

MILLSTONE TOWNSHIP SCHOOL DISTRICT
Computer Course
GRADE: 6
(Updated April 2022)

Unit of Study: Computers 6th grade	
<p>Unit Overview: 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</p>	
Enduring Understandings:	Essential Questions:
<ul style="list-style-type: none"> ● Students will demonstrate appropriate and effective use of technology both personally and professionally to research, communicate, create and store information. ● Students will work with all of the tools and features of word processing, spreadsheets, multimedia presentations, and graphic design layouts. ● Students will understand that digital tools offer opportunities for new experiences and means of outreach and collaboration that support creative and innovative approaches to problem solving and product development. ● Students will explore computer programming skills for real world application. ● Students will improve their keyboarding skills in both their individual accuracy and speed. 	<ul style="list-style-type: none"> ● When do you use each type of software (word document, spreadsheet, presentation, graphic design layout)? ● How do you use the key tools for a word document, spreadsheet, presentation, graphic design? ● What searching techniques help when using the Internet to locate information? ● How do you determine what web site to use – reliability check? ● What are Copyright laws, and what does the Fair Use Guidelines mean to you? ● What are the key factors to consider when making a presentation to a class/others? ● How does technology improve/change your lifestyle? ● How does computer programming help in daily life? ● Why is it important to use proper keyboarding techniques?
Objectives/Teaching Points:	Grade Level Standards:
<ul style="list-style-type: none"> ● Engage in the best practices for saving files. 	<p>Computer Science & Design Thinking 8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices.</p>

<ul style="list-style-type: none"> ● Explore differences between MS Office software and Google Drive. ● Focus on advanced word processing, spreadsheet, and multimedia presentation skills. ● Utilize the three key stages of the scientific method: prediction / hypothesis, surveying / gathering data and compare results with prediction/ report findings. ● Create and design a multimedia presentation based on an invention that changed the world that incorporates Internet searching, layout/design, and advanced animation techniques. ● Experiment with animation and sound settings in a multimedia presentation. ● Utilize different types of design techniques (text formatting, layout and colors) to create a brochure or document. ● Explain the uses of the Internet and its impact on daily life. ● Examine the meaning of key computer programming terms (algorithm, program, event, function, variable, loop, and conditionals). ● Work together in groups as well as individually to demonstrate computer knowledge and skills. 	<p>8.1.8.NI.1: Model how information is broken down into smaller pieces, transmitted as addressed packets through multiple devices over networks and the Internet, and reassembled at the destination.</p> <p>8.1.8.NI.2: Model the role of protocols in transmitting data across networks and the Internet and how they enable secure and errorless communication.</p> <p>8.1.8.NI.3: Explain how network security depends on a combination of hardware, software, and practices that control access to data and systems.</p> <p>8.1.8.NI.4: Explain how new security measures have been created in response to key malware events.</p>
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2020 NJSLC Career Readiness, Key Skills & Life Literacies:

- CRP1- Act as a responsible and contributing citizen and employee.
- CRP2- Apply appropriate academic and technical skills.
- CRP4- Communicate clearly and effectively and with reason.
- CRP5- Consider the environmental, social and economic impacts of decisions.
- CRP6- Demonstrate creativity and innovation.
- CRP7- Employ valid and reliable research strategies.
- CRP8- Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9- Model integrity, ethical leadership and effective management.

CRP11- Use technology to enhance productivity.

CRP12- Work productively in teams while using cultural global competence.

9.2.8.CAP.4 Explain how an individual's online behavior (e.g., social networking, photo exchanges, video postings) may impact opportunities for employment or advancement.

9.2.8.CAP.12 Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.

9.2.8.CAP.15 Present how the demand for certain skills, the job market, and credentials can determine an individual's earning power.

9.4.8.CI.4 Explore the role of creativity and innovation in career pathways and industries.

9.4.8.DC.1 Analyze the resource citations in online materials for proper use.

9.4.8.TL.3 Select appropriate tools to organize and present information digitally.

Interdisciplinary Connections:

Language Arts: Students will read complex information text in order to follow directions for assignments.

NJLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

VPA-Media Arts:

- 1.2.8.Cr1a: Generate a variety of ideas, goals, and solutions for media artworks using creative processes such as sketching, brainstorming, improvising, and prototyping with increased proficiency, divergent thinking, and opportunity for student choice.
- 1.2.8.Cr1b: Organize and design artistic ideas for media arts productions
- 1.2.8.Cr.1c: Critique plans, prototypes, and production processes considering purposeful and expressive intent.
- 1.2.8.Cr2a: Organize and design artistic ideas for media arts productions.
- 1.2.8.Cr2b: Critique plans, prototypes, and production processes considering purposeful and expressive intent.
- 1.2.8.Cr3a: Experiment with and implement multiple approaches that integrate content and stylistic conventions.
- 1.2.8.Pr4a: Experiment with and integrate multiple forms, approaches and content to coordinate, produce, and implement media artworks that convey purpose and meaning (ex: narratives, video games, interdisciplinary projects, multimedia theatre).
- 1.2.8.Pr5a: Develop and demonstrate a variety of artistic, design, technical, and soft skills (ex: Self initiative, problem solving, collaborative communication) through performing various roles in producing media artworks
- 1.2.8.Pr5c: Develop and demonstrate creativity and adaptability in standard and experimental ways, to construct, achieve assigned purpose, and communicate intent in media artworks.
- 1.2.8.Pr6a: Analyze and design various presentation formats and tasks in the presentation and/or distribution of media artworks.
- 1.2.8.Pr6b: Analyze benefits and impacts from presenting media artworks.

- 1.2.8.Re9a: Evaluate media art works and production processes at decisive stages, using identified criteria, and considering context and artistic goals.
- 1.2.8.Cn10a: Access, evaluate and use internal and external resources to inform the creation of media artworks, such as cultural and societal knowledge, research and exemplary works.
- 1.2.8.Cn10b: Explain and demonstrate how media artworks expand meaning and knowledge and create cultural experiences, such as local and global events.
- 1.28.Cn11a: Access, evaluate, and use internal and external resources and context to inform the creation of media artworks (ex: cultural and societal knowledge, research, exemplary works).
- 1.2.8.Cn11b: Explain and demonstrate how media artworks expand meaning and knowledge, and create cultural experiences (ex: via local and global events considering fair use and copyright, ethics, media literacy).

Learning Experiences:	Assessments:
<p>The following learning experiences will help students explore the big ideas and essential questions:</p> <p>Computer Skills/ Techniques observation:</p> <ul style="list-style-type: none"> ● Demonstration of techniques for adding sound, text, organization of files. ● Interaction with other students designing/creating in unique methods. ● View teacher and student made projects previously made prior to creating their own. <p>Computer Skills/Techniques exploration:</p> <ul style="list-style-type: none"> ● Working with MS Office software (Word, Excel, PowerPoint and Publisher) and Google Drive (Doc, Sheets, Slides, Forms) ● Explore various effects and options to enhance projects. ● Creating various types of projects using skills demonstrating student knowledge and understanding. ● Students sharing new creative ideas. 	<p><u>Formative</u></p> <ul style="list-style-type: none"> ● Teacher observation ● Exit slips ● Checklists ● Student self-assessment <p><u>Summative</u></p> <ul style="list-style-type: none"> ● Rubrics <ul style="list-style-type: none"> ● Book Blog Project ● Fitness Around the World Project ● Virtual Reality Project ● Global Clean Water Crisis Project ● Thank You, Millstone Elementary School Project <p>Skills for Assessment</p> <ul style="list-style-type: none"> ● Grading Rubrics which include sections for <ul style="list-style-type: none"> ○ Appearance (focus on color, size and layout) ○ Computer Skills (depending on project and software) ○ Information (correct, current, and informative, audience based, grammar, spelling and punctuation) ○ Printing (Correct printer, fit on required # of pages, and one time) ●

	<p><u>Benchmark</u></p> <ul style="list-style-type: none">● Typing skills monthly assessment <p><u>Alternative</u></p> <ul style="list-style-type: none">● Follows directions, safety protocols, and classroom procedures● Demonstrates creativity within project and software.● Experiments with a variety of tools and techniques available in software.● Seeks to explore options not required /demonstrated to enhance the overall project.● Uses troubleshooting techniques to help self and others● Makes choices that enhance and not detract from messages● Asks relevant questions● Consults rubric for necessary requirements● Work productively as an individual and as a member of a group● Draws connections between applications and the tools within them
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Ideas for Differentiation:

Based on the needs of the students, there may be a need for additional teaching points, extending beyond or substituting in for those outlined in the curriculum map.

English Language Learners:

- Speak and display terminology and movement
- Teacher modeling
- Peer modeling
- Develop and post routines
- Word walls

IEP/504 Learners:

- Utilize modifications and accommodations delineated in the student's IEP
- Work with paraprofessional

- Use multi-sensory teaching approaches. Provide helpful visual, auditory, and tactile reinforcement of ideas.
- Work with a partner
- Provide concrete examples and relate all new strategies to previously learned strategies.
- Solidify and refine concepts through repetition.
- Change requirements to reduce activity time
- Chunk tasks into sections to assist with organization and work completion
- Provide graphic organizers and sentence starters as needed

Students at Risk of Failure:

- Using visual demonstrations, illustrations, and models
- Give directions/instructions verbally and in simple written format.
- Chunk tasks into sections to make workload less overwhelming
- Peer Support
- Increase one on one time
- Teachers may modify instructions by modeling what the student is expected to do
- Instructions left on the board/easel for the student to see during the time of the lesson.
- Review behavior expectations and make adjustments for personal space or other behaviors as needed.
- Oral prompts can be given

Gifted and Talented Learners:

- Curriculum compacting
- Inquiry-based instruction
- Independent study
- Higher order thinking skills
- Adjusting the pace of lessons
- Interest based content
- Real world scenarios
- Student Driven Instruction
- Student choice selecting application(s) needed to complete tasks

Suggested Resources:

Student Materials:

Technology:

- MS Office Suite (Word, Excel, PowerPoint, Publisher)
- Google Drive Shared Documents / Google Classroom
- Internet for information, images and sounds
- Type to Learn 4 (keyboarding)
- Hot Dog Stand (logic and prediction)
- Code.org (programming skills)

Teaching Materials:

Worksheets

Direction worksheets
Google Classroom – Documents

Teacher Resources: