**Computer Applications Cycle - 6th and 7th Grade Cycle Class**

**Length of Course: 9 weeks**

**Curriculum**

**Course Description:**

**Before students will have the opportunity to learn how to use appropriate educational technology systems and understand their innerworkings, students will take time to examine their own digital footprint and analyze their behavior in terms of digital media. Students will critique media and technology systems as well as the manner in which we act and behave both responsibly and intelligently in a digital world. In addition to studying our influences of technology and digital media, students will also begin to examine technology systems in detail and learn how to use them responsibility. These tools include Google Apps for Education and Microsoft Office Suite. Once students gain knowledge and insight into basic technology tools and how best to use them in education and beyond, students will begin to dig deeper and gain an understanding how how these technology tools actually work and the science behind their design. Students will have the opportunity to explore modules in coding, computer programming and many other facets contained in STEAM projects and standards.**

**Big Ideas:** *Course Objectives / Content Statement(s) Why Computer Applications, Technology in our World, Acceptable Use of Technology, Digital Citizenship*

**Pacing: Week 1**

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| **Essential Questions**   * What is a digital native? * What is the place of digital media in our lives? * What is a digital footprint and what does yours convey? * How can we protect ourselves and the choices we make in our digital lives? | **Enduring Understandings**  *What will students understand about the big ideas?*  Students will understand that…   * A digital footprint can be searched, viewed and seen by an invisible audience. * Recognize that people’s online information can be helpful or harmful to their reputation and image. * Understand the 24/7 social nature of digital media * Technology influences every aspect of our lives * Technology’s influence or effect can be different based on age, gender, and other life-based factors. |
| **Areas of Focus: Proficiencies**  **(Cumulative Progress Indicators)**  Students will:  **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 A:** Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.    **Strand B:** Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.    **Strand 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.    **Strand D:** Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.  8.1.8.D.1 - Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.  8.1.8.D.3 - Demonstrate an understanding of fair use and Creative Commons to intellectual property.  8.1.8.D.5 - Understand appropriate uses for social media and the negative consequences of misuse.  **Strand E:** Research and Information Fluency    **Strand F:** Critical Thinking, Problem Solving, and Decision Making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.      **ISTE’s National Standards for Educational Technology for Students**  **1. Creativity and innovation**  Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.  **a.** Apply existing knowledge to generate new ideas, products, or processes, **b.** Create original works as a means of personal or group expression, **c.** Use models and simulations to explore complex systems and issues, and **d.** Identify trends and forecast possibilities.  **2. 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.  **a.** Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media, **b.** Communicate information and ideas effectively  to multiple audiences using a variety of media and formats, and **d.** Contribute to project teams to produce original works or solve problems  **3. Research and information fluency**  Students apply digital tools to gather, evaluate, and use information.  **a.** Plan strategies to guide inquiry, **b.** Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media, **c.** Evaluate and select information sources and digital tools based on the appropriateness to specific tasks, and **d.** Process data and report results  **4. Critical thinking, problem solving, and decision making**  Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.  **a.** Identify and define authentic problems and significant questions for investigation, **b.** Plan and manage activities to develop a solution or complete a project, **c.** Collect and analyze data to identify solutions and/or make informed decisions, and **d.** Use multiple processes and diverse perspectives to explore alternative solutions.  **5. Digital citizenship**  Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.  **a.** Advocate and practice safe, legal, and responsible use of information and technology, **b.** Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity, **c.** Demonstrate personal responsibility for lifelong learning, and **d.** Exhibit leadership for digital citizenship  **6. Technology operations and concepts**  Students demonstrate a sound understanding of technology concepts, systems, and operations.  **a.** Understand and use technology systems, **b.** Select and use applications effectively and productively, **c.** Troubleshoot systems and applications, and **d.** Transfer current knowledge to learning of new technologies. | **Examples, Outcomes, Assessments**  *(see* [*note*](#do8n8x7oxp51) *below about the content of this section)*  Instructional Focus:   * learn that they have a digital footprint and that information from it can be searched; copied and passed on; seen by a large, invisible audience, and can be persistent. * consider their own digital footprints and what they want those footprints to be like in the future. * Reflect on decisions and determine alternative choices * Assess situations in order to make informed judgments * Learn about the 24/7, social nature of digital media * Explore their digital lives   Sample Assessments:   * Online assessment related to digital citizenship lessons * Graded 25 minutes of typing required per week. * Pre-assessment of any of the following: digital media, citizenship, footprint * Scenario based - graded activity * Progress Score associated with Digital Compass (Common Sense Media)   Instructional Strategies:   * **Benchmark lessons on the following topics:** *(if deemed necessary):* Why Computer Apps, Technology in Our World, Acceptable Use of Technology, Digital Citizenship * Digital Compass resources from Common Sense Media: <https://www.commonsensemedia.org/educators/digital-compass> * Informative Tutorials collected from sites listed under Technology Integration. (Students to view tutorials from: BetterCloud) * Students will engage in scenario-based activities from the Digital Passport section of Common Sense Media - the Module includes: Interactive Story, Mini-Game, and Extension Activities * Reflective Writing Prompts can be completed: Ex: Use Explain Everything, Voicethread, etc - “Were there any characters or situations that prompted you to think twice about particular digital behaviors?”   Interdisciplinary Connections   * Writing Prompt Reflection can be assessed using a rubric (from Common Sense Media Educator Guide) for mechanics and writing conventions * Reading based scenarios provided on grade level for discussion and assessment purposes   Technology Integration   * All digital passport lessons are provided through Common Sense Media and are video based * Pre and post assessments can be created using Google Forms and/or PollEverywhere, etc. * Students can draft writing responses via Google Docs * All course materials and scope and sequence will be provided via LCJSMS Computer Applications Google Site     Global Perspectives   * Research Based: Student access the internet to research, complete digital tasks and interact with the content. No matter what activity the students are doing where they access the internet it rarely will be local. The internet creates instant connectivity with content, people and cultures from across the globe. * Specific to this unit, the idea that digital media is 24/7, and that choices we make as informed students has a significant impact on a global scale. (Twitter, Facebook, Snapchat, Instagram - social media vehicles) * Choices from across the globe that have resulted in harmful consequences (loss of jobs, societal impacts, pictures telling a story, etc.) |

NOTE re: Examples, Outcomes and Assessments

*The following skills and themes should be reflected in the design of units and lessons for this course or content area.*

21st Century Skills:

Creativity and Innovation

Critical Thinking and Problem Solving

Communication and Collaboration

Information Literacy

Media Literacy

Life and Career Skills

21st Century Themes (as applies to content

area):

Financial, Economic, Business, and

Entrepreneurial Literacy

Civic Literacy

Health Literacy

**Big Ideas:** *Course Objectives / Content Statement(s) Google Apps for Education (Drive, Docs, Sheets, and Slides), Microsoft Office (Word, Excel, and Powerpoint)*

**Pacing: Weeks 2 - 4**

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| **Essential Questions**  What functions can the apps of Microsoft Office and Google Apps Suite perform?  How can the apps of Microsoft Office and Google Apps Suite increase one’s technological efficiency?  How can one use the apps of Microsoft Office and Google Apps Suite to create a variety of projects from basic to multi-functional?  How are the apps of Microsoft Office and Google Apps Suite similar and different in function and design? | **Enduring Understandings**  *What will students understand about the big ideas?*  Students will understand that…  The purpose of Google Drive as a virtual storage space for the work from the Google Apps as well as other file formats. (ie. images, movie files, PDFs, Word and Excel files)  The basic functions, formatting, and tools of the word processing applications of Microsoft Word and Google Docs.  The basic functions, formatting, formulas, and tools of the spreadsheet applications of Microsoft Excel and Google Sheets.  The basic functions, formatting, and tools of the presentation applications of Microsoft Powerpoint and Google Slides.  Google Apps Suite’s collaborative features such as sharing a Google file to be edited, viewed or commented on by multiple contributors. |
| **Areas of Focus: Proficiencies**  **(Cumulative Progress Indicators)**  Students will:  **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 A:** Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.  8.1.8.A.1 - Demonstrate knowledge of a real world problem using digital tools.  8.1.8.A.2 - Create a document (e.g. newsletter, reports, personalized learning plan, business letters or flyers) using one or more digital applications to be critiqued by professionals for usability.  8.1.8.A.3 - Use and/or develop a simulation that provides an environment to solve a real world problem or theory.  8.1.8.A.4 - Graph and calculate data within a spreadsheet and present a summary of the results    **Strand B:** Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.  8.1.8.B.1- Synthesize and publish information about a local or global issue or event (ex. Telecollaborative project, blog, school web).        **ISTE’s National Standards for Educational Technology for Students**  **1. Creativity and innovation**  Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.  **a.** Apply existing knowledge to generate new ideas, products, or processes, **b.** Create original works as a means of personal or group expression, **c.** Use models and simulations to explore complex systems and issues, and **d.** Identify trends and forecast possibilities.  **2. 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.  **a.** Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media, **b.** Communicate information and ideas effectively  to multiple audiences using a variety of media and formats, **c.** Develop cultural understanding and global awareness by engaging with learners of other cultures, and **d.** Contribute to project teams to produce original works or solve problems  **3. 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No matter what activity the students are doing where they access the internet it rarely will be local. The internet creates instant connectivity with content, people and cultures from across the globe. * Within each assigned task students can access global resources, research and topics to be included. Current Events can be an avenue of exploration for projects: (ex: Olympics, 2016 Elections, etc.) |
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NOTE re: Examples, Outcomes and Assessments

*The following skills and themes should be reflected in the design of units and lessons for this course or content area.*

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Critical Thinking and Problem Solving

Communication and Collaboration

Information Literacy

Media Literacy

Life and Career Skills

21st Century Themes (as applies to content

area):

Financial, Economic, Business, and

Entrepreneurial Literacy

Civic Literacy

Health Literacy

**Big Ideas:** *Course Objectives / Content Statement(s)* ***Visual Presentation Tools*** *(Powerpoint, Prezi, Google Presentation/Slides with Question and Answer feature, Lucidchart, Lucidpress*) ***Video Presentation Tools*** *(WeVideo, Moovly, and iMovie)*

**Pacing: Weeks 5 & 6**

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| **Essential Questions** | **Enduring Understandings**  *What will students understand about the big ideas?*  Students will understand that… |
| **Areas of Focus: Proficiencies**  **(Cumulative Progress Indicators)**  Students will:  **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 A:** Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.    **Strand B:** Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.  8.1.8.B.1- Synthesize and publish information about a local or global issue or event (ex. Telecollaborative project, blog, school web).    **Strand 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.    **Strand D:** Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.  **Strand E:** Research and Information Fluency    **Strand F:** Critical Thinking, Problem Solving, and Decision Making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.      **ISTE’s National Standards for Educational Technology for Students**  **1. 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Pre-assessment on Visual Presentation Tools (insert link to Google doc)  Pre-assessment on Video Presentation Tools (insert link to Google doc)    Instructional Strategies:  **Benchmark lessons on the following topics:** *(if deemed necessary):* **Visual Presentation Tools** (Powerpoint, Prezi, Google Presentation/Slides with Question and Answer feature, Lucidchart, Lucidpress), **Video Presentation Tools** (WeVideo, Moovly, and iMovie)  Informative Tutorials collected from sites listed under Technology Integration.  Interdisciplinary Connections      Technology Integration  [www.bettercloud.com](http://www.bettercloud.com)  [www.lynda.com](http://www.lynda.com) (Connected to Linkedin)    Global Perspectives |

NOTE re: Examples, Outcomes and Assessments

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area):

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Entrepreneurial Literacy

Civic Literacy

Health Literacy

**Big Ideas:** *Course Objectives / Content Statement(s) Basic Coding implemented through Google’s CS First and Scratch*

**Pacing: Weeks 7 - 9**

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| **Essential Questions**  What is coding and what can you use coding to create?  What is Scratch and how can it be used to solve real world problems?  How does computer science relate to everyday life? | **Enduring Understandings**  *What will students understand about the big ideas?*  Students will understand that…  How coding is used in everyday life.  How to code basic creations using Scratch.  Computer Science is…   * a theory and practice that allows you to program a computer to do what you want it to * a tool that helps you tell a story or make something happen with technology * a discipline that emphasizes persistence in problem solving — a skill that is applicable across disciplines, driving job growth and innovation across all sectors of the workforce * a skill that teaches students how to use computers to create, not just consume |
| **Areas of Focus: Proficiencies**  **(Cumulative Progress Indicators)**  Students will:  **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 A:** Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.    **Strand B:** Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.    **Strand 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.    **Strand D:** Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.  **Strand E:** Research and Information Fluency    **Strand F:** Critical Thinking, Problem Solving, and Decision Making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.    **ISTE’s National Standards for Educational Technology for Students**  **1. 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Sample Assessments:  Graded 20 minutes of typing required per week.    Instructional Strategies:  This unit will follow the directions and materials presented by the Google CS First (<https://www.cs-first.com/training/welcome-cs-first>). The directions and materials include video tutorials along with written directions to build in Scratch. The wrap-up video at the end of an activity shows how the activities tie to the real world specifically innovations and careers.  Interdisciplinary Connections      Technology Integration  Google CS First Materials and website <https://www.cs-first.com/>  Scratch Program from MIT  <https://scratch.mit.edu/>  Global Perspectives |

NOTE re: Examples, Outcomes and Assessments

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Media Literacy

Life and Career Skills

21st Century Themes (as applies to content

area):

Financial, Economic, Business, and

Entrepreneurial Literacy

Civic Literacy

Health Literacy

**Big Ideas:** *Course Objectives / Content Statement(s)Video Production Tools, Infograms/Infographics as visual presentation of infomation*

**Pacing: Week 9**

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| **Essential Questions** | **Enduring Understandings**  *What will students understand about the big ideas?*  Students will understand that… |
| **Areas of Focus: Proficiencies**  **(Cumulative Progress Indicators)**  Students will:  (*Enter NJCCCS or Common Core CPI’s here)*  **ISTE’s National Standards for Educational Technology for Students**  **1. Creativity and innovation**  **Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.**  **a. Apply existing knowledge to generate new ideas, products, or processes, b. Create original works as a means of personal or group expression, c. Use models and simulations to explore complex systems and issues, and**  **d. Identify trends and forecast possibilities.**  **2. 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.**  **a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media, b. Communicate information and ideas effectively**  **to multiple audiences using a variety of media and formats,**  **c. Develop cultural understanding and global awareness by engaging with learners of other cultures, and d. Contribute to project teams to produce original works or solve problems**  **3. Research and information fluency**  **Students apply digital tools to gather, evaluate, and use information.**  **a. Plan strategies to guide inquiry. b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media, c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks, and d. Process data and report results**  **4. Critical thinking, problem solving, and decision making**  **Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.**  **a. Identify and define authentic problems and significant questions for investigation, b. Plan and manage activities to develop a solution or complete a project, c. Collect and analyze data to identify solutions and/or make informed decisions, and d. Use multiple processes and diverse**  **perspectives to explore alternative solutions.**  **5. Digital citizenship**  **Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.**  **a. Advocate and practice safe, legal, and responsible use of information and technology, b. Exhibit a positive attitude toward using technology that supports collaboration,**  **learning, and productivity, c. Demonstrate personal responsibility for lifelong learning, and d. Exhibit leadership for digital citizenship**  **6. Technology operations and concepts**  **Students demonstrate a sound understanding of technology concepts, systems, and operations.**  **a. Understand and use technology systems, b. Select and use applications effectively and productively, c. Troubleshoot systems and applications, and d. Transfer current knowledge to learning of new technologies.** | **Examples, Outcomes, Assessments**  *(see* [*note*](#kix.mae3qurlgcpo) *below about the content of this section)*  Instructional Focus:      Sample Assessments:      Instructional Strategies:  Interdisciplinary Connections      Technology Integration      Global Perspectives |

NOTE re: Examples, Outcomes and Assessments

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