Arizona Educational Technology Standard Articulated by Grade Level

Grade 6

Strand 1: Creativity and Innovation

This strand requires that students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

Concept 1: Knowledge and Ideas

Use digital models and simulations to examine real-world connections, explore complex systems and issues, and enhance understanding.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Analyze information to generate new ideas and products.	Science 06-S1C4-02 Display data collected from a controlled investigation. Science 06-S1C4-01 Communicate results of investigations. Choose an appropriate graphic representation for collected data: • line graph • double bar graph • stem and leaf plot • histogram 6.RI.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. MP.2	Explanation: The student uses creative thinking and innovative processes to construct knowledge, generate new ideas, and create products. Science Examples: Construct a poll or survey to gather data using an interactive digital tool, then display results. • Create an online poll for peers to answer a science related question • Choose the appropriate graphic representation for collected data Poll Code Poll Everywhere Math Examples: • After exploring a mathematical concept on the NLVM (National Library of Virtual Manipulatives) website, students solve a math “word” problem (of the same concept) by creating their own algorithm, or finding a

Performance Objectives	Curriculum Connections	Explanations and Examples
	Reason abstractly and quantitatively. MP.4 Model with mathematics. 6.RP.2 Understand the concept of a unit rate a/b associated with a ratio *a*:*b* with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."* (Expectations for unit rates in this grade are limited to non-complex fractions.)	"different way" to solve the problem. • Using the front and back bike gear combinations, determine how many gear ratios on consecutive pedals are possible in completing different bike routes. Use this ratio to design a family bike race relay where the members in each team use 3-4 different types of bike to complete a route or two. Free Ride Language Arts Examples: • Construct a poll or survey to gather data using an interactive digital tool, then display results. • Follow directions on a WebQuest in order to answer questions and solve problems. WebQuest • Alternative Book Reports. Hooking the Reader with a Book Cover

Strand 1: Creativity and Innovation

Concept 2: Models and Simulations
Use digital models and simulations to examine real-world connections, explore complex systems and issues, and enhance understanding.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Recognize and explain relevant interdependent elements of a digital model or simulation.	Social Studies 06-S2C1-02 Construct timelines of the historical era being studied (e.g., presidents/ world leaders, key events, people). Social Studies 06-S2C1-01 Use the following to interpret historical data:a. timelines – B.C.E. and B.C.; C.E. and A.D.b. graphs, tables, charts, and maps 6.RI.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. 6.SL.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it	Explanation: The student describes and illustrates a content-related concept or process using models, simulations, and concept-mapping software. The student can explore complex systems and issues using models, simulations, and new technologies such as making predictions, modifying input and reviewing results and analyze trends and forecast possibilities. Social Studies Examples: • Students will write directions and procedures, as well as design graphics and tables, create timelines, and participate in digital simulations. Students will share timelines with class and justify inclusion and exclusion of dates/events. Building a Timeline in Word Language Arts Examples: • Illustrate a the main character, antagonist and supporting characters from a literary document. Students will present rendering to class or small group and explain how they determined which elements to include. Drawing programs and tools : Paint, Word • Create a digital model depicting the setting of the story. Students will

Performance Objectives	Curriculum Connections	Explanations and Examples
	contributes to a topic, text, or issue under study. 6.EE.4 Identify when two expressions are equivalent (i.e. when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for. 6.G.1 Find area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. 6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3)÷(3/4) and use a visual fraction model to	present and explain model to class. Sketchup Math Examples: • Students use interactive learning tool (Balance Pans - Expressions Tool) to learn about equivalent expressions. Everything Balances Out in the End • Find the area of polygons by decomposing into triangles, rectangles, parallelograms, and trapezoids. Area of a Trapezoid • Solve word problems involving division of fractions by fractions using picture models. Division of Fractions using Models

Performance Objectives	Curriculum Connections	Explanations and Examples
	show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.). How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics.	
PO 2: Explore and experiment with system variables using models or simulations.	Science 06-S1C3-02 Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events). 6.EE.2 Write, read, and evaluate expressions in	Explanation: Students change variables in simulations and models to investigate and test ideas about content-related systems or concepts. Participate in digital simulations. Science Examples: • Interactive Science Simulations Science Simulations

Performance Objectives	Curriculum Connections	Explanations and Examples
	which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as* *5 – y.* 6.G.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. 6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly	Math Examples: • Students play a game and discuss understanding of algebraic expressions. Algebraic Expressions Millionaire • Find the area of polygons by decomposing into triangles, rectangles, parallelograms, and trapezoids. Find the Volume of a Rectangular Prism Linking Length, Perimeter, Area and Volume Unit Paper Pool: Analyzing Numeric and Geometric Patterns Unit

Performance Objectives	Curriculum Connections	Explanations and Examples
	three votes." 6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. MP.6 Attend to precision. MP.7 Look for and make use of structure.	
PO 3: Compare and contrast two systems using a digital model or simulation.	Science 06-S4C1-06 Relate the following structures of living organisms to their functions: Animals • respiration – gills, lungs • digestion – stomach, intestines • circulation – heart, veins, arteries,	Explanation: Students compare and contrast two systems using a digital model or simulation. Science Examples: • Students compare two simple machines. Simple Machines

Performance Objectives	Curriculum Connections	Explanations and Examples
	capillaries • locomotion – muscles, skeleton Plants • transpiration – stomata, roots, xylem, phloem • absorption – roots, xylem, phloem • response to stimulus (phototropism, hydrotropism, geotropism) – roots, xylem, phloem 6.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. 6.SL.5 Include multimedia components (e.g., graphics, images, music, sound) and visual	Language Arts Examples: • Students uses graphic organizers to clarify the meaning of text and elements of literature. Graphic Organizers • Students analyze and plot major and minor characters in literary text using mapping tools such as Inspiration Concept Mapping BubbleUs LucidChart Mindmeister Mindomo Gliffy Math • Ker-Splash introduces students to algebra as they try to rack up points by combining like terms. Ker-Splash • Students use algebraic methods to solve a problem in a game format. Algebraic Reasoning Game • Students manipulate the legs of a triangle to build similar triangles by combining sides and angles. Geometry

Performance Objectives	Curriculum Connections	Explanations and Examples
	displays in presentations to clarify information. 6.EE.3 Apply the properties of operations as strategies to generate equivalent expressions. For example, apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; apply properties of operations to y + y + y to produce the equivalent expression 3y. 6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others.	

Grade 6

Performance Objectives	Curriculum Connections	Explanations and Examples
	MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure.	

Strand 1: Creativity and Innovation

Concept 3: Trends and Possibilities
Use technology to forecast trends and possibilities.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Identify patterns and trends to draw conclusions and forecast possibilities.	6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time. 6.NS.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points	Explanation: The student explores real-world issues and determines patterns and tendencies to formulate outcomes and predict future opportunities or alternatives. Math Examples: • Students explore patterns and trends as they apply to the Stock Market New York Stock Market What is the Stock Market • Students use Census data to explore population trends and analyze trends over time. Accessing and Investigating Population Data • Use statistics about endangered species to learn more about the extent of this global concern. Tracking the Wild Ones Why Do Civilizations Fall • Students investigate home sales in an assigned zip code, enter data in a spreadsheet and forecast home sales for the future. Home Sales Forecast:

Performance Objectives	Curriculum Connections	Explanations and Examples
	on the line and in the plane with negative number coordinates. b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	• Students develop their skills in collecting and recording data using the real-world situation of a bouncing tennis ball. Expressions and Equations • Interactive activities and models provide students an opportunity to identify and plot patterns and trends on a coordinate grid system. Reflect points over the X and Y axes Translate Shapes Across the X and Y axes

Strand 1: Creativity and Innovation

Concept 4: Original Works
Use technology to create original works in innovative ways.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Analyze information using digital creativity tools to create original works and express ideas	Science 06-S1C4-01 Communicate verbally or in writing the results of an inquiry. 6.RI.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. 6.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and	Explanation: Students analyze and evaluate information to create, innovate, and express ideas using digital tools. Science Examples: Students employ scientific processes to investigate the natural world and then share results and conclusions, communicating using creativity, innovation, and expression of ideas via: Newsletters, Brochures, Movies, Podcast/Vodcast, Digital storytelling, Web publishing Language Arts Examples: • Analyze media bites and create a new commercial; publish commercial • Use Digital creativity tools (camera, digital imaging, etc.) to restate, summarize or distinguish opinions and create a documentary film of reading content or literary materials. Tools: Brochures - Word, Publisher, Open Office Digital storytelling Movies – iMovie, Windows Movie Maker Newsletters – Word, Publisher, Open Office

Performance Objectives	Curriculum Connections	Explanations and Examples
	multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.	Podcast/Vodcast How to Podcast Podcasting and Education Web 2.0 Tools My Brochure Maker Animato

Performance Objectives	Curriculum Connections	Explanations and Examples
	c. Use appropriate transitions to clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	
PO 2: Use digital collaborative tools to analyze information to produce original works and express	Science 06-S1C4-05 Communicate the results and conclusion of the investigation.	Explanation: Students create original works as a means of personal or group expression using collaborative digital tools. Science

Performance Objectives	Curriculum Connections	Explanations and Examples
ideas.	6.RI.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. 6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation _Subtract y from 5_ as 5 _ y. 6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.	Examples: Students will collaborate using digital tools to produce artifacts that express understanding gained through scientific investigations. Language Arts Examples: • Students collaborate and publish with peers, experts, or others via current and emerging technologies, such as blogs, wikis, or audio/video communication. • After reading literary or expository text, students collaborate virtually with a peer to analyze the main ideas/themes, and recreate possible outcomes. • Use video conferencing to communicate Skype Using Skype in the Classroom 50 Awesome Ways to Use Skype in the Classroom • Debate a topic using online tools (blog, chat, message-board, etc.) 6 Ways to Write Better Blogs • Publish information on a topic using online tools (blog, wiki, etc.) WikiSpaces 50 Ways to Use Wikis in a Classroom • Students work collaboratively on projects using documents, spreadsheets, surveys and presentations Google Docs

Performance Objectives	Curriculum Connections	Explanations and Examples
	b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision.	Collaboration Tools: Edistorm Wallwisher Twiddla Math Examples: Expressions and Equations- a) Using Word, Google Drive, or other program have students work in pairs. b) Each group will create a table consisting of at least two columns (algebraic expressions and narratives). c) Each student will write 2 to 3 algebraic expressions, then exchange them with their partner. d) Students will then write brief narratives that can be matched with the expressions. e) Mixing up the expressions and narratives students will share their work with other groups to match each algebraic expression with appropriate narrative. f) Extend by having students identify the parts of each expression. Note: Advantages to Google Drive - students will be able to work on the document simultaneously and share their docs with other groups.

Strand 2: Communication and Collaboration
This strand requires students to use digital media and environments to communicate and collaborate with others.

Concept 1: Effective Communications and Digital Interactions
Communicate and collaborate with others employing a variety of digital environments and media.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Communicate digitally with others by selecting and using a variety of appropriate communication tools.	Social Studies 06-S2C9-01 Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps). Social Studies 06-S3C4-01 Describe ways an individual can contribute to a school or community. 6.W.3 Write narratives to develop real or imagined experiences or events using effective technique. relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.	Explanation: Students use an assortment of effective communication tools to discuss or share content-related concepts with others. Social Studies Examples: Students create a podcast and tape a debate on the issue of personal responsibility in a democracy, one side advocating for each citizen having a responsibility to participate as a citizen – for example individual voting rights vs. current statutes changing voting rights. Language Arts Examples: • Students use the same venues to present a persuasive essay on a current event or topic. • List of numerous podcasts for use in education Podcasting and Education • There are many sites that offer tutorials for pod/vodcasting, below are a few examples How To Podcast Podcasting How Tos/ Podcasting Tools

Performance Objectives	Curriculum Connections	Explanations and Examples
	b. Use narrative techniques, such as dialogue. pacing. and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. e. Provide a conclusion that follows from the narrated experiences or events. 6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.	Collaboration Tools: Choose Your Own Adventures VoiceThread LuLu • Publish books online Make Beliefs Comics Digital Storytelling Natural Disasters Project The Way We Are Math Example: • Students learn to rank survey questions. (a) Teacher provides survey questions (To extend learning opportunity have students create questions.) for students to rank based on widest to narrowest range of data results. (b) Students will utilize full program capability and explain reasoning for ranking status. (c) Have students compare their rankings with other students, small groups and compare their rankings with the whole class. Intel Education K12 Thinking Tools: Visual Ranking Tool

Performance Objectives	Curriculum Connections	Explanations and Examples
	MP.3 Construct viable arguments and critique the reasoning of others.	
PO 2: Explain and demonstrate the safety and etiquette of digital environment to communicate and collaborate with intended audiences.	6.RL.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. 6.W.3 Write narratives to develop real or imagined experiences or events using effective technique. relevant descriptive details, and well-structured event sequences. b. Use narrative techniques, such as dialogue. pacing. and description, to develop experiences, events, and/or characters. 6.W.3 Write narratives to develop real or imagined experiences or events using effective technique. relevant descriptive details, and well-structured event sequences.	Explanation: Students need to "know your audience" in a digital environment and communicate appropriately. Applications & Web Resources Examples: Professor Garfield Internet Safety and You Language Arts Examples: • When online the student can determine the intended effect of persuasive strategies and propaganda techniques (e.g. bandwagon, peer pressure, repetition, testimonial, transfer, loaded words) and make informed, appropriate choices. • Use media examples to demonstrate peer pressure, propaganda techniques • Students use academic language and conventions when working within an academic "digital environment (example: a classroom wiki or blog). Students use more casual language and more relaxed conventions when communication on a social networking site (example: FaceBook or MySpace) • When texting or emailing a friend, a student may use emoticons or

Performance Objectives	Curriculum Connections	Explanations and Examples
	d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. 6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. a. Come to discussions prepared. having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic. text, or issue to probe and reflect on ideas under discussion. 6.SL.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	"internet slang" (ex: LOL). However, in all settings this would not be appropriate. • Use technology tools, such as Skype, wikis, blogs and Google Docs to collaborate on scientific finding.

Strand 2: Communication and Collaboration

Concept 2: Digital Solutions

Contribute to project teams to produce original works or solve problems.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Communicate and collaborate for the purpose of producing original works or solving problems.	Science 06-S1C1-02 Formulate questions based on observations that lead to the development of a hypothesis. 6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic. text, or issue under discussion.	Explanation: Students will work with others to produce a product or solve problems. Science Examples: Students will use real time data from the Internet to track a real ship at sea, determine its destination and predict when it will arrive. In addition, they will have the opportunity to monitor the weather conditions at sea and predict when rough weather might impact on the ship's arrival time. Stowaway Adventure Language Arts Examples: • Create an online community within your school/district using Ning, for students to collaboratively write and publish their writing. Free examples would include but not limited to: Edmodo Schoology blogs or wikis

Strand 2: Communication and Collaboration

Concept 3: Global Connections

Create cultural understanding and global awareness by interacting with learners of other cultures.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Participate in communication at a distance with others of different cultures or geographic areas to gain different perspectives of topics.	Science 06-S1C4-03 Communicate the results of an investigation with appropriate use of qualitative and quantitative information. Social Studies 06-S4C5-04 Identify the way humans respond to/ prepare for natural hazards (i.e., lightning, flash floods, dust storms, tornadoes, hurricanes, floods, earthquakes) in order to remain safe. 6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. a. Come to discussions prepared. having read or studied required material; explicitly draw on that	Explanation: Students participate in information exchange with students from another area, or another culture. Science Examples: Students explore how much water they use everyday at home and compare results with people in other parts of the world. By collecting data on water usage from people around the world students will be able to see how water use compares to others, including how different cultural practices might impact usage. Share scientific findings with students of other nations, compare and contrast results and conclusions. Down the Drain Collaborative Project Social Studies Examples: Students inquire about the climate and natural events, such as floods, earthquakes, etc. to compare and contrast how each student's life is affected by the environment around them. epals Keypals

	preparation by referring to evidence on the topic. text, or issue to probe and reflect on ideas under discussion. 6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.	Language Arts Examples: • The student can identify and comprehend a variety of literature from multicultural perspectives. • Engage in multicultural "storytelling" across continents • Create virtual " multicultural school house" environment and pair-share reading variety of genres

Strand 3: Research and Information Literacy
This strand requires that students apply digital tools to gather, evaluate, and use information.

Concept 1: Planning
Plan strategies to guide inquiry, using technology.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Predict and use key words and phrases that narrow or broaden information searches.	6.RI.5 Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.	Explanation: Students practice using key words and phrases to conduct Internet searches to widen or limit the results. Language Arts Examples: • Brainstorm words and synonyms that could be used in a search. • Search tools: Google, Ask, Bing Science: Examples: Conduct Internet research to find information on related science content areas (life, physical, earth and space). Applications & Web Resources: Google Keyword Learning to Focus Internet Search Search Wizard Identifying Key Words,Synonyms, and Key Phrases Boolean Operators Using Keywords Wading Through the Web: Teaching Internet Research Strategies

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 2: Predict which information sources will provide the desired data.	Science 06-S1C3-03 Evaluate the observations and data reported by others. 6.RI.3 Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes). 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	Explanation: Students evaluate sources to determine relevance to their research. Science Examples: • Compare search results to determine which information source provides desired information. • Looking at various search results, deciding which website is valid to obtain information from. • Finding factual information from multiple sites to ensure validity. Web Resources: These resources show how the internet contains sites with claims that contain no evidence to back up statements. Save the Pacific Northwest Tree Octopus Dihydrogen Monoxide Language Arts Examples: Practice search queries to determine broad and narrow ranges of information.

Strand 3: Research and Information Literacy

Concept 2: Processing
Locate, organize, analyze, evaluate, synthesize and ethically use information from a variety of sources and media.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Locate and synthesize information to revise search strategies.	6.W.7 Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. 6.RI.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Explanation: After conducting Internet searches, the student evaluates the results and refines the search terms to get more specific information to meet his/her needs. Examples: • Specific Search Options: Advanced Search Boolean Searches • Applications & Web Resources: Digital Literacy and Citizenship Topics Lesson Title "Rating Web Sites" (grades 3-5) Lesson Title "Choosing a Search Site" (grades 3-5) Language Arts Examples: Practice search queries to determine broad and narrow ranges of information.
PO 2: Use authoritative primary and/or secondary sources.	Science 06-S2C1-01 Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Percy Lavon Julian	Explanation: Students learn to distinguish between primary and secondary sources, along with evaluating the authority of sources. Science Examples:

Performance Objectives	Curriculum Connections	Explanations and Examples
	[scientist], supports Strand 4; Niels Bohr [scientist], supports Strand 5; Edwin Hubble [scientist], supports Strand 6). 6.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. 6-8.RH.8 Distinguish among fact, opinion, and reasoned judgment in a text. 6-8.RH.9 Analyze the relationship between a primary and secondary source on the same topic.	• Show students the difference between scientific journals with primary source data and more general websites containing secondary source information. • Have students identify primary and secondary source documents through finding science oriented current events Language Arts Examples: The student can distinguish fact from opinion. Use the Internet to show a variety of expository text including examples of fact vs. opinion or biases. Web Resources: Identifying primary and secondary sources Popular Science Scientific American Eisenhower National Clearinghouse Social Studies Examples: Student can compare their textbook account of an event in history with information contained in primary sources obtained from an Internet search for primary source documents. Applications & Web Resources: • Primary Sources: Eyewitness to History NASA (for Space Exploration report) • Government sites:

Performance Objectives	Curriculum Connections	Explanations and Examples
	Social Studies 06-S2C1-05 Describe the difference between primary and secondary sources.	Department of Health Library of Congress • Primary and Secondary Sources: PBS American Experience
PO 3: Evaluate information and media through determining facts, opinion, bias, and inaccuracies by consulting multiple sources.	6.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. 6.RI.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a	Explanation: Students assess content to determine fact/opinion, bias and accuracy. Consult multiple sources to determine validity. Examples: • Research papers • Presentations or experimentation Language Arts Examples: The student can distinguish fact from opinion. Use the Internet to show a variety of expository text including examples of fact vs. opinion or biases. Possible topics: newspaper stories about a famous person, product analysis - favorite foods and whether they are healthy or not. Science Examples: Evaluate a biased or opinion-based scientific claim with supporting evidence and compare to multiple verifiable sources. Applications & Web Resources: □ Rating Web Sites

Performance Objectives	Curriculum Connections	Explanations and Examples
	topic or issue. 6-8.RH.8 Distinguish among fact, opinion, and reasoned judgment in a text. Science 06-S1C1-03 Locate research information, not limited to a single source, for use in the design of a controlled investigation.	Site Validity Professor Garfield, Fact or Opinion Thinfinity (In search window type in type "evaluate websites")
PO 4: Use appropriate digital tools to synthesize research information to develop new ideas and/or create new understanding.	Science 06-SC1C3-02 Analyze and interpret data to explain correlations and results; formulate new questions. PO 2. Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events). 6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. MP.6	Explanation: The student acquires, analyzes and manages content from digital resources to create new ideas or knowledge. Science Examples: Research a scientific concept and tie to a need or problem in that area. Develop an idea to solve a human population, natural hazard, or environmental concern Math Examples: Use a spreadsheet (web-based or offline) to process data and display data using appropriate graph Application and Web Resources: Create a Spreadsheet

Performance Objectives	Curriculum Connections	Explanations and Examples
	Attend to precision. MP.7 Look for and make use of structure. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. 6.RI.8 Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. 6.RI.9 Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).	Circle Graph Language Arts Examples: Use technological skills required to understand a wide array of informational text and gather research and present new ideas Use online organization models to collect data, facts, resources, etc. Create a research plan to guide inquiry Consult multiple sources to determine validity - Research papers, news sources, books, presentations Brainstorming Research Questions Categorizing Research Questions
PO 5: Follow copyright laws when using text, images,	6.SP.4 Display numerical data in plots on a	Explanation: Students know and obey copyright laws and fair use stipulations from text, images, music and video sources.

Performance Objectives	Curriculum Connections	Explanations and Examples
videos and/or other sources and obtain permission to use the work of others and cite resources appropriately.	number line, including dot plots, histograms, and box plots. MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools strategically. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	Math Examples: (a) Organize students in teams of 4-5 (b) Students design and conduct a survey, of at least 30 students, about their use (frequency & quantity: minutes/pages/words) of media content in research projects in any subject. **Survey Generator** (c) One of the media content types is assigned to each team(6 teams). Media content may come from varied sources and includes: Motion Media, Text, Poetry, Music/Lyrics/Video, Photos/Illustrations, numerical data. (d) Students then present the survey result in a spreadsheet and generate a graph that shows the mean percentage of the use of the given media being investigated. (e) Student then compare these results based on the fair use guidelines as follows: Motion Media - 10% or 3 minutes Text - 10% or 1000 words Poetry - 250 words, no more than 3 from same author Music, Lyrics, Video 10% or 30 sec Photos & Illustrations - 5 images from one author Numerical Data Sets - 10% of 2500 fields or cells (f) The group will also publish an ad (poster/flyer/brochure/website) campaigning for the limitation of the use of media content in research projects and present these ads to students in each classroom on a planned Fair Use Day. **Fair Use Day**

Performance Objectives	Curriculum Connections	Explanations and Examples
		Applications & Web Resources: Campaigning For Fair Use: Public Service Announcements on Copyright Awareness CyberSmart **Online Citation Generator** Citation Machine EasyBib **Copyright** Copyright Chaos Copyright Friendly/ Thinkfinity (In search window type in type "copyright") **Blogs** Publish Your Blogs **Pod/Vodcasting** Podcasting and Education How to Create a Persuasive Podcast How to Podcast Tutorial/ How to Podcast Podcasting Tools **Brochures - Newsletters** **Tip: Establish peer-review rubric to ensure the Fair-Use guidelines are followed.**

Strand 4: Critical Thinking, Problem Solving, Decision Making
This strand requires students to use critical thinking, problem solving, and decision making to manage projects using digital tools and resources.

Concept 1: Investigation
Identify and define authentic problems and significant questions for investigation.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Write essential questions to investigate a topic or issue using digital tools and resources.	Social Studies 06-S1C1-02 Discuss the connections between current and historical events and issues from content studied. 6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic. text, or issue under discussion. 6-8.RH.2 Determine the central ideas or	Explanation: Students create key questions to explore a topic or issue using digital tools. Social Studies Examples: □ Class wants to learn more about homelessness, after discussion class comes up with essential question; “Why are some people homeless?” Students research the issue of homelessness, determine possible solutions, and find local agencies that are working for solutions. □ Students conduct historical investigations using a variety of documents and sources. First students need to identify a given topic/event and then generate the essential questions from which they can conduct their research. Historical Scene Investigation Language Arts Examples: The student can employ multiple technology-based strategies to comprehend text. □ Highlight facts in reading digital documents to formulate clarifying questions

Performance Objectives	Curriculum Connections	Explanations and Examples
	information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.	Use digital media to connect information and events from a story or text.

Strand 4: Critical Thinking, Problem Solving, Decision Making

Concept 2: Exploring Solutions

Plan and manage activities to develop solutions to answer a question or complete a project.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Plan and manage research using credible digital resources to develop solutions to answer a question.	Science 06-S1C3-02 Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events). Science 06-S1C3-01 Analyze data obtained in a scientific investigation to identify trends. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. 6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers. c. Evaluate expressions at specific	Explanation: Students create essential question, research that essential questions, and develop solutions using reliable digital resources. Math/Science Examples: (a) Students are assigned 2 states. (b) They will conduct a comparative research on climate index VS greenhouse gas inventory that spans 20-30 years (e.g. 1990-2005) using NASA or Department of Energy website. (c) They will use a spreadsheet to input and graph the result. They will use this data to determine the relationship between the 2 variables investigated as well as the rate of change in each of these variables. (d) Based on this rate, they will predict their assigned states' climate index VS greenhouse gas inventory in the span of 50 years.

Performance Objectives	Curriculum Connections	Explanations and Examples
	values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2. 6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. b. Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?	

Performance Objectives	Curriculum Connections	Explanations and Examples
	MP.1 Make sense of problems and persevere in solving them. MP.3 Construct viable arguments and critique the reasoning of others.	
PO 2: Generate solutions from different perspectives using collected resources and data.	Science 06-S3C2-01 Propose viable methods of responding to an identified need or problem. Social Studies 06-S2C9-01 Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps). 6.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast,	Explanation: Students create essential questions, research multiple perspectives and develop a solution using digital resources. Social Studies Example: □ Class wants to learn more about homelessness, after discussion class comes up with essential question; “Why are some people homeless?” □ Students research the issue of homelessness, exploring multiple perspectives on the issue. Students determine possible solutions, exploring various agencies that are working for solutions. □ Students develop a specific solution and present this to the class, school or community. Math/Science Example: The students will generate solutions at the following level to reduce greenhouse gases and slow down climate change based on the data collected: state-wide, town/city, neighborhood, home, school.

Performance Objectives	Curriculum Connections	Explanations and Examples
	and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. 6.RI.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.	Applications & Web Resources Collaboration Tools Edistorm WallWisher Twiddla Google docs - students are able to work collaboratively on projects using word processing documents, spreadsheets, surveys and presentations Citation Machine EasyBib

Strand 5: Digital Citizenship
This strand requires students to understand human, cultural, and societal issues related to technology practice and ethical behavior.

Concept 1: Safety and Ethics
Advocate and practice safe, legal, and responsible use of information and technology.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Assess situations in which it is appropriate and safe to use a personal digital device in the home, school, and community.	Social Studies 06-S2C9-01 Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps). 6.SL.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	Explanation: Students learn about how, when and where a (PDA) personal digital device (Cell phone, PDA, iPod, etc.) should be used. Social Studies Examples: ? Students debate the appropriateness of PDA in and out of the classroom. ? Students create short skits that reflect do's and don't of PDA's. situations and explain how, when, and where it would be appropriate or inappropriate to use a personal digital device. Language Arts Examples: When online the student should be able to determine the intended effect of persuasive strategies and propaganda techniques (e.g., bandwagon, peer pressure, repetition, testimonial, transfer, loaded words) in order to make informed, appropriate choices. ? Use media examples to demonstrate peer pressure, propaganda techniques. Applications & Web Resources ? Media Professor Garfield, Forms of Media

Performance Objectives	Curriculum Connections	Explanations and Examples
		Media Lesson Plans
PO 2: Describe cyberbullying and describe strategies to deal with such a situation.	Social Studies 06-S1C1-01 Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps). 6.RI.3 Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes). 6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. a. Come to discussions prepared. having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic. text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial	Explanation: Students define cyberbullying and develop strategies for preventing and responding to cyberbullies. Language Arts Examples: Use media examples to demonstrate peer pressure, propaganda techniques. Social Studies Examples: Have student create a forum on cyberbullying to be held across classes or class periods. Applications & Web Resources: Stop Bullying Now Digital Literacy and Citizenship Topics Lesson Title “The Power of Words” Lesson Title“Group Think” Lesson Title“Cyberbullying: What's Crossing the Line?” Thinkfinity (In search window type “cyberbullying”) Professor Garfield, Cyberbullying Stop Bullying Now The Power of Words

Performance Objectives	Curriculum Connections	Explanations and Examples
	discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic. text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. 6.SL.4 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.	
PO 3: Identify and articulate rules for the use of digital tools as defined by school board policy and procedures.	6.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. b. Apply grade 6 Reading standards to	Explanation: Students articulate and follow all rules decided by the school. Example: Review and sign acceptable use policy or Student Code of Conduct Applications & Web Resources:

Performance Objectives	Curriculum Connections	Explanations and Examples
	literary nonfiction (e.g., _Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not_).	
PO 4: Identify and articulate strategies to protect personal information.	Social Studies 06-S1C1-01 Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps). 6.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.	Explanation: Student differentiates appropriate from inappropriate information to share online and strategies to protect privacy. Social Studies Examples: Students act out scenarios where they determine if information sharing is appropriate and what information to share. Discussion follows. Writing Examples: Students develop a set of guidelines to share with the student body regarding personal information and how to protect their privacy. Applications & Web Resources: Digital Literacy and Citizenship Topics Lesson Title “Privacy Rules” Lesson Title “Private and Personal Information” Professor Garfield, Online Safety Thinkfinity (In search window type “internet safety”)

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 5: Evaluate various websites to choose the best option for making an Internet purchase for a particular product.	6.RI.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.	Explanation: Students search the Internet for a specific product, evaluate the results and determine the best site to purchase the product based on price, reliability of the company, delivery costs and delivery timelines. Math Examples: Finding a product online and comparing prices, considering shipping charges. Designing a dream house and shopping for it online Applications & Web Resources: Thinkfinity (In search window type "evaluate websites") Online citation generator Citation Machine
PO 6: Exhibit legal and ethical behavior when using technology and discuss consequences of misuse.	6.RI.8 Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. 6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	Explanation: Students review Fair Use guidelines and learn to distinguish between ethical and non-ethical or legal use of technology. Included in legal use would be: copyright (especially as it relates to music, videos and text), using networks and the Internet ethically (not hacking) and even issues teachers have at Middle school with kids damaging technology equipment in belligerent manner – i.e. changing settings on machines, putting paper clips in drives, bringing viruses from home, etc. Examples: Exploring Plagiarism , Copyright, and Paraphrasing Language Arts Examples: The student can draw valid conclusions about expository text, supported by

Performance Objectives	Curriculum Connections	Explanations and Examples
		text evidence. □ Use Internet resources to demonstrate legal and ethical behavior □ Use media to demonstrate viewpoints and gather points for discussions □ Establish peer-review rubric to ensure the Fair-Use guidelines are followed. Math Examples: (a) Organize students in teams of 4-5 (b) Students design and conduct a survey, of at least 30 students, about their use (frequency & quantity: minutes/pages/words) of media content in research projects in any subject. **Survey Generator** (c) One of the media content types is assigned to each team(6 teams). Media content may come from varied sources and includes: Motion Media, Text, Poetry, Music/Lyrics/Video, Photos/Illustrations, numerical data. (d) Students then present the survey result in a spreadsheet and generate a graph that shows the mean percentage of the use of the given media being investigated. (e) Student then compare these results based on the fair use guidelines as follows: Motion Media - 10% or 3 minutes Text - 10% or 1000 words Poetry - 250 words, no more than 3 from same author Music, Lyrics, Video 10% or 30 sec Photos & Illustrations - 5 images from one author Numerical Data Sets - 10% of 2500 fields or cells (f) The group will also publish an ad (poster/flyer/brochure/website)

Performance Objectives	Curriculum Connections	Explanations and Examples
		campaigning for the limitation of the use of media content in research projects and present these ads to students in each classroom on a planned Fair Use Day. **Fair Use Day** **Applications & Web Resources**: Campaigning For Fair Use: Public Service Announcements on Copyright Awareness CyberSmart **Online Citation Generator** Citation Machine EasyBib **Copyright** Copyright Chaos Copyright Friendly/ Thinkfinity (In search window type in type “copyright”) **Blogs** Publish Your Blogs **Pod/Vodcasting** Podcasting and Education How to Create a Persuasive Podcast How to Podcast Tutorial/ How to Podcast Podcasting Tools **Brochures - Newsletters**

Grade 6

Performance Objectives	Curriculum Connections	Explanations and Examples
		Tip: Establish peer-review rubric to ensure the Fair-Use guidelines are followed.

Strand 5: Digital Citizenship

Concept 2: Leadership for Digital Citizenship
Demonstrates leadership for digital citizenship.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Promote digital citizenship by consistently leading by example and advocating social and civic responsibility to others.	6.SL.1 Engage effectively in a range of collaborative discussions (one-on-one. in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others_ ideas and expressing their own clearly. a. Come to discussions prepared. having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic. text, or issue to probe and reflect on ideas under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. 6.W.6 Use technology, including the Internet, to	Explanation: Students demonstrate an understanding of digital citizenship by sharing the information with peers individually and in groups. Language Arts Examples: Lead by example online, being socially and civilly responsible. □ create posters, newspaper/newsletter stories and items, email messages and other documents promoting digital citizenship. □ actively engage in online communities with civic competence □ mentor peers on appropriate digital citizenship Applications & Web Resources: Digital Citizenship- Using Technology Appropriately

Performance Objectives	Curriculum Connections	Explanations and Examples
	produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	

Strand 5: Digital Citizenship

Concept 3: Impact of Technology

Develop an understanding of the cultural, historical, economic and political impact of technology on individuals and society.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Research a current technology and describe its potential use to solve an economic, environmental, health, political, scientific, or social problem.	5.W.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1_3 above.)	Explanation: Students will research a current technology and produce a digital document (report, brochures, video etc.) explaining the potential use of the technology to solve a current issue in our society. Language Arts Examples: Students select an economic, environmental, health, scientific, social or scientific problem and research technological advances that address the problem. Applications & Web Resources: Thinkfinity (Search "technological advance in medicine")

Strand 6: Technology Operations and Concepts
This strand requires students to demonstrate a sound understanding of technology concepts, systems, and operations.

Concept 1: Understanding
Recognize, define and use technology term, processes, systems and applications.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Define and correctly use terms related to networks.	6.L.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word_s position or function in a sentence) as a clue to the meaning of a word or phrase. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	Explanation: Students learn correct terminology related to computer networks. Examples: ● Students describe the school LAN (Local Area Network) and how it connects to the District WAN (Wide Area Network) ● Students list wireless technologies and describe how they connect and access those. Students share ways to be safe when setting up a wireless network at home and how to safely use public wireless networks ● Students describe bandwidth speed and how it impacts downloading software, watching videos and playing games. Students discuss how downloading software and watching videos impact network speed on the school LAN. Language Arts Examples: The student uses technological vocabulary in relevant contexts. ● Identify and use terminology relevant to technological use (WAN, LAN) Applications & Web Resources: Thinkfinity (In the search window type in “technology terms”)

Grade 6

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 2: Define and apply knowledge of various technical process terms.	6.L.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word_s position or function in a sentence) as a clue to the meaning of a word or phrase. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary). 6.L.6 Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	Explanation: Students identify various technical processes and associate the correct terms with them. Language Arts Examples: The student identifies the proper terminology that reflects the given process and defines each term. * Can be integrated into any content area. Applications & Web Resources: Thinkfinity (In search window type in type “technology terms”.) Examples of technical processes: (a) Download content from web (b) Insert picture in a document (c) Save file to server (d) Create a slide show (e) Integrate two or more current and emerging technology tools such as tables, charts and graphs, into a document or presentation. (f) Design a web page
PO 3: Choose technology applications appropriate for	6.L.6 Acquire and use accurately grade-	Explanation: Students are able to select the technology application best suited to a given task.

Performance Objectives	Curriculum Connections	Explanations and Examples
the audience and task.	appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	Language Arts Examples: Teacher-guided practice of what to use when ● Data collection (spreadsheet, database, google docs) Delicious ● Writing (word processing, blog, wiki) ● Compare contrast (diagramming) Concept Mapping BubblUs Mindmeister Online Poster Prezi Prezentit Slideshare ● Creating with Sound Garageband Audacity Other Examples: ● Create a video format ● Create a picture file and save in both gif and jpeg format. ● Integrate two or more current and emerging technology tools such as productivity tools, multimedia files, web technologies, and portable files. Web Resources: Timelines Create a Graph

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 4: Recognize and demonstrate ergonomically safe and sound use of equipment.		Explanation: Students understand and demonstrate proper body positioning with different types of equipment. Examples: ● Students demonstrate proper keyboarding use by using a QWERTY keyboard and will sit straight, with feet flat and hands on home row position ● When students are creating a document, be sure that their fingers are on home row position ASDF and JKL. ● Students list ergonomic concerns when using portable devices like cell phones, ipods, PDA's etc. to avoid injuries. Applications & Web Resources: The Ultimate Guide to Ergonomics: 50 Tips & Tricks for Serious Students Computer Ergonomics for Teachers and Students
PO 5: Identify physical risks of using digital technology.		Explanation: Students can articulate risks associated with the improper use of digital equipment. Examples: ● Sitting in the same position with improper posture may lead to soreness in neck and back, fingers and wrists. ● Carpal tunnel in the wrists can be a hazard of prolonged, improper keyboard use. ● "Blackberry Thumb" - tendonitis of the thumb tendons caused by repetitive use when texting

Grade 6

Performance Objectives	Curriculum Connections	Explanations and Examples
		Applications & Web Resources: The Ultimate Guide to Ergonomics: 50 Tips & Tricks for Serious Students Computer Ergonomics for Teachers and Students

Strand 6: Technology Operations and Concepts

Concept 2: Application
Select and use applications effectively and productively.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Demonstrate speed and accuracy in use of keyboard and data entry tools with at least 20 wpm and 80% accuracy.	6.W.6 Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.	Explanation: Students demonstrate competency in typing and keyboard use. Examples: ▯ Students will take an online or program-based keyboarding test that measures Words Per Minute (WPM) with mistakes per minute measured. Language Arts Examples: Students produce documents with fluency and accuracy. ▯ words per minute (wpm) ▯ keyboarding ▯ spell check/thesaurus use Applications & Web Resources: ▯ Online typing programs/games Power Typing Typing Test TuxType Applications Typing programs such as Type To Learn 3 may also be used to improve and test typing speed/accuracy Free online typing games Free online grammar check

Grade 6

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 2: Compose a document that applies intermediate formatting.	6.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1_3 above.)	Explanation: Students learn about various document formats. Examples: Students compose a document such as a friendly letter or business letter with proper formatting. Students write a formal or friendly letter to a parent, teacher or friend and follow proper editing and formatting techniques. Using features from the toolbars such as standard and formatting features that allow font type, page alignment and spacing are important features for formatting. Applications & Web Resources: Read, Write, Think- letter generator
PO 3: Produce simple charts and graphs from data in a spreadsheet.	6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	Explanation: Students create charts and graphs using specific data. Applications & Web Resources: NCES- create a graph Shodor- Histogram Math Examples: Students track weather from a city of their choice from www.weather.com for five days and record their findings in a spreadsheet. Selecting the data and graphing using the chart wizard feature will produce a simple bar graph of weather temperature and days. Students display data

Performance Objectives	Curriculum Connections	Explanations and Examples
		using different graphing methods. Illuminations - Advanced Data Grapher For investigating histograms: Illuminations-Histogram Tool Exploring Histograms For investigating Box-and-Whisker Plot Illuminations - Box Plotter
PO 4: Perform simple operations in a database.	6.NS.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. 6.SP.3 Recognize that a measure of center for a numerical data set summarizes all of its values using a single number, while a measure of variation describes how its values vary using a single number.	Explanation: Students create a simple spreadsheet adding multiple cells using simple functions and manually writing formulas. Science Examples: Use a spreadsheet chart to collect data Sort data into categories Use simple functions to refine and present data to be analyzed Applications & Web Resources: Animal database Freeware database downloads Math Examples: Students are given a list of items purchased with prices, along with a record of deposits, and withdrawals in a checking account format. They will

Performance Objectives	Curriculum Connections	Explanations and Examples
	MP.4 Model with mathematics. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	create a spreadsheet by entering the information into the appropriate cells and the formula that is necessary for computation. Spreadsheets and Formulas Students can learn about measure of central tendency. Illuminations - Canada Data Map Students can add two or three numbers from different cells using simple formula. Formula for adding =sum(a1:a2)
PO 5: Create multimedia presentations with multiple pages, audio, images, and transitions for individual assignments.	6.SL.5 Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.	Explanation: Students create a simple presentation with multiple slides incorporating features such as slide transition, importing images, attaching audio clips. Language Arts Examples: The student can create text features for a specific purpose. Interpret details from text for the purpose of recreating a presentation including those details. Integrate two or more current and emerging technology tools such as productivity tools, multimedia files, web technologies, and portable files. Students can create a presentation about inventors, state reports or scientific reports that include all of the above features.

Performance Objectives	Curriculum Connections	Explanations and Examples
		Science Examples: Create slide shows, web pages or wikis to convey knowledge about scientific concepts.
PO 6: Create a simple web page incorporating text, links, and graphics.	6.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1_3 above.) 6.W.6 Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. 6.W.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information	Explanation: Students can create a free website using online resources to create a webpage, wiki or blog to publish online Examples: Students can use blogger, wikispaces or any other free online resource to create a webpages online. Applications & Web Resources: Publish information on a topic using online tools (blog, wiki, etc.) Wikispaces Web Resources for using wikis in the classroom 50 Ways to Use Wikis for a More Collaborative and Interactive Classroom Blogs Blogger Publish for your Public - Blogs Web Pages Web page creator *Note: Can utilize any subject content.*

Performance Objectives	Curriculum Connections	Explanations and Examples
	for sources.	
PO 7: Use network storage drives to access and share information from a directory.		Explanation: Students can save to a server, external hard drive, or any other storage device. Example: ? Students can save files to a school server and access from other machines on campus. ? Saving to external hard drives or flash drives and sharing with other groups or computers is possible Science Examples: Create web sites/pages to convey knowledge about scientific concepts Applications & Web Resources: Computer Networking for Kids

Strand 6: Technology Operations and Concepts

Concept 3: Troubleshoot Systems and Processes

Define problems and investigates solutions in systems and processes.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Generate and apply solutions to troubleshoot hardware and software issues and problems.	6.RI.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.	Explanation: Students learn how to troubleshoot computer problems. Examples: ▯ Problems where troubleshooting is needed. ▯ File management problem (lost a file or document). ▯ Receiving error or information messages ▯ Connectivity problems (Internet or network) ▯ Using recycled desktop computers, have students disassemble and reassemble computers into working order. Loading an operating system and drivers for the system are typical software solutions for errors. Language Arts Examples: The student can read instructional manuals for the purpose of troubleshooting. ▯ Use technology manuals of various tools (camera, ipad, computer, software) to determine the order of sequence to solve issues.

Strand 6: Technology Operations and Concepts

Concept 4: Transfer of Knowledge
Transfer current knowledge to learning of new technologies.

Performance Objectives	Curriculum Connections	Explanations and Examples
PO 1: Transfer understanding of current technologies to new and novel learning situations.	6.SL.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. 6.RI.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Explanation: Students take what they know and apply it with new technologies. Example: Students use drawing tools in a document program (Microsoft Word), take this knowledge and expand it when using a new 3-D imaging program (Sketch-up). Students know how to use PowerPoint and transfer it to Prezi, or can take a report created in a word processor and present it in a meaningful way in a Wiki. Students must apply basic operations of hardware and software processes to a new Operating System such as Linux and find version to run on specific computer while using Open Source Software to load onto the new OS. Language Arts Examples: The student can create new materials from literary text. Read literary materials and create an online version for student with limited English proficiency; include activities. Recreate the characters in a novel using graphics generators and put the characters in a new setting to tell the same story.

Grade 6

Performance Objectives	Curriculum Connections	Explanations and Examples
		Applications & Web Resources: Sketchup