

Curriculum Guide for 4th Grade Computers

Unit 1: General Technological Awareness and Digital Safety

6 weeks

Elementary Computer Objective: 1, 2,4,5, 9

Objectives	Methods	Resources	Assessment
<ul style="list-style-type: none"> ● The student will model how a computing system works including input and output ● The student will identify, using accurate terminology, simple hardware and software problems that may occur during use, and apply strategies for solving problems (e.g., rebooting the device, checking for power, closing and reopening app etc.,) ● The student will identify problems that relate to inappropriate use of computing devices and networks ● The student will create examples of strong passwords, explain why strong passwords should be used ● The student will identify the positive and negative impacts of the pervasiveness of computers and computing in daily life ● The students will identify computing technologies that have changed the world 	<ul style="list-style-type: none"> ● Teacher explanation of assignments ● Completion of computer activity worksheets ● Observation of skills by teacher ● Class Discussions ● Computer parts hands on activity 	<ul style="list-style-type: none"> -TypingClub.com digital literacy program -Typingclub.com digital citizenship program -Mouseprogram.com -Teacher created worksheets -Cybersafe kids' video and worksheet -FBI Safe Online Surfing program - The history of computers slideshow 	<ul style="list-style-type: none"> ● Class participation ● Assessment of student's interactive folder ● Participation in class activities ● Class worksheet review ● Student logs ● Skills observation worksheets ● Hx of the computer student write up

Unit 2: Paint, Draw, and Graphics

6 weeks

Elementary Computer Objectives: 1, 2, 3, 5, 9

Objectives	Methods	Resources	Assessment
<ul style="list-style-type: none"> ● The students will: ● Identify applications suitable for graphics software ● Use the terminology appropriate to graphics software accurately ● Use graphics software to create drawings to include clipart, color, shape, size, text, enhance text ● Produce a hard copy of drawings modified using color, shape and size. ● Think critically about sequencing, context, and story structure when using Pixton comic creator 	<ul style="list-style-type: none"> ● Teacher explanation of assignment ● Teacher explanation of assignments ● Observation of skills by teacher using objectives checklist 	<ul style="list-style-type: none"> ● Microsoft paint app ● Pixton.com 	<ul style="list-style-type: none"> ● Class participation ● Assessment of student's comic strip and avatar ● Participation in class activities ● Class worksheet review ● Skills observation worksheet ● Story structure assessment

Unit 3 : Keyboarding

9 weeks

Elementary Computer Objectives: 1, 2, 4, 6, 7, 8, 9

Objectives	Methods	Resources	Assessment
<p>Students will demonstrate correct keyboarding techniques.</p> <ul style="list-style-type: none"> ● Eyes on copy or screen, not on keys. ● Fingers curved and oriented to home row. ● Correct fingers used for keystrokes. ● Key with smooth rhythm and quiet hands. ● Forearms parallel to slant of keyboard; wrists low but not resting on any surface. ● Proper sitting posture; body centered with feet providing balance and elbows naturally at sides. ● Understand and demo punctuation keys, and use the correct technique for key striking and keying by touch. ● Students should also be able to use both hands simultaneously, and begin to type without looking at their hands. ● Students will use correct hand placement on home row and extend proper fingers to bottom and top row when typing ● Students will use formal keyboarding skills to learn the period, colon, apostrophe, comma, left and right shift keys, quotation marks, and question marks 	<ul style="list-style-type: none"> ● Teacher demo and instruction ● Intro videos of lessons for the day ● Virtual keyboards with hand placement using typingclub.com ● Interactive keyboard lessons ● Ergonomics video 	<ul style="list-style-type: none"> ● Typingclub.com ● Typetastic.com ● Nitrotype.com ● Intro to typing video ● Ergonomic video ● Teacher worksheets ● Video the history of QWERTY ● Shift vs Cap lock video ● Video- The Fastest Typist in the World! ● Video- One Small Space, One Giant Tab 	<ul style="list-style-type: none"> ● Class participation ● Assessment of student's interactive folder ● Participation in class activities ● Class worksheet review ● Student logs ● Typetastic and typingclub student progress tracker

7 weeks

Elementary Computer Objectives: 1, 2, 4, 6, 7, 8, 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Learn to open a web browser ● Enter a URL ● Know the Acceptable Use Policy for using the internet ● Learn to search research topics ● Open a Word Processing Program ● Identify and navigate parts of a word processing document. <ul style="list-style-type: none"> ○ Create a new blank document. ○ Open and close a document. ○ Move the insertion point and select text using the mouse and the keyboard. ○ Know the difference between Save and Save As. ○ Prepare documents to be printed, saved, or distributed. ○ Manage files by creating files, cutting files, copying files, pasting files, renaming files, searching for files, and deleting files. ○ Know the keyboard shortcuts for Print, New, Save, Open. ● 	<ul style="list-style-type: none"> ● Teacher demo and instruction ● Intro videos of lessons for the day ● Google docs tutorial ● Google Docs shortcut help sheet 	<ul style="list-style-type: none"> ● Docs quick start guides ● Docs cheat sheet ● Docs productivity guides ● Docs troubleshooting & more resources 	<ul style="list-style-type: none"> ● Class participation ● Assessment of student's interactive folder ● Participation in class activities ● Class worksheet review ● Word Processing teacher checklist

Unit 5: Computer Programming (coding)

8 weeks

Elementary Computer Objectives: 1,2, 5, 9

Objectives	Methods	Resources	Assessment
<p>The students will:</p> <ul style="list-style-type: none"> ● Create programs that include sequences, events, loops, and conditionals. ● Decompose (break down) problems into smaller, manageable 	<ul style="list-style-type: none"> ● Teacher demo and instruction ● Intro videos of lessons for the day ● Class discussions 	<ul style="list-style-type: none"> ● Code.org ● student worksheets ● Unplugged coding activities 	<ul style="list-style-type: none"> ● Class participation ● Assessment of student's interactive folder ● Participation in class activities

<p>subproblems to facilitate the program development process.</p> <ul style="list-style-type: none"> ● Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies. ● - Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. ● - Modify, remix or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features. ● Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation and review stages of program development. ● Incorporate portions of an existing program into one's own work, to develop something new or add more advanced features. ● Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 			<ul style="list-style-type: none"> ● Class worksheet review ● Student logs ● Student progress tracker using code.org ● Code group project ● End of course single project
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