troubleshooting</li> </ul>
<b>Assessments</b>	<ul style="list-style-type: none"> <li>Observation</li> <li>Student Work</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>Peer/Partner work</li> <li>Video Instructions</li> <li>Picture Cues</li> </ul>
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>Reading: steps in a process, sight words, vocabulary</li> </ul>

<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Teachers Pay Teachers Resource: Technology Teacher Planning Binder, Grade 1</li> <li>• Code.org</li> <li>• Common Sense Media</li> </ul>
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**2014 NJCCCS**

**Standard: 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:**

**All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.**

**Strand(s):**

**A. The Nature of Technology: Creativity and Innovation** *Technology systems impact every aspect of the world in which we live.*

**E. Computational Thinking: Programming:** *Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.*

**Content Statement(s):**

The characteristics and scope of technology.

**CPI # / CPI(s):**

**8.2.2.A.2** Describe how designed products and systems are useful at school, home and work.

**Computational thinking and computer programming as tools used in design and engineering.**

**8.2.2.E.1** List and demonstrate the steps to an everyday task.

**8.2.2.E.2** Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.

**8.2.2.E.3** Create algorithms (a sets of instructions) using a pre-defined set of commands (e.g., to move a student or a character through a maze).

**21<sup>st</sup> Century Themes**

x	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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**21<sup>st</sup> Century Skills**

x	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication and Collaboration		Information Literacy
	Media Literacy	x	ICT Literacy	x	Life and Career Skills		

**Pine Hill Public Schools**

**Curriculum**

**Unit Title** Computers to Communicate: Fiction/Creative Writing/Stories **Unit #: 4**

**Course or Grade Level:** First Grade **Length of Time:** Qtr. 3

**Pacing** 10 weeks/sessions

- Essential Questions**
- How can I tell a story on the computer?
  - How can I illustrate my work?
  - Which programs can I use to create a story?

<b>Content</b>	<ul style="list-style-type: none"> <li>• Word Processing</li> <li>• Presentation Software</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Create a document/presentation</li> <li>• Change font size</li> <li>• Type sentences with uppercase letters, spaces, and punctuation</li> <li>• Print finished work</li> <li>• Add illustration (clipart or drawing)</li> </ul>
<b>Assessments</b>	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Student Work</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Peer/partner work</li> <li>• Letter sound/sight word chart</li> <li>• Visual cues with directions</li> </ul>
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Social Studies: mapping</li> <li>• ELA: sentences, sight words</li> <li>• Listening: following multi-step verbal directions</li> </ul>
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• MS Wordpad</li> <li>• MS Word/Google Docs</li> <li>• MS Powerpoint/Google Slides</li> <li>• Teachers Pay Teachers Resource: Technology Teacher Planning Binder, Grade 1</li> <li>• <a href="#">The Gingerbread Man</a></li> </ul>

**2014 NJCCCS**

**Standard: 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.**

**Strand(s): A. Technology Operations and Concepts:** *Students demonstrate a sound understanding of technology concepts, systems and operations.*

**C. Communication and Collaboration:** *Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*

**D. Digital Citizenship:** *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*

<b>Content Statement(s):</b> Select and use applications effectively and productively.	<b>CPI # / CPI(s):</b> 8.1.2.A.3 Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each.
Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media.  Communicate information and ideas to multiple audiences using a variety of media and formats.	8.1.2.C.1 Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.
Advocate and practice safe, legal, and responsible use of information and technology.	8.1.2.D.1 Develop an understanding of ownership of print and nonprint information.

<u>21<sup>st</sup> Century Themes</u>						
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy	Health Literacy
<u>21<sup>st</sup> Century Skills</u>						
x	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication and Collaboration	Information Literacy
	Media Literacy	x	ICT Literacy		Life and Career Skills	

<b>Pine Hill Public Schools Curriculum</b>	
<b>Unit Title STEAM &amp; Year End Review</b>	<b>Unit #: 5</b>
<b>Course or Grade Level: First Grade</b>	<b>Length of Time: Qtr. 4</b>
<b>Pacing</b>	10 weeks/sessions
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• What is an engineer?</li> <li>• How do engineers solve problems?</li> <li>• Why are new products created?</li> </ul>
<b>Content</b>	<ul style="list-style-type: none"> <li>• Design Process</li> <li>• Why are new products created?</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Hypothesize/Brainstorming</li> <li>• Problem Solving</li> <li>• Working in a Group</li> <li>• Testing/Evaluating</li> <li>• Redesign</li> </ul>
<b>Assessments</b>	<ul style="list-style-type: none"> <li>• Student Work</li> <li>• Teacher Observation</li> </ul>
<b>Intervention s / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Partner work</li> <li>• Graphic Organizers</li> </ul>
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Science: building/engineering</li> <li>• ELA: writing/note taking</li> <li>• Art: illustrating</li> </ul>
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• <u>Little Red Riding Hood</u>: make a map/blueprint of her trip</li> <li>• <u>3 Little Pigs</u>: build house to stand up to fan/hairdryer</li> <li>• Tin Foil Boats</li> <li>• Build a Bird's Nest: paper scraps and pipecleaners</li> </ul>
<b>2014 NJCCCS</b>	
<b>Standard: 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b>	

**All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.**

**Strand(s): A. The Nature of Technology: Creativity and Innovation** *Technology systems impact every aspect of the world in which we live.*

**C. Design:** *The design process is a systematic approach to solving problems.*

**D. Abilities for a Technological World:** *The designed world is the product of a design process that provides the means to convert resources into products and systems.*

**E. Computational Thinking: Programming:** *Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.*

<b>Content Statement(s):</b> The characteristics and scope of technology.	<b>CPI # / CPI(s):</b> <b>8.2.2.A.2</b> Describe how designed products and systems are useful at school, home and work.
The core concepts of technology.	<b>8.2.2.A.3</b> Identify a system and the components that work together to accomplish its purpose. <b>8.2.2.A.4</b> Choose a product to make and plan the tools and materials needed.
The relationships among technologies and the connections between technology and other fields of study.	<b>8.2.2.A.5</b> Collaborate to design a solution to a problem affecting the community.
The attributes of design.	<b>8.2.2.C.1</b> Brainstorm ideas on how to solve a problem or build a product. <b>8.2.2.C.2</b> Create a drawing of a product or device that communicates its function to peers and discuss.
Apply the design process.	<b>8.2.2.D.1</b> Collaborate and apply a design process to solve a simple problem from everyday experiences.
Use and maintain technological products and systems.	<b>8.2.2.D.2</b> Discover how a product works by taking it apart, sketching how parts fit, and putting it back together. <b>8.2.2.D.3</b> Identify the strengths and weaknesses in a product or system. <b>8.2.2.D.4</b> Identify the resources needed to create technological products or systems.

**21<sup>st</sup> Century Themes**

	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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**21<sup>st</sup> Century Skills**

x	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	x	Life and Career Skills		



