

## Technology Standards for Ninth through Twelfth Grades

### Essential Questions:

1. In a world of constant change, how should technology be used to enhance my learning?
2. How does technology foster participation and collaboration in the global community?
3. To what extent do I need to demonstrate appropriate use of technology?

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## Digital Citizenship

**Standard 1: Students summarize human, cultural, and societal issues related to technology and practice legal and ethical behavior.**

**9-12.1.1: Advocate and practice safe, legal, and responsible use of information and technology.**

<p><u>Prior Background Knowledge Required:</u></p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● comply with the AUP.</li> <li>● promote the AUP.</li> <li>● use safe and correct security procedures (i.e. protecting password and user ID).</li> <li>● explain the potential harm of intrusive applications.</li> <li>● promote the safeguards for limiting exposure to intrusive applications.</li> <li>● cite sources.</li> <li>● acquire permission to use copyrighted material.</li> <li>● carry out appropriate action to correct a misuse of information and technology (i.e. cyberbullying).</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● examples of safe, legal, and responsible uses of information</li> <li>● examples of safe, legal, and responsible uses of technology</li> <li>● appropriate sites used for all purposes</li> <li>● the nine elements of digital citizenship</li> <li>● REP (respect, educate, protect)</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● advocate</li> <li>● credible</li> <li>● rights</li> <li>● responsibilities</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● their actions affect others.</li> <li>● there are human, cultural, and societal issues related to technology.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● compile examples of healthy and unhealthy behaviors associated with technology and justify their responses.</li> <li>● demonstrate personal responsibility by engaging in positive, respectful use (AUP).</li> <li>● create and protect strong passwords.</li> <li>● compare and contrast personal and public information.</li> <li>● analyze sites for validity and security of personal information.</li> <li>● research using credible and appropriate sources.</li> </ul> <p><i>Cont.</i></p>
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			<ul style="list-style-type: none"> <li>● acquire permission to use copyrighted material.</li> <li>● fairly and accurately cite copyrighted material.</li> <li>● carry out appropriate action to correct a misuse of information and technology (i.e. cyberbullying).</li> <li>● verify online contacts as safe before agreeing to personal meetings.</li> </ul>
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<b>9-12.1.2: Use technology consistently to support collaboration, learning, and productivity for a high-quality product.</b>			
<u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● maintain proper care of equipment, such as following lab rules and caring for equipment.</li> <li>● practice appropriate printing guidelines.</li> <li>● present digitally in social, academic, and professional settings.</li> <li>● comply with AUP.</li> </ul>	<i>Students will know:</i> <ul style="list-style-type: none"> <li>● appropriate online behavior including avoiding swearing, vulgarities, suggestive, obscene, belligerent, or threatening language</li> <li>● examples of appropriate languages and graphics</li> <li>● various techniques for collaborating digitally</li> </ul> Vocabulary: <ul style="list-style-type: none"> <li>● digital respect</li> <li>● ethics</li> <li>● netiquette/etiquette</li> <li>● cyber safety</li> </ul>	<i>Students will understand that...</i> <ul style="list-style-type: none"> <li>● collaboration can take place beyond the classroom walls.</li> <li>● collaboration enhances global and personal communication.</li> </ul>	<i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● select a variety of digital tools to communicate and exchange ideas.</li> <li>● create projects that use text and various forms of graphics, audio, and video, to communicate ideas.</li> <li>● choose District-approved tools for communication and collaboration.</li> <li>● contribute to groups to produce original works or solve problems in team settings.</li> </ul>

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9-12.1.3: Demonstrate personal responsibility for lifelong learning within current guidelines for appropriate technology use.			
<p><u>Prior Background Knowledge Required:</u>  <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● recognize, report, and counteract cyberbullying.</li> <li>● demonstrate and promote netiquette.</li> <li>● follow terms of use agreements.</li> <li>● explain the risks involved when using websites and digital media.</li> <li>● apply safe privacy practices while using websites and digital media.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● implications of information sent and received electronically</li> <li>● strategies to protect privacy</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● posting</li> <li>● discussion forums</li> <li>● cloud storage</li> <li>● intranet</li> <li>● thread</li> <li>● digital environment</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● users are responsible for all activity in their electronic accounts.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● maintain proper care of equipment, such as following lab rules and caring for equipment.</li> <li>● explain the potential risks associated with the use of networked digital environments and sharing personal information.</li> <li>● ethically locate, organize, synthesize, and share information from a variety of sources and media.</li> <li>● apply appropriate academic language in online learning environments (i.e. post, thread, intranet, discussion forum, account, password).</li> <li>● solve problems independently and effectively using digital tools.</li> <li>● comply with AUP.</li> </ul>

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<b>9-12.1.4: Exhibit leadership for digital citizenship.</b>			
<p><u>Prior Background Knowledge Required:</u>  <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● recognize, report, and counteract cyberbullying.</li> <li>● demonstrate and promote netiquette.</li> <li>● follow terms of use agreements.</li> <li>● explain the risks involved when using websites and digital media.</li> <li>● apply safe privacy practices while using websites and digital media.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● fair use guidelines</li> <li>● Acceptable Use Policy (AUP)</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● ethical use</li> <li>● unethical use</li> <li>● cyberbullying</li> <li>● copyright</li> <li>● fair use</li> <li>● plagiarism</li> <li>● royalty free</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● there are lasting impacts of unethical or illegal use of technology on individuals and society.</li> <li>● leaders in technology follow the elements of digital citizenship.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● recognize, report, and counteract cyberbullying.</li> <li>● explain fair use guidelines for using copyrighted materials and possible consequences in school projects.</li> <li>● define and avoid plagiarism.</li> <li>● comply with the AUP related to ethical use, cyberbullying, privacy, plagiarism, spam, viruses, hacking, and file sharing.</li> <li>● analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.</li> </ul>

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## Technology Operations and Concepts

**Standard 2: Students demonstrate appropriate use of technology concepts, systems, and operations.**

**9-12.2.1: Demonstrate proficient use of technology systems in an effective manner.**

<p><u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● demonstrate automaticity, increasing skill level, and perseverance when keyboarding.</li> <li>● manage their own digital files.</li> <li>● create a word-processed document using a standard, basic format.</li> <li>● select, highlight, copy, and paste information independently (including shortcuts i.e. Ctrl +V).</li> <li>● communicate with proper terminology when discussing technology.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● a variety of technology systems</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● hardware</li> <li>● software</li> <li>● peripheral equipment</li> <li>● server</li> <li>● storage media</li> <li>● file management</li> <li>● web-based (cloud)</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● there are several forms of storage media that can be used for a variety of purposes.</li> <li>● technical communication requires certain skills and terminology.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● demonstrate automaticity, increasing skill level, and perseverance when keyboarding.</li> <li>● identify and operate a variety of storage media (i.e. CDs, DVDs, flash drives, school servers, and online storage space).</li> <li>● communicate with proper terminology when discussing technology.</li> </ul>
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<b>9-12.2.2:</b> Select and use applications efficiently and productively.			
<p><u>Prior Background Knowledge Required:</u></p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● select appropriate tools for the task.</li> <li>● open, close, and format applications (i.e. documents, files, programs, etc.).</li> <li>● operate peripheral equipment effectively (i.e. digital cameras/phones, scanners, document cameras, etc.).</li> <li>● save, retrieve and upload digital media in multiple formats.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● features in word processing applications</li> <li>● features in spreadsheets (calculate, graph, organize, and present data)</li> <li>● formulas and functions</li> <li>● auto-fill features in spreadsheet applications</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● Web 2.0</li> <li>● cloud-based application</li> <li>● client application</li> <li>● learning management systems</li> <li>● word processor</li> <li>● spreadsheet</li> <li>● database</li> <li>● presentation</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● there are many digital tools available for them to use.</li> <li>● digital tools can be used in a variety of ways for specific purposes.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● demonstrate knowledge through multiple features of a productivity suite.</li> <li>● select and use appropriate tools for general and specialized reference materials.</li> <li>● operate peripheral equipment effectively (i.e. digital cameras/phones, scanners, document cameras, etc.).</li> <li>● explain and demonstrate how specialized digital tools can be used for problem solving, decision making, and creativity in all subject areas.</li> <li>● integrate software to reinforce skills in all subject areas.</li> <li>● save, retrieve and upload digital media in multiple formats.</li> </ul>

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<b>9-12.2.3:</b> Use available resources to troubleshoot systems and applications.			
<p><u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>differentiate between various operating errors.</li> <li>perform basic troubleshooting.</li> <li>ask for support when basic troubleshooting does not solve the problem.</li> </ul>	<p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>multiple strategies for troubleshooting</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>hardware</li> <li>software</li> <li>peripheral</li> <li>troubleshoot</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>there is a sequence of troubleshooting strategies.</li> <li>the user experience is improved with technology updates only to the extent that the user stays informed.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>identify the problem.</li> <li>perform troubleshooting strategies for minor issues/problems with hardware and software.</li> <li>seek support when troubleshooting efforts are unsuccessful.</li> </ul>

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<b>9-12.2.4:</b> Transfer current knowledge of technology and its use to learning new technologies.			
<p><u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>identify various capabilities of digital tools.</li> <li>summarize the limitations of digital tools.</li> <li>compare and contrast current technologies with emergent technologies.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>the benefits to staying up-to-date on emerging technologies</li> <li>the benefits and limitations of digital tools</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>media</li> <li>emerging</li> <li>evolving</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>new technology skills will continually emerge from consistent use of current technologies.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>choose appropriate terminology when communicating about current digital tools.</li> <li>evaluate and assess the capabilities and limitations of emerging technologies.</li> <li>apply and refine the skills needed to use communication, information and processing technologies.</li> <li>adjust to changing technologies.</li> </ul>

## Critical Thinking, Problem Solving, and Decision Making

**Standard 3: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.**

**9-12.3.1: Identify authentic problems and generate significant questions for investigation.**

<p><u>Prior Background Knowledge Required:</u></p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● recognize essential questions.</li> <li>● recognize guiding questions.</li> <li>● formulate and revise essential questions.</li> <li>● formulate and revise guiding questions.</li> <li>● evaluate the timeliness of the information found.</li> <li>● assess whether a source is credible.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● the difference between appropriate and inappropriate tools for digital research</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● graphic organizer</li> <li>● hypothesis</li> <li>● search engine</li> <li>● domain name</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● thinking critically about questions promotes divergent ideas.</li> <li>● questions may change as research is gathered.</li> <li>● various factors guide the process of forming questions (i.e. personal interest, assignment requirements, information available, time, etc.).</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● pose and revise questions that will lead to appropriate investigations.</li> <li>● define problems and propose hypotheses with appropriate digital tools.</li> <li>● evaluate the timeliness of the information found.</li> <li>● assess whether a source is credible.</li> </ul>
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<b>9-12.3.2: Plan and manage digital tools and resources to develop a solution or complete a project.</b>			
<p><u>Prior Background Knowledge Required:</u>  <b><i>Students will be able to...</i></b></p> <ul style="list-style-type: none"> <li>● design and follow an inquiry plan.</li> <li>● select appropriate digital sources.</li> <li>● develop digital presentations.</li> <li>● present information for specific purposes using a variety of media (i.e. reports, research papers, presentations, newsletters, websites, podcasts, blogs).</li> </ul>	<p><b><i>Students will know:</i></b></p> <ul style="list-style-type: none"> <li>● different types of digital tools and resources</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● digital media</li> <li>● audio</li> <li>● video</li> <li>● graphics</li> </ul>	<p><b><i>Students will understand that...</i></b></p> <ul style="list-style-type: none"> <li>● there are differences among various search engines and how they rank results.</li> <li>● some digital resources are more reliable than others.</li> <li>● projects can be created by combining multiple digital tools to suit a variety of audiences and purposes.</li> </ul>	<p><b><i>Students will be able to...</i></b></p> <ul style="list-style-type: none"> <li>● determine the best digital tools to maximize accuracy of work.</li> <li>● define problems and propose solutions when using digital tools.</li> <li>● construct information for specific purposes with a variety of media (i.e. reports, research papers, presentations, newsletters, podcasts).</li> <li>● evaluate digital content for organization, content, design, presentation and appropriateness of citations.</li> <li>● apply strategies for selectively using digital media.</li> </ul>

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<b>9-12.3.3: Collect and analyze data using digital tools to identify solutions and/or make informed decisions.</b>			
<p><u>Prior Background Knowledge Required:</u>  <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● collect, organize, and analyze data from a variety of digital resources.</li> <li>● recognize digital tools to calculate, graph, organize, and present data.</li> <li>● utilize functions of digital tools to organize data (i.e. sort, filter, find, formulas, autofill).</li> <li>● compare information from various digital resources to propose solutions.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● a variety of appropriate digital tools to organize and analyze data</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● digital tools</li> <li>● computational thinking</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● data can be efficiently analyzed using digital tools.</li> <li>● digital tools allow for computational thinking.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● locate and retrieve electronic information.</li> <li>● select from an array of digital tools to organize and analyze data from a variety of digital sources.</li> <li>● calculate, graph, organize, and present data in a variety of real-world settings.</li> <li>● choose the most appropriate type of chart or graph to represent given data.</li> </ul>

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<p><b>9-12.3.4:</b> Combine information from multiple processes and diverse digital tools and resources to produce, support and compare/contrast solutions.</p>			
<p><u>Prior Background Knowledge Required:</u>  <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>• identify and use digital primary resources.</li> <li>• identify and use digital secondary resources.</li> <li>• merge information from digital resources to produce and support counterarguments.</li> <li>• explain how specialized digital tools can be used for problem solving, decision making, and creativity in all subject areas (i.e. simulation software, environmental probes, computer aided design, geographic information systems, dynamic geometric software, graphing calculators).</li> <li>• present information for a specific purpose using a variety of media.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>• a variety of digital resources to explore solutions</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>• simulation</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• there are multiple solutions and tools to solve problems.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>• compare and contrast digital primary and secondary resources.</li> <li>• merge information from digital resources to produce and support counterarguments.</li> <li>• explain and demonstrate how specialized digital tools can be used for problem solving, decision making, and creativity in all subject areas (i.e. simulation software, environmental probes, computer aided design, geographic information systems, dynamic geometric software, graphing calculators).</li> <li>• select and use a variety of media to present information for a specific purpose.</li> <li>• independently apply multiple approaches and diverse perspectives to explore alternative solutions.</li> </ul>

## Research and Information Fluency

### Standard 4: Students apply digital tools to gather, evaluate, and use information.

#### 9-12.4.1: Plan strategies to guide inquiry using digital tools.

<p><u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● plan an inquiry based project using selected digital tools.</li> <li>● implement digital graphic organizers for planning.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● planning strategies (i.e. mind maps, webs, graphic organizers, etc.)</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● inquiry</li> <li>● graphic organizers</li> <li>● strategies</li> <li>● guiding question</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● the inquiry process requires a plan.</li> <li>● all inquiry starts with a guiding question.</li> <li>● there are a variety of methods of conducting research.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● develop brainstorming strategies using digital tools.</li> <li>● examine the task or problem to solve.</li> <li>● strategize methods to solve the problem.</li> </ul>
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<b>9-12.4.2: Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.</b>			
<p><u>Prior Background Knowledge Required:</u>  <b><i>Students will be able to...</i></b></p> <ul style="list-style-type: none"> <li>● filter and refine search results for a specific task.</li> <li>● apply digital research tools effectively.</li> <li>● compare, select, and organize appropriate online references for a project.</li> <li>● explain issues involved with using copyrighted materials.</li> <li>● cite relevant information appropriately.</li> </ul>	<p><b><i>Students will know:</i></b></p> <ul style="list-style-type: none"> <li>● ethical uses of resources and media</li> <li>● a variety of online references</li> </ul> <p><b>Vocabulary:</b></p> <ul style="list-style-type: none"> <li>● bias</li> <li>● point of view</li> <li>● Boolean operators</li> <li>● authority</li> <li>● research database</li> <li>● primary sources</li> <li>● secondary sources</li> <li>● filter</li> <li>● citation formats</li> </ul>	<p><b><i>Students will understand that...</i></b></p> <ul style="list-style-type: none"> <li>● there are various appropriate digital tools to organize and analyze data.</li> </ul>	<p><b><i>Students will be able to...</i></b></p> <ul style="list-style-type: none"> <li>● identify, evaluate and select information for decision making.</li> <li>● employ effective search strategies for locating and retrieving electronic information.</li> <li>● filter search results.</li> <li>● assess appropriate digital resources to organize a project/ solve a problem.</li> <li>● locate reliable, credible authoritative sources within research databases.</li> <li>● extract information from a variety of sources.</li> <li>● write correct in-text citations throughout the writing process.</li> <li>● create reference list for text and images gathered from electronic sources.</li> </ul>

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<b>9-12.4.3:</b> Select the most appropriate digital tools for specific tasks.			
<u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● evaluate resources and tools using guidelines.</li> <li>● choose information resources and digital tools for a particular purpose or audience.</li> <li>● verify digital information by locating it in multiple sources.</li> <li>● refine a search to generate additional sources.</li> </ul>	<i>Students will know:</i> <ul style="list-style-type: none"> <li>● multiple digital resources</li> <li>● digital tools</li> <li>● types and locations of websites by examining their domain names (i.e. .edu, .com, .org, .gov, .au)</li> </ul> Vocabulary: <ul style="list-style-type: none"> <li>● digital tools</li> </ul>	<i>Students will understand that...</i> <ul style="list-style-type: none"> <li>● digital tools can be used to complete tasks in a multitude of ways, each with its benefits and limitations.</li> </ul>	<i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● select general or specialized reference materials for a particular purpose or audience.</li> <li>● recognize types and locations of websites.</li> <li>● develop and use guidelines to evaluate content.</li> <li>● apply content specific digital tools (i.e. environmental probes, sensors, and measuring devices, simulations) to gather and analyze data.</li> </ul>

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<b>9-12.4.4</b> Report the results of research using the most appropriate tools for the specific task.			
<u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● collect and organize data using databases and spreadsheets.</li> <li>● display data using appropriate digital tools.</li> <li>● evaluate data from real-world settings.</li> </ul>	<i>Students will know:</i> <ul style="list-style-type: none"> <li>● a variety of digital tools</li> <li>● problem solving</li> </ul> Vocabulary: <ul style="list-style-type: none"> <li>● audience</li> <li>● original</li> </ul>	<i>Students will understand that...</i> <ul style="list-style-type: none"> <li>● digital tools can be used to present information in a variety of ways, each with its benefits and limitations.</li> <li>● digital tools can enhance the presentation of ideas.</li> <li>● different digital tools are appropriate for various situations and audiences.</li> </ul>	<i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● propose solutions to a problem.</li> <li>● identify audience.</li> <li>● choose the most appropriate digital tools to represent given data.</li> <li>● present data in a variety of real-world settings.</li> <li>● employ a variety of digital tools to effectively design, produce, and present original work.</li> </ul>

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## Creativity and Innovation

**Standard 5: Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.**

**9-12.5.1: Apply existing knowledge to generate new ideas, products, or processes.**

<p><u>Prior Background Knowledge Required:</u>  <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● independently activate background knowledge.</li> <li>● formulate new ideas, digital products, and/or processes.</li> <li>● evaluate new ideas, digital products, and/or processes.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● digital tools</li> <li>● creative processes</li> <li>● end product creation</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● innovative</li> <li>● professional quality</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● specialized digital tools can be used for problem solving, decision making, and creativity in all subject areas.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● develop projects combining multiple digital tools to suit a variety of audiences and purposes.</li> <li>● demonstrate creative thinking to construct new knowledge.</li> <li>● develop innovative products and processes using digital tools.</li> <li>● adapts digital tools to create products of professional quality.</li> </ul>
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<b>9-12.5.2: Create original works as a means of personal or group expression.</b>			
<u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>design original projects using a variety of digital tools and features (i.e. texts, digital images, sound, music, and video).</li> <li>work collaboratively to produce original projects.</li> <li>produce and present creative projects.</li> </ul>	<i>Students will know:</i> <ul style="list-style-type: none"> <li>tools for digital production</li> <li>professionalism</li> <li>copyright laws</li> </ul> Vocabulary: <ul style="list-style-type: none"> <li>copyright licensing</li> <li>Creative Commons</li> <li>innovation</li> </ul>	<i>Students will understand that...</i> <ul style="list-style-type: none"> <li>technology allows individuals to collaborate on original work.</li> <li>digital media must be evaluated for legal protection before using in their own work.</li> </ul>	<i>Students will be able to...</i> <ul style="list-style-type: none"> <li>adapt digital tools to create products of a professional quality.</li> <li>independently evaluate and employ a variety of digital tools to effectively create innovative work.</li> <li>collaborate to produce original projects.</li> <li>select the appropriate legal protection (i.e. copyright) for personally created digital media.</li> </ul>

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<b>9-12.5.3: Use models and simulations to explore complex systems and issues.</b>			
<u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>gather information from a variety of digital applications.</li> <li>interpret information gathered from a variety of digital applications.</li> <li>use specialized technologies for problem solving, decision making, and creativity in all subject areas.</li> </ul>	<i>Students will know:</i> <ul style="list-style-type: none"> <li>research strategies</li> </ul> Vocabulary: <ul style="list-style-type: none"> <li>database</li> <li>simulations</li> <li>spreadsheet</li> </ul>	<i>Students will understand that...</i> <ul style="list-style-type: none"> <li>digital tools allows for the complex study of systemic models and simulations.</li> </ul>	<i>Students will be able to...</i> <ul style="list-style-type: none"> <li>use and/or create models and simulations.</li> <li>investigate and interpret information from a variety of digital applications.</li> </ul>



<b>9-12.5.4: Identify trends and predict possible outcomes.</b>			
<p><u>Prior Background Knowledge Required:</u></p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● distinguish between positive, negative, and neutral (no) correlation.</li> <li>● predict possible outcomes using trends in data.</li> <li>● present possible outcomes using digital tools.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>● research strategies</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>● extrapolate</li> <li>● data</li> <li>● trend</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● digital tools facilitate data analysis to illuminate trends.</li> <li>● trends can be anticipated by studying data.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● analyze data and propose solutions.</li> <li>● identify trends, predict outcomes and effectively investigate information.</li> <li>● find, use, and compare online data, and digital models/simulations.</li> <li>● break down collected evidence and forecast trends.</li> <li>● predict and defend reasonable trends and outcomes with the use of digital tools.</li> </ul>

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## Communication and Collaboration

**Standard 6: 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.**

**9-12.6.1: Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.**

<p><u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>communicate with others digitally.</li> <li>collaboratively produce original works with others, including outside of their learning environment.</li> <li>create, peer-edit, and revise digitally-published work.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>safe, legal, and responsible use of digital tools</li> <li>collaborative online environments</li> <li>content creation</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>embed</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>online environments are used to collaborate and create.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>participate in an online environment.</li> <li>interact and collaborate digitally.</li> <li>create, upload, and share information digitally.</li> <li>comment, link, post, and embed information online.</li> </ul>
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**9-12.6.3: Engage with learners of other cultures to develop cultural understanding and global awareness.**

<p><u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>learn about other cultures using a variety of digital tools.</li> <li>collaborate with various cultures using digital tools.</li> <li>create a collaborative project using digital tools that promotes global awareness.</li> </ul>	<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>multiple perspectives</li> <li>online collaboration</li> <li>cultural diversity</li> </ul> <p>Vocabulary:</p> <ul style="list-style-type: none"> <li>culture</li> <li>global</li> <li>collaboration</li> </ul>	<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>a well-rounded knowledge of culture creates a shared appreciation of the world's diversity.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>adapt digital tools to support collaboration, learning, and productivity in a global environment.</li> <li>participate in an online global community.</li> <li>examine global perspectives.</li> </ul>
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<b>9-12.6.4: Contribute to group work to produce original works or solve problems.</b>			
<u>Prior Background Knowledge Required:</u> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● demonstrate collaborative skills using digital tools.</li> <li>● plan a collaborative project with students in other classrooms and/or schools using digital tools.</li> <li>● assign individual roles and tasks.</li> <li>● create a collaborative project to solve a problem with students in other classrooms and/or schools using digital tools.</li> </ul>	<i>Students will know:</i> <ul style="list-style-type: none"> <li>● multiple perspectives</li> <li>● online collaboration</li> </ul> Vocabulary: <ul style="list-style-type: none"> <li>● culture</li> <li>● collaboration</li> </ul>	<i>Students will understand that...</i> <ul style="list-style-type: none"> <li>● groups with multiple cultural perspectives solve problems most efficiently.</li> </ul>	<i>Students will be able to...</i> <ul style="list-style-type: none"> <li>● display initiative and participate cooperatively, respectfully, and productively in work teams.</li> <li>● solve problems in a team setting.</li> <li>● collaboratively plan and create projects/products/artifacts using digital tools.</li> </ul>

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