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Next Generation Science Standards (NGSS)

Grade	Discipline	Code	Description
9-12	Engineering Design	HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
9-12	Engineering Design	HS-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.
9-12	Motion and Stability: Forces and Interactions	HS-PS2.A	Newton's second law accurately predicts changes in the motion of macroscopic object. Momentum is defined for a particular frame of reference; it is the mass times the velocity of the object. If a system interacts with objects outside itself, the total momentum of the system can change; however, any such change is balanced by changes in the momentum of objects outside the system.
9-12	Motion and Stability: Forces and Interactions	HS-PS2-1	Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
9-12	Motion and Stability: Forces and Interactions	HS-PS2-3	Apply science and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
9-12	Motion and Stability: Forces and Interactions	3-PS2.A	Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
9-12	Motion and Stability: Forces and Interactions	HS-PS2-2	Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.

International Society for Technology in Education (ISTE)

Standard Number	Category	Description
1a	Empowered Learner	Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
1c	Empowered Learner	Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.
1d	Empowered Learner	Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.
3a	Knowledge Constructor	Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
3b	Knowledge Constructor	Students evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.
3c	Knowledge Constructor	Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
3d	Knowledge Constructor	Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.
4a	Innovative Designer	Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
4b	Innovative Designer	Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
4c	Innovative Designer	Students develop, test and refine prototypes as part of a cyclical design process.
4d	Innovative Designer	Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.
5a	Computational Thinker	Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.
5b	Innovative Designer	Students collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.
5c	Innovative Designer	Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.
6a	Creative Communicator	Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
6b	Creative Communicator	Students create original works or responsibly repurpose or remix digital resources into new creations.
6c	Creative Communicator	Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
6d	Creative Communicator	Students publish or present content that customizes the message and medium for their intended audiences.
7b	Global Collaborator	Students use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.
7c	Global Collaborator	Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
7d	Global Collaborator	Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Standards for Technological Literacy (STL)

Grade(s)	Standard Number	Standard	Description
3-5	16.C	Students will develop an understanding of and be able to select and use energy and power technologies.	Energy comes in different forms.
6-8	1.F	Students will develop an understanding of the characteristics and scope of technology.	New products and systems can be developed to solve problems or to help do things that could not be done without technology.
6-8	1.G	Students will develop an understanding of the characteristics and scope of technology.	The development of technology is a human activity and is the result of individual and collective needs and the ability.
6-8	1.H	Students will develop an understanding of the characteristics and scope of technology.	Technology is closely linked to creativity, which has resulted in innovation.
6-8	10.G	Students will develop an understanding of the role of troubleshooting, research and development, invention & innovation, and experimentation in problem solving.	Invention is a process of turning ideas and imagination into devices and systems. Innovation is the process of modifying an existing product or system to improve it.
6-8	11.L	Students will develop abilities to apply the design process.	Make a product or system and document the solution.
6-8	14.G	Students will develop an understanding of and be able to select and use medical technologies.	Advances and innovations in medical technologies are used to improve health care.
6-8	17.K	Students will develop an understanding of and be able to select and use information and communication technologies.	The use of symbols, measurements, and drawings promotes clear communication by providing a common language to express ideas.
6-8	2.M	Students will develop an understanding of the core concepts of technology.	Technological systems include input, processes, output, and, at times, feedback.
6-8	2.N	Students will develop an understanding of the core concepts of technology.	Systems thinking involves considering how every part relates to others.
6-8	3.F	Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.	Knowledge gained from other fields of study has a direct effect on the development of technological products and systems.
6-8	4.D	Students will develop an understanding of the cultural, social, economic, and political effects of technology.	The use of technology affects humans in various ways, including their safety, comfort, choices, and attitudes about technology's development and use.
6-8	4.E	Students will develop an understanding of the cultural, social, economic, and political effects of technology.	Technology, by itself, is neither good nor bad, but decisions about the use of products and systems can result in desirable or undesirable consequences.
6-8	6.D	Students will develop an understanding of the role of society in the development and use of technology.	Throughout history, new technologies have resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
6-8	7.E	Students will develop an understanding of the influence of technology on history.	The design and construction of structures for service or convenience have evolved from the development of techniques for measurement, controlling systems, and the understanding of spatial relationships.
6-8	8.E	Students will develop an understanding of the attributes of design.	Design is a creative planning process that leads to useful products and systems
6-8	8.F	Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.	There is no perfect design.
6-8	9.H	Students will develop an understanding of engineering design.	Modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions.
6-8	9.G	Students will develop an understanding of engineering design.	Brainstorming is a group problem-solving design process in which each person in the group presents his or her ideas in an open forum.
9-12	1.L	Students will develop an understanding of the characteristics and scope of technology.	Inventions and innovations are the results of specific, goal-directed research.
9-12	11.Q	Students will develop abilities to apply the design process.	Develop and produce a product or system using a design process.
9-12	11.R	Students will develop abilities to apply the design process	Evaluate final solutions and communicate observation, processes, and results of the entire design process, using verbal, graphic, quantitative, virtual, and written means, in addition to three dimensional models.
9-12	12.L	Students will develop the abilities to use and maintain technological products and systems.	Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.
9-12	12.N	Students will develop the abilities to use and maintain technological products and systems.	Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.
9-12	12.O	Students will develop the abilities to use and maintain technological products and systems.	Operate systems so that they function in the way they were designed.
9-12	19.P	Students will develop an understanding of and be able to select and use manufacturing technologies.	The interchangeability of parts increases the effectiveness of manufacturing processes.
9-12	2.FF	Students will develop an understanding of the core concepts of technology.	Complex systems have many layers of controls and feedback loops to provide information.
9-12	2.V	Students will develop an understanding of the core concepts of technology.	Controls are mechanisms or particular steps that people perform using information about the system that causes systems to change.
9-12	2.X	Students will develop an understanding of the core concepts of technology.	Systems, which are the building blocks of technology, are embedded within larger technological, social, and environmental systems.
9-12	11.R	Students will develop abilities to apply the design process	Evaluate final solutions and communicate observation, processes, and results of the entire design process, using verbal, graphic, quantitative, virtual, and written means, in addition to three dimensional models.
9-12	12.L	Students will develop the abilities to use and maintain technological products and systems.	Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.
9-12	12.N	Students will develop the abilities to use and maintain technological products and systems.	Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.
9-12	12.O	Students will develop the abilities to use and maintain technological products and systems.	Operate systems so that they function in the way they were designed.
9-12	19.P	Students will develop an understanding of and be able to select and use manufacturing technologies.	The interchangeability of parts increases the effectiveness of manufacturing processes.
9-12	2.FF	Students will develop an understanding of the core concepts of technology.	Complex systems have many layers of controls and feedback loops to provide information.
9-12	2.V	Students will develop an understanding of the core concepts of technology.	Controls are mechanisms or particular steps that people perform using information about the system that causes systems to change.
9-12	2.X	Students will develop an understanding of the core concepts of technology.	Systems, which are the building blocks of technology, are embedded within larger technological, social, and environmental systems.
9-12	20.L	Students will develop an understanding of and be able to select and use construction technologies.	The design of structures includes a number of requirements.
9-12	3.J	Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.	Technological progress promotes the advancement of science and mathematics.
9-12	4.I	Students will develop an understanding of the cultural, social, economic, and political effects of technology	Making decisions about the use of technology involves weighing the trade-offs between the positive and negative effects.
9-12	4.J	Students will develop an understanding of the cultural, social, economic, and political effects of technology	Ethical considerations are important in the development, selection, and use of technologies.
9-12	8.H	Students will develop an understanding of the attributes of design.	The design process includes defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining the design, creating or making it, and communicating processes and results.
9-12	8.J	Students will develop an understanding of the attributes of design.	The design needs to be continually checked and critiqued, and the ideas of the design must be redefined and improved.
9-12	9.I	Students will develop an understanding of engineering design	Established design principles are used to evaluate existing designs, to collect data, and to guide the design process.
9-12	9.J	Students will develop an understanding of engineering design	Engineering design is influenced by personal characteristics, such as creativity, resourcefulness, and the ability to visualize and think abstractly.
9-12	9.K	Students will develop an understanding of engineering design	A prototype is a working model used to test a design concept by making actual observations and necessary adjustments.
9-12	9.L	Students will develop an understanding of engineering design.	The process of engineering design takes into account a number of factors.
K-2	17.A	Students will develop an understanding of and be able to select and use information and communication technologies.	Information is data that has been organized.

Computer Science Teaching Association (CSTA)

Grade(s)	Identifier	Concept	Description
3-5	1B-IC-18	Impacts of Computing	Discuss computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.
3-5	1B-AP-10	Algorithms and Programming	Create programs that include sequences, events, loops, and conditionals.
3-5	CSTA 1B-AP-10	Algorithms and Programming	Create programs that include sequences, events, loops, and conditionals.
3-5	CSTA 1B-AP-12	Algorithms and Programming	Modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.
3-5	CSTA 1B-AP-15	Algorithms and Programming	Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.
3-5	CSTA 1B- AP-17	Algorithms and Programming	Describe choices made during program development using code comments, presentations, and demonstrations.
6-8	2-AP-10	Algorithms and Programming	Use flowcharts and/or pseudocode to address complex problems as algorithms.
6-8	2-AP-13	Algorithms and Programming	Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.
6-8	2-AP-19	Algorithms and Programming	Document programs in order to make them easier to follow, test, and debug.
6-8	3A-IC-24	Impacts of Computing	Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
6-8	2-AP-12	Algorithms and Programming	Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.
6-8	CSTA 2-AP-13	Algorithms and Programming	Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.
9-10	3A-AP-17	Algorithms and Programming	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
9-10	3A-AP-21	Algorithms and Programming	Evaluate and refine computational artifacts to make them more usable and accessible.
9-10	3-AP-21	Algorithms and Programming	Evaluate and refine computational artifacts to make them more usable and accessible.
11-12	3A-AP-13	Algorithms and Programming	Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
11-12	3A-AP-22	Algorithms and Programming	Design and develop computational artifacts working in team roles using collaborative tools.
11-12	3B-AP-08	Algorithms and Programming	Describe how artificial intelligence drives many software and physical systems.

Common Core State Standards Math (CCSS Math)

Standard Number	Grade(s)	Domain	Cluster	Description
CCSS.MATH.CONTENT.6.EE.A.2	6	Expressions & Equations	Apply and extend previous understandings of arithmetic to algebraic expressions	Write, read, and evaluate expressions in which letters stand for numbers.
CCSS.MATH.CONTENT.6.NS.C.5	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	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, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
CCSS.MATH.CONTENT.6.RP.A.1	6	Ratios & Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
CCSS.MATH.CONTENT.6.RP.A.3.D	6	Ratios & Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.
CCSS.MATH.CONTENT.7.EE.B.3	7	Expressions & Equations	Solve real-life & mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
CCSS.MATH.CONTENT.7.G.B.5	7	Geometry	Solve real-life & mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
CCSS.MATH.CONTENT.7.RP.A.1	7	Ratios & Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
CCSS.MATH.CONTENT.8.F.B.5	8	Functions	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
CCSS.MATH.CONTENT.6.RP.A.1	9-12	Creating Equations	Create equations that describe numbers or relationships.	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
CCSS.MATH.CONTENT.HSA.REI.B.3	High School	Reasoning with Equations & Inequalities	Solve equations and inequalities in one variable.	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
CCSS.MATH.CONTENT.HSG.SRT.C.8	High School	Geometry	Define trigonometric ratios and solve problems involving right triangles.	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
CCSS.MATH.CONTENT.HSN.Q.A.1	9-12	Quantities	Reason quantitatively and use units to solve problems.	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
CCSS.MATH.PRACTICE.MP1	K-12	Standards for Mathematical Practice	Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
CCSS.MATH.PRACTICE.MP2	K-12	Standards for Mathematical Practice	Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations & objects.
CCSS.MATH.PRACTICE.MP3	K-12	Standards for Mathematical Practice	Construct viable arguments and critique the reasoning of others.	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
CCSS.MATH.PRACTICE.MP4	K-12	Standards for Mathematical Practice	Model with mathematics	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
CCSS.MATH.PRACTICE.MP5	K-12	Standards for Mathematical Practice	Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
CCSS.MATH.PRACTICE.MP6	K-12	Standards for Mathematical Practice	Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Common Core State Standards English Language Arts (CCSS ELA)

Standard Number	Grade(s)	Domain	Cluster	Description
CCSS.ELA-LITERACY.RST.6-8.1	6-8	Science and Technical Subjects	Key Ideas and Details	Cite specific textual evidence to support analysis of science and technical texts.
CCSS.ELA-LITERACY.RST.6-8.3	6-8	Science and Technical Subjects	Key Ideas and Details	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
CCSS.ELA-LITERACY.RST.9-10.2	9-10	Science and Technical Subjects	Key Ideas and Details	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
CCSS.ELA-LITERACY.RST.9-10.3	9-10	Science and Technical Subjects	Key Ideas and Details	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
CCSS.ELA-LITERACY.SL.9-10.1	9-10	Speaking and Listening	Comprehension & Collaboration	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CCSS.ELA-LITERACY.SL.9-10.4	9-10	Speaking and Listening	Comprehension & Collaboration	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
CCSS.ELA-LITERACY.RST.9-10.2	9-10	Writing	Text Types and Purposes	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
CCSS.ELA-LITERACY.RST.11-12.3	11-12	Science and Technical Subjects	Key Ideas and Details	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
CCSS.ELA-LITERACY.RST.11-12.7	11-12	Science and Technical Subjects	Integration of Knowledge and Ideas	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
CCSS.ELA-LITERACY.RST.11-12.8	11-12	Science and Technical Subjects	Integration of Knowledge and Ideas	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
CCSS.ELA-LITERACY.RST.11-12.9	11-12	Science and Technical Subjects	Integration of Knowledge and Ideas	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
CCSS.ELA-LITERACY.SL.11-12.1	11-12	Speaking and Listening	Comprehension & Collaboration	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CCSS.ELA-LITERACY.SL.11-12.2	11-12	Speaking and Listening	Comprehension & Collaboration	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
CCSS.ELA-LITERACY.SL.11-12.4	11-12	Speaking and Listening	Comprehension & Collaboration	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.