

COURSE TITLE

Computer Tech 4

LENGTH

One Quarter
Grade 4

DEPARTMENT

Computer Department
Barbara O'Donnell, Supervisor

SCHOOL

Pierrepoint Elementary School

DATE

Fall 2016

Computer Tech 4

I. Introduction/Overview/Philosophy

The fourth grade computer curriculum explores technology skills beyond basic levels of software applications and supports learning in both technology and regular curriculum topics. Areas of focus include proper keyboarding skills, online safety and digital citizenship, Internet research skills, word processing, spreadsheets, drawing, and presentation software.

II. Objectives

Student Outcomes:

By the end of Grade 4 the students will show their understanding of software systems by being able to:

- key entire alphabet and punctuation marks using proper keyboarding technique.
- key paragraphs with capital letters, indentation and correct punctuation, using the proper fingers and eyes on the copy.
- use move commands or techniques to edit word processing documents.
- use a word processing program to publish documents that contain centering, tables, and font formats.
- open a word processing program, minimize the program, open Internet access, search for information on the Internet, and be able to go back and forth from Internet access to the document without closing either program.
- use draw select tools.
- select more than one object and use grouping.
- copy and move draw objects.
- use draw objects in word processing documents.
- use and create graphs.
- identify and define correct spreadsheet terms (i.e., spreadsheet, column, row, cell, formula).
- create a spreadsheet with simple formulas (SUM, MAX, MIN).
- change data in spreadsheet cells.
- format columns and rows.
- sort spreadsheet cell contents.
- use a spreadsheet to create graphs.
- use a presentation software package to orally present information about a topic.
- use the Internet to retrieve information from databases.
- use the information gathered to create a spreadsheet and chart the data.
- increase their knowledge of Internet safety.
- build critical-thinking and decision-making skills relating to computer usage.

III. Course Outline

****Note:** this outline will not be completed in any particular order. Rather, the topics will be covered through projects that integrate a variety of topics.******

- I. Computer Operations
 - A. Basic computer operations
 - 1. Access servers/drives using a name and password
 - 2. Save work to a server
 - 3. Create folders to organize saved documents
 - 4. Retrieve saved work from a server/drive
 - B. Master touch typing
 - 1. Use proper keyboarding techniques
 - 2. Key all letters using proper techniques
 - 3. Key punctuation marks using proper technique and proper spacing
 - 4. Key upper case letters using proper techniques
- II. Computer Applications
 - A. Word Processing
 - 1. Review Basics
 - i. Create a new document
 - ii. Change the font and its color, size, and style
 - iii. Change margins and page orientation
 - iv. Set alignments using proper formatting technique
 - v. Use spell check and thesaurus
 - vi. Improve proofreading skills
 - vii. Edit text while proofreading
 - viii. Insert and manipulate clip art appropriately
 - ix. Choose a printer and print document
 - 2. Format Documents
 - i. Select and deselect text
 - ii. Find and replace text in a document
 - iii. Paragraph formats
 - iv. Indents
 - v. Special indents
 - 1. Create lists
 - 2. Create tables
 - vi. Add graphics to a document
 - B. Drawing
 - 1. Create a drawing
 - 2. Format your drawing
 - 3. Select and manipulate objects
 - 4. Move, resize, and rotate objects
 - 5. Arrange objects
 - 6. Use objects in documents
 - C. Spreadsheets

1. Purpose of a spreadsheet
2. Create a new spreadsheet
3. Enter data
 - i. Edit cell contents
 - ii. Preview and print a spreadsheet
 - iii. Format widths, alignments, fonts
 - iv. Use simple formulas to perform calculations
 - v. Sort spreadsheet information
 - vi. Use functions to perform calculations
 - vii. Copy formulas
 - viii. Create simple graphs/charts
- D. Presentation
 1. Create a new presentation
 2. Enter and edit text
 3. Add graphics to a slide
 4. Add transitions
 5. Present a presentation to a group
- III. Digital Citizenship/Computer Coding
 - A. Internet Safety
 1. Protecting private identity information online
 2. Understanding general safety guidelines
 - B. Computer Programming/Coding
 1. Identify ways computers are used that have an impact across the range of human activity and within different careers where they are used.
 2. Write a simple computer program to perform a specific task
 3. Debug a computer program to identify and solve errors

New Jersey Student Learning Standards

TECHNOLOGY

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 collaboratively and to create and communicate knowledge.

IV. Proficiency Levels

This is a cycle course for Grade 4.

V. Methods of Assessment

The teacher will provide a variety of assessments. Among them are group projects, computer projects, oral presentations and class participation.

The teacher will provide the subject area supervisor with suggestions for changes.

VI. Grouping

This is a required Grade 4 cycle course.

VII. Articulation/Scope & Sequence/Time Frame

Course length is one quarter.

VIII. Resources

Resources include but are not limited to:

- *Using Google Docs in the Classroom Grade 4-5* by Steve Butz by Teacher Created Resources
- Common Sense Media: <https://www.commonsensemedia.org/educators/scope-and-sequenceat> <https://www.commonsensemedia.org/>
- BrainPop at <http://www.brainpop.com/>
- Netsmartz Workshop: Tweens at <http://www.nsteens.org/>
- *Retool Your School: The Educator's Essential Guide to Google's Free Power Apps* by James Lerman and Ronique Hicks by International Society for Technology in Education (ISTE), 2010
- K-5 Technology Lesson Plans <http://oakdome.com/k5/>
- *32 Quick & Fun Content Area Computer Activities* by Lynn Van Gorp by Shell Education 2006
- *Typing Time Workbook* Thomson/South-Western Publishing Company Jack P. Hoggatt, Ed.D and Jon A. Shank, Ed.D 2003
- Code.org lessons and activities <https://code.org/>
- Teacher-created handouts for projects

IX. Methodologies

The following methods of instruction are suggested: lecture, group projects, demonstration, and class presentations.

X. Suggested Activities

Integrate Internet research into formulating and designing projects, word processing, spreadsheets, presentations, and draw techniques.

XI. Interdisciplinary Connections

This course incorporates computer-based projects with content area curriculum topics. In addition, students will develop writing and oral presentation skills as well as proficiency in computer applications.

XI. Differentiating Instruction for Students with Special Needs: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways as they celebrate students' prior knowledge. By providing appropriately challenging learning, teachers can maximize success for all students.

Examples of Strategies and Practices that Support:

Students with Disabilities

- Use of visual and multi-sensory formats
- Use of assisted technology
- Use of prompts
- Modification of content and student products
- Testing accommodations
- Authentic assessments

English Language Learners

- Pre-teaching of vocabulary and concepts
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Teacher modeling
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding
 - word walls
 - sentence frames
 - think-pair-share
 - cooperative learning groups

Gifted & Talented Students

- Adjusting the pace of lessons
- Curriculum compacting
- Inquiry-based instruction
- Independent study
- Higher-order thinking skills
- Interest-based content
- Student-driven
- Real-world problems and scenarios

XII. Professional Development

The teacher will continue to improve expertise through participation in a variety of professional development opportunities.

Week 1	Week 2	Week 3	Week 4	Week 5
<p>Log into the computer as a student</p> <p>Touch typing technique</p> <ul style="list-style-type: none"> • home row • e and h • o and r • i and t <p>Introduction of Drawing</p> <ul style="list-style-type: none"> • Drawing window • Use tools and rulers • Understand object properties • Arrange and rotate objects • Use objects and images 	<p>Review Word Processing</p> <ul style="list-style-type: none"> • Create a document • Edit text • Print a document <p>Review touch typing technique</p> <ul style="list-style-type: none"> • left shift and period • u and c • n and w • g and right shift 	<p>Formatting Documents</p> <ul style="list-style-type: none"> • Select and deselect text • Use the thesaurus • Understand paragraph formats • Create lists • Adding graphics • Change alignment • Create a simple table <p>Review touch typing technique</p> <ul style="list-style-type: none"> • b and p • m and x • y and z • q and comma • wordwrap <p>Learn to proofread, edit and use spell check and thesaurus.</p> <p>Review importing and formatting clipart as both stand-alone graphics and as backgrounds.</p> <p>Review paragraph typing using word wrap.</p>	<p>Introduction of Spreadsheets Purpose</p> <ul style="list-style-type: none"> • Create a new spreadsheet • Enter data • Edit cell contents • Preview and print • Change column and row width • Highlight cells • Format cells and contents • Enter simple formulas • Use cell references in formulas • Use functions in formulas • Copy formulas • Create charts <p>Review touch typing technique</p> <ul style="list-style-type: none"> • v and colon • slash and question mark • tab 	

Week 6	Week 7	Week 8	Week 9	Comments
Internet Safety <ul style="list-style-type: none"> • Introduce Digital Passport, from Common Sense Media • Foundational skills of digital citizenship and Internet safety. • Continue to review touch typing technique • Introduce basic coding and debugging. 	Introduction of Presentation <ul style="list-style-type: none"> • Create a new presentation • Enter and edit slides • Add graphics • Add transitions • Continue to review touch typing technique • Continue basic coding and debugging. 	Culminating activity incorporating word processing, spreadsheets, draw, and presentations. Continue to review touch typing technique. Continue basic coding and debugging.	Culminating activity incorporating word processing, spreadsheets, draw, and presentations. Continue to review touch typing technique. Continue basic coding and debugging.	Various activity-based projects will be incorporated into classroom learning as skills are taught. Alignment to various core curriculum content areas such as language arts, math, and science will be emphasized.