

Digital Age Literacy in the CCPS Curriculum



A Crosswalk Between Digital Age Literacy Skills Essential for
Student Success in the 21st Century
and the Chesterfield Curriculum Framework

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Introduction: Life in the Digital Age*



Growing Up Digital

“ The world in which our children live is significantly different from that of yesterday. Today’s youngsters use laptops, pagers, instant messaging, and cell phones to connect to friends, family, experts, and others in their community and around the globe. They are bombarded with visual messages from the media [and] expect to actively participate in and through their media. Our children now have at their fingertips a virtual world—with all its promises and pitfalls.

Hard as it is to believe, the Internet became available to the average American [just over] a decade ago. Today, we still find ourselves in the process of defining cultural and societal norms for Internet and Web usage. Our children are not looking to or waiting for adults to establish those norms—they are simply jumping into the fray, exploring the world of chat rooms, avatars, MP3s, and digital communication with aplomb. As cyberculture analyst (and author of *Playing the Future*) Douglas Rushkoff (2001, personal communication) quips, “Children are native to cyberspace and we, as adults, are immigrants.” And therein lies both a challenge and an opportunity: How do we, as adults, with the least experience in this milieu, provide leadership? How do we help children use their native intelligence about technology in sophisticated, responsible ways that serve them well as they make their way in the Digital Age? ” (p. 4)

Today, we do business, shop, find entertainment, communicate, think, create, share, socialize, and learn on the Internet. Children and teenagers use computers and the Internet more than any other age group, so our challenge is to understand how to help our students appropriately harness the tools available to them and develop the skills they will need to live, learn and work in the Digital Age.

“Today’s children are ‘growing up digital.’ Their view of the world is very different from that of adults, thanks to unprecedented access to information, people, and ideas across highly interactive media.”

*– Douglas Rushkoff
(1999)*

The skills our students will need to survive and to thrive today and in the future are 21st Century Skills.

*Much of the definitions and descriptions of Digital Age Literacy on pages 5 - 107 of this document and of the text is taken from the research conducted by Learning Point Associates (formerly NCREL) and the Metiri Group, as reported in *enGauge 21st century skills: literacy in the digital age*, 2003. All quotations and references contained herein can be found in this report, which is available in its entirety on the Office of Curriculum and Instruction CCPS Portal Site under General Resources. Used with permission.

Overview: What is Digital Age Literacy?



What is Digital Age Literacy and How Does it Fit With our Understanding of 21st Century Skills?

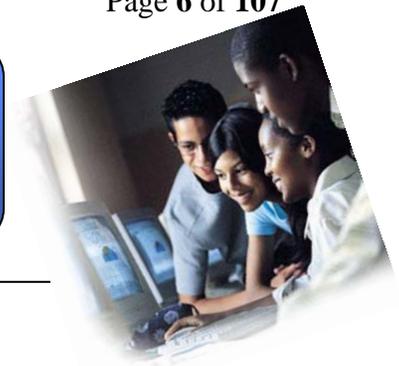
“ Educators have no choice. The times require that schools change or become obsolete. Just as doctors must stay abreast of the latest medical research and lawyers must keep up with case law, educators must stay current with practices that optimize student learning. ...All students should have the opportunity to attend dynamic, high-quality schools designed to meet the challenges of the Digital Age. ...The implications for pedagogy, teacher and student roles, curriculum, assessment, infrastructure, and the community are significant. (p. 10)

The sheer magnitude of human knowledge, world globalization, and the accelerating rate of change due to technology necessitates a shift in our children’s education—from plateaus of knowing to continuous cycles of learning. Therefore, policymakers and educators alike must define 21st century skills, highlighting the relationship of those skills to conventional academic standards. ” (p. 5)

Built on the platform of the enGauge 21st Century Skills, the Chesterfield County Public Schools 21st Century Knowledge and Skills Model for Self-Directed Learners (following page) defines these 21st Century Skills as: Digital Age Literacy, Inventive Thinking, Communication and Collaboration, and Making Global Connections. At the heart of all these skills is the effective use of 21st Century Technology. The teaching, learning, and assessing of these skills happens in the context of classroom instruction across all content areas, and these skills are an essential part of our written curriculum, the Chesterfield Curriculum Framework.

“Information and communication technologies are raising the bar on the competencies needed to succeed in the 21st century.”
- 21st Century Literacy Summit (2002)

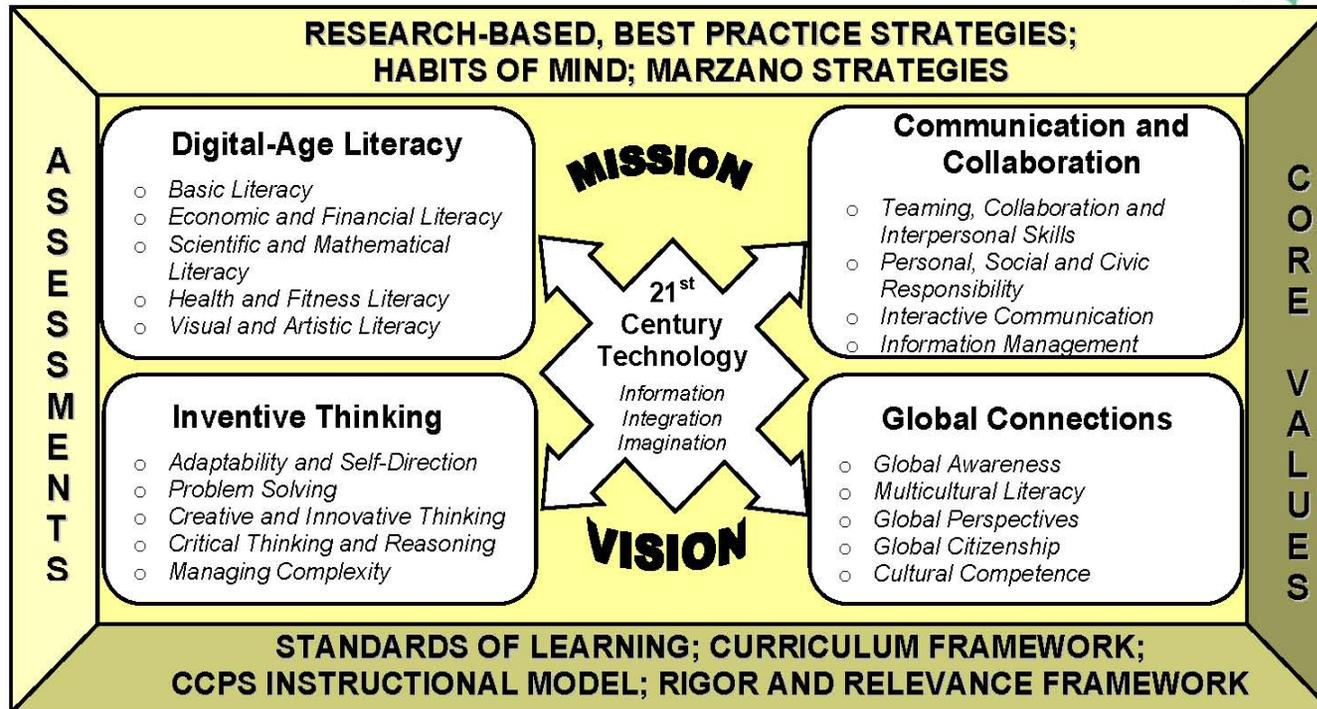
Digital Age Literacy is one of the essential 21st Century Skills our students must learn through their academic studies.



Overview: 21st Century Knowledge and Skills



CHESTERFIELD COUNTY PUBLIC SCHOOLS 21ST CENTURY KNOWLEDGE AND SKILLS MODEL FOR SELF-DIRECTED LEARNERS



CCPS Mission Statement

The mission of the CCPS is to work in partnership with students, families and the community to ensure that each student acquires the knowledge, skills and core values necessary to achieve personal success and to enrich the community.

CCPS Vision Statement

In 2012, we envision that every Chesterfield school will be a thriving, dynamic and inspiring educational environment that produces self-directed learners and stimulates citizens of all ages to trust in, invest in, and benefit from public education.

Overview: What is Digital Age Literacy?



Defining Digital Age Literacy

“ As society changes, the skills needed to negotiate the complexities of life also change. In the early 1900s, a person who had acquired simple reading, writing, and calculating skills was considered literate. Only in recent years has the public education system expected all students to build on those basics, developing a broader range of literacies (International ICT Literacy Panel, 2002). To achieve success in the 21st century, students also need to attain proficiency in science, technology, and culture, as well as gain a thorough understanding of information in all its forms. ” (p. 15)

Digital Age Literacy includes the following:

Basic Literacy: Language proficiency (in English) and numeracy at levels necessary to function on the job and in society to achieve one's goals and to develop one's knowledge and potential in this Digital Age.

Economic and Financial Literacy: The ability to identify economic problems, alternatives, costs, and benefits; analyze the incentives at work in economic situations; examine the consequences of changes in economic conditions and public policies; collect and organize economic evidence; and weigh costs against benefits.

Scientific Literacy: The capacity to identify, understand and engage in the scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity.

Mathematical Literacy (as defined in the Programme for International Student Assessment [PISA]): The capacity to identify, understand and engage in mathematics, and to make well-founded judgments about the role that mathematics plays in an individual's current and future private life, occupational life, social life with peers and relatives, and life as a constructive, concerned and reflective citizen.

Health and Fitness Literacy: The ability to apply health and physical education concepts for lifetime wellness and fitness, including the development of a capacity to acquire, interpret, and understand wellness concepts and the development of a range of health and fitness related skills.

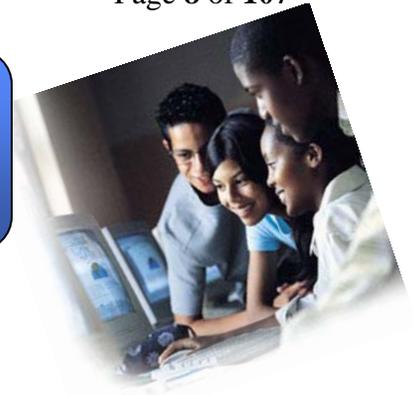
Visual Literacy: The ability to interpret, use, appreciate, and create images and video using both conventional and 21st century media in ways that advance thinking, decision making, communication, and learning.

Artistic Literacy: The ability to use and understand symbols and structures of dance, music, theatre and visual arts to engage actively in one's own learning, innovate, and creatively solve problems as well as the development of analytical thinking, leadership, teamwork, and oral communication skills through the arts.

Information Literacy: The ability to evaluate information across a range of media; recognize when information is needed; locate, synthesize, and use information effectively; and accomplish these functions using technology, communication networks, and electronic resources.

“Look beyond the schoolhouse to the roles students will play when they leave to become workers, parents, and citizens.”
– SCANS (1992)

Crosswalk: Digital Age Literacy Skills in the Chesterfield Curriculum



As seen above:

- The skills our students will need to survive and to thrive today and in the future are 21st Century Skills.
- Digital Age Literacy is one of the essential 21st Century skills our students must learn through their academic studies.
- We have the obligation to define Digital Age Literacy skills and include them in our curriculum so that students attain proficiency in science, technology, and culture, as well as gain a thorough understanding of information in all its forms.

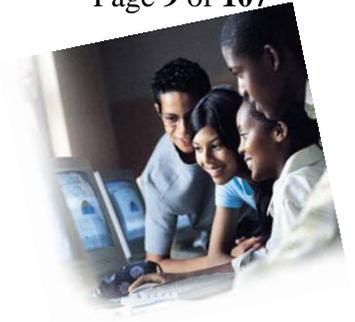
In the Chesterfield Curriculum Framework, 21st Century Skills have been identified with a  symbol across all content areas. This includes 21st Century technology skills as well as the Digital Age Literacy skills described above. These skills are more numerous in the curriculum frameworks than can be described in detail in this document (for example, the entire math curriculum can be thought of as defining expectations for the teaching of Mathematical Literacy; the same could be said for the science curriculum, visual arts curriculum, etc.) What's important is that we understand how and where these skills are taught across content areas. For example, where are Scientific Literacy skills taught in the Language Arts curriculum? Where are Visual Literacy skills taught in World History?

This Crosswalk Document has been developed to give teachers, parents, students, and staff a quick view of what the Digital Age Literacy skills are, the student learning objectives associated with those skills, and examples of where those skills can be found across all content areas K-12. Each of the literacies that define Digital Age Literacy in sum (Economic, Mathematical, Scientific, etc.) are defined in further detail on the following pages.* For each of these, a table has been provided that describes what students who have attained proficiency in the specific literacy should know and be able to do. In addition, the table provides examples of skills, learning experiences, and assessments across the content areas and by school level (elementary, middle, and high) where these Digital Age Literacy skills are taught.

*This crosswalk does not provide a detailed review of where basic literacy skills are taught in the curriculum. Literacy and numeracy skills are taught as the foundation for learning and are reinforced across all grade levels and content areas.

“Students today are graduating from high school and attending college in record numbers. It’s up to parents and educators to ensure that they’re truly spending that time well, developing the skills necessary for successfully living, learning, and working in the 21st century.”
p. 8

Economic and Financial Literacy



Economic and Financial Literacy is defined as the ability to identify economic problems, alternatives, costs, and benefits; analyze the incentives at work in economic situations; examine the consequences of changes in economic conditions and public policies; collect and organize economic evidence; and weigh costs against benefits.

Students who are economically and financially literate:

- can evaluate costs, benefits, and the limitations of resources, using this knowledge to make informed choices as consumers, producers, savers, investors, and citizens;
- are able to evaluate different methods for allocating goods and services by comparing the costs and benefits of each method;
- can identify economic incentives that affect people's behavior and explain how incentives affect their own behavior;
- understand how competition, trade barriers, shortages and surpluses, and the interaction between buyers and sellers can influence prices;
- are able to describe the roles of various public and private economic institutions, including the Federal Reserve;
- understand the basics of income and its distribution, interest rates, inflation, unemployment, investment, and risk;
- can identify and evaluate the benefits and costs of alternative public policies, and assess who enjoys the benefits and who bears the costs; and
- understand the value of entrepreneurialism and the roles of small and large businesses in the U.S. economy.

<h2>Grades K – 5</h2>	
<i>Students who are economically and financially literate...</i>	Can evaluate costs, benefits, and the limitations of resources, using this knowledge to make informed choices as consumers, producers, savers, investors, and citizens.
Mathematics	K.7: Recognizing coin values. 1.14, 1.15, 2.18, 3.17, 4.14, 5.15: Data collection, comparison, and interpretation. 2.10, 3.8: Count and comparing coin values and using monetary notation correctly. 2.21, 2.22: Numerical story problems and equivalence.
Science	K.10: Reuse, recycle, conserve. 1.8, 3.7, 3.9, 4.8: Conservation of natural resources/Chesapeake Bay resources. 3.11: Renewable and non-renewable energy resources. 2.8: Plant products affect the development of a geographic area.
Social Studies	K.7, 1.7, 2.7, 3.8: Recognize that people cannot produce everything they want, so they specialize and trade for other things.
Language Arts	4.6c: Evaluate and synthesize information resources.
World Languages	MFL I.1, I.2, I.3, I.7, I.8, I.9, I.10 ,I.12: Understand that different cultures have different values and viewpoints; compare economic and stewardship practices in different parts of the world; recognize the connections to other disciplines.
Music	Aesthetics: K.12, 1.12,2,11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other disciplines.
Visual Arts	1.18: Value of works of art. 2.20: Value of public art to the community. 3.28: Personal valuing of art. 4.23: Criteria for establishing value of art. 5.29: Value of art varies over time based on certain criteria.
<i>Students who are economically and financially literate...</i>	Are able to evaluate different methods for allocating goods and services by comparing the costs and benefits of each method.
Mathematics	K.14, 1.14, 1.15, 2.17, 2.19, 3.17, 4.14: Data collection, organization, interpretation, and analysis.
Social Studies	3.9: Identify examples of making an economic choice and explain opportunity cost.

Language Arts	5.6e: Identify compare and contrast relationships.
World Languages	MFL I.1, I.2, I.3, I.7,I.8. I.9, I.10, I.12: Particularly with Grade 4 migration and trades routes (People on the Move), goods and services from other parts of the world (Grade 2 Expanding Community, Grade 3 Ancient Communities and Diverse Communities).
<i>Students who are economically and financially literate...</i>	Can identify economic incentives that affect people's behavior and explain how incentives affect their own behavior.
Science	4.8: Virginia resources.
Social Studies	1.9: Recognize that people save money for the future to purchase goods and services.
Language Arts	4.5h: Distinguish between cause and effect. 5.6d: Identify cause and effect relationships.
Visual Arts	1.18: Value of works of art. 2.20: Value of public art to the community. 3.28: Personal valuing of art. 4.23: Criteria for establishing value of art. 5.29: Value of art varies over time based on certain criteria.
World Languages	MFL I.1 ,I.2, I.3, I.7, I.8. I.9, I.10, I.12: 3rd grade (Diverse Communities).
<i>Students who are economically and financially literate...</i>	Understand how competition, trade barriers, shortages and surpluses, and the interaction between buyers and sellers can influence prices.
World Languages	MFL I.1 ,I.2, I.3, I.7, I.8. I.9, I.10, I.12
<i>Students who are economically and financially literate...</i>	Understand the basics of income and its distribution, interest rates, inflation, unemployment, investment, and risk.
World Languages	MFL I.1, I.2 ,I.3, I.5, I.7, I.8. I.9, I.10, I.12
Music	Aesthetics - K.12, 1.12,2,11, 3.15,4.15,5.13: Recognize and identify the relationship between music and other disciplines.

<i>Students who are economically and financially literate...</i>	Can identify and evaluate the benefits and costs of alternative public policies, and assess who enjoys the benefits and who bears the costs.
Math	K.14, 1.14, 1.15, 2.17, 2.19, 3.17, 4.14: Data collection, organization, interpretation, and analysis.
<i>Students who are economically and financially literate...</i>	Understand the value of entrepreneurialism and the roles of small and large businesses in the U.S. economy.
Social Studies	VS.1: Understand the basic economic principles that underlie the market economy.

Grades 6-8

<i>Students who are economically and financially literate...</i>	Can evaluate costs, benefits, and the limitations of resources, using this knowledge to make informed choices as consumers, producers, savers, investors, and citizens.
Math	6.2, 7.1, 8.1: Investigations using fractions, decimals, and percents. 8.3, 8.13: Use of predictions and practical problems solving.
Science	6.2, 6.9: Renewable and non-renewable resources. 6.2, 6.9: Energy resources. 6.9, LS.12: Virginia resources. 6.5, 6.7: Chesapeake Bay resources. Recycling.
Social Studies	USI.1; USII.1: Identify the costs benefits of specific choices made, including the consequences, both intended and unintended. CE.11: Demonstrate knowledge of how economic decisions are made.
Language Arts	6.1c: Summarize and evaluate group activities. 7.3b: Distinguish between fact and opinion. 8.3 The student will analyze mass media messages.
Visual Arts	6.19: Relationship between processes and final solutions; 7.22: Legal considerations in appropriating imagery; 8.12: Uses of art in mass media.
World Language	MFL I.1, I.2, I.3, I.7, I.8. I.9, I.10, I.12: All of the above, plus communicate about their personal habits.
Performing Arts	Music - MS.9: Identify and compare the relationships between music and other disciplines. Theatre Arts- M.9: Identify and describe theatrical resources in the community.
<i>Students who are economically and financially literate...</i>	Are able to evaluate different methods for allocating goods and services by comparing the costs and benefits of each method.
Math	6.2, 7.1, 8.1: Applications of percentages. 6.14, 7.11, 8.13: Making comparisons, predictions, and inferences using data in various graphical forms. A.4: Using systems of linear equations.
Social Studies	USI.1, USII.1: Identify the costs benefits of specific choices made, including the consequences, both intended and unintended. E.11: Apply the concepts of scarcity, opportunity cost, incentives, and supply and demand.

Language Arts	6.2b: Compare and contrast viewpoints. 6.5f: Compare and contrast information about one topic contained in different selections.
Health & PE	Health - 8.4: Interpret and evaluate health information products, services and agencies.
<i>Students who are economically and financially literate...</i>	Can identify economic incentives that affect people's behavior and explain how incentives affect their own behavior.
Science	6.5, 6.7, LS.12: Chesapeake Bay policies. PS.7, PS. 8, PS. 9, PS.10: Inventions and Industrial Revolution. 6.2, 6.9, PS.5, PS.6: Energy choices and nuclear energy. Recycling.
Social Studies	CE.14: Examine the financial responsibilities of citizenship.
Language Arts	6.2b: Compare and contrast viewpoints. 6.5f: Compare and contrast information about one topic contained in different selections. 7.3c: Describe how word choice conveys viewpoint. 8.3: The student will analyze mass media messages.
Visual Arts	8.12: Uses of art in mass media.
Performing Arts	Theatre Arts- M.5: Investigate a variety of social roles, occupations, and relationships, using dramatic activities.
<i>Students who are economically and financially literate...</i>	Understand how competition, trade barriers, shortages and surpluses, and the interaction between buyers and sellers can influence prices.
Math	A.4, A.5, A.6: Applications of functions.
Language Arts	6.2b: Compare and contrast viewpoints. 6.5f: Compare and contrast information about one topic contained in different selections. 7.3c: Describe how word choice conveys viewpoint. 8.3: The student will analyze mass media messages.
Social Studies	CE.11: Apply the concept of supply and demand.

<i>Students who are economically and financially literate...</i>	Understand the basics of income and its distribution, interest rates, inflation, unemployment, investment, and risk.
Math	6.2, 7.1, 8.1: Applications of percentages. 6.14, 7.11, 8.13: Making comparisons, predictions, and inferences using data in various graphical forms. A.4, A.7, A.9: analysis of linear and quadratic models.
Language Arts	CE.11: Apply the concept of supply and demand.
Social Studies	CE.12: Explain the circular flow that shows how consumers, businesses, and markets interact.
World Language	MFL I.1, I.2, I.3, I.5, I.7, I.8, I.9, I.10, I.12: Students enrolled in first year language learn how teenagers in other countries get spending money, how it is spent, etc.
<i>Students who are economically and financially literate...</i>	Can identify and evaluate the benefits and costs of alternative public policies, and assess who enjoys the benefits and who bears the costs.
Math	6.2, 7.1, 8.1: Applications of percentages. 6.14, 7.11, 8.13: Making comparisons, predictions, and inferences using data in various graphical forms. A.4, A.7, A.9: Analysis of various models of behavior using functions including linear and quadratic.
Science	6.5, 6.7, LS.12: Chesapeake Bay policies. 6.2, 6.9, PS.5, PS.6: Energy choices and nuclear energy.
Social Studies	CE.9: Describe how various groups influence public policy.
Health & PE	Health - 7.3b: Investigate and analyze the validity of advertising techniques to influence adolescents' decisions.
<i>Students who are economically and financially literate...</i>	Understand the value of entrepreneurialism and the roles of small and large businesses in the U.S. economy.
Social Studies	CE.12: Explain the circular flow that shows how consumers, businesses, and markets interact.

Grades 9-12

<i>Students who are economically and financially literate...</i>	Can evaluate costs, benefits, and the limitations of resources, using this knowledge to make informed choices as consumers, producers, savers, investors, and citizens.
Math	Computer Math: analysis of personal finances, limited resources, and their impact on decisions regarding career choices.
Science	ES.7: Renewable and non-renewable resources. ES.7: Energy resources. ES.7: Virginia resources. ES.9, ES.11, BIO.9: Chesapeake Bay resources. Recycling.
Social Studies	WHI.1, WHII.1, VUS.1: Analyze the impact of economic forces, including taxation, government spending, trade, resources, and monetary systems.
Visual Arts	AI.16: Mass media influences preference; AII.12: Art careers; AIII.11: Art career training costs.
Performing Arts	Theater Arts - TI.5: Identify the functions of business management, including funding, publicity, and house management. Vocal Music - CAR.14: Judgment/Criticism-make informed decisions as a consumer of music.
<i>Students who are economically and financially literate...</i>	Are able to evaluate different methods for allocating goods and services by comparing the costs and benefits of each method.
Math	AFDA. 5, AII. 5, AII.10: Various uses of systems of linear and non-linear functions.
Social Studies	GOVT.15: Illustrating the circular flow of economic activity.
World Language	MFL II-III.1, II-III.2, II-III.3, II-III.4, II-III.5. II-III.6 ,I.7, I.8, I.9, I.10, I.12
Language Arts	10.4: The student will read and interpret informational materials.
<i>Students who are economically and financially literate...</i>	Can identify economic incentives that affect people's behavior and explain how incentives affect their own behavior.

Science	ES.9, ES.11, BIO.9: Chesapeake Bay policies. PH.4: Inventions and Industrial Revolution. ES.7, PH.4, PH.8: Energy choices and nuclear energy. Recycling.
Social Studies	WHI.1: Analyze the impact of economic forces.
Language Arts	10.4: The student will read and interpret informational materials. 12.4d: Evaluate the quality of informational and technical materials.
Visual Arts	AI.16: Mass media influences preference; AII.12: Art careers; AIII.11: Art career training costs.
Health & PE	Health - 10.4: A synthesize and evaluate marketing and advertising techniques to promote health and wellness.
World Language	MFL III-IV.1, III-IV.2 ,III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8 ,III-IV.9, III-IV.10: Discussions spiraling from personal to global on economics. Students enrolled in upper level world languages courses may discuss social policy in other countries.
Performing Arts	Theatre Arts - TI.12: Describe how theatrical activity can entertain, instruct, and interpret the human experience.
<i>Students who are economically and financially literate...</i>	Understand how competition, trade barriers, shortages and surpluses, and the interaction between buyers and sellers can influence prices.
Math	AFDA.5, AII.5: Applications of simultaneous equations. HS and AP Calculus: analysis of derivatives of both cost and production curves; supply and demand functions.
Social Studies	GOVT.15: Explain the interaction of supply and demand.
<i>Students who are economically and financially literate...</i>	Are able to describe the roles of various public and private economic institutions, including the Federal Reserve.
Math	AFDA. 5, AII. 5, AII.10: Various uses of systems of linear and non-linear functions to explain fiscal behavior of private and public institutions.

Social Studies	GOVT.15: Demonstrate knowledge of the United States market economy.
Visual Arts	AI.16: Mass media influences preference, AII.12: Art careers, AIII.11: Art career training costs.
Health & PE	Health - 10.4: A synthesize and evaluate marketing and advertising techniques to promote health and wellness.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: In some language offerings, students discuss the role of NGOs, the United Nations, etc. and the role of such institutions in improving world conditions.
Performing Arts	Theatre Arts TI.5: Identify the functions of business management, including funding, publicity, and house management.
<i>Students who are economically and financially literate...</i>	Understand the basics of income and its distribution, interest rates, inflation, unemployment, investment, and risk.
Math	AFDA. 3, AFDA. 4, AII.7: Analysis of various models of behavior using functions including linear, quadratic, and exponential. Computer Math: analysis of personal finances, limited resources, and their impact on decisions regarding career choices.
Social Studies	GOVT.15: Illustrate the circular flow of economic activity.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: Students in upper levels may do projects comparing spending habits in different parts of the world, learn about opportunities for work, social safety nets in other countries, etc.
Performing Arts	Theatre Arts - TI.5: Explore and discuss the principals of theatre management.

<i>Students who are economically and financially literate...</i>	Can identify and evaluate the benefits and costs of alternative public policies, and assess who enjoys the benefits and who bears the costs.
Math	AFDA. 3, AFDA. 4, All.7: Analysis of various models of behavior using functions including linear, quadratic, and exponential.
Science	ES.9, ES.11, BIO.9: Chesapeake Bay policies. ES.7, PH.4, PH.8: Energy choices and nuclear energy.
Social Studies	GOVT.16: Analyze the impact of fiscal and monetary policies on the economy.
Health & PE	Health - 10.4: Synthesize and evaluate available health information, products and services for the value and potential impact. Health - 9.4b: Benefits of information provided by recognized sources, state, local and national. Health - 10.4: Synthesize and evaluate marketing and advertising techniques to promote health and wellness.
Language Arts	10.4: The student will read and interpret informational materials. 12.4d: Evaluate the quality of informational and technical materials.
<i>Students who are economically and financially literate...</i>	Understand the value of entrepreneurialism and the roles of small and large businesses in the U.S. economy.
Math	Computer Math: analysis of personal finances, limited resources, and their impact on decisions regarding career choices, investment, and business venture.
Social Studies	GOVT.15: Assessing the importance of entrepreneurship, the profit motive, and economic independence to the promotion of economic growth.
Visual Arts	All.12: Art careers, All.11: Art career training costs. AI.16: Mass media influences preference, All.12: Art careers, All.11: Art career training costs.
Performing Arts	Theatre Arts TII.7: Principles of theatre management/administration. Instrumental Music IAR.20: Research career and advocational options in music.
Health & PE	Health - 10.4: Synthesize and evaluate marketing and advertising techniques to promote health and wellness.

Scientific Literacy



Scientific Literacy is defined as the capacity to identify, understand and engage in the scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity.

Students who are scientifically literate:

- have the knowledge and understanding of scientific concepts and processes required for participation in a Digital Age society;
- can ask, find, or determine answers to questions derived from curiosity about everyday experiences;
- have the ability to describe, explain, and predict natural phenomena;
- are able to read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions;
- can identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed;
- are able to evaluate the quality of scientific information on the basis of its source and the methods used to generate it; and
- have the capacity to pose and evaluate arguments based on evidence and to apply conclusions from such arguments appropriately.

Scientific Literacy

Grades K – 5

<i>Students who are scientifically literate...</i>	Have the knowledge and understanding of scientific concepts and processes required for participation in a Digital Age society
Math	K.14, 1.14, 1.15, 2.17, 2.19, 3.17, 4.14: Data collection, organization, interpretation, and analysis.
Science	All Content SOL. K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.8, 1.10, 2.10, 3.12: Demonstrate the traits of responsible citizenship.
Visual Arts	K.9: Sequence of steps required for creating. K.12: Purposes for creating. 2.1: Investigate various solutions to a single art problem. 3.1: Identify innovation solutions used by artists to solve art problems. 4.1: Research and generate ideas. 5.1: Synthesize information to produce art.
World Language	MFL 1.1, 1.2, 1.3, 1.5, 1.7, 1.8, 1.9, 1.10, 1.12: Citizenship (2nd My family), Scientific Investigation (K-5 Animals, My Daily Life, Animal Habitats, Our Society, Ancient Communities, Diverse Communities, Insect Communities, Our Planet, People on the Move, Social Landscapes, Natural Landscapes, Space Landscapes, Great Places Great People, Life in the Sea, Earth Phenomenon).
Music	Aesthetics - K.12, 1.12, 2.11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other disciplines.
<i>Students who are scientifically literate...</i>	Can ask, find, or determine answers to questions derived from curiosity about everyday experiences.
Math	1.15, 2.21, 3.19, 4.4, 5.4: Extending patterns to solve problems, and make predictions. K.14, 1.15, 2.18, 3.17, 3.18, 4.13, 4.14, 5.14, 5.15: Interpreting information, experimental vs. theoretical probability.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.

Social Studies	VS.1: Interpret ideas and events from different historical perspectives.
Language Arts	K.2, 1.9e, 2.8de, 3.6c, 4.6a: Ask and answer questions.
Health & PE	Health - K.1: Explain that the body is a living and growing organism. H - 1.1: Explain that good health is related to health-promoting decisions.
World Language	MFL I.1, I.2, I.3, I.5, I.7, I.8, I.9, I.10, I.12: All units, all levels, but especially Animals/ My animals K-1, My daily Life K-1, School Community 2nd and Scientific Investigation (K-5 Animals, My Daily Life, Animal Habitats, Our Society, Ancient Communities, Diverse Communities, Insect Communities, Our Planet, People on the Move, Social Landscapes, Natural Landscapes, Space Landscapes, Great Places Great People, Life in the Sea, Earth Phenomenon).
Visual Arts	K.1: Create art that represents personal solutions to art problems. 1.1: Discuss various solutions to a single art problem. 3.19: Discuss why works of art have been interpreted in different ways throughout history. 4:15: Examine the roles of crafts and artisans in Colonial Virginia.
Music	Performance and Production - K.7, 1.4, 2.5, 3.7, 4.7, 5.6: Create music through a variety of experiences. Aesthetics - K.12, 1.12, 2.11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other disciplines.
<i>Students who are scientifically literate...</i>	Have the ability to describe, explain, and predict natural phenomena.
Math	K.16, 1.17, 2.20, 3.19, 4.15, 5.7: Describing, evaluating, and predicting naturally occurring numeric and geometric patterns.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	VS.1: Evaluate and discuss issues orally and in writing.
Language Arts	1.9d, 2.8a: Make predictions about content. 3.5c, 4.5: Applies schema to make predictions. 5.6c: Locate information to support predictions.
Health & PE	Health - 1.2: Identify interconnections of all body systems. H - 3.1: Explain that health habits impact personal growth and development.

Visual Arts	K.7: Identify objects in the environment that occupy space. K.15: Classify objects in the environment using art vocabulary. 1.2: Use the senses as inspiration for art. 1.9: Observe and depict plants, animals, people in a landscape. 2.5: Use environmental themes as inspiration for works of art. 2.18: Distinguish between natural and man-made objects in the environment. 3.5: Compare, contrast, and use organic shapes in art. 3.14: Identify distinguishing characteristics of landscape and seascape. 4.4: Identify and use the characteristics of color in works of art. 5.4: Create repeating patterns. 5.15: Describe the changes that occur in clay during the ceramic process. 5.25: Compare and contrast natural and constructed environments.
<i>Students who are scientifically literate...</i>	Are able to read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions.
Science	3.1, 4.1, 5.1: Scientific Investigation. 3.10: Survival of species. 3.11: Energy sources. 4.5: Ecosystem interactions. 5.7: Human impact on Earth's surface.
Social Studies	VS.1: Evaluate and discuss issues orally and in writing.
Language Arts	3.6d, 4.5e, 5.6c: Draw conclusions.
Health & PE	Health - 2.4c: Health - 3.4c :Use a variety of print, audiovisual, and electronic media resources to improve personal health. Health - 4.5a: Access and use health resources, printed materials, broadcast media, Internet improved personal and family health.
Visual Arts	2.3: use literary sources to generate ideas for works of art. 2.9: Identify and use a variety of sources for art ideas. 4.22 :Compare and contrast works of art by genre.
<i>Students who are scientifically literate...</i>	Can identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed.
Science	1.8: Limited natural resources. 3.9: Water conservation. 3.10: Survival of species. 4.5: Interacting plants and animals. 4.8: Virginia natural resources. 5.7: Human impact on Earth's surface.
Social Studies	K.8, 1.10, 2.10, 3.12: Demonstrate the traits of responsible citizenship.
Music	Aesthetics - K.12, 1.12,2,11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other disciplines.
<i>Students who are scientifically literate...</i>	Are able to evaluate the quality of scientific information on the basis of its source and the methods used to generate it.
Language Arts	4.6c: Evaluate and synthesize information resources.

<i>Students who are scientifically literate...</i>	Have the capacity to pose and evaluate arguments based on evidence and to apply conclusions from such arguments appropriately.
Science	4.1, 5.1: Scientific Investigation. 4.8: Virginia natural resources. 5.7: Human impact on Earth's surface.
Social Studies	VS.1: Evaluate and discuss issues orally and in writing.
Language Arts	5.6c: Locate information to support opinions, predictions, and conclusions. 2.3a: Use oral language to inform and persuade.
Visual Arts	1.19: Express a point of view regarding what art is and the purpose it serves. 2.16: Express opinions with supporting statements regarding art. 4.16: Investigate artists and their work, using research tools and procedures. 4.21: Support the selection of a work of art, using appropriate art vocabulary. 5.24: Discuss an artist's point of view based on evidence from written sources.

Grades 6-8

<i>Students who are scientifically literate...</i>	Have the knowledge and understanding of scientific concepts and processes required for participation in a Digital Age society.
Math	6.14, 7.11, 8.13: Making comparisons, predictions, and inferences using data in numeric and various graphical forms. A.9, A.10, A.11: Use of mathematical relationships, data collection, display, analysis, and predictions.
Science	All Content SOL. 6.1, LS.1, PS.1: Scientific Investigation.
Social Studies	CE.1: Formulate an informed, carefully reasoned position on a community issue.
Visual Arts	6.1: Solve design problems. 6.10: Use computer graphics and text to create original art. 7.11: Create art by interpreting ideas from other fields of knowledge. 7.21: Identify and apply criteria for judging art. 7.25: Identify the processes artists use to create. 8.11: Provide evidence of the critical and artistic processes used to achieve final art solutions.
World Language	MFL I.1, I.2, I.3, I.5, I.7, I.8, I.9, I.10, I.12: Exploratory Wheel : Senegalese Malagasy, Panamanian and Chinese wheels.
<i>Students who are scientifically literate...</i>	Can ask, find, or determine answers to questions derived from curiosity about everyday experiences.
Math	A.1, A.9: Transfer literal into algebraic, evaluating functions, analysis of normal distribution.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research.
Social Studies	USI.1, USII.1, CE.1: Interpret ideas and events from different historical perspectives.
Language Arts	6.5a: Identify questions to be answered.
Performing Arts	General Music - MS.5: Investigate musical sounds, forms, styles, and genres through listening, discussing, writing, and performing. Vocal Music - CB.12.1 Provide answers to questions regarding criteria for evaluating vocal/choral performances and compositions Theatre - M.15: Define aesthetics and discuss how it is reflected in theatre arts and everyday life.

World Language	MFL I-II.1, I-II.2, I-II.3, I-II.4, I-II.5, I-II.6, I-II.7, I-II.8, I-II.9, I-II.10, I-II.11, I.12: Exploratory Wheel : German, Japanese, Roman, Senegalese Malagasy, Panamanian and Chinese wheels. Also IA/IB and Level I exploration of adolescent lives in different countries.
Visual Arts	6.17: Demonstrate inquiry skills and appropriate art vocabulary. 7.24: Compare and contrast personal experiences with the life experiences depicted in works of art. 8.21: Formulate and respond to meaningful questions about art.
<i>Students who are scientifically literate...</i>	Have the ability to describe, explain, and predict natural phenomena.
Math	6.17, 7.2: Describing arithmetic and geometric sequences.
Science	6.1, LS.1, PS.1: Scientific Investigation.
Social Studies	USI.1, USII.1, CE.1: Evaluate and discuss issues orally and in writing.
Language Arts	6.5b: Make, confirm, or revise predictions.
Visual Arts	6.8: Produce a kinetic work of art. 7.2: Create the illusion of movement in 2-D and 3-D artworks. 8.22: Describe personal sensory responses to the visual qualities of artwork.
Performing Arts	Theatre Arts M.14 – Recognize and respond to the unique qualities of theatre.
<i>Students who are scientifically literate...</i>	Are able to read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions.
Science	6.1, LS.1, PS.1: Scientific Investigation. Applied "current" topics from Content SOL.
Social Studies	USI.1, USII.1, CE.1: Demonstrate skills for historical and geographical analysis and responsible citizenship, including the ability to evaluate and issues orally and in writing.
Language Arts	6.5d: Draw conclusions and make inferences based on explicit and implied information. 8.6h: Draw conclusions based on explicit and implied information. 8.6i: Make inferences based on explicit and implied information.

<i>Students who are scientifically literate...</i>	Can identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed.
Science	6.5, 6.7, LS.12: Environment policy. 6.2, 6.9, PS.5, PS.6: Energy choices.
Social Studies	USI.1, USII.1, CE.1: Interpret ideas and events from different historical perspectives.
Visual Arts	All.27: Discuss how responses to the natural environment differ from responses to a constructed environment. All.17: Examine societal conditions that influence works of art (High School).
<i>Students who are scientifically literate...</i>	Are able to evaluate the quality of scientific information on the basis of its source and the methods used to generate it.
Language Arts	6.1b: Evaluate own contributions to discussions. 7.6d: Identify the source, viewpoint, and purpose of texts. 8.6b: Analyze the author's credentials, viewpoint, and impact. 8.6d: Analyze details for relevance and accuracy.
Science	6.1, LS.1, PS.1: Scientific Investigation.
Social Studies	USI.1, USII.1, CE.1: Examine and interpret primary and secondary source documents.
Health & PE	PE - 7.2b: Apply biomechanical principles to movements.
<i>Students who are scientifically literate...</i>	Have the capacity to pose and evaluate arguments based on evidence and to apply conclusions from such arguments appropriately.
Science	6.1, LS.1, PS.1: Scientific Investigation.
Social Studies	USI.1, USII.1, CE.1: Examine and interpret primary and secondary source documents.
Language Arts	6.4b: Make, confirm, or revise predictions. 6.1b: Evaluate own contributions to discussions. 7.6d: Identify the source, viewpoint, and purpose of texts. 8.6b: Analyze the author's credentials, viewpoint, and impact. 8.6d: Analyze details for relevance and accuracy.

Health & PE	PE - 6.3a,b: Using assessment tools and data. Describe and apply basic principles of training to improve fitness.
Performing Arts	Vocal Music - Judgment and Criticism. CB.12: Provide answers to questions regarding criteria for evaluating vocal/choral performances and compositions. Instrumental Music - Judgment and Criticism IB.22: Analyze and discuss individual and group performances. Theatre Arts - M.11: Accept and incorporate constructive criticism in subsequent work.
Visual Arts	6.16: Explain how elements and principals of art, art techniques and art media influence meaning in art. 6.23: Describe the manner in which belief systems may influence contemplation of a work of art. 7.21: Identify and apply criteria for judging art. 7.27: Generate questions about the nature of art and possible answers to the questions. 7.30: Investigate the purposes of art. 8.11: Provide evidence of the critical and artistic processes used to achieve final art solutions in personal works. 8.18: Communicate how personal experiences influence critical judgments and interpretations of art. 8.21: Formulate and respond to meaningful questions about art based on observations and interpretations.

Grades 9-12

<i>Students who are scientifically literate....</i>	Have the knowledge and understanding of scientific concepts and processes required for participation in a Digital Age society.
Math	AFDA.1, AFDA. 4, AFDA 7, AFDA. 8: Use of mathematical relationships, data collection, display, analysis, and prediction.
Science	All Content SOL. ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation.
Social Studies	WHII.16: Demonstrate knowledge of cultural, economic, and social conditions in developed and developing nations of the contemporary world.
Visual Arts	AI.3: Produce work that demonstrates the experimental application of elements and principals of design. AI.17: Describe and analyze the function, purpose, meaning of specific works. AI.31: Speculate on intentions and choices of artists. AII.7: Employ visual problem-solving processes. AIII.5: Develop a series or sequence of related artworks. AIII.13: Compare and analyze relationships between styles and cultures. AIV.8: Demonstrate personal responsibility and integrity in ethical procedures.
Performing Arts	General Music HS.4 Performance and Production: Employ technology to explore musical sounds. Investigate traditional and nontraditional sound sources.
<i>Students who are scientifically literate...</i>	Can ask, find, or determine answers to questions derived from curiosity about everyday experiences.
Language Arts	9.4d: Identify questions not answered by a selected text.
Math	AFDA.3, AFDA.7, AII.11: Investigations of experiential statistics models, exponential growth and decay, and function analysis.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research.
Social Studies	WHI.1, WHII.1, VUS.1, GOVT.1: Demonstrate mastery of the social studies skills required for responsible citizenship.

World Language	MFL I-II.1, I-II.2, I-II.3, I-II.4, I-II.5, I-II.6, I-II.7, I-II.8, I-II.9, I-II.10, I-II.11, I.12, III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, I II-IV.9, III-IV.10: Students enrolled in world languages courses discuss social and cultural questions each year.
Visual Arts	AI.26: Discuss how aesthetics are reflected in everyday life. All.11: Identify artists and art resources in the community. AIV.18: Discuss how the function and intended meaning of personal work is a reflection of contemporary culture.
Performing Arts	Theatre Arts - TII.15: Describe personal responses to theatrical productions in terms of qualities of the production as a whole. General Music - HS.5 Performance and Production: Investigate the role of music in the human experience
<i>Students who are scientifically literate...</i>	Have the ability to describe, explain, and predict natural phenomena.
Math	G.1, All.2: reasoning and describing patterns.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to select and defend positions in writing, discussion, and debate.
Language Arts	9.6: The student will develop narrative, expository, and informational writings to inform, explain, analyze, or entertain.
Performing Arts	Instrumental Music - IAD.23: Diagnose and correct personal performance errors.
Visual Arts	All.27: Discuss how responses to the natural environment differ from responses to other environments.
<i>Students who are scientifically literate...</i>	Are able to read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions.
Math	G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Applied "current" topics from Content SOL.

Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to evaluate information for accuracy, separating fact from fiction.
Visual Arts	AI.12: Describe connections among media...themes and concepts found in art. All.29: Support opinions by reasoned responses.
Language Arts	9.4: The student will read and analyze a variety of informational materials (manuals, textbooks, business letters, newspapers, brochures, reports, catalogs) and nonfiction materials, including journals, essays, speeches, biographies, and autobiographies. 10.4: The student will read and interpret informational materials. 11.4: The student will read and analyze a variety of informational materials. 12.4: The student will read and analyze a variety of informational materials, including electronic resources.
Performing Arts	General Music HS.9 Aesthetics: Identify and compare relationships between music and other disciplines.
<i>Students who are scientifically literate...</i>	Can identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed.
Science	ES.12: Global warming. ES.9, ES.11, BIO.9: Environment policy. ES.7, PH.4, PH.8: Energy choices. BIO.2, BIO.6: Genetics and biotechnology. BIO.2, CH.1: Toxicity and health data.
Health & PE	Health - 9.4b: Use various sources of information to evaluate global health issues state, local, national.
Visual Arts	All.27: Discuss how responses to the natural environment differ from responses to a constructed environment. All.17: Examine societal conditions that influence works of art.
<i>Students who are scientifically literate...</i>	Are able to evaluate the quality of scientific information on the basis of its source and the methods used to generate it.
Math	G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation.
Social Studies	WHI.1, WHII.1, VUS.1: Improve skills in historical research and geographical analysis by identifying, analyzing, and interpreting primary and secondary sources to make generalizations about events and life.
Language Arts	9.4b: Evaluate clarity and accuracy of information. 11.10d: Evaluate quality and accuracy of information. 12.4d: Evaluate the quality of informational and technical materials. 12.8b: Evaluate the accuracy and usefulness of information.

<i>Students who are scientifically literate...</i>	Have the capacity to pose and evaluate arguments based on evidence and to apply conclusions from such arguments appropriately.
Math	G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
Language Arts	9.4b: Evaluate clarity and accuracy of information. 11.10d: Evaluate quality and accuracy of information. 12.4d: Evaluate the quality of informational and technical materials. 12.8b: Evaluate the accuracy and usefulness of information.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: Upper level world language students will discuss, debate and write about current events and social issues.
Visual Arts	AI.19: Employ critical evaluation skills when evaluating and interpreting art. AI.20: Critique art with reference to elements and principals of design. AI.24 Describe criteria affecting quality in art. AI.31: Speculate on the intentions and choices of those who created a work of art. AI.32: Discuss art from a variety of aesthetic stances. AI.33: formulate a definition for the word "art" and defend that definition in relation to objects in the world. AII.18: Identify the function and interpret the meaning of a work of art in its original context. AII.21: Describe, analyze, interpret and judge works of art. AII.26: Investigate and demonstrate the fact that art can be viewed from a variety of aesthetic stances. AII.14: Identify distinguishing features that place a work of art within a particular style, region or period. AIII.20: Compare and defend two or more points of view regarding a work of art. AIII.22: Analyze the attributes of art in terms of its ability to evoke a viewer response and command sustained attention. AIII.26: Debate the perceived intentions of those creating art. AIV.15: Compare and analyze perceived relationships between the features in works of selected artists and personal works. AIV.25: Critically view the quality and expressive form of art as a source of inspiration and insight and as a potential contribution to personal work. AIV.30: Justify personal perceptions of an artist's intent.
Performing Arts	Vocal Music - CAD.13: Evaluate music performances. General Music HS.6: Develop skills in evaluating music individually and in groups. Defend individual judgments regarding the function of the elements of music.

Mathematical Literacy



Mathematical Literacy is defined as the capacity to identify, understand and engage in mathematics, and to make well-founded judgments about the role that mathematics plays in an individual's current and future private life, occupational life, social life with peers and relatives, and life as a constructive, concerned and reflective citizen.

Students who are mathematically literate:

- can apply appropriate mathematical strategies to *solve problems* as they arise in various contexts, can pose accurate mathematical questions, and can monitor and reflect on the results;
- recognize the fundamental role of both inductive and deductive *reasoning* to make and investigate mathematical conjectures, to logically extend information from the known to the unknown, and to explain or justify a solution;
- are effective learners, doers, and users of mathematics in all avenues of life—*engaging* in mathematics, they formulate questions, collect and analyze information (data), and make valid inferences and predictions based on the data;
- use the language, notation, and universal symbolism of mathematics to *communicate* mathematical solutions, concepts, and questions precisely;
- can use *number and spatial sense* to identify and analyze patterns, to form generalizations about both quantitative and geometric situations, and to interpret contexts outside of mathematics, such as physical and social phenomena; and
- are *conceptually and procedurally fluent* in multiple branches of mathematics, including algebraic modeling, geometric thinking, and various forms of measurement, probability, and statistical data analysis.

Mathematical Literacy

Grades K – 5	
Students who are mathematically literate...	Can apply appropriate mathematical strategies to solve problems as they arise in various contexts, can pose accurate mathematical questions, and can monitor and reflect on the results.
Math	All mathematics SOL content.
Social Studies	VS.1: Determine cause-and-effect relationships.
Music	Aesthetics - K.12, 1.12, 2.11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other disciplines.
World Language	MFL 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10: ordinal, counting by twos, more and less grouping, adding, counting, geometry K, money, time, counting, numbers, adding subtracting, grouping, measuring temperature 1st numbers, counting, adding, subtracting reading schedules, grouping, multiplying, patterns, populations 2nd, simple fractions, counting, currency measurement, patterns, numbers, adding, subtracting, grouping, measurements 3rd, fractions, decimals, currencies, patterns, counting estimation, geometry 4th, ancient counting systems, measurement, metric measurement, temperatures, measurements, estimation, distance, decimals 5 th .
Visual Arts	2.1: Investigate various solutions to a single art problem.
Students who are mathematically literate...	Recognize the fundamental role of both inductive and deductive reasoning to make and investigate mathematical conjectures, to logically extend information from the known to the unknown, and to explain or justify a solution.
Math	Patterns, Functions, and Algebra.
Social Studies	VS.1: Determine cause-and-effect relationships.
World Language	MFL 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10: more and less grouping, adding, counting, geometry K, money, time, counting, numbers, adding subtracting, grouping, measuring temperature 1st numbers, counting, adding, subtracting reading schedules, grouping, multiplying, patterns, populations 2nd, simple fractions, counting, currency measurement, patterns, numbers, adding, subtracting, grouping, measurements 3rd, fractions, decimals, currencies, patterns, counting estimation,

	geometry 4th, ancient counting systems, measurement, metric measurement, temperatures, measurements, estimation, distance, decimals 5 th .
Visual Arts	K.1: create works that represent personal solutions to art problems. 1.1, 2.1: solutions to a single art problem. 3.1: innovative solutions used by artists to solve problems. 3.23: express informed judgments about art. 4.17: interpret works of art for multiple meanings. 5.1: synthesize information to produce art.
<i>Students who are mathematically literate...</i>	Are effective learners, doers, and users of mathematics in all avenues of life. <i>Engaging</i> in mathematics, they formulate questions, collect and analyze information (data), and make valid inferences and predictions based on the data.
Math	Probability and Statistics – K.13, K.14: Data collection and display. Probability and Statistics – 1.14, 1.15: Data collection and interpretation. Probability and Statistics – 2.17, 2.18, 2.19: Applications of data. Probability and Statistics – 3.17, 3.18: Applications of data and chance. Probability and Statistics – 4.13, 4.14: Outcomes and data. Probability and Statistics – 5.14, 5.15, 5.16: Outcomes and measures of center.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.4, 1.4, 2.4, 3.4, VS.1: Develop map skills.
Language Arts	K.8a, 1.9d, 2.8a, 4.5a, 5.6a: Make predictions. 3.6d, 4.5e: Draw conclusions. K.2, 1.9e, 2.8de, 3.6c, 4.5b: Ask and answer questions.
World Languages	MFL I.1,I.2,I.3, I.5, I.6,I.7,I.8.I.9, I.10: ordinal, counting by twos, more and less grouping, adding, counting, geometry K, money, time, counting, numbers, adding subtracting, grouping, measuring temperature 1st numbers, counting, adding, subtracting reading schedules, grouping, multiplying, patterns, populations 2nd, simple fractions, counting, currency measurement, patterns, numbers, adding, subtracting, grouping , measurements 3rd, fractions, decimals, currencies, patterns, counting estimation, geometry 4th, ancient counting systems, measurement, metric measurement, temperatures, measurements, estimation, distance, decimals 5 th .
Health & PE	PE - 2.1, 3.1: Demonstrate moving to a rhythm. 4.3, 5.4: Apply data from fitness assessments.
<i>Students who are mathematically literate...</i>	Use the language, notation, and universal symbolism of mathematics to <i>communicate</i> mathematical solutions, concepts, and questions precisely.
Math	All mathematics SOL content.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.

Social Studies	VS.1: Determine cause-and-effect relationships.
World Languages	MFL I.1, I.2, I.3, I.5, I.6, I.7, I.8, I.9, I.10: Ordinal, counting by twos, more and less grouping, adding, counting, geometry K, money, time, counting, numbers, adding subtracting, grouping, measuring temperature 1st numbers, counting, adding, subtracting reading schedules, grouping, multiplying, patterns, populations 2nd, simple fractions, counting, currency measurement, patterns, numbers, adding, subtracting, grouping, measurements 3rd, fractions, decimals, currencies, patterns, counting estimation, geometry 4th, ancient counting systems, measurement, metric measurement, temperatures, measurements, estimation, distance, decimals 5 th .
Visual Arts	K.3: Identify and use line, line characteristics, shape and patterns. 1.3: Identify and use line, line variations, shape and patterns. 1.7: Recognize size relationships in art. 2.4: Identify and use shapes, 3-D forms, pattern. 2.7: Depict objects in proportion. 2.10: Create a 3-D work of art. 3.4: Identify and use positive and negative space, symmetry, asymmetry, pattern (extend the sequential structure using motifs). 3.5 Compare, contrast and use organic and geometric shapes. 3.7: Create the illusion of depth o a 2-D surface using overlapping, size variation, placement in picture plane. 3.9: Identify and use architectural forms (cube, cylinder, sphere, pyramid, cone).3.24: analyze art for the use of rhythm, balance and spatial relationships. 4.5: Identify and use variety, repetition and unity in art. 4.6: Identify and use a variety of lines. 4.8: Identify positive and negative space in artworks. 4.9: Use perspective drawing, shading and contour drawing to create 3-D art on a 2-D surface. 5.4: Create repeating patterns using translation, reflection and rotation. 5.9: Demonstrate understanding of symbolic meaning by incorporating symbols into artwork.
Music	1.1: Perform and notate rhythmic patterns that include quarter notes, paired eighth notes, and quarter rests. 2.2, 3.3, 4.3 and 5.3: Aesthetics - K.12, 1.12, 2,11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other disciplines. 3.3: Recognize that music is divided into measures. 3.10: Recognize music symbols within a musical score and use music terminology to explain their functions.
<i>Students who are mathematically literate...</i>	Can use number and spatial sense to identify and analyze patterns, to form generalizations about both quantitative and geometric situations, and to interpret contexts outside of mathematics, such as physical and social phenomena.
Math	All mathematics SOL content. Patterns, Functions, and Algebra – K.15, K.16, 1.16, 1.17, 1.18, 2.20, 2.21, 2.22, 3.19, 3.20, 4.15, 4.16, 5.17, 5.18, 5.19: Numeric and geometric patterning, equivalence, numerical sentences, properties, and equations.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	VS.1: Determine cause-and-effect relationships.
World Language	MFL I.1, I.2, I.3, I.5, I.6, I.7, I.8, I.9, I.10: ordinal, counting by twos, more and less grouping, adding, counting, geometry K, money, time, counting, numbers, adding subtracting, grouping, measuring temperature 1st numbers, counting, adding, subtracting reading schedules, grouping, multiplying, patterns, populations 2nd, simple fractions, counting, currency measurement, patterns, numbers, adding, subtracting, grouping, measurements 3rd, fractions, decimals, currencies, patterns, counting estimation, geometry 4th, ancient counting systems, measurement, metric measurement, temperatures, measurements, estimation, distance, decimals 5 th .

Visual Arts	K.3: Identify and use line, line characteristics, shape and patterns. 1.3: Identify and use line, line variations, shape and patterns. 1.7: Recognize size relationships in art. 2.4: Identify and use shapes, 3-D forms, pattern. 2.7: Depict objects in proportion. 2.10: Create a 3-D work of art. 3.4: Identify and use positive and negative space, symmetry, asymmetry, pattern (extend the sequential structure using motifs). 3.5 Compare, contrast and use organic and geometric shapes. 3.7: Create the illusion of depth o a 2-D surface using overlapping, size variation, placement in picture plane. 3.9: Identify and use architectural forms (cube, cylinder, sphere, pyramid, cone). 3.24: analyze art for the use of rhythm, balance and spatial relationships. 4.5: Identify and use variety, repetition and unity in art. 4.6: Identify and use a variety of lines. 4.8: Identify positive and negative space in artworks. 4.9: Use perspective drawing, shading and contour drawing to create 3-D art on a 2-D surface. 5.4: Create repeating patterns using translation, reflection and rotation. 5.9: Demonstrate understanding of symbolic meaning by incorporating symbols into artwork.
Music	1.1: Perform and notate rhythmic patterns that include quarter notes, paired eighth notes, and quarter rests. 2.2, 3.3, 4.3 and 5.3.
Health & PE	PE - K.2, 1.2, 2.2, 3.2: Movement principles and concepts.
<i>Students who are mathematically literate...</i>	Are conceptually and procedurally fluent in multiple branches of mathematics, including algebraic modeling, geometric thinking, and various forms of measurement, probability, and statistical data analysis.
Math	All mathematics SOL content.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation: measurement.
Health & PE	PE - 4.2: Apply movement concepts and principles in complex skills (trajectory, force, speed).
World Language	MFL 1.1, 1.2 ,1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10: geometry K, money, time, counting, measuring temperature 1 st numbers, counting, reading schedules, patterns, populations 2 nd , currency measurement, patterns ,measurements 3 rd , currencies, patterns, counting estimation, geometry 4 th , ancient counting systems, measurement, metric measurement, temperatures, measurements, estimation, distance, decimals 5 th .
Visual Arts	K.3: Identify and use line, line characteristics, shape and patterns. 1.3: Identify and use line, line variations, shape and patterns. 1.7: Recognize size relationships in art. 2.4: Identify and use shapes, 3-D forms, pattern. 2.7: Depict objects in proportion. 2.10: Create a 3-D work of art. 3.4: Identify and use positive and negative space, symmetry, asymmetry, pattern (extend the sequential structure using motifs). 3.5: Compare, contrast and use organic and geometric shapes. 3.7: Create the illusion of depth o a 2-D surface using overlapping, size variation, placement in picture plane. 3.9: Identify and use architectural forms (cube, cylinder, sphere, pyramid, cone). 3.24: analyze art for the use of rhythm, balance and spatial relationships. 4.5: Identify and use variety, repetition and unity in art. 4.6: Identify and use a variety of lines. 4.8: Identify positive and negative space in artworks. 4.9: Use perspective drawing, shading and contour drawing to create 3-D art on a 2-D surface. 5.4: Create repeating patterns using translation, reflection and rotation. 5.9: Demonstrate understanding of symbolic meaning by incorporating symbols into artwork.

Music	Aesthetics - K.12, 1.12,2,11, 3.15,4.15,5.13: Recognize and identify the relationship between music and other disciplines.
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Grades 6-8

<i>Students who are mathematically literate...</i>	Can apply appropriate mathematical strategies to <i>solve problems</i> as they arise in various contexts, can pose accurate mathematical questions, and can monitor and reflect on the results.
Math	All mathematics SOL content.
Science	PS.10: Force and motion.
Social Studies	USI.1, USII.1, CE.1: Demonstrate skills for historical and geographical analysis and responsible citizenship, including the ability to sequence events in history.
Health PE	PE - 6.3,7.3, 8.4: Apply self assessment skills to improve and maintain personal fitness resting and target HR.
Visual Arts	6.4: Depict proportional relationships. 7.11: Create art by representing and interpreting ideas from other fields of knowledge. 7.12: Use mechanical graphic arts instruments to solve design problems.
<i>Students who are mathematically literate...</i>	Recognize the fundamental role of both inductive and deductive <i>reasoning</i> to make and investigate mathematical conjectures, to logically extend information from the known to the unknown, and to explain or justify a solution.
Math	Patterns, Functions, and Algebra.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to create and explain maps, diagrams, tables, charts, graphs, and spreadsheets.
Visual Arts	6.17: Demonstrate inquiry skills and appropriate vocabulary for describing, responding to, interpreting and evaluating artwork. 7.20: Understand use of personal information, artistic intent, cultural influences and historical context for interpretation of artworks. 8.17: Investigate and discuss the use of social, cultural and historical context as they contribute to artistic meaning.
<i>Students who are mathematically literate...</i>	Are effective learners, doers, and users of mathematics in all avenues of life. <i>Engaging</i> in mathematics, they formulate questions, collect and analyze information (data), and make valid inferences and predictions based on the data.

Math	Probability and Statistics – 6.14, 6.15, 6.16: Practical applications of statistics. Probability and Statistics – 7.9, 7.10, 7.11: Applications of statistics and probability. Probability and Statistics – 8.12, 8.13: Statistical analysis of graphs and problem situations. Statistics – A.9, A.10, A.11 – Data analysis.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to create and explain maps, diagrams, tables, charts, graphs, and spreadsheets.
Language Arts	6.5a: Identify questions to be answered. 6.5b: Make, confirm, or revise predictions.
Health & PE	PE - 6.3: Analyze data to improve fitness. PE - 7.3: Analyze relationships among physical activity, calorie intake and body composition. PE - 8.3: Analyze skill patterns.
<i>Students who are mathematically literate...</i>	Use the language, notation, and universal symbolism of mathematics to <i>communicate</i> mathematical solutions, concepts, and questions precisely.
Math	All mathematics SOL content.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. PS.10: Force and motion.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to select and defend positions in writing, discussion, and debate.
Visual Arts	6.3: Use one-point perspective. 6.4: Depict proportional relationships. 7.3: Apply, in 2-D and 3-D art the elements of art and principals of design. 7.6: Create the illusion of depth in 2-D artwork. 7.8: Use two-point perspective to create illusion of depth. 7.10: Create 3-D art using geometric forms. 8.4: use multiple point perspective to create the illusion of depth on a 2-D surface.
Performing Arts	General Music - MS.1: Read and perform rhythmic and melodic patterns. Beginning Band - IB.19.2: Use a syllable, letter or number system to read and write rhythmic patterns. Intermediate Chorus - 7 - CI.9: Read and write basic music notation.
<i>Students who are mathematically literate...</i>	Can use <i>number and spatial sense</i> to identify and analyze patterns, to form generalizations about both quantitative and geometric situations, and to interpret contexts outside of mathematics, such as physical and social phenomena.
Math	Patterns, Functions, and Algebra – 6.17, 6.18, 6.19, 6.20, 7.12, 7.13, 7.14, 7.15, 7.16, 8.14, 8.15, 8.16, 8.17, A.4, A.7, A.8: variable equations, properties, linear relationships, functions, and equation solving.

Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. PS.10: Force and motion.
Social Studies	USI.1, USII.1, CE.1: Develop the social studies skills responsible citizenship requires, including the ability to sequence events.
Visual Arts	6.3: Use one-point perspective. 6.4: Depict proportional relationships. 7.3: Apply, in 2-D and 3-D art the elements of art and principals of design. 7.6: Create the illusion of depth in 2-D artwork. 7.8: Use two-point perspective to create illusion of depth. 7.10: Create 3-D art using geometric forms. 8.4: use multiple point perspective to create the illusion of depth on a 2-D surface.
Performing Arts	Beginning Chorus 6 - CB.6: Read and write rhythmic patterns in simple meter at various tempos. Instrumental Music - IB.19: Use a syllable, number, or letter system to read and write simple pitch notation in the appropriate clef.
Health & PE	PE - 7.3, 8.3: Analyze skill patterns.
<i>Students who are mathematically literate...</i>	Are conceptually and procedurally fluent in multiple branches of mathematics, including algebraic modeling, geometric thinking, and various forms of measurement, probability, and statistical data analysis.
Math	All mathematics SOL content.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. LS.13: Genetics and Punnett squares. LS.7, LS.8, LS.9, LS.11: Ecosystems and food chains. PS.10: Force and motion.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to create and explain maps, diagrams, tables, charts, graphs, and spreadsheets.
Visual Arts	6.3: Use one-point perspective. 6.4: Depict proportional relationships. 7.3: Apply, in 2-D and 3-D art the elements of art and principals of design. 7.6: Create the illusion of depth in 2-D artwork. 7.8: Use two-point perspective to create illusion of depth. 7.10: Create 3-D art using geometric forms. 8.4: use multiple point perspective to create the illusion of depth on a 2-D surface.
Performing Arts	Instrumental Music - IB.23: Associate terminology common to music with the other fine arts and other disciplines.
Health & PE	PE - 7.2, 8.3: Apply biomechanical principles. PE - 7.1: Display appropriate speed and force. PE - 8.4: Calculate resting and target heart rate

Grades 9-12

<i>Students who are mathematically literate...</i>	Can apply appropriate mathematical strategies to solve problems as they arise in various contexts, can pose accurate mathematical questions, and can monitor and reflect on the results.
Math	All mathematics SOL content.
Science	CH.4: Stoichiometry. CH.5: Gas laws, energy conversions. PH.2, PH.5: Mechanics.
Social Studies	WHI.1, WHII.1: Improve skills in historical research and geographical analysis by analyzing trends in human migration and cultural interaction.
Visual Arts	All.10: Identify characteristics of works of art that are presented as a series or sequence. AIII.5: Develop a series or sequence of related work.
Health & PE	PE - 9.3, 10.3: Assess and apply personal fitness goals.
<i>Students who are mathematically literate...</i>	Recognize the fundamental role of both inductive and deductive reasoning to make and investigate mathematical conjectures, to logically extend information from the known to the unknown, and to explain or justify a solution.
Math	Reasoning. G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research.
Social Studies	VUS.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to develop skills in discussion, debate, and persuasive writing with respect to enduring issues and determine how divergent viewpoints have been addressed and reconciled.
Visual Arts	AI.31: Speculate on the intentions and choices of those who create art. All.29: Support opinions by reasoned responses. AIII.28: Defend multiple points of view regarding artworks. AIV.30: Justify personal perceptions of an artist's intent, using visual clues and research.

<i>Students who are mathematically literate...</i>	Are effective learners, doers, and users of mathematics in all avenues of life. <i>Engaging</i> in mathematics, they formulate questions, collect and analyze information (data), and make valid inferences and predictions based on the data.
Math	AFDA.6, AFDA.7, AFDA.8, AII.9, AII.10, AII.11, AII.12: Data analysis and statistics. Reasoning. G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to create and interpret maps, diagrams, tables, charts, graphs, and spreadsheets.
Health & PE	PE - 9.2: Apply movement principles to improve performance. PE - 10.2: Analyze and integrate movement principles and concepts.
<i>Students who are mathematically literate...</i>	Use the language, notation, and universal symbolism of mathematics to <i>communicate</i> mathematical solutions, concepts, and questions precisely.
Math	All mathematics SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research. CH.5: Gas laws. PH.2, PH.5: Physics modeling.
Social Studies	VUS.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to develop skills in discussion, debate, and persuasive writing with respect to enduring issues and determine how divergent viewpoints have been addressed and reconciled.
Visual Arts	AI.6: Produce art that demonstrates an understanding of 2-D and 3-D art media...AI.15: Identify features of artwork including formal choices that influence meaning. AII.9: Select and prepare 2-D and 3-D artwork for display. AIII.3: Produce work that integrates a consistent knowledge of the elements of art and principles of design. AIV.2: Demonstrate mastery through a culminating portfolio that exhibits...examples of 2-D and 3-D works extensive enough to show knowledge of space, form and function. AIV.6: Select among a wide range of subject, symbols, images and media to communicate personal expression.
Performing Arts	Instrumental Music - IAD.19: Read and write rhythmic patterns in complex meters, demonstrating technical facility and precision commensurate with VBODA Level 4-5.

<i>Students who are mathematically literate...</i>	Can use number and spatial sense to identify and analyze patterns, to form generalizations about both quantitative and geometric situations, and to interpret contexts outside of mathematics, such as physical and social phenomena.
Math	All Geometry, AFDA, and Algebra II SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research. CH.5: Gas laws. PH.2, PH.5: Mechanics.
Social Studies	VUS.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to develop skills in discussion, debate, and persuasive writing with respect to enduring issues and determine how divergent viewpoints have been addressed and reconciled.
Visual Arts	AI.6: Produce art that demonstrates an understanding of 2-D and 3-D art media. AI.15: Identify features of artwork including formal choices that influence meaning. AII.9: Select and prepare 2-D and 3-D artwork for display. AIII.3: Produce work that integrates a consistent knowledge of the elements of art and principles of design. AIV.2: Demonstrate mastery through a culminating portfolio that exhibits examples of 2-D and 3-D works extensive enough to show knowledge of space, form and function. AIV.6: Select among a wide range of subject, symbols, images and media to communicate personal expression.
Performing Arts	Instrumental Music - II.19: Use a syllable, number, or letter system to read and write rhythmic patterns that include whole, half, quarter, eighth, and sixteenth notes, rests, and dotted notes, and triplets in simple and compound meters. Identify, define, and demonstrate standard notation symbols for pitch, rhythm, dynamics, tempo, articulation, and expression.
<i>Students who are mathematically literate...</i>	Are conceptually and procedurally fluent in multiple branches of mathematics, including algebraic modeling, geometric thinking, and various forms of measurement, probability, and statistical data analysis.
Math	All mathematics SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research. BIO.6: Genetics and Punnett squares. BIO.9: Ecosystems and food chains. CH.2: Radioactive decay. CH.5: Gas laws. PH.2, PH.5: Mechanics.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to create and interpret maps, diagrams, tables, charts, graphs, and spreadsheets.
Health & PE	PE 10.3,b: Ability to apply principles of training using available technology to analyze, assess and improve.
Visual Arts	AI.6: Produce art that demonstrates an understanding of 2-D and 3-D art media. AI.15: Identify features of artwork including formal choices that influence meaning. AII.9: Select and prepare 2-D and 3-D artwork for display. AIII.3: Produce work that integrates a consistent knowledge of the elements of art and principles of design. AIV.2: Demonstrate mastery through a culminating portfolio that exhibits examples of 2-D and 3-D works extensive enough to show knowledge of space, form and function. AIV.6: Select among a wide range of subject, symbols, images and media to communicate personal expression.

Health and Fitness Literacy



Health and Fitness Literacy is defined as the ability to apply health and physical education concepts for lifetime wellness and fitness, including the development of a capacity to acquire, interpret, and understand wellness concepts and the development of a range of health and fitness related skills.

Students who are health and fitness literate:

- obtain, interpret and understand basic health information and services;
- use media literacy to analyze and evaluate media and other influences to effectively manage health risk situations and advocate for self and others;
- identify and apply preventive physical and mental health measures such as proper diet, nutrition, exercise, risk avoidance and stress reduction;
- appreciate and model a variety of health practices that promote healthy, active lifestyles for individuals, family and community; and
- understand national and international public health and safety issues.

Health and Fitness Literacy

Grades K – 5	
<i>Students who are health and fitness literate...</i>	Obtain, interpret and understand basic health information and services.
Health & PE	Health - K.4, 1.5, 2.4, 3.4, 4.5, 5.4: Information Access and Use.
Science	5.5: Healthy cells.
Language Arts	4.6: Demonstrate comprehension of information resources to research a topic. 5.7: Demonstrate comprehension of information from a variety of print resources.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources. (p.81 Art SOLs)
<i>Students who are health and fitness literate...</i>	Use media literacy to analyze and evaluate media and other influences to effectively manage health risk situations and advocate for self and others.
Health & PE	Health - K.4, 1.5, 2.4, 3.4, 4.5, 5.4: Information Access and Use. H - 4.6, 5.5: Community health and wellness.
Math	K.14, 1.14, 1.15, 2.17, 2.19, 3.17, 4.14: Data collection, organization, interpretation, and analysis.
Social Studies	3.12: Describe how people can serve the community, state, and nation.
Language Arts	4.6b: Collect information using the resources of the media center including online, print, and media. 4.6c: Evaluate and synthesize information resources.

<i>Students who are health and fitness literate...</i>	Identify and apply preventive physical and mental health measures such as proper diet, nutrition, exercise, risk avoidance and stress reduction.
Health & PE	All SOL Health content. All SOL Physical Education Content.
Science	5.1: Lab safety. Nutrition and physical fitness.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources (p.81 Art SOLs).
<i>Students who are health and fitness literate...</i>	Appreciate and model a variety of health practices that promote healthy, active lifestyles for individuals, family and community.
Health & PE	All SOL content. PE - K.3, 1.3, 1.4, 3.3, 4.3, 5.3, 5.4: Personal Fitness. PE - 2.5, 3.5, 4.5, 5.6: Physically active lifestyles.
Science	K.8: Daily life pattern. 1.7: Seasonal changes. 3.10: Healthy environment.
Social Studies	K.8, 1.10, 2.10, 3.12: Demonstrate the traits of responsible citizenship.
<i>Students who are health and fitness literate...</i>	Understand national and international public health and safety issues.
Health & PE	Health - 2.4, 3.4: Information Access and Use. H - 1.5: Community Health and Wellness.
Math	K.14, 1.14, 1.15, 2.17, 2.19, 3.17, 4.14: Data collection, organization, interpretation, and analysis.
Social Studies	K.8, 1.10, 2.10, 3.12: Demonstrate the traits of responsible citizenship.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources (p.81 Art SOLs).

Grades 6 – 8

<i>Students who are health and fitness literate...</i>	Obtain, interpret and understand basic health information and services.
Health & PE	Health - 6.6, 7.3, 8.4: Information Access and Use.
Science	LS.3, LS.4, LS.5: Human systems and nutrition.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to review information for accuracy, separating fact from fiction.
Language Arts	7.6: The student will read and demonstrate comprehension of a variety of informational texts. 8.6: The student will read, comprehend, and analyze a variety of informational.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources. (p.81 Art SOLs)
<i>Students who are health and fitness literate...</i>	Use media literacy to analyze and evaluate media and other influences to effectively manage health risk situations and advocate for self and others.
Health & PE	Health - 6.6, 7.3, 8.4: Information Access and Use. H - 6.1, 7.1, 8.1: Knowledge and Skills.
Math	6.2, 7.1, 8.1: Applications of percentages. 6.14, 7.11, 8.13: Making comparisons, predictions, and inferences using data in various graphical forms.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to formulate an informed, carefully reasoned position on a community issue.
Language Arts	6.5g: Select informational sources appropriate for a given purpose. 7.7a: Use print and electronic sources to locate information in books and articles.

<i>Students who are health and fitness literate...</i>	Identify and apply preventive physical and mental health measures such as proper diet, nutrition, exercise, risk avoidance and stress reduction.
Health & PE	All SOL Health content. All SOL Physical Education content.
Math	6.2, 7.1, 8.1, A.4: Fluent use of percentages, using systems of simultaneous equations.
Science	PS.1: Lab safety. Nutrition and physical fitness.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to formulate an informed, carefully reasoned position on a community issue.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources. (p.81 Art SOLs)
Performing Arts	Vocal Music - CB.1: Identify vocal anatomy, including the function of the diaphragm and larynx in singing.
<i>Students who are health and fitness literate...</i>	Appreciate and model a variety of health practices that promote healthy, active lifestyles for individuals, family and community.
Health & PE	Health - 6.7, 7.4, 7.5, 8.5: Community Health and Wellness. H - 6.2, 7.2, 8.2: Knowledge and Skills. PE - 6.5, 7.5, 8.6: Physically active lifestyles.
Science	6.5, 6.7, 6.9, LS.12: Virginia/Chesapeake Bay environment.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to formulate an informed, carefully reasoned position on a community issue.

<i>Students who are health and fitness literate...</i>	Understand national and international public health and safety issues.
Health & PE	Health - 6.7, 7.4, 7.5, 8.5: Community Health and Wellness. H - 6.2, 7.1, 8.1: Knowledge and Skills.
Math	6.2, 7.1, 8.1: Applications of percentages. 6.14, 7.11, 8.13: Making comparisons, predictions, and inferences using data in various graphical forms.
Science	6.2, 6.9: Energy resources. 6.6: Global warming. LS.3, LS.5: Microorganisms.
Social Studies	CE.1: Develop the social studies skills responsible citizenship requires, including the ability to formulate an informed, carefully reasoned position on a community issue.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources. (p.81 Art SOLs)

Grades 9 - 12

<i>Students who are health and fitness literate....</i>	Obtain, interpret and understand basic health information and services.
Health & PE	Health - 9.4, 10.4: Information Access and Use.
Science	BIO.2, BIO.5: Human systems and nutrition.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to evaluate information for accuracy, separating fact from fiction.
Language Arts	4.6: Demonstrate comprehension of information resources to research a topic. 5.7: Demonstrate comprehension of information from a variety of print resources.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources. (p.81 Art SOLs)
Performing Arts	Dance Arts - DI.2: Develop dance technique skills and movement vocabulary, including strength, flexibility, coordination, endurance, balance, and replication.
<i>Students who are health and fitness literate...</i>	Use media literacy to analyze and evaluate media and other influences to effectively manage health risk situations and advocate for self and others.
Health & PE	Health - 9.4, 10.4: Information Access and Use. H - 9.1, 9.2, 10.1, 10.2, 10.3: Knowledge and Skills.
Math	AFDA. 3, AFDA. 4, AII.7: Analysis of various models of behavior using functions including linear, quadratic, and exponential.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
Science	BIO.6: GM food. CH.1: Chemical hazards. PH.4: Nuclear energy.

Language Arts	10.11f: Use technology to access information, organize ideas, and develop writing. 11.10j: Use technology to access information, organize ideas, and develop writing.
<i>Students who are health and fitness literate...</i>	Identify and apply preventive physical and mental health measures such as proper diet, nutrition, exercise, risk avoidance and stress reduction.
Health & PE	All SOL Health content. All SOL Physical Education content.
Science	CH.1: Lab safety. BIO.5: Nutrition and physical fitness.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: Students enrolled in world languages discuss and write about healthy food and diet choices in the U.S. and compare those habits with those from other cultures.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources (p.81 Art SOLs).
Performing Arts	Vocal Music - CAD.1: Demonstrate proper vocal technique as applied to advanced literature. Consistently demonstrate knowledge of vocal anatomy. Dance Arts - DI.4: Demonstrate performance practices (e.g., warm-up, cool-down, nutritional awareness, hydration) and will identify the relationship between incorrect execution of physical skills and dance injuries.
<i>Students who are health and fitness literate...</i>	Appreciate and model a variety of health practices that promote healthy, active lifestyles for individuals, family and community.
Health & PE	Health - 9.5, 10.5: Community Health and Wellness. H - 9.1, 9.2, 9.3, 10.1, 10.2, 10.3, 11/12.3: Knowledge and Skills. PE - 9.3, 10.3: Personal Fitness.
Science	ES.9, ES.11, BIO.9: Environmental protection policies.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: World languages students are encouraged to investigate and try sports and leisure activities from the target culture(s).

Performing Arts	Vocal Music - CAD.1: Demonstrate proper vocal technique as applied to advanced literature. Consistently demonstrate knowledge of vocal anatomy. Theatre Arts - TI 3.2: Employing voice, body, and imagination in character development.
<i>Students who are health and fitness literate...</i>	Understand national and international public health and safety issues.
Health & PE	Health - 9.4, 10.4: Information Access and Use. H - 9.5, 10.5: Community Health and Wellness.
Math	AFDA. 3, AFDA. 4, AII.7: Analysis of various models of behavior using functions including linear, quadratic, and exponential.
Science	ES.7: Energy resources. ES.8: Earthquakes. ES.13: Weather events. BIO.2, BIO.4, BIO.5, BIO.7: Microorganisms.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
Theater	TI.4: Demonstrating theatre safety practices.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: Upper level world language students may investigate global public health and safety issues through the lens of the target culture.
Visual Arts	Safety: Guidelines for use of safe techniques, supplies, materials and resources. (p.81 Art SOLs)

Visual Literacy



Visual Literacy is defined as the ability to interpret, use, appreciate, and create images and video using both conventional and 21st century media in ways that advance thinking, decision making, communication, and learning.

Students who are visually literate:

- have working knowledge of visuals produced or displayed through electronic media; and
 - understand basic elements of visual design, technique, and media
 - are aware of emotional, psychological, physiological, and cognitive influences in perceptions of visuals
 - comprehend representational, explanatory, abstract, and symbolic images
- apply knowledge of visuals in electronic media;
 - are informed viewers, critics, and consumers of visual information
 - are knowledgeable designers, composers, and producers of visual information
 - are effective visual communicators
 - are expressive, innovative visual thinkers and successful problem solvers.

Visual Literacy

Grades K – 5

Have Working Knowledge of Visuals Produced or Displayed through Electronic Media

<i>Students who are visually literate...</i>	Understand basic elements of visual design, technique, and media.
Visual Arts	K.3, 7, 8; 1.3,7,6,9; 2.4,6,7,10; 3.3, 7, 8, 10; 4.3, 4, 5, 6, 8, 9; 5.2, 3, 4, 5, 9, 10, 11, 12, 13: Visual Communication and Production standards specific to elements of design, technique and media.
Math	K.11, K.12, 1.12, 1.13, 2.15, 2.16, 3.14, 3.15, 3.16, 4.10, 4.11, 4.12, 5.12, 5.13: Exploration of geometric properties.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Graphs. K.4: Properties. 5.3: Light.
Social Studies	K.4, 1.4, 2.4, 3.4, VS.1: Use maps and globes.
Language Arts	5.7: Demonstrate comprehension of information from a variety of print resources.
Health & PE	PE - 2.1c: Perform creative dance sequences. PE 4.1b: Create dances sequences that are influenced internationally and regionally.
Music	K.9: Identify classroom instruments by sight and sound.

<i>Students who are visually literate...</i>	Are aware of emotional, psychological, physiological, and cognitive influences in perceptions of visuals.
Visual Arts	K.2, 4; 1.2, 6; 3.3; 10; 4.4; 5.3, 5, 8, 9, 12: Visual Communication and Production standards specific to emotional, cognitive or psychological perceptions of visuals. K.12; 1.12, 13; 2.13; 3.13, 17; 4.14, 15; 5.17, 19, 21, 22: Cultural Context and Art History Standards specific to emotional, cognitive or psychological perceptions of visuals. K.14; 1.15, 17; 2.16, 19; 3.19, 22, 23, 24; 4.17, 18, 20, 21, 22; 5.24, 25, 26, 27: Judgment and Criticism Standards specific to emotional, cognitive or psychological perceptions of visuals. K.16, 18; 1.19, 20; 2.21, 22; 3.26, 28; 4.23, 24, 26; 5.29, 30, 31: Aesthetics Standards specific to emotional, cognitive or psychological perceptions of visuals.
<i>Students who are visually literate...</i>	Comprehend representational, explanatory, abstract, and symbolic images.
Visual Arts	K.14: Describing and responding to art. K.15: Classify objects in environment using art vocabulary. 1.4: Create art inspired by stories, poems, themes. 1.5: Create from real and imaginary sources. 1.14: Identify American symbols and events in art. 2.3: Use literary sources for art. 2.5: Use environmental themes and historical events as inspiration for art. 2.9: Identify and use a variety of sources for art ideas. 2.14: Identify symbols from various cultures. 2.17 Categorize works of art by subject matter. 3.1: Identify innovative solutions used by artists to solve visual problems. 3.5: Compare, contrast and use organic and geometric shapes in art. 3.7: Create the illusion of depth on a 2-D surface. 3.8: Identify and use architectural forms in artwork. 3.26: Identify common attributes in works of art by artists within one culture. 4.3: Create art that uses themes, ideas and art forms from the past. 4.10: Create abstract art. 4.12: Compare and contrast abstract and realistic art. 4.19: Compare and contrast abstract, representational and non-representational art. 4.22: Compare and contrast art by genre. 5.9: Demonstrate understanding of symbolic meanings. 5.26: Analyze Art based on visual properties and historical context.
Math	5.18: Concept of a variable.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Graphs. 1.6: Space. 3.8: Moon phases. 3.9: Water cycle. 4.7: Space. 5.5: Cells. 5.6: Ocean. 5.7: Plate tectonics.
Social Studies	VS.I: Identify and interpret artifacts and primary and secondary source documents to understand events in history.
Language Arts	5.7: Demonstrate comprehension of information from a variety of print resources.
Music	1.9: Identify pitched and non-pitched classroom instruments, using sight and sound.

Apply Knowledge of Visuals in Electronic Media	
Students who are visually literate...	Are informed viewers, critics, and consumers of visual information.
Visual Arts	K.1 – K.10; 1.1 – 1.10; 2.1 – 2.11; 3.1 – 3.11; 4.1 – 4.10; 5.1 – 5.16: Visual Communication and Production: The standards in this strand address how artistic technique and expression of ideas create informed viewers, critics and consumers of information. K.11 – K.13, 1.11 – 1.14, 2.12 – 2.15, 3.12 – 3.18, 4.11 – 4.16, 5.17 – 5.22: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates informed viewers, critics and consumers of visual information. K.14 – K.15, 1.15 – 1.17; 2.16 – 2.19, 3.19 – 3.24, 4.17 – 4.22, 5.23 – 5.27: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates informed viewers, critics and consumers of visual information. K.16 – K.18, 1.18 – 1.20, 2.20 – 2.22, 3.25 – 3.28, 4.23 – 4.26, 5.28 – 5.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating informed viewers, critics and consumers of visual information.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Interpreting data and graphs.
Social Studies	VS.1: Analyze and interpret maps, charts, and tables to explain relationships among landforms, water features, climatic characteristics, and historical events.
Language Arts	2.9, 3.4a, 4.5, 5.6: Use text organizers (e.g. pictures, graphs, tables) to comprehend text.
Students who are visually literate...	Are knowledgeable designers, composers, and producers of visual information.
Visual Arts	K.1 – K.10; 1.1 – 1.10; 2.1 – 2.11; 3.1 – 3.11; 4.1 – 4.10; 5.1 – 5.16: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create knowledgeable designers and producers of visual information. K.11 – K.13, 1.11 – 1.14, 2.12 – 2.15, 3.12 – 3.18, 4.11 – 4.16, 5.17 – 5.22: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates knowledgeable designers and producers of visual information. K.14 – K.15, 1.15 – 1.17; 2.16 – 2.19, 3.19 – 3.24, 4.17 – 4.22, 5.23 – 5.27: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates knowledgeable designers and producers of visual information. K.16 – K.18, 1.18 – 1.20, 2.20 – 2.22, 3.25 – 3.28, 4.23 – 4.26, 5.28 – 5.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating knowledgeable designers and producers of visual information.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.

Social Studies	1.5, 2.6, 3.6: Construct maps, tables, graphs, and/or charts.
Language Arts	4.5a, 5.6a: Use text organizers (i.e. type, heading, graphics) to categorize information. 5.3d: Incorporate visual aids to support presentation.
World Language	MFL I.4, I.5, I.6, I.7, I.8, I.9, I.10: World Languages students produce ads, brochures, graphic organizers and posters in the target language.
<i>Students who are visually literate...</i>	Are effective visual communicators.
Visual Arts	K.1 – K.10; 1.1 – 1.10; 2.1 – 2.11; 3.1 – 3.11; 4.1 – 4.10; 5.1 – 5.16: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create effective visual communicators. K.11 – K.13, 1.11 – 1.14, 2.12 – 2.15, 3.12 – 3.18, 4.11 – 4.16, 5.17 – 5.22: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates effective visual communicators. K.14 – K.15, 1.15 – 1.17; 2.16 – 2.19, 3.19 – 3.24, 4.17 – 4.22, 5.23 – 5.27: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates effective visual communicators. K.16 – K.18, 1.18 – 1.20, 2.20 – 2.22, 3.25 – 3.28, 4.23 – 4.26, 5.28 – 5.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating effective visual communicators.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	VS.1: Identify and interpret artifacts and primary and secondary source documents to understand in events in history.
Language Arts	5.7b: Organize information on charts, maps, and graphs.
Health & PE	PE - 4.1c: Perform smooth flowing sequences, (gymnastics). PE 5.1c: Perform rhythm/dance sequences American and international.
World Language	MFL I.4, I.5, I.6, I.7, I.8, I.9, I.10: World Languages students present ads, brochures, graphic organizers and posters in the target language.
Music	K.9: Identify classroom instruments by sight and sound.

<i>Students who are visually literate...</i>	Are expressive, innovative visual thinkers and successful problem solvers.
Visual Arts	K.1 – K.10; 1.1 – 1.10; 2.1 – 2.11; 3.1 – 3.11; 4.1 – 4.10; 5.1 – 5.16: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create expressive, innovative visual thinkers and successful problem solvers. K.11 – K.13, 1.11 – 1.14, 2.12 – 2.15, 3.12 – 3.18, 4.11 – 4.16, 5.17 – 5.22: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates expressive, innovative visual thinkers and successful problem solvers. K.14 – K.15, 1.15 – 1.17; 2.16 – 2.19, 3.19 – 3.24, 4.17 – 4.22, 5.23 – 5.27: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates expressive, innovative visual thinkers and successful problem solvers. K.16 – K.18, 1.18 – 1.20, 2.20 – 2.22, 3.25 – 3.28, 4.23 – 4.26, 5.28 – 5.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating expressive, innovative visual thinkers and successful problem solvers.
Math	All mathematics SOL content.
Science	Children's Engineering. 1.2: Types of motion. 3.2: Simple machines. 4.2: Moving objects. 4.3: Electricity. 5.2: Sound. 5.3: Light.
Health & PE	PE - 2.2a,b: Apply basic movement concepts to change performance.

Grades 6 – 8

Have Working Knowledge of Visuals Produced or Displayed through Electronic Media

<i>Students who are visually literate...</i>	Understand basic elements of visual design, technique, and media.
Visual Arts	6.1, 2, 3, 4, 6, 7; 7.1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12; 8.1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11: Visual communication and Production-standards specific to elements of design, technique and media.
Math	6.11, 6.12, 6.13, 7.7, 7.8, 8.8, 8.9, 8.10, 8.11: Properties of 2 and 3-dimensional figures.
Science	6.1, LS.1, PS.1: Graphs. Science fair posters. Presentations. PS.9: Light.
Social Studies	USI.1, USII.1, CE.1: Analyze and interpret maps, pictures, and other graphic media.
Language Arts	6.5, 7.5, & 8.5: The student will read and demonstrate comprehension of a variety of informational selections.
<i>Students who are visually literate...</i>	Are aware of emotional, psychological, physiological, and cognitive influences in perceptions of visuals.
Visual Arts	6.1, 2, 9; 7.3, 5, 11, 12, 14; 8.1, 2, 6, 7, 8, 11: Visual Communication and Production standards specific to emotional, cognitive or psychological perceptions of visuals. 6.12, 14; 7.17, 18; 8.12, 13, 15: Cultural Context and Art History Standards specific to emotional, cognitive or psychological perceptions of visuals. 6.15, 16, 18, 19; 7.19, 20, 21, 22, 23, 24; 8.16, 17, 18: Judgment and Criticism Standards specific to emotional, cognitive or psychological perceptions of visuals. 6.21, 22, 23, 24; 7.26, 27, 28, 29, 30; 8.20, 21, 22: Aesthetics Standards specific to emotional, cognitive or psychological perceptions of visuals.
Science	LS.3: The eye.
Social Studies	USI.1, USII.1, CE.1: Analyze and interpret maps, pictures, and other graphic media.

Health & PE	Health - 6.6c: Access, analyze persuasive tactics used by various types of media. H 7.3a: Investigate and analyze various types of advertising techniques used to influence adolescent's decisions.
<i>Students who are visually literate...</i>	Comprehend representational, explanatory, abstract, and symbolic images.
Visual Arts	6.3: Creating illusion of depth. 6.7: Creating illusion of form. 6.12: Identifying components of an artist's style. 6.13: Identify major art movements. 7.2: Create the illusion of movement. 7.8: Use two-point perspective. 7.16: Identify styles and themes in contemporary and historical art. 7.19: Explore subjects, themes and symbols as related to meaning in art. 7.20: Understand the use of personal info, artist intent, cultural influence, historical context for interpretation of art. 8.3: Use aerial perspective for illusion of depth. 8.4: Use multiple-point perspective. 8.7: Analyze use of typography. 8.14: Describe and place a variety of art in historical and cultural contexts. 8.17: Investigate use of social, cultural and historical context as they contribute to meaning in art.
Math	7.13, A.1: Verbal to algebraic translation.
Science	6.1, LS.1, PS.1: Graphs. 6.8: Space. LS.2, LS.3: Cells. 6.4, PS.3: Atom models.
Social Studies	USI.1, USII.1: Demonstrate skills for historical and geographical analysis and responsible citizenship, including the ability to identify and interpret primary and secondary source documents to increase understanding of events and life in United States history.
Performing Arts	Instrumental Music - IB.19.2: Use a syllable, number, or letter system to read and write simple pitch notation in the appropriate clef. IB19.3: Identify, define, and demonstrate standard notation symbols for pitch, rhythm, dynamics, tempo, articulation, and expression.

Apply Knowledge of Visuals in Electronic Media	
<i>Students who are visually literate...</i>	Are informed viewers, critics, and consumers of visual information.
Visual Arts	6.1 – 6.10, 7.1 -7.14, 8.1 – 8.11: Visual Communication and Production: The standards in this strand address how artistic technique and expression of ideas create informed viewers, critics and consumers of information. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates informed viewers, critics and consumers of visual information. 6.15 – 6.20, 7.19 – 7.25, 8.16 – 8.19: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates informed viewers, critics and consumers of visual information. 6.21 – 6.24, 7.26 – 7.30, 8.20 – 8.22: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating informed viewers, critics and consumers of visual information.
Science	6.1, LS.1, PS.1: Interpreting data and graphs.
Social Studies	USI.1, USII.1: Demonstrate skills for historical and geographical analysis and responsible citizenship, including the ability to identify and interpret primary and secondary source documents to increase understanding of events and life in United States history.
Health & PE	Health - 7.3b: Investigate and analyze the validity of information from different sources.
<i>Students who are visually literate...</i>	Are knowledgeable designers, composers, and producers of visual information.
Visual Arts	6.1 – 6.10, 7.1 -7.14, 8.1 – 8.11: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create knowledgeable designers and producers of visual information. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates knowledgeable designers and producers of visual information. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates knowledgeable designers and producers of visual information. 6.21 – 6.24, 7.26 – 7.30, 8.20 – 8.22: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating knowledgeable designers and producers of visual information.
Math	7.8, 8.8, 8.9: Drawing transformations of figures; constructing 3-dimensional models.

Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research.
Social Studies	USI.1, USII.1: Make connections between the past and the present. CE.1: Create and explain maps, diagrams, tables, charts, graphs, and spreadsheets.
Language Arts	6.7,7.7, & 8.7a: Use a variety of graphic organizers.
World Language	MFL I.4, I.5, I.6, I.7, I.8, I.9, I.10: World Languages students produce ads, brochures, graphic organizers and posters in the target language.
<i>Students who are visually literate...</i>	Are effective visual communicators.
Visual Arts	6.1 – 6.10, 7.1 -7.14, 8.1 – 8.11: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create effective visual communicators. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates effective visual communicators. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15 : Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates effective visual communicators: 6.21 – 6.24, 7.26 – 7.30, 8.20 – 8.22: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating effective visual communicators.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research.
Social Studies	USI.1, USII.1: Make connections between the past and the present. CE.1: Create and explain maps, diagrams, tables, charts, graphs, and spreadsheets.
World Language	MFL I.4, I.5, I.6, I.7, I.8, I.9, I.10: World Languages students present ads, brochures, graphic organizers and posters in the target language.
Performing Arts	MS.7: Identify instruments, voice classifications (soprano, alto, tenor, bass), and a variety of performing ensembles aurally and visually.
<i>Students who are visually literate...</i>	Are expressive, innovative visual thinkers and successful problem solvers.
Visual Arts	6.1 – 6.10, 7.1 -7.14, 8.1 – 8.11: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create expressive, innovative visual thinkers and successful problem solvers. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates expressive, innovative visual thinkers and successful problem

	solvers. 6.11 – 6.14, 7.15 – 7.18, 8.12 – 8.15: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates expressive, innovative visual thinkers and successful problem solvers. 6.21 – 6.24, 7.26 – 7.30, 8.20 – 8.22: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating expressive, innovative visual thinkers and successful problem solvers.
Math	All mathematics SOL content.
Science	PS.10: Simple machines. PS.1: Physical Science problems.

Grades 9 – 12

Have Working Knowledge of Visuals Produced or Displayed through Electronic Media

<i>Students who are visually literate...</i>	Understand basic elements of visual design, technique, and media.
Visual Arts	AI.1, 3, 4, 5, 6, 7, 8, 10; AII.1, 3, 4, 5, 6, 7, 9, 10; AIII.2, 3, 4, 5, 6, 7, 8; AIV.2, 3, 4, 5, 6, 7, 8, 9, 10: Visual communication and Production-standards specific to elements of design, technique and media.
Math	All Geometry SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Graphs. Science fair posters. Presentations. PH.10, PH.11: Light.
Social Studies	WHI.1, WHII.1, VUS.1: Improve skills in historical research and geographical analysis by using maps, globes, artifacts, and pictures.
Language Arts	9.4, 10.4, 11.4, & 12.4: The student will read and demonstrate comprehension of a variety of informational selections.
<i>Students who are visually literate...</i>	Are aware of emotional, psychological, physiological, and cognitive influences in perceptions of visuals.
Visual Arts	AI.3, 7, 8; AII.3, 4, 5, 6, 7, 8, 10; AIII.3, 4, 6, 7, 8, 9; AIV.3, 4, 5, 6, 7, 8: Visual Communication and Production standards specific to emotional, cognitive or psychological perceptions of visuals. AI.12, 15, 16, 17, 18; AII.13, 15, 16, 17, 18, 19; AIII.12, 13, 14, 15, 16, 17; AIV.13, 15, 16, 17, 18, 19: Cultural Context and Art History Standards specific to emotional, cognitive or psychological perceptions of visuals. AI.19, 20, 21, 22, 23, 24; AII.20, 21, 22, 23, 25; AIII.18, 20, 22; AIV.20, 21, 22, 23, 25: Judgment and Criticism Standards specific to emotional, cognitive or psychological perceptions of visuals. AI.28, 29, 31; AII.26, 27, 28, 29, 30, 31; AIII.23, 24, 25, 26, 27, 28, 29; AIV.26, 27, 28, 29, 30: Aesthetics Standards specific to emotional, cognitive or psychological perceptions of visuals.
Science	BIO.5: The eye.

Social Studies	WHI.1, WHII.1, VUS.1: Improve skills in historical research and geographical analysis by using maps, globes, artifacts, and pictures to analyze the physical and cultural landscapes of the world and interpret the past.
Instrumental Music	IAR.24.1: Identify how the characteristic qualities of sound, visual stimuli, other stimuli, movement, and human interrelationships can influence the fine arts.
World Language	MFL III-IV. 1,III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: (Especially with reference to art from the target cultures).
<i>Students who are visually literate...</i>	Comprehend representational, explanatory, abstract, and symbolic images.
Visual Arts	AI.3: Produce work demonstrating experimental application of elements of art and principals of design. AI.7: Use variety of subject matter and symbols to express ideas in art. AI.14: Identify major art movements/influential artists. AI.15: Identify features of art (meaning, subject matter, formal choices) that influence meaning. AI.18: Examine symbols in art and reasons for their use. AI.25: Classify art as representational, abstract, nonobjective and/or conceptual. AII.6: Use historical subject matter and symbols as inspiration for art. AII.13: Identify art and artistic developments that relate to time and location. AII.16: Describe distinguishing features in works of art that may be used to differentiate period and context. AII.19: Describe symbols present in art in relation to historical meaning. AII.23: Identify and analyze characteristics of art that represent a variety of styles. AIII.6: Develop skill, confidence, craftsmanship to achieve desired intentions. AIII.14: Identify distinguishing features that place art in a style, region or period. AIII.17: Categorize art by styles and cultures. AIV.6: Select from a range of subject matter, symbols, meaningful images, media to communicate personal expression. AIV.19: Develop personal symbols and use them in art.
Math	All AFDA and Algebra II SOL content: Extensive use of variables in equations, relations, and functions.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Graphs. Science models. ES.8: Plate tectonics. ES.4, ES.14: Space. BIO.4: Cells. BIO.3, BIO.9: Biology feedback loops. CH.2: Atom models.
Social Studies	WHI.1, WHII.1, VUS.1: Improve skills in historical research and geographical analysis by using maps, globes, artifacts, and pictures to analyze the physical and cultural landscapes of the world and interpret the past.
Health & PE	Health - 10.4a: Synthesize and evaluate marketing and advertising techniques to promote health and wellness.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: (Especially with reference to the media and art from the target cultures).

Apply Knowledge of Visuals in Electronic Media	
Students who are visually literate...	Are informed viewers, critics, and consumers of visual information.
Visual Arts	AI.1 – AI.10, AII.1 – AII.10, AIII.1 – AIII.10, AIV.1 – AIV.10: Visual Communication and Production: The standards in this strand address how artistic technique and expression of ideas create informed viewers, critics and consumers of information. AI.11 – AI.18, AII.11 – 19, AIII.11 – AIII.17, AIV.11 – AIV.19: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates informed viewers, critics and consumers of visual information. AI.19 – AI.25, AII.20 – AII.25, AIII.18 – AIII.22, AIV.20 – AIV.25: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates informed viewers, critics and consumers of visual information. AI.26 – AI.33, AII.26 – AI.32, AIII.23 – AIII.29, AIV.26 – AIV.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating informed viewers, critics and consumers of visual information.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Interpreting data and graphs.
Social Studies	WHI.1, WHII.1, VUS.1: Improve skills in historical research and geographical analysis by using maps, globes, artifacts, and pictures to analyze the physical and cultural landscapes of the world and interpret the past.
Language Arts	11.9a: Apply a variety of planning strategies to generate and organize ideas.
Health & PE	Health - 10.4a: Synthesize and evaluate marketing and advertising techniques to promote health and wellness.
World Language	MFL III-IV.1, III-IV.2, III-IV.3, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: Upper level world language students interpret information in the target from the Internet.
Students who are visually literate...	Are knowledgeable designers, composers, and producers of visual information.
Visual Arts	AI.1 – AI.10, AII.1 – AII.10, AIII.1 – AIII.10, AIV.1 – AIV.10: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create knowledgeable designers and producers of visual information. AI.11 – AI.18, AII.11 – 19, AIII.11 – AIII.17, AIV.11 – AIV.19: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates knowledgeable designers and producers of visual information. AI.19 – AI.25, AII.20 – AII.25, AIII.18 – AIII.22, AIV.20 – AIV.25: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates knowledgeable designers and producers of visual information. AI.26 – AI.33, AII.26 – AI.32, AIII.23 – AIII.29, AIV.26 – AIV.31.: Aesthetics: The standards in this strand address how background,

	knowledge and experiences influence the interpretation of visual images; thereby creating knowledgeable designers and producers of visual information.
Math	G.3, G.4: Transformations and geometric constructions.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research.
Social Studies	WHI.1, WHII.1, VUS.1: Use maps, globes, artifacts, and pictures to analyze and increase understanding of events.
Language Arts	11.9a: Apply a variety of planning strategies to generate and organize ideas.
World Language	MFL III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, I II-IV.10: Upper level world languages students produce and share brochures, graphic organizers ads, and multimedia projects in the target language.
<i>Students who are visually literate...</i>	Are effective visual communicators.
Visual Arts	AI.1 – AI.10, AII.1 – AII.10, AIII.1 – AIII.10, AIV.1 – AIV.10: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create effective visual communicators. AI.11 – AI.18, AII.11 – 19, AIII.11 – AIII.17, AIV.11 – AIV.19: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates effective visual communicators. AI.19 – AI.25, AII.20 – AII.25, AIII.18 – AIII.22, AIV.20 – AIV.25: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates effective visual communicators. AI.26 – AI.33, AII.26 – AI.32, AIII.23 – AIII.29, AIV.26 – AIV.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby creating effective visual communicators.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3: Scientific Investigation. Science fair. Independent research.
Social Studies	WH.I, WH.II, VUS.1: Engage in historical thinking, to raise questions, and to marshal evidence in support of their answers.
World Language	MFL III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9 ,III-IV.10: World languages students create and present ads, brochures, graphic organizers and multimedia presentations in the target language.

Performing Arts	Instrumental Music - IAR.24: Identify how the characteristic qualities of sound, visual stimuli, other stimuli, movement, and human interrelationships can influence the fine arts. Vocal Music - CAD.9: Sight-read an individual voice part in a vocal score.
<i>Students who are visually literate...</i>	Are expressive, innovative visual thinkers and successful problem solvers.
Visual Arts	AI.1 – AI.10, AII.1 – AII.10, AIII.1 – AIII.10, AIV.1 – AIV.10: Visual Communication and Production: The standards in this strand address how artistic technique and effective expression of ideas create expressive, innovative visual thinkers and successful problem solvers. AI.11 – AI.18, AII.11 – 19, AIII.11 – AIII.17, AIV.11 – AIV.19: Cultural Context and Art History: The standards in this strand address how investigating art from different times and places creates expressive, innovative visual thinkers and successful problem solvers. AI.19 – AI.25, AII.20 – AII.25, AIII.18 – AIII.22, AIV.20 – AIV.25: Judgment and Criticism: The standards in this strand address how learning to make informed judgments about art, analyzing visual principles and interpreting meaning creates expressive, innovative visual thinkers and successful problem solvers. AI.26 – AI.33, AII.26 – AI.32, AIII.23 – AIII.29, AIV.26 – AIV.31: Aesthetics: The standards in this strand address how background, knowledge and experiences influence the interpretation of visual images; thereby expressive, innovative visual thinkers and successful problem solvers.
Math	All mathematics SOL content.
Science	CH.1: Chemistry problems. PH.1, PH.2, PH.3: Physics problems.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
Performing Arts	Theater Arts - TI.1: Recognize that theatre is an ensemble art while developing communication strategies and problem-solving capabilities through group interaction and artistic collaboration.
World Language	MFL, III-IV.4, III-IV.5, III-IV.6, III-IV.7, III-IV.8, III-IV.9, III-IV.10: World languages students may interpret, re-create and study the fine arts, media and literature from the target culture(s).

Artistic Literacy



Artistic Literacy is defined as the ability to use and understand symbols and structures of dance, music, theatre and visual arts to engage actively in one's own learning, innovate, and creatively solve problems as well as the development of analytical thinking, leadership, teamwork, and oral communication skills through the arts.

Students who are artistically literate:

- apply creative and critical thinking skills using a variety of artistic processes including composition, improvisation, design, drafting, performance, exhibition, and revision;
- make connections among the arts and other disciplines;
- picture mentally what cannot be directly heard, observed, or written and imagine possibilities;
- convey ideas, feelings, and personal meaning through multiple modes of expression; and
- understand and appreciate unique cultural perspectives as communicated through the arts.

Artistic Literacy

Grades K – 5

Grades K – 5	
<i>Students who are artistically literate...</i>	Apply creative and critical thinking skills using a variety of artistic processes including composition, improvisation, design, drafting, performance, exhibition, and revision.
Music	Performance/Production. Cultural Context and Music Theory, Judgment and Criticism and Aesthetics.
Science	Children's Engineering. K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Experimental design.
Social Studies	VS.1: Draw conclusions and make generalizations.
Language Arts	K.11, 1.12, 2.11, 3.9, 3.10, 4.7, 5.8: Write to communicate ideas.
Health & PE	PE - 3.1c,d: Develop and refine educational dance sequences.
Visual Arts	K.1 – K.10; 1.1 – 1.10; 2.1 – 2.11; 3.1 – 3.11; 4.1 – 4.10; 5.1 – 5.16: Visual Communication and Production: The standards in this strand address the application of creative and critical thinking skills through use of artistic technique, processes and effective expression of ideas in visual arts.
<i>Students who are artistically literate...</i>	Make connections among the arts and other disciplines.
Music	Performance/Production Cultural Context and Music Theory, Judgment and Criticism and Aesthetics.
Science	3.4, 3.5: Animals and their interactions. 4.7: Earth-Moon-Sun models. 5.4: Atom models. 5.5: Cells.

Language Arts	1.9c, 2.8c, 3.6b, 4.5g, 5.5a: Relate previous experiences to the topic.
Health & PE	PE - 5.1bc: Perform educational gymnastic sequences and rhythm/dance sequences.
Visual Arts	<p>K.4: Create a work of art that commemorates a historical event. K.5: Create art that depicts an animal or plant. K.7: Identify objects in the environment that occupy space. K.8: Identify spatial relationships. K.10: Use motor skills to create art. K.13: Discuss the concept that all cultures create art. K.15: Classify objects in the environment. 1.2: Use senses as inspiration for art. 1.4: Create art inspired by stories, poems, themes. 1.7: recognize size relationships in art. 1.8: Develop eye-hand coordination by drawing and constructing. 1.9: Observe and depict plants, animals and people in a landscape. 1.10: Use motor skills to tear, weave and manipulate art materials. 1.14: Identify American cultural symbols and events depicted in art. 2.3: Use literary sources to generate ideas for art. 2.4: Identify and use secondary colors, geometric and organic shapes, three dimensional forms and pattern. 2.5: Use environmental themes and historical events as inspiration for artwork. 2.7: Depict objects in proportion. 2.8: Collaborate with others to create art. 2.9: Identify and use nature, people, images, imagination and resource materials in art. 2.10: Create a 3-dimensional work of art. 2.13: compare the art, artifacts and architecture of other cultures with own. 2.14: Identify symbols from various cultures. 2.15: Identify art from other cultures including Ancient Egypt, China and American Indians. 2.18: Distinguish between natural and manmade objects. 2.22: Discuss how art of a culture reflects its people's attitudes/beliefs. 3.4: Identify and use intermediate colors, warm/cool colors, positive/negative space, symmetry, asymmetry, sequential pattern using motifs and contrast. 3.5: Compare, contrast, use organic and geometric shapes in art. 3.6: Create an object that reflects the contributions of Graeco-Roman civilizations as found in artifacts. 3.7 Create illusion of depth using overlapping, size variation and placement in picture plane. 3.9: Identify and use architectural forms. 3.13: Discuss how history, culture and visual arts influence one another. 3.15: Compare and contrast architectural styles of ancient cultures. 3.16: Identify and examine objects of the empire of Mali. 3.17: Identify how art reflects times, places and cultures. 3.18 Explain the role of archaeology. 3.25: Examine common attributes in works of art produced by artists within one culture. 4.3 Create art that uses themes, ideas and art forms from the past. 4.4: Identify and use color – hue, tint, shade and intensity. 4.6: Identify and use a variety of lines in art. 4.9: Use contour drawing, perspective and shading techniques to create art that depicts a 3-D object on a 2-D surface. 4.14: Identify and describe influences of ancient cultures on Early American architecture. 4.15: Examine roles of crafts and artisans in Colonial Virginia 4.20: Investigate ways that art from popular culture reflects the past and influences the future. 4.26 Select a preferred work of art and defend the choice. 5.4: Create repeating patterns using translation, reflection and rotation. 5.6: Develop ideas for art by brainstorming, conducting research and making preliminary sketches. 5.7: Collaborate with others to make art that characterizes an historical time period. 5.8: Defend a position regarding an historical or contemporary issue thought the production of art. 5.10: Use linear perspective in art. 5.11: se spatial relationships in art. 5.13: Use technology to produce art. 5.15: Describe changes occurring in clay during the ceramic process. 5.16 Produce fiber art reflecting qualities of fiber art from another age, culture or country. 5.18: Compare contemporary and historical art and architecture. 5.19: Identify influences of historic events, subject matter and media in art. 5.20: Research artists from a variety of cultures and the art they have produced. 5.21: Discuss how American historical events influenced works of art with emphasis on westward expansion and civil war. 5.22: Research, compare and contrast art of two cultures using technology. 5.23: Compare and contrast art from various cultures and periods. 5.25: Compare and contrast natural and constructed environments. 5.26: Analyze artwork based on visual properties and historical context. 5.28: Discuss the role of art and artists in society.</p>

<i>Students who are artistically literate...</i>	Picture mentally what cannot be directly heard, observed, or written and imagine possibilities.
Music	Performance/Production. Cultural Context and Music Theory, Judgment and Criticism and Aesthetics.
Science	K.3, 2.2: Magnets. 3.3, 5.4: Matter and particles. 4.7: Earth-Moon-Sun system. 5.5: Cells.
Language Arts	1.9, 2.8, 3.5, 3.6, 4.4, 4.5, 5.5, 5.6: Apply visualization to enhance understanding.
Visual Arts	K.2 Express ideas and feelings through creation of artwork. 1.5 Create art from real and imaginary sources. 3.10 Produce art that communicates feelings. 4.10 Create abstract works of art. 5.12 Express ideas through artistic choices.
<i>Students who are artistically literate...</i>	Convey ideas, feelings, and personal meaning through multiple modes of expression.
Music	Performance/Production. Cultural Context and Music Theory, Judgment and Criticism and Aesthetics.
Social Studies	VS.1: Identify and interpret artifacts and primary and secondary source documents to understand events in history.
Language Arts	K.11, 1.12, 2.11, 3.9, 3.10, 4.7, 5.8: Write to communicate ideas. K.1c, 2.1b: Participate in creative dramatics. 1.1: Listen and respond to a variety of media. 2.3, 3.1, 4.1, 5.1: Use oral language for different purposes.
World Language	MFL I.1, I.2, I.3, I.4, I.5, I.6, I.7, I.8, I.9, I.10, I.11, I.12: World languages students create poems and paragraphs, sing songs and discuss their likes and dislikes in the target language.
Visual Arts	K.1: Create art that represents personal solutions to art problems. K.2: Express ideas and feelings through the creation of works of art. 1.1 – 1.10; 2.1 – 2.11; 3.1 – 3.11; 4.1 – 4.10; 5.1 – 5.16: Describe a variety of modes of expression in visual arts.
Health & PE	PE - K.1 b, e; 1..1 e, f; 2.1 b; 3.1 c; 4.1 b; 5.1 a, c Demonstrate moving to a beat, creating educational sequences.

<i>Students who are artistically literate...</i>	Understand and appreciate unique cultural perspectives as communicated through the arts.
Music	Performance/Production. Cultural Context and Music Theory, Judgment and Criticism and Aesthetics.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Measurement from different cultural perspectives. 2.6, 4.6: Weather from different perspectives. 2.8: Using plant resources.
Social Studies	VS.1: interpret ideas and events from different historical perspectives.
World Language	MFL I.7, I.8, I.9, I.10: Students begin to examine products, practices and perspectives from the target culture and compare it to those of the U.S. in the elementary grades.
Visual Arts	K.11 – K.13; 1.11 – 1.14; 2.12 – 2.15; 3.12 – 3.18; 4.11 – 4.16; 5.17 – 5.22: Cultural Context and Art History: The standards in this strand address understanding and appreciation of unique cultural perspectives as communicated through the visual arts.
Health & PE	PE - 2.1 c; 3.1 c; 4.1 b; 5.1, c Create and demonstrate International & Folk influenced dance sequences.

Grades 6 – 8

<i>Students who are artistically literate...</i>	Apply creative and critical thinking skills using a variety of artistic processes including composition, improvisation, design, drafting, performance, exhibition, and revision.
Performing Arts	Instrumental Music, Vocal Music, and Theatre Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	6.1, LS.1, PS.1: Experimental design.
Social Studies	CE.1: Analyze political cartoons, political advertisements, pictures, and other graphic media.
Language Arts	6.6, 7.6, 8.6: The student will write narratives, descriptions, persuasive and explanations.
Visual Arts	6.1 – 6.10, 7.1 -7.14, 8.1 – 8.11: Visual Communication and Production: The standards in this strand address the application of creative and critical thinking skills through use of artistic technique, processes and effective expression of ideas in visual arts.
<i>Students who are artistically literate...</i>	Make connections among the arts and other disciplines.
Performing Arts	Instrumental Music, Vocal Music, and Theatre Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	LS.2, LS.3: Microscope drawings.
Social Studies	USI.1, USII.1: Make connections between the past and the present. CE.1: Create and explain maps, diagrams, tables, charts, graphs, and spreadsheets.
Language Arts	9.6: The student will develop narrative, expository, and informational writings to inform, explain, analyze, or entertain. 10.7: The student will develop a variety of writing, with an emphasis on exposition. 11.7: The student will write in a variety of forms, with an emphasis on persuasion. 12.7: The student will develop expository and informational writings.
Visual Arts	6.3: Use one-point perspective to create the illusion of depth. 6.4: Depict proportional relationships among parts of the human body or among other objects. 6.6: Create both visual and tactile textures in art. 6.7: Se chiaroscuro to create illusion of form in art. 6.8: Produce a kinetic work of art. 6.10: Use computer graphics and comp. generated text to create art. 6.13: Identify major art movements in American culture from 1877 to the present relating them to changes in science and technology. 6.20: Identify ethical standards in the use of technology. 7.1: Identify and use analogous, complementary and

	monochromatic color relationships in art. 7.7: Use contour line drawings to demonstrate perceptual skill. 7.8: Use 2-point perspective to create the illusion of depth on a 2-D plane. 7.10: Create 3-D art using geometric forms. 7.11: Create art by representing and interpreting ideas from other fields of knowledge. 7.13: Use computer programs to create art. 7.16: Identify styles and themes in contemporary and historical art. 7.23: Analyze, interpret and judge art based on biographical, historical or contextual information. 7.26: Analyze and describe how factors of time and place influence visual characteristics that give meaning and value to art. 8.1: Create art emphasizing formal color relationships. 8.3: Use aerial perspective to create illusion of depth. 8.4: Use multiple-point perspective to create illusion of depth. 8.6: Create 3-D art using a variety of themes and processes. 8.8: Demonstrate skill in combining text and imagery. 8.10: Apply ethical procedures in producing art. 8.12: Identify roles of artists in mass media. 8.13: Analyze art and architecture from various world cultures, periods or civilizations by styles, symbolism and technological impact. 8.14: Describe and place a variety of art in historical and cultural contexts. 8.17: Investigate the use of social cultural and historical context as they contribute meaning to art.
Health & PE	PE - 6.1 b; 7.1 d; Demonstrate moving to a rhythm in a variety of dances, Folk, Country, Square and Contemporary.
<i>Students who are artistically literate...</i>	Picture mentally what cannot be directly heard, observed, or written and imagine possibilities.
Performing Arts	Instrumental Music, Vocal Music, and Theatre Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	6.8: Solar system and space. LS.2, LS.3: Cells and microscopic structures. 6.4, PS.3: Atomic structures.
Language Arts	6.6c: Describe the images created by language. 7.5c: Describe the impact of word choice, imagery, and poetic devices.
Visual Arts	6.5: Use visual memory skills to produce art. 6.9: Utilize fantasy as a means of expression in art. 7.14: Use problem-solving skills to create art that communicates ideas or emotions. 8.22: Describe personal sensory responses to the visual qualities of art.
<i>Students who are artistically literate...</i>	Convey ideas, feelings, and personal meaning through multiple modes of expression.
Performing Arts	Instrumental Music, Vocal Music, and Theatre Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Social Studies	US.I, US.II, CE.1: Interpret ideas and events from different historical perspectives.
World Language	MFL I-II.1, I-II.2, I-II.3, I-II.4, I-II.5, I-II.6, I-II.7, I-II.8, I-II.9, I-II.10, I-II.11, I.12: World languages students create poems and paragraphs, sing songs and discuss their likes and dislikes in the target language.

Visual Arts	6.1: Solving design problems. 6.5: Use visual memory skills to produce art. 6.9: Use fantasy as a means of expression. 7.5: Communicate through illustration. 7.14: Use problem-solving skills to create art that communicates emotions. 8.18: Communicate how personal experiences influence critical judgments about art.
Health & PE	PE - 6.1 b; 7.1 d; Demonstrate moving to a rhythm in a variety of dances, Folk, Country, Square and Contemporary.
<i>Students who are artistically literate...</i>	Understand and appreciate unique cultural perspectives as communicated through the arts.
Performing Arts	Instrumental Music, Vocal Music, and Theatre Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Social Studies	US.I, US.II, CE.1: Interpret ideas and events from different historical perspectives.
World Language	MFL I-II.7, I-II.8, I-II.9, I-II.10: Students continue to examine products, practices and perspectives from the target culture and compare it to those of the U.S. in the middle years.
Visual Arts	6.1: Solving design problems. 6.5: Use visual memory skills to produce art. 6.9 Use fantasy as a means of expression. 7.5: Communicate through illustration. 7.14: Use problem-solving skills to create art that communicates emotions. 8.18: Communicate how personal experiences influence critical judgments about art.
Health & PE	PE - 6.1 b; 7.1 d; Demonstrate moving to a rhythm in a variety of dances, Folk, Country, Square and Contemporary.

Grades 9 – 12

<i>Students who are artistically literate...</i>	Apply creative and critical thinking skills using a variety of artistic processes including composition, improvisation, design, drafting, performance, exhibition, and revision.
Performing Arts	Instrumental Music, Vocal Music, Theatre Arts and Dance Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Experimental design.
Social Studies	WHI.1, WHII.1, VUS.1: Use maps, globes, artifacts, and pictures to analyze and increase understanding of events.
Language Arts	9.6: The student will develop narrative, expository, and informational writings to inform, explain, analyze, or entertain. 10.7: The student will develop a variety of writing, with an emphasis on exposition. 11.7: The student will write in a variety of forms, with an emphasis on persuasion. 12.7: The student will develop expository and informational writings.
World Language	MFL III-IV.1, III-IV.2, III-IV.3 ,III-IV.4, III-IV.5, III-IV.6 ,III-IV.7,III-IV.8, III-IV.9, III-IV.10: World languages students peer edit, create and present in the target language.
Visual Arts	AI.1 – AI.10, AII.1 – AII.10, AIII.1 – AIII.10, AIV.1 – AIV.10 : Visual Communication and Production: The standards in this strand address the application of creative and critical thinking skills through use of artistic technique, processes and effective expression of ideas in visual arts.
<i>Students who are artistically literate...</i>	Make connections among the arts and other disciplines.
Performing Arts	Instrumental Music, Vocal Music, Theatre Arts and Dance Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	BIO.4: Microscope drawings. CH.1: Apparatus diagrams. PH.2: Vector drawings.
Social Studies	WHII.6: Describe the expansion of the arts, philosophy, literature, and new technology.
Math	G.3: Transformations.

Visual Arts	<p>AI.4: Identify technological developments in art. AI.5: Demonstrate use of technology and electronic media as artistic tools. AI.9: Define and practice ethical procedures in art. AI.12: Describe connections among media, element and principals of art, themes and concepts found in historical and contemporary art. AI.14: Identify major art movements and influential artist according to locations, cultures and history. AI.26: Discuss how aesthetics are reflected in everyday life. AI.28: Demonstrate in writing the ability to support personal criteria for making aesthetic judgments. All.4 Use technology to manipulate and create images. All.13: Identify art and artistic developments that relate to historical time periods and locations. All.14: Write about art history. All.14 – 19: Placing and interpreting art based on historical and societal conditions. All.29: Support opinions by reasoned processes. All.4: Create art integrating traditional and electronic media. All.7: se knowledge of art styles, movements and cultures as inspiration to create art. All.12: Analyze personally influential artists, styles and cultures that have contributed to the student’s portfolio. All.14: Identify distinguishing features that place work in a particular style, region or period. All.17: categorize work by styles and cultures. All.23: Analyze changes in aesthetic sensibilities that result from the influence of one culture upon another. All.29: Describe effects that works of art have on groups, individuals and cultures. AIV.1 – 31: includes student integration of all content areas to produce high level work and understanding of what contributes to successful artwork.</p>
Health & PE	PE - 6.1 b; 7.1 d; Demonstrate moving to a rhythm in a variety of dances, Folk, Country, Square and Contemporary.
<i>Students who are artistically literate...</i>	Picture mentally what cannot be directly heard, observed, or written and imagine possibilities.
Performing Arts	Instrumental Music, Vocal Music, Theatre Arts and Dance Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	ES.8, ES.10: Earth processes and history. ES.4, ES.14: Solar system and space. BIO.4: Cells and microscopic structures. CH.2: Atomic structures.
Language Arts	9.3f: Describe the use of images and sounds to elicit the reader’s emotions.
World Language	MFL I-IV.4, I-IV.7, I-IV.8 ,I-IV.9, I-IV.10: Students create stories and poems in the target language.
Visual Arts	<p>AI.4: Identify technological developments in art. AI.5: Demonstrate use of technology and electronic media as artistic tools. AI.9: Define and practice ethical procedures in art. AI.12: Describe connections among media, element and principals of art, themes and concepts found in historical and contemporary art. AI.14: identify major art movements and influential artist according to locations, cultures and history. AI.26: Discuss how aesthetics are reflected in everyday life. AI.28: Demonstrate in writing the ability to support personal criteria for making aesthetic judgments. All.4: Use technology to manipulate and create images. All.13: Identify art and artistic developments that relate to historical time periods and locations. All.14: Write about art history. All.14 – 19: Placing and interpreting art based on historical and societal conditions. All.29 Support opinions by reasoned processes. All.4: Create art integrating traditional and electronic media. All.7: Use knowledge of art styles, movements and cultures as inspiration to create art. All.12: Analyze personally influential artists, styles and cultures that have contributed to the</p>

	student's portfolio. AIII.14: Identify distinguishing features that place work in a particular style, region or period. AIII.17: Categorize work by styles and cultures. AIII.23: Analyze changes in aesthetic sensibilities that result from the influence of one culture upon another. AIII.29: Describe effects that works of art have on groups, individuals and cultures. AIV.1 – 31: includes student integration of all content areas to produce high level work and understanding of what contributes to successful artwork.
<i>Students who are artistically literate...</i>	Convey ideas, feelings, and personal meaning through multiple modes of expression.
Performing Arts	Instrumental Music, Vocal Music, Theatre Arts and Dance Arts: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.2, PH.3, CH.5: Qualitative description, quantitative description, graphical or visual representation, and mathematical description of same data (ex. PV=K).
Social Studies	WHI.1, WHII.1, VUS.1: Engage in historical thinking, historical analysis and interpretation.
World Language	MFL I-IV.1, I-IV.2, I-IV.3, I-IV.4, I-IV.5, I-IV.6, I-IV.7, I-IV.8, I-IV.9, I-IV.10, I-II.11, I.12: World languages students write, sing, and discuss opinions in the target language.
Language Arts	9.5: The student will read dramatic selections. 10.6: The student will read and critique dramatic selections. 11.5: The student will read and critique a variety of poetry. 11.6: The student will read and critique a variety of dramatic selections. 12.5: The student will read and critique a variety of poetry. 12.6: The student will read and critique dramatic selections from a variety of authors.
Visual Arts	AI.1: Maintain a sketchbook/journal of ideas and writings to use as a resource and planning tool in the making of art. All.1: Expand the use of a sketchbook/journal by adding preliminary sketches, finished drawings, critical writings and class notes. AIII.1: Maintain a sketchbook/journal that demonstrates research, fluency of ideas, concepts, media and processes. AIV: Maintain a self-directed sketchbook /journal demonstrating independent research directly related to studio work.
Health & PE	Health- 9.4; 10.4 Use various sources of information to evaluate global health issues.
<i>Students who are artistically literate...</i>	Understand and appreciate unique cultural perspectives as communicated through the arts.
Performing Arts	Instrumental Music, Vocal Music, Theatre Arts and Dance: Performance and Production, Cultural Context and Theory, Judgment and Criticism and Aesthetics.
Social Studies	WHI.1, WHII.1, VUS.1: Engage in historical thinking, historical analysis and interpretation.

World Language	MFL I-IV.7, I-IV.8 ,I-IV.9 ,I-IV.10: Students deepen their understanding of products, practices and perspectives from the target culture and compare it to those of the U.S.
Visual Arts	AI.11 – AI.18; AII.11 – AII.19; AIII.11. – AIII.17; AIV.11 – AIV.19.: Cultural Context and Art History: The standards in this strand address understanding and appreciation of unique cultural perspectives as communicated through the visual arts.

Information Literacy



Information Literacy is defined as the ability to evaluate information across a range of media; recognize when information is needed; locate, synthesize, and use information effectively; and accomplish these functions using technology, communication networks, and electronic resources.

Students who are information literate:

- use skills, resources, and tools to inquire, think critically, and gain knowledge;
 - determine what is known and what is needed for problem solving
 - identify different sources of information, including text, people, video, audio, and databases
 - identify and retrieve relevant information from sources and use technology to enhance searching
- draw conclusions, make informed decisions, apply knowledge to new situations, and create knowledge;
 - prioritize sources based on credibility and relevance
 - revise information-gathering strategies that prove to be ineffective
 - understand how information retrieved does or does not address the original problem
- share knowledge and participate ethically and productively as members of our democratic society; and
 - evaluate information in terms of credibility and social, economic, political, legal, and ethical issues that may impact it and use technology to facilitate evaluation
 - use retrieved information to accomplish a specific purpose
 - present information clearly and persuasively using a range of technology tools and media
 - evaluate the processes and products of these activities, including resulting social consequences
- pursue personal and aesthetic growth.
 - use tools, resources, and technology to create and present ideas
 - use creative and artistic formats to express learning
 - read widely to explore new ideas and interests

Grades K – 5

Use skills, resources, and tools to inquire, think critically, and gain knowledge

<i>Students who are information literate...</i>	Determine what is known and what is needed for problem solving.
Math	All mathematics SOL content. 1.6, 2.8, 2.18, 2.21, 4.4, 4.5, 5.4, 5.6 5.18: Creating and solving problems in various contexts using math skills and processes.
Science	Children's Engineering. K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Language Arts	1.9c, 2.8c, 3.6b, 4.5g, 5.5a: Relate previous experiences to the topic. K.2, 1.9e, 2.8de, 3.6c, 4.6a: Ask and answer questions. K.8bf, 1.9f-i, 2.9fg, 3.5i, 3.6f, 4.4d, 4.5f, 5.5c, 5.6ab: - Determine main idea and details including story structure 5.7a Use simple note-taking strategies.
World Language	Problem-solving, scientific investigation.
Visual Arts	K.1: Create art that represents personal solutions to art problems. 1.1: Recognize and discuss various solutions to a single art problem. 2.1: Investigate various solutions to an art problem. 3.1: Identify innovative solutions. 5.1: Synthesize information to produce art.
Music	Aesthetics - K.12, 1.12,2,11, 3.15,4.15,5.13: Recognize and identify the relationship between music and other.
<i>Students who are information literate...</i>	Identify different sources of information, including text, people, video, audio, and databases.
Science	3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	VS.1: Identify and interpret artifacts and primary and secondary source documents to understand events in history.

Language Arts	5.8g: Use available information to access information.
World Language	Independent Research and other projects.
Visual Arts	K.11: Identify people who make art as artists. 2.3: Use literary sources for art. 2.9: Identify and use a variety of sources for art ideas...3.18: Explain role of archaeology in learning about art of past. 4.14: Identify and describe influence of ancient cultures. 5.7: Collaborate with others to make art. 5.13: Use technology to make art. 5.19: Identify influences of historic events, subject matter and media in art.
Music	Aesthetics - K.12, 1.12,2.11,3.15,4.15,5.13: Recognize and identify the relationship between music and other.
Health & PE	Health - K.4, 2.4 c; 3.4c; 4.5: Information Access and Use.
<i>Students who are information literate...</i>	Identify and retrieve relevant information from sources; use technology to enhance searching.
Science	4.1, 5.1: Scientific Investigation.
Social Studies	K.1, 1.2, 2.11, 3.11, VS.5: Identify famous Americans.
Language Arts	4.6: Demonstrate comprehension of information resources to research a topic. 4.6b: Collect information using the resources of the media center including online, print, and media. 5.7: Demonstrate comprehension of information from a variety of print resources.
Visual Arts	5.13: Use technology to make art.
Health & PE	Health - K.4, 2.4 c; 3.4 c; 4.5 a; 5.4 a: Information Access and Use.

<i>Draw conclusions, make informed decisions, apply knowledge to new situations, and create knowledge</i>	
<i>Students who are information literate...</i>	Prioritize sources based on credibility and relevance.
Science	3.1, 4.1, 5.1: Scientific Investigation.
Language Arts	4.6c: Evaluate and synthesize information resources.
World Language	Independent Research and other projects.
Visual Arts	4.1: Research and generate ideas. 5.8: Defend a position.
Health & PE	Health - 3.4 c; 4.5 a; 5.4 a: Information Access and Use.
<i>Students who are information literate...</i>	Revise information-gathering strategies that prove to be ineffective.
Math	All mathematics SOL content.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
<i>Students who are information literate...</i>	Understand how information retrieved does or does not address the original problem.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Language Arts	4.6c: Evaluate and synthesize information resources.

Visual Arts	K.14, K.15, 1.15 – 1.17, 2.16 – 2.19, 3.14 – 3.18, 4.17 – 4.21, 5.23 – 5.27: Judgment and Criticism: Standards in this strand enable students to analyze and assess information about art and draw conclusions.
Health & PE	Health - 4.5 b; 5.4 a: Information Access and Use.

<i>Share knowledge and participate ethically and productively as members of our democratic society</i>	
<i>Students who are information literate...</i>	Evaluate information in terms of credibility and social, economic, political, legal, and ethical issues that may impact it; use technology to facilitate evaluation.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	VS.1: Evaluate and discuss issues orally and in writing.
Language Arts	4.6c: Evaluate and synthesize information resources.
Visual Arts	4.16: Investigate artists and their work using research tools and procedures. 5.22: Research, compare and contrast art of two cultures using technology.
Health & PE	Health - 4.5 b; 5.4 a: Information Access and Use.
<i>Students who are information literate...</i>	Use retrieved information to accomplish a specific purpose.
Math	All mathematics SOL content.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	VS.1: Evaluate and discuss issues orally and in writing.
Language Arts	4.6: Demonstrate comprehension of information resources to research a topic. 3.7, 5.7: Demonstrate comprehension of information from a variety of print resources.
World Language	Independent Research and other projects.

Visual Arts	2.9: Identify and use a variety of sources for art ideas. 3.3: Develop art ideas from print, non-print and technology. 4.1: Research and generate ideas for creating art. 5.1: Synthesize information to produce art. 5.13: Use technology to produce art.
Health & PE	Health K.4, 1.5, 2.4, 3.4, 4.5, 5.4: Information Access and Use.
<i>Students who are information literate...</i>	Present information clearly and persuasively using a range of technology tools and media.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.1, 1.1, 2.1, 3.1, VS.1: Historical research and multi-media project.
Language Arts	5.6c: Locate information to support opinions, predictions, and conclusions. 2.3a Use oral language to inform and persuade.
World Language	Independent Research and other projects.
Visual Arts	2.9: Identify and use a variety of sources for art ideas. 3.3: Develop art ideas from print, non-print and technology. 4.1: Research and generate ideas for creating art. 5.1: Synthesize information to produce art. 5.13: Use technology to produce art.
Health & PE	Health - 3.4, 4.5, 5.4: Information Access and Use.
<i>Students who are information literate...</i>	Evaluate the processes and products of these activities, including resulting social consequences.
Science	3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.1, 1.1, 2.1, 3.1, VS.1: Historical research and multi-media project.
World Language	Independent Research and other projects.

Visual Arts	2.16: Express opinions regarding works of art. 2.19: Interpret ideas and feelings expressed in art. 3.23: Express informed judgments about art. 4.18: Analyze art based on visual properties. 4.20: Investigate how art influences the present. 5.27: Apply specific criteria to assess finished product.
Health & PE	Health - 4.3: Evaluate effects, 5.3: Analyze risks.

<i>Pursue personal and aesthetic growth</i>	
<i>Students who are information literate...</i>	Use tools, resources, and technology to create and present ideas.
Science	3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.1, 1.1, 2.1, 3.1, VS.1: Historical research and multi-media project.
Health & PE	Health - 2.4, 3.4, 4.5, 5.4: Information Access and Use.
<i>Students who are information literate...</i>	Use creative and artistic formats to express learning.
Science	K.1, 1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.1, 1.1, 2.1, 3.1, VS.1: Historical research and multi-media project.
Language Arts	K.11, 1.12, 2.11, 3.9, 3.10, 4.7, 5.8: Write to communicate ideas. 5.3d: Incorporate visual aids to support the presentation.
Visual Arts	K.2: Express ideas and feelings through creation of art. 1.1 - 1.10; 2.3 - 2.11, 3.1 - 3.10, 4.1 - 4.10, 5.1 - 5.15: Creating art using many sources and formats.
Music	Aesthetics - K.12, 1.12, 2.11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other.

Students who are information literate...	Read widely to explore new ideas and interests.
Science	1.1, 2.1, 3.1, 4.1, 5.1: Scientific Investigation.
Social Studies	K.1, 1.1, 2.1, 3.1, VS.1: Historical research and multi-media project.
Language Arts	1.9, 2.8, 3.5, 3.6, 4.4, 4.5, 5.5, 5.6: Read and demonstrate comprehension of fiction and nonfiction, including multicultural texts and various genres to make connections with self and world.
Visual Arts	1.4: Create artwork inspired by stories, poems, and themes. 2.3: Use literary sources to generate ideas for art. 3.3: Develop art ideas from print, non-print and technology. 4.1: Research ideas for creating art. 5.13: Use technology to create art.
Performing Arts	Aesthetics - K.12, 1.12, 2.11, 3.15, 4.15, 5.13: Recognize and identify the relationship between music and other.

Grades 6 – 8

Use skills, resources, and tools to inquire, think critically, and gain knowledge

<i>Students who are information literate...</i>	Determine what is known and what is needed for problem solving.
Math	All mathematics SOL content.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research.
Social Studies	USI.1, USII.1: Evaluate and discuss issues orally and in writing. CE.1: Select and defend positions in writing, discussion, and debate.
World Language	Problem-solving, scientific investigation.
Visual Arts	6.1: Solving design problems. 7.14: Use problem-solving skills.
Performing Arts	Instrumental Music - II.15: Identify and repair minor problems of the instrument being studied. Instrumental Music - IAD.23: Diagnose and correct personal performance errors. Theatre Arts - TI.1: Recognize that theatre is an ensemble art while developing communication strategies and problem-solving capabilities through group interaction and artistic collaboration and offer and select alternatives to solve problems and build consensus.
<i>Students who are information literate...</i>	Identify different sources of information, including text, people, video, audio, and databases.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Identify and interpret artifacts and primary and secondary source documents to increase understanding of events.

World Language	Independent Research and other projects.
Visual Arts	6.10: Use computer graphics and computer-generated text to create original art. 7.11: Create art by representing and interpreting ideas from other fields of knowledge. 7.13: Use computer design programs to create art. 8.7: Identify and analyze uses of typography in graphic arts.
Performing Arts	Theatre Arts- M.12: Read and analyze scripts and respond in oral, written, or visual form.
<i>Students who are information literate...</i>	Identify and retrieve relevant information from sources; use technology to enhance searching.
Math	A.6, A.7, A.8: Use of software and graphing calculator utilities to analyze functions.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1: Make connections between the past and the present. CE.1: Select and defend positions in writing, discussion, and debate.
Language Arts	6.5, 7.5, & 8.5: The student will read and demonstrate comprehension of a variety of informational selections.
Visual Arts	6.10: Use computer graphics and computer-generated text to create original art. 7.13: Use computer design programs to create art. 8.7: Identify and analyze uses of typography in graphic arts.

<i>Draw conclusions, make informed decisions, apply knowledge to new situations, and create knowledge</i>	
<i>Students who are information literate...</i>	Prioritize sources based on credibility and relevance.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Identify and interpret primary source and secondary source documents. CE.1: Select and defend positions in writing, discussion, and debate.
Language Arts	6.1b: Evaluate own contributions to discussions. 7.7c: Synthesize information from multiple sources. 8.6g: Evaluate and synthesize information to apply in written and oral presentations.
World Language	Independent Research and other projects.
Visual Arts	6.13: Identify major art movements in American culture. 7.18: Examine the uses and impact of persuasive techniques in electronic media.
<i>Students who are information literate...</i>	Revise information-gathering strategies that prove to be ineffective.
Math	All mathematics SOL content.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
<i>Students who are information literate...</i>	Understand how information retrieved does or does not address the original problem.
Math	A.2, A.4: Verifying solutions.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.

Social Studies	USI.1, USII.1, CE.1: Identify and interpret primary source and secondary source documents.
Language Arts	6.1b: Evaluate own contributions to discussions. 7.7c: Synthesize information from multiple sources. 8.6g: Evaluate and synthesize information to apply in written and oral presentations.
Visual Arts	6.15 – 6.20, 7.19 – 7.25, 8.16 – 8.19: Judgment and Criticism: Standards in this strand enable students to analyze and assess information about art and draw conclusions.

<i>Share knowledge and participate ethically and productively as members of our democratic society</i>	
<i>Students who are information literate...</i>	Evaluate information in terms of credibility and social, economic, political, legal, and ethical issues that may impact it; use technology to facilitate evaluation.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1: Evaluate and discuss issues orally and in writing. CE.1: identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
Language Arts	6.1b: Evaluate own contributions to discussions. 7.7c: Synthesize information from multiple sources. 8.6g: Evaluate and synthesize information to apply in written and oral presentations.
Visual Arts	6.15 – 6.20, 7.19 – 7.25, 8.16 – 8.19: Judgment and Criticism: Standards in this strand enable students to analyze and assess information about art and draw conclusions.
<i>Students who are information literate...</i>	Use retrieved information to accomplish a specific purpose.
Math	All mathematics SOL content.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1: Evaluate and discuss issues orally and in writing.
Visual Arts	6.10: Use computer generated information to create original artwork. 7.13: Use specific computer design programs to create art. 8.8: Demonstrate skill in combining text and imagery using technology.
Language Arts	6.1b: Evaluate own contributions to discussions. 7.7c: Synthesize information from multiple sources. 8.6g: Evaluate and synthesize information to apply in written and oral presentations.
World Language	Independent Research and other projects.

<i>Students who are information literate...</i>	Present information clearly and persuasively using a range of technology tools and media.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Historical research and multi-media project.
World Language	Independent Research and other projects.
Visual Arts	6.10: Use computer generated information to create original artwork. 7.13: Use specific computer design programs to create art. 8.8: Demonstrate skill in combining text and imagery using technology.
Performing Arts	Vocal Music - CB.8: Use multimedia applications in creating original music.
<i>Students who are information literate...</i>	Evaluate the processes and products of these activities, including resulting social consequences.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Historical research and multi-media project.
World Language	Independent Research and other projects.
Visual Arts	6.15: Discuss art as persuasion. 6.19: Identify relationship between processes and final solutions. 7.23: Analyze, interpret and judge art. 7.21: Identify and apply criteria for judging art. 8.18: Communicate how personal experiences influence interpretations of art.

<i>Pursue personal and aesthetic growth</i>	
<i>Students who are information literate...</i>	Use tools, resources, and technology to create and present ideas.
Math	A.6, A.7, A.8: Use of software and graphing calculator utilities to analyze functions.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Historical research and multi-media project.
Performing Arts	Theatre Arts - M.1: Communicate ideas, using individual performances, group productions, or group projects to demonstrate teamwork, cooperation, and dependability.
<i>Students who are information literate...</i>	Use creative and artistic formats to express learning.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Historical research and multi-media project.
Visual Arts	6.1 – 6.10, 7.1 – 7.14, 8.1 – 8.11: Expressing learning by creating art with various emphases.
Performing Arts	General Music -MS.6: Identify the influence of daily music experience in one’s personal life. Vocal Music - CI.8: Improvise within limited parameters. Improvise short rhythmic and melodic phrases. Create vocal harmony to a given melody. Use available multimedia applications and technology in creating original music.

<i>Students who are information literate...</i>	Read widely to explore new ideas and interests.
Science	6.1, LS.1, PS.1: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	USI.1, USII.1, CE.1: Historical research and multi-media project.
Visual Arts	6.10: Use computer-generated text in art. 6.24: Explaining art in writing. 7.13: Using computer design programs. 8.7: Analyze use of typography in art. 8.8: Combining text and imagery in art.
Performing Arts	Theatre Arts - M.12: Read and analyze scripts and respond in oral, written, or visual form.

Grades 9 – 12

Use skills, resources, and tools to inquire, think critically, and gain knowledge

<i>Students who are information literate...</i>	Determine what is known and what is needed for problem solving.
Math	All mathematics SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research.
Social Studies	GOVT.1: Demonstrate mastery of the social studies skills responsible citizenship requires, including the ability to identify a problem, weigh the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions, using a decision-making model.
World Language	Problem-solving, scientific investigation.
Visual Arts	AI.3: Demonstrating experimental application of elements and principles of art. AII.7: Employ the visual problem-solving process in producing original artwork. AIV.7: Use experimental techniques to reflect an original problem-solving approach.
<i>Students who are information literate...</i>	Identify different sources of information, including text, people, video, audio, and databases.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	WHI.1, WHII.1, VUS.1: Improve skills in historical research and geographical analysis by using maps, globes, artifacts, and pictures to analyze the physical and cultural landscapes of the world and interpret the past.
World Language	Independent Research and other projects.
Visual Arts	AI.3: Demonstrating experimental application of elements and principles of art. AII.7: Employ the visual problem-solving process in producing original artwork. AIV.7: Use experimental techniques to reflect an original problem-solving approach.

Performing Arts	Theatre Arts - TI.8: Researching and applying cultural and historical information to artistic choices; examining non-Western traditions in drama.
<i>Students who are information literate...</i>	Identify and retrieve relevant information from sources; use technology to enhance searching.
Math	AFDA.1, AFDA.2, AFDA.3, AFDA.4, AFDA.5, AII.4, AII.5, AII.6, AII.7, AII.8: Use of software and graphing calculator utilities to analyze functions.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	GOVT.1: Evaluate information for accuracy, separating fact from fiction.
Language Arts	9.4, 10.4, 11.4, 12.4: The student will read and demonstrate comprehension of a variety of informational selections.
Visual Arts	AI.4: Identify technological developments in art. AII.4: Use technology to create and manipulate images. AIII.4: Integrate electronic and traditional media in artwork. AIV.6: Select among a range of subject matter, symbols, meaningful images and media to communicate. AIV.4: Select and use technology and electronic media for personal expressive art.

<i>Draw conclusions, make informed decisions, apply knowledge to new situations, and create knowledge</i>	
<i>Students who are information literate...</i>	Prioritize sources based on credibility and relevance.
Math	G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	VUS.1: Develop skills in discussion, debate, and persuasive writing with respect to enduring issues and determine how divergent viewpoints have been addressed and reconciled. GOVT.1: Evaluate information for accuracy, separating fact from fiction.
Language Arts	9.4c: Synthesize information from sources and apply it in written and oral presentations.
World Language	Independent Research and other projects.
Visual Arts	AI.14: Identify major art movements and influential artists. AII.20: Describe, analyze, interpret and judge. AIII.25: Identify, analyze and apply criteria for making aesthetic judgments. AIV.30: Justify personal perceptions.
Performing Arts	Theatre Arts - TI.10: Read, analyze, and respond to selected dramatic literature to identify the elements of dramatic literature, including conflict, plot, theme, character, and dialogue; and develop and apply criteria to describe and evaluate dramatic literature.
<i>Students who are information literate...</i>	Revise information-gathering strategies that prove to be ineffective.
Math	All mathematics SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.

<i>Students who are information literate...</i>	Understand how information retrieved does or does not address the original problem.
Math	All.4, All.5: Verifying solutions.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	GOVT.1: Evaluate information for accuracy, separating fact from fiction.
Language Arts	9.4c: Synthesize information from sources and apply it in written and oral presentations
Visual Arts	AI.19 – AI.25, AII.20 – AII.25, AIII.18 – AIII.22, AIV.20 – AIV.25.: Judgment and Criticism: Standards in this strand enable students to analyze and assess information about art and draw conclusions.
Performing Arts	Theatre Arts - TI.11: View and analyze live performances and make informed responses. Dance Arts - DI.13: Identify, research, and discuss how dance reflects and records history and culture.

<i>Share knowledge and participate ethically and productively as members of our democratic society</i>	
<i>Students who are information literate...</i>	Evaluate information in terms of credibility and social, economic, political, legal, and ethical issues that may impact it; use technology to facilitate evaluation.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	GOVT.1: Identify a problem, weight the expected costs and benefits and possible consequences of proposed solutions, and recommend solutions.
Language Arts	9.4c: Synthesize information from sources and apply it in written and oral presentations.
Visual Arts	AI.9, AII.8: Practice ethical procedures when producing art. AIII.9: Maintain high level of integrity in ethical procedures when creating art. AIV.8: Demonstrate personal responsibility and integrity in ethical matters and procedures including adherence to copyright laws when making art.
<i>Students who are information literate...</i>	Use retrieved information to accomplish a specific purpose.
Math	All mathematics SOL content.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	GOVT.1: Select and defend positions in writing, discussion, and debate.
Language Arts	9.4c: Synthesize information from sources and apply it in written and oral presentations.
World Language	Independent Research and other projects.
Visual Arts	AI.5: Use of technology and electronic media as artistic tools. AII.4: Create and manipulate images using technology. AIII.4: Create art by integrating electronic and traditional media. AIV.4: Use appropriate technology/electronic media for personal, expressive art work.

<i>Students who are information literate...</i>	Present information clearly and persuasively using a range of technology tools and media.
Math	G.1: Logic and proof.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	WHI.1, WHII.1, VUS.1, GOVT.1: Historical research and multi-media project.
World Language	Independent Research and other projects.
Visual Arts	AI.5: Use of technology and electronic media as artistic tools. AII.4: Create and manipulate images using technology. AIII.4: Create art by integrating electronic and traditional media. AIV.4: Use appropriate technology/electronic media for personal, expressive artwork
Performing Arts	Vocal Music - CAD.10: Use multimedia applications in creating original music.
<i>Students who are information literate...</i>	Evaluate the processes and products of these activities, including resulting social consequences.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	WHI.1, WHII.1, VUS.1, GOVT.1: Historical research and multi-media project.
World Language	Independent Research and other projects.
Visual Arts	AI.19 – AI.25: Analyzing critiquing and evaluating art. AII.20 – AII.25: Analyzing, interpreting and judging art. AIII.18 – AIII.22: Analyzing, comparing, defending art. AIV.20 – AIV.25: Analyzing, Critiquing and critically viewing quality and expressive form.
Performing Arts	Dance Arts - DII.14: Demonstrate skill in communicating information by researching current dance institutions in the community, commonwealth, and world.

<i>Pursue personal and aesthetic growth</i>	
<i>Students who are information literate...</i>	Use tools, resources, and technology to create and present ideas.
Math	AFDA.1, AFDA.2, AFDA.3, AFDA.4, AFDA.5, AII.4, AII.5, AII.6, AII.7, AII.8: Use of software and graphing calculator utilities to analyze functions.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	WHI.1, WHII.1, VUS.1, GOVT.1: Historical research and multi-media project.
Visual Arts	AI.4: Identify technological developments in art. AII.4: Use technology to create and manipulate images. AIII.4: Integrate electronic and traditional media in artwork. AIV.6: Select among a range of subject matter, symbols, meaningful images and media to communicate. AIV.4: Select and use technology and electronic media for personal expressive art.
Performing Arts	Theatre Arts - TII.3: Demonstrate acting skills and techniques, including vocal control, stage movement, script analysis, and rehearsal techniques representing selected styles, by <ol style="list-style-type: none"> 1. using gestures, blocking, pacing, and stage business; 2. making vocal and physical choices that represent characterization, conflict, and production style; 3. performing a fully rehearsed and memorized role; 4. incorporating suggestions from the director; 5. continuing to refine research skills for characterization and script/text interpretation; 6. using preparation and awareness activities to improve concentration, observation, imagination, and sensory memory; researching and presenting solo and group performances; and incorporating psychological, historical, and social dynamics derived from information suggested by the script.
<i>Students who are information literate...</i>	Use creative and artistic formats to express learning.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	WHI.1, WHII.1, VUS.1, GOVT.1: Historical research and multi-media project.

Visual Arts	AI.1 – AI.10, AII.1 – AII.10, AIII.1 – AIII.10, AIV.1 – AIV.10: Selecting appropriate art formats for expressing learning, feelings and ideas.
Performing Arts	Instrumental Music - IAD.19: Use dynamic contrast and technical skills as a means of expression.
<i>Students who are information literate...</i>	Read widely to explore new ideas and interests.
Science	ES.1, ES.2, BIO.1, CH.1, PH.1, PH.3: Scientific Investigation. Science fair. Independent research. Environmental projects. Other projects.
Social Studies	WHI.1, WHII.1, VUS.1, GOVT.1: Historical research and multi-media project.
Language Arts	Search the online catalog and web sources to locate information. Use technology tools to create and present ideas.
Visual Arts	AI.1, AII.1, AIII.1, AIV.1: Maintaining journal/sketchbook of ideas, writings, notes, sketches to develop artistic fluency and independent thought. AI.5: Use technology and electronic media as art tools. AII.4: Create and manipulate images with technology. AIII.4: Integrate electronic and traditional media to create artwork. AIV.31: Using reading and writing to examine development of a personal style.
Performing Arts	Instrumental Music - IAD.24: Discuss relationships between music concepts and the concepts of other disciplines.