

## Curricula Crosswalk

The following curricula crosswalk is a document that provides links between high quality career and technical education and academic education to best prepare students for work and/or postsecondary education. Its intended audience is classroom teachers in grades 9-12 and it focuses on the four core academic areas: English language arts, mathematics, science and social studies. You will find the pathway level performance elements in career and technical content areas cross-walked to content standards in the four academic areas. In this electronic document, you can use your cursor to link directly from the CTE performance element to the associated academic content standard. Through this document educators in Delaware will be able to connect the theory of what is taught in core academic content areas to the authentic, real-world application of that theory through their application in the workplace via career and technical classes. This document is intended to be a tool to encourage and facilitate communication and collaboration among educators.

The crosswalk was completed in the summer of 2007 by a committee of Department of Education staff and both career and technical and core academic teachers from districts across the state. We would like to acknowledge the following crosswalk participants:

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## Curricula Crosswalk

### AgriScience: Animal Science (AS)

**Pathway Content Standard:** Students will study animal science and its relationship to the environment.

#### Core Academic Content Standards

Animal Science		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
AS.01	Demonstrate the correct use of safety procedures related to animal production.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts			
AS.02	Research and interpret data related to the global implications of animal agriscience.		2. Algebraic Reasoning 4. Quantitative Reasoning 5. Problem Solving 8. Connections		G2 9-12a, G3 9-12a, H1 9-12a
AS.03	Identify breeds of economically important animal species.				
AS.04	Describe the functions of reproductive organs, biological events of reproduction, and advances in reproductive technology and management.				
AS.05	Explain and describe the functions of nutrients and the physiology of digestion.				
AS.06	Recognize animal health concerns and recommend appropriate action.				
AS.07	Gain practical experience with animal management.				
AS.08	Analyze and evaluate animals according to industry standards.				
AS.09	Understand processing safety and consumer safety associated with animal marketing.				C3 9-12a, E1 9-12a
AS.10	Understand the legal responsibilities associated with animal production and management.				C3 9-12a
AS.11	Use classification systems to explain basic functions of animal anatomy and physiology.				H1 9-12a, E1 9-12a



## Curricula Crosswalk

### AgriScience: Biotechnology (BT)

**Pathway Content Standard:** Students will study biotechnology and its relationship to agriculture.

#### Core Academic Content Standards

<b>Biotechnology</b>		<b>English Language Arts</b>	<b>Mathematics</b>	<b>Science</b>	<b>Social Studies</b>	
	<b>Performance Element</b>					
BT.01	Explore biotechnology in the form of an initial inquiry.					
BT.02	Define and explore biotechnology and its scientific roots.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts		6. Life Processes, IV - Life Processes and Technology Application		
BT.03	Identify and analyze the biological and physical characteristics of cells.			6. Life Processes, I - Structure/Function Relationship		
BT.04	Examine components of genetic transfer and the processes and procedures involved.					
BT.05	Identify and examine methods and purposes for creating a genetically modified organism.					
BT.06	Employ knowledge of the components of animal biotechnology processes, procedures, and uses.			1. Numeric Reasoning 4. Quantitative Reasoning 5. Problem Solving 7. Communication 8. Connections		



## Curricula Crosswalk

Biotechnology		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
BT.07	Employ knowledge of the components of plant biotechnology processes, procedures, and uses.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 4. Quantitative Reasoning 5. Problem Solving 7. Communication 8. Connections		
BT.08	Examine the impact of biotechnology on medical advances.				
BT.09	Discuss the ways in which biotechnology benefits the environment.				G2 9-12a
BT.10	Employ knowledge of the components of biotechnology processes, procedures, and uses in the food industry.		1. Numeric Reasoning 4. Quantitative Reasoning 5. Problem Solving 7. Communication 8. Connections		



## Curricula Crosswalk

<b>Biotechnology</b>		<b>English Language Arts</b>	<b>Mathematics</b>	<b>Science</b>	<b>Social Studies</b>
<b>Performance Element</b>					
BT.11	Evaluate consumer and ethical views of biotechnology and their impact on the industry.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 4. Quantitative Reasoning 5. Problem Solving 7. Communication 8. Connections		E1 9-12a



## Curricula Crosswalk

### AgriScience: Food Science (FS)

**Pathway Content Standard:** Students will study food science and its relationship to human health by way of industry and technology.

#### *Core Academic Content Standards*

Food Science		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
FS.01	Explain and describe the functions of nutrients and the physiology of digestion.	2. Reading Informative, Non-fiction & Technical Texts	5. Problem Solving	3: Energy and Its Effects	
FS.02	Identify, explain, and demonstrate safe practices and procedures in food science.			6: Life Processes	C1 9-12b
FS.03	Identify the characteristics of safe, quality food products.			1: Nature and Application of Science and Technology	C2 9-12b
FS.04	Understand food processing technology.		5. Problem Solving 6. Reasoning and Proof	1: Nature and Application of Science and Technology, 2: Materials and Their Properties, 6: Life Processes, 7: Diversity and Continuity of Living Things	H2 9-12a
FS.05	Understand the basic economics of food science technology.	3. Research, Information & Technical Literacy	8. Connections		E1 9-12a E4 9-12a G1 9-12b



## Curricula Crosswalk

### AgriScience: Natural Resources and Environmental Science (NRES)

**Pathway Content Standard:** Students will study agriculture and its relationship to natural resources and environmental science.

#### *Core Academic Content Standards*

Natural Resources and Environmental Science		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
NRES.01	Recognize the importance of natural systems and the need for the protection of natural resources.			8: Ecology. Human Impact. 1-4	
NRES.02	Recognize the importance of water as it relates to environmental and natural resources.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 3. Geometric Reasoning 4. Quantitative Reasoning 7. Communication 8. Connections	1: Nature and Application of Science and Technology; I: Understandings and Abilities of Scientific Inquiry, 1 2, 2: Materials and Their Properties; I: Properties and Structure of Materials, 2,4, 8: Ecology; I: Interactions within the Environment 1	G1 9-12a, G1 9-12 b
NRES.03	Identify and examine energy sources.				



## Curricula Crosswalk

Natural Resources and Environmental Science		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
NRES.04	Recognize the impact of both pollution and recycling.			1: Nature and Application of Science and Technology; II: Science, Technology and Society: 1-2, 8: Ecology; I: Interactions within the Environment 1-6, 8: Ecology; III: Human Impact 2-5	
NRES.05	Examine wildlife conservation topics.				
NRES.06	Understand the impacts of land use and wetlands.				
NRES.07	Examine disease and pests and their impact on the environment.				



## Curricula Crosswalk

Natural Resources and Environmental Science		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
NRES.08	Apply scientific principles and technology to natural resources management.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 4. Quantitative Reasoning 6. Reasoning and Proof 7. Communication 8. Connections	1: Nature and Application of Science and Technology; I: Understandings and Abilities of Scientific Inquiry 1-6, 5: Earth's Dynamic Systems; III: Technology and Applications, 1, 8: Ecology; I: Interactions within the Environment 1-4, 8: Ecology; II: Energy Flow and Material Cycles in the Environment 1-3	



## Curricula Crosswalk

### AgriScience: Plant and Horticultural Sciences

**Pathway Content Standard:** Students will study the principles and techniques used in the management of plant systems.

#### *Core Academic Content Standards*

<b>Plant Science</b>		<b>English Language Arts</b>	<b>Mathematics</b>	<b>Science</b>	<b>Social Studies</b>
<b>Performance Element</b>					
PHS.01	Identify and classify plant materials.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy	3. Geometric Reasoning 5. Problem Solving 6. Reasoning and Proof 7. Communication		
PHS.02	Understand plant anatomy and physiology.	4. Reading Fiction & Literary Texts	1. Numeric Reasoning 2. Algebraic Reasoning 4. Quantitative Reasoning 5. Problem Solving 6. Reasoning and Proof 7. Communication		
PHS.03	Demonstrate propagation techniques for various plant materials.	1. Writing, Oral Presentation, & Listening	1. Numeric Reasoning 8. Connections		



## Curricula Crosswalk

Plant Science		English Language Arts	Mathematics	Science	Social Studies
	Performance Element				
PHS.04	Understand the concepts of horticultural pest management.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 2. Algebraic Reasoning 3. Geometric Reasoning 4. Quantitative Reasoning 5. Problem Solving 6. Reasoning and Proof 7. Communication 8. Connections		
PHS.05	Perform cultural practices related to the production and maintenance of horticultural crops.				
PHS.06	Demonstrate the fundamentals of horticultural planning and design.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 2. Algebraic Reasoning 3. Geometric Reasoning 4. Quantitative Reasoning 5. Problem Solving 6. Reasoning and Proof 7. Communication 8. Connections		G1 9-12b
PHS.07	Understand management decisions related to horticultural operations.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning 2. Algebraic Reasoning 3. Geometric Reasoning 4. Quantitative Reasoning 5. Problem Solving 6. Reasoning and Proof 7. Communication 8. Connections		G2 9-12a
PHS.08	Develop an understanding of technological advancements in horticulture.				



## Curricula Crosswalk

### AgriScience: Agricultural Power, Structural, and Technical Systems (APSTS)

**Pathway Content Standard:** Students will study agricultural power, structural, and technical systems and their relationship to the environment.

#### Core Academic Content Standards

	<b>Agricultural Power, Structural, and Technical Systems</b>	<b>English Language Arts</b>	<b>Mathematics</b>	<b>Science</b>	<b>Social Studies</b>
	<b>Performance Element</b>				
APSTS.01	Understand the development and application of agricultural power, structural, and technical systems.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts		1. Nature and Application of Science and Technology, I - Science, Tehnology, and Society; III - History and Context of Science	H1 9-12a
APSTS.02	Demonstrate positive safety behaviors.				
APSTS.03	Disassemble, assemble, repair, inspect, and evaluate machinery and equipment systems.				
APSTS.04	Operate machinery and equipment systems.				
APSTS.05	Understand the economic importance of sound business practices and a professional work ethic to agribusiness.		2.Algebraic Reasoning, 3.Geometric Reasoning,		



## Curricula Crosswalk

	<b>Agricultural Power, Structural, and Technical Systems</b>	<b>English Language Arts</b>	<b>Mathematics</b>	<b>Science</b>	<b>Social Studies</b>
	<b>Performance Element</b>				
APSTS.06	Understand the operation and functions of energy systems, including alternative energy sources.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	1. Numeric Reasoning, 8. Connections	2. Materials and Their Properties, I - Properties and Structure of Materials, IV - Chemical Reactions, 3. Energy and Its Effects, I - Forces and the Transfer of Energy, III - Energy Interacting With Materials; the Transformation and Conservation of Energy 5. Earth's Dynamic Systems, 1 - Components of the Earth	G2 9-12a
APSTS 07	Demonstrate knowledge related to the design, construction, management, and operation of an agriscience structural system.				



## Curricula Crosswalk

	<b>Agricultural Power, Structural, and Technical Systems</b>	<b>English Language Arts</b>	<b>Mathematics</b>	<b>Science</b>	<b>Social Studies</b>
	<b>Performance Element</b>				
APSTS.08	Demonstrate knowledge related to the design, construction, management, or operation of environmental engineering systems and natural resources systems.	1. Writing, Oral Presentation, & Listening 2. Reading Informative, Non-fiction & Technical Texts 3. Research, Information & Technical Literacy 4. Reading Fiction & Literary Texts	2. Algebraic Reasoning, 4. Quantitative Reasoning, 8. Connections		G2 9-12a

# English Language Arts Content Standards

## And Enduring Understandings/Essential Questions

*Students in Delaware public schools, using the processes of effective readers, writers, listeners, viewers, and speakers, will be able to:*

### **ENGLISH LANGUAGE ARTS STANDARD ONE: USE WRITTEN AND ORAL ENGLISH APPROPRIATE FOR VARIOUS PURPOSES AND AUDIENCES.**

#### **Writing Enduring Understandings:**

- Audience and purpose (e.g., to inform, persuade, entertain) influence the use of literary techniques (e.g., style, tone, word choice).
- Writers do not always say what they mean. Indirect forms of expression (e.g., satire, irony) require readers to read between the lines to find the intended meaning.
- Punctuation marks and grammar rules are like highway signs and traffic signals. They guide readers through the text to help avoid confusion.
- A writer selects a form based on his purpose.
- A writer's point of view is influenced by his experience.
- Conventions of language help readers understand what is being communicated.
- The purposeful use and non-use of language conventions help readers understand.
- A writer's word choice and syntax are characteristics of voice which help to personalize text.

#### **Writing Essential Questions:**

- Why write? What if writing didn't exist? Why share personal experiences in writing? To what extent is the pen mightier than the sword?
- How is written language different from spoken language? What makes writing worth reading?
- How do writers express their thoughts and feelings? Where do ideas for writing come from? What makes writing flow?
- How do effective writers hook and hold their readers? What makes writing easy to follow? What is the best beginning? What is the best ending? What is the best order (sequence)? What is a complete thought?
- Why am I writing? For whom? What am I trying to achieve through my writing? Who will read my writing? What will work best for my audience?
- Why does a writer choose the form of writing he/she does?
- What is the relationship between reader and writer?
- How do writers communicate clearly?
- To what extent do conventions of language impact communication?
- What is the voice thing, anyway?

- Why do we need grammar?

### ***Oral Communication Enduring Understandings:***

- Audience and purpose (e.g., inform, persuade, entertain) influence communication
- Speakers do not always say what they mean. Indirect forms of expression (e.g., eye contact, hand gestures, facial expressions) require the audience to read between the lines to find the intended meaning.
- The use of the voice (e.g., pitch, rate, volume, intonation) helps the audience understand the message.
- A speaker selects a form and organizational pattern based on his purpose.
- A speaker's point of view is influenced by his experience.
- Rhetorical devices (e.g., questioning, repetition, alliteration) help the speaker convey his message.
- A speaker's word choice and style are characteristics of voice which helps to personalize the message.
- Oral discourse helps to shape our lives and build connections to others; mastery of oral discourse can open up opportunities to individuals.
- Discussion creates a greater understanding of a variety of topics.
- Learning is about sharing different views and actively listening to those with different views

### ***Oral Communication Essential Questions:***

- Why share written ideas orally?
- How is spoken language different from written language?
- How can I communicate so others will listen?
- How do speakers express their thoughts and feelings? From where do ideas for speeches come?
- How do effective speakers hook and hold their audience? What is the best beginning? What is the best ending?
- Why am I speaking? For whom? What am I trying to achieve through my speech? Who is my audience?
- Why does a speaker choose the organizational pattern he/she does?
- What is the relationship between speaker and listener?
- How do speakers communicate clearly?
- What is the voice thing, anyway?
- What makes a good speech?
- How do authors use the resources of language to impact an audience?
- Why is a comprehensive vocabulary important to effective reading, writing, listening, and speaking?

## English Language Arts Content Standards

### And Enduring Understandings/Essential Questions

*Students in Delaware public schools, using the processes of effective readers, writers, listeners, viewers, and speakers, will be able to:*

**ENGLISH LANGUAGE ARTS STANDARD TWO: CONSTRUCT, EXAMINE, AND EXTEND THE MEANING OF LITERARY, INFORMATIVE, AND TECHNICAL TEXTS THROUGH LISTENING, READING, AND VIEWING.**

#### **Reading Enduring Understandings:**

- Great literature provides rich and timeless insights into the key themes, dilemmas, and challenges that we face. They present complex stories in which the inner and outer lives of human beings are revealed.
- Sometimes the author makes his/her meaning plain; often however, a reader must dig beneath the “surface” of the text to find the meaning.
- Reading for meaning often requires imagining conversation with and questioning of the author. You must consider and respond- very different from passively accepting or instantly liking or disliking.
- Just because you read the text doesn’t mean you understood it. Just because you had a strong response to the text doesn’t mean you understood it either.
- Different readers may respond to the same text in different ways. The better responses are those that provide that provide greater insight into the text and/or the issues raised.
- Good readers may use many strategies that work, and they quickly try another one when the one they are using doesn’t work. They not only know many different strategies, but they never get stuck in persisting with one that isn’t working.
- Good readers are never afraid or embarrassed to admit when they don’t understand. Asking questions-of a text, of a teacher, of another reader-is what good readers do.
- Everyone is entitled to an opinion about what a text means, but the text supports some interpretations more than others.
- Different types of texts (e.g., narrative, mystery, biography, expository, persuasive) have different structures. Understanding a text’s structure helps a reader better understand its meaning.
- The impact of a text on a reader is influenced by the reader’s experience.
- The reader’s interaction with text changes with time and experience.
- A good story has a pattern or plan.
- Good readers employ strategies to help them understand text.
- Understanding of text develops over time and experience.
- No opinion is privileged, but some are better than others.

- Different authors use techniques/strategies to convince readers. Readers must apply criteria to evaluate credibility of information.

***Reading Essential Questions:***

- What makes a book or story great? What is the relationship between popularity and greatness in literature? Is a “good read” always a great book?
- Why read fiction? Can a fictional story be “true”? What is the relationship between “fiction” and “truth”? Is historical fiction a contradiction?
- What is a story? How are stories from other places and times about me? Must a story have a moral? Must a story have heroes and villains? Should a story or fairy tale teach you something?
- Why read? What can we learn from print? Can all of our experiences be put into words? Does literature primarily reflect culture or shape it? To what extent is written text conservative and to what extent dangerous?
- What do good readers do? What do they do when do not understand? How do texts differ? How should I read different types of texts?
- What is the author saying? How do I know? What is the gist? What is the main idea? How do I read between the lines? How do I know I am getting the point and not merely imposing my views and experience?
- From whose viewpoint are we reading? What is the author’s angle or perspective? What should we do when texts or authors disagree?
- What’s new and what’s old here? Have we run across this idea before? So what? Does it matter?
- What lies beneath the surface of this text? (In fiction: symbol and theme; in nonfiction texts: assumptions, biases, preconceptions) How much does this matter? How can I uncover it?
- What is the relationship between reader and writer?
- How can a reader recognize truth in text?
- What does a reader gain from re-visiting or re-reading a text?
- How do you know a piece of text is worth reading more than once?
- What do you do when you do not understand everything in the text?
- To what extent does it matter that you do not understand the whole text?
- Under what conditions is an interpretation of text valid?
- How does literature reveal us to ourselves?

# English Language Arts Content Standards

## And Enduring Understandings/Essential Questions

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**ENGLISH LANGUAGE ARTS STANDARD THREE: ACCESS, ORGANIZE, AND EVALUATE INFORMATION GAINED THROUGH LISTENING, READING, AND VIEWING.**

### ***Research Enduring Understandings:***

- Good research comes from a variety of sources.
- Good researchers check information for accuracy and validity.
- Good researchers employ strategies to help them research information.
- Good researchers start with a clear purpose, topic, and audience when doing research.
- Good researchers present information without plagiarizing.
- Good researchers have criteria to determine sources that are authoritative.
- Good researchers extract information from sources and draw logical conclusions.

### ***Research Essential Questions:***

- Why conduct research?
- Why use technology for research?
- In what ways do researchers gather information?
- How does a researcher know information is accurate?
- Why check for validity and accuracy?
- Why do good researchers avoid plagiarizing?
- What is an authoritative source?
- What is a logical conclusion?
- What is the purpose for research?

## English Language Arts Content Standards

### And Enduring Understandings/Essential Questions

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#### **ENGLISH LANGUAGE ARTS STANDARD FOUR: USE LITERARY KNOWLEDGE ACCESSED THROUGH PRINT AND VISUAL MEDIA TO CONNECT SELF TO SOCIETY AND CULTURE.**

##### **Reading Enduring Understandings:**

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- Sometimes the author makes his/her meaning plain; often however, a reader must dig beneath the “surface” of the text to find the meaning.
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- Everyone is entitled to an opinion about what a text means, but the text supports some interpretations more than others.
- Different types of texts (e.g., narrative, mystery, biography, expository, persuasive) have different structures. Understanding a text’s structure helps a reader better understand its meaning.
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- Why read? What can we learn from print? Can all of our experiences be put into words? Does literature primarily reflect culture or shape it? To what extent is written text conservative and to what extent dangerous?
- What do good readers do? What do they do when do not understand? How do texts differ? How should I read different types of texts?
- What is the author saying? How do I know? What is the gist? What is the main idea? How do I read between the lines? How do I know I am getting the point and not merely imposing my views and experience?
- From whose viewpoint are we reading? What is the author’s angle or perspective? What should we do when texts or authors disagree?
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- What is the relationship between reader and writer?
- How can a reader recognize truth in text?
- What does a reader gain from re-visiting or re-reading a text?
- How do you know a piece of text is worth reading more than once?
- What do you do when you do not understand everything in the text?
- To what extent does it matter that you do not understand the whole text?
- Under what conditions is an interpretation of text valid?
- How does literature reveal us to ourselves?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### ***Content Standards:***

#### ***MATHEMATICS STANDARD ONE: NUMERIC REASONING***

Students will develop **Numeric Reasoning** and an understanding of *Number and Operations* by solving problems in which there is a need to represent and **model real numbers** verbally, physically, and symbolically; to **explain** the relationship between numbers; to determine the relative magnitude of **real numbers**; to use operations with understanding; and to select appropriate methods of calculations from among mental math, paper-and-pencil, calculators, or computers.

### ***Enduring Understandings:***

- Numbers can be represented in multiple ways.
- The same operations can be applied in problem situations that seem quite different from one another.
- Being able to compute fluently means making smart choices about which tools to use and when to use them.
- Knowing the reasonableness of an answer comes from using good number sense and estimation strategies.

### ***Essential Questions:***

- What makes an estimate *reasonable*?
- What makes an answer *exact*?
- What makes a strategy both *effective* and *efficient*?
- What makes a solution *optimal*?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### ***MATHEMATICS STANDARD TWO: ALGEBRAIC REASONING***

Students will develop **Algebraic Reasoning** and an understanding of Patterns and Functions by solving problems in which there is a need to recognize and extend a variety of patterns; to progress from the concrete to the abstract using physical models, equations, and graphs; to describe, represent, and analyze relationships among variable quantities; and to analyze, represent, model, and describe real-world functional relationships.

#### ***Enduring Understandings***

- Change is fundamental to understanding functions.
- Numbers or objects that repeat in predictable ways can be described or generalized.
- An operation can be “undone” by its inverse.
- Rules of arithmetic and algebra can be used together with notions of equivalence to transform equations and inequalities so solutions can be found.

#### ***Essential Questions:***

- How can change be described mathematically?
- How are patterns of change related to the behavior of functions?
- How do mathematical models/representations shape our understanding of mathematics?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### **MATHEMATICS STANDARD THREE: GEOMETRIC REASONING**

Students will develop **Geometric Reasoning** and an understanding of Geometry and Measurement by solving problems in which there is a need to recognize, construct, transform, analyze properties of, and discover relationships among geometric figures; and to measure to a required degree of accuracy by selecting appropriate tools and units.

#### ***Enduring Understandings:***

- Two- and three-dimensional objects can be described, classified, and analyzed by their attributes.
- An object in a plane or in space can be oriented in an infinite number of ways while maintaining its size or shape.
- An object's location on a plane or in space can be described quantitatively.
- Linear measure, area, and volume are fundamentally different but may be related to one another in ways that permit calculation of one given the other.

#### ***Essential Questions:***

- How does *what* we measure affect *how* we measure? How can space be defined through numbers/measurement?
- Why do we compare contrast and classify objects?
- How do decomposing and recomposing shapes help us build our understand of mathematics?
- How can transformations be described mathematically?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### ***MATHEMATICS STANDARD FOUR: QUANTITATIVE REASONING***

Students will develop **Quantitative Reasoning** and an understanding of Data Analysis and Probability by solving problems in which there is a need to collect, appropriately represent, and interpret data; to make inferences or predictions and to present convincing arguments; and to **model** mathematical situations to determine the probability.

#### ***Enduring Understandings:***

- The question to be answered determines the data to be collected and how best to collect it.
- Basic statistical techniques can be used to analyze data in the workplace.
- The probability of an event can be used to predict the probability of future events.

#### ***Essential Questions:***

- What is average?
- What makes a data representation useful?
- How does my sample affect confidence in my predication?
- What is fair?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### ***Process Standards:***

#### ***MATHEMATICS STANDARD FIVE: PROBLEM SOLVING***

Students will develop their Problem Solving ability by engaging in developmentally appropriate problem-solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts; to formulate their own problems; to find solutions to problems from everyday situations; to develop and apply **strategies** to **solve** a wide variety of problems; and to integrate mathematical reasoning, communication and connections.

### ***Enduring Understandings:***

- Mathematics can be used to solve problems outside of the mathematics classroom.
- Mathematics is built on reason and always makes sense.
- Reasoning allows us to *make* conjectures and to *prove* conjectures.
- Classifying helps us build networks of mathematical ideas.
- Precise language helps us express mathematical ideas and receive them.

### ***Essential Questions:***

- Is your plan working? Do you need to reconsider what you are doing?
- How are *solving* and *proving* different? How are *showing* and *explaining* different?
- How do you know when you have proven something?
- What does it take to **verify** a conjecture? How do you develop a convincing argument?
- How do you make sense of different strategies? How do you determine their strengths? Why do we classify? Why do we classify numbers? Why do we classify geometric objects? Why do we classify functions?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### ***MATHEMATICS STANDARD SIX: REASONING AND PROOF***

Students will develop their Reasoning and Proof ability by solving problems in which there is a need to investigate significant mathematical ideas in all content areas; to **justify** their thinking; to reinforce and extend their logical reasoning abilities; to reflect on and clarify their own thinking; to ask questions to extend their thinking; and to construct their own learning.

#### ***Enduring Understandings:***

- Mathematics can be used to solve problems outside of the mathematics classroom.
- Mathematics is built on reason and always makes sense.
- Reasoning allows us to *make* conjectures and to *prove* conjectures.
- Classifying helps us build networks of mathematical ideas.
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#### ***Essential Questions:***

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- How do you know when you have proven something?
- What does it take to **verify** a conjecture? How do you develop a convincing argument?
- How do you make sense of different strategies? How do you determine their strengths and weaknesses? How do you determine similarities and differences?
- Why do we classify? Why do we classify numbers? Why do we classify geometric objects? Why do we classify functions?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### **MATHEMATICS STANDARD SEVEN: COMMUNICATION**

Students will develop their mathematical Communication ability by solving problems in which there is a need to obtain information from the real world through reading, listening and observing; to translate this information into mathematical language and symbols; to process this information mathematically; and to present results in written, oral, and visual formats.

#### ***Enduring Understandings:***

- Mathematics can be used to solve problems outside of the mathematics classroom.
- Mathematics is built on reason and always makes sense.
- Reasoning allows us to *make* conjectures and to *prove* conjectures.
- Classifying helps us build networks of mathematical ideas.
- Precise language helps us express mathematical ideas and receive them.

#### ***Essential Questions:***

- Is your plan working? Do you need to reconsider what you are doing?
- How are *solving* and *proving* different? How are *showing* and *explaining* different?
- How do you know when you have proven something?
- What does it take to **verify** a conjecture? How do you develop a convincing argument?
- How do you make sense of different strategies? How do you determine their strengths and weaknesses? How do you determine similarities and differences?
- Why do we classify? Why do we classify numbers? Why do we classify geometric objects? Why do we classify functions?

# Mathematics Standards

## And Enduring Understandings/Essential Questions

### **MATHEMATICS STANDARD EIGHT: CONNECTIONS**

Students will develop mathematical Connections by solving problems in which there is a need to view mathematics as an integrated whole and to integrate mathematics with other disciplines, while allowing the flexibility to approach problems, from within and outside mathematics, in a variety of ways.

#### ***Enduring Understandings:***

- Mathematics can be used to solve problems outside of the mathematics classroom.
- Mathematics is built on reason and always makes sense.
- Reasoning allows us to *make* conjectures and to *prove* conjectures.
- Classifying helps us build networks of mathematical ideas.
- Precise language helps us express mathematical ideas and receive them.

#### ***Essential Questions:***

- Is your plan working? Do you need to reconsider what you are doing?
- How are *solving* and *proving* different? How are *showing* and *explaining* different?
- How do you know when you have proven something?
- What does it take to **verify** a conjecture? How do you develop a convincing argument?
- How do you make sense of different strategies? How do you determine their strengths and weaknesses? How do you determine similarities and differences?
- Why do we classify? Why do we classify numbers? Why do we classify geometric objects? Why do we classify functions?

# Science Standards

## And Enduring Understandings/Essential Questions

### ***Content Standards:***

#### ***SCIENCE STANDARD ONE: NATURE AND APPLICATION OF SCIENCE AND TECHNOLOGY***

Science is a human endeavor involving knowledge learned through inquiring about the natural world. Scientific claims are evaluated and knowledge changes as a result of using the abilities and understandings of inquiry. The pursuit of scientific knowledge is a continuous process involving diverse people throughout history. The practice of science and the development of technology are critical pursuits of our society.

### ***Enduring Understandings:***

- Scientific inquiry involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to scientific knowledge and theory, and communicating and justifying the explanation.
- The development of technology and advancement in science influence each other and drive each other forward.
- Understanding past processes and contributions is essential in building scientific knowledge.

### ***Essential Questions:***

- What makes a question scientific? What constitutes evidence? When do you know you have enough evidence? Why is it necessary to justify and communicate an explanation?
- How do science and technology influence each other?
- How have past scientific contributions influenced current scientific understanding of the world? What do we mean in science when we say that we stand on the shoulders of giants?

## Science Standards

### And Enduring Understandings/Essential Questions

#### **SCIENCE STANDARD TWO: MATERIALS AND THEIR PROPERTIES**

Materials exist throughout our physical world. The structures of materials influence their physical properties, chemical reactivity and use.

#### ***Enduring Understandings:***

- The structures of materials determine their properties.
- People develop new materials as a response to the needs of society and the pursuit of knowledge. This development may have risks and benefits to humans and the environment.

#### ***Essential Questions:***

- How do the properties of materials determine their use?
- How do you know which material is best for a particular product or need? What determines if new materials need to be developed? Why should people consider the risks and benefits before the production of new materials and/or the implementation of a new process?

## Science Standards

### And Enduring Understandings/Essential Questions

#### **SCIENCE STANDARD THREE: ENERGY AND ITS EFFECTS**

The flow of energy drives processes of change in all biological, chemical, physical, and geological systems. Energy stored in a variety of sources can be transformed into other energy forms, which influence many facets of our daily lives. The forms of energy involved and the properties of the materials involved influence the nature of the energy transformations and the mechanisms by which energy is transferred. The conservation of energy is a law that can be used to analyze and build understandings of diverse physical and biological systems.

#### ***Enduring Understandings:***

- Energy takes many forms. These forms can be grouped into types of energy that are associated with the motion of mass (kinetic energy), and types of energy associated with the position of mass and with energy fields (potential energy).
- Changes take place because of the transfer of energy. Energy is transferred to matter through the action of forces. Different forces are responsible for the transfer of the different forms of energy.
- Energy readily transforms from one form to another, but these transformations are not always reversible. The details of these transformations depend upon the initial form of the energy and the properties of the materials involved. Energy may transfer into or out of a system and it may change forms, but the total energy cannot change.
- People utilize a variety of resources to meet the basic and specific needs of life. Some of these resources cannot be replaced. Other resources can be replenished or exist in such vast quantities they are in no danger of becoming depleted. Often the energy stored in resources must be transformed into more useful forms and transported over great distances before it can be helpful to us.

#### ***Essential Questions:***

- How do we know that things have energy?
- How can energy be transferred from one material to another? What happens to a material when energy is transferred to it?
- What happens to the energy in a system — where does this energy come from, how is it changed within the system, and where does it ultimately go? How does the flow of energy affect the materials in the system?
- What is a “responsible” use of energy? Are there alternative forms of energy that will serve our needs, or better ways of using traditional forms of energy?

## Science Standards

### And Enduring Understandings/Essential Questions

#### ***SCIENCE STANDARD FOUR: EARTH IN SPACE***

Our Solar System is a collection of gravitationally interacting bodies that include Earth and the Moon. Universal principles of gravitation allow predictions regarding the motions of objects within the Galaxy and beyond. Earth's motion, position, and posture account for a variety of cyclic events observable from Earth. While the composition of planets vary considerably, their components and the applicable laws of science are universal. The motions and interactions of objects within the Solar System are consistent with the hypothesis that it emerged from a large disk of gas and dust. Our Solar System is part of the Milky Way Galaxy, which, in turn, is one of many galaxies in the known Universe.

#### ***Enduring Understandings:***

- What predictable, observable patterns occur as a result of the interaction between the Earth, Moon, and Sun?
- How has technology expanded our knowledge of the Earth, Moon, and Sun System?

#### ***Essential Questions:***

- Enduring Understanding: There are observable, predictable patterns of movement in the Earth, Moon, and Sun system that account for day and night.
- Enduring Understanding: Technology expands our knowledge of the Earth, Moon, and Sun System.

## Science Standards

### And Enduring Understandings/Essential Questions

#### **SCIENCE STANDARD FIVE: EARTH'S DYNAMIC SYSTEMS**

Earth's dynamic systems are made up of the solid earth (geosphere), the oceans, lakes, rivers, glaciers and ice sheets (hydrosphere), the atmosphere, and organisms (biosphere). Interactions among these spheres have resulted in ongoing changes to the system. Some of these changes can be measured on a human time scale, but others occur so slowly, that they must be inferred from geological evidence.

#### ***Enduring Understandings:***

- Earth's systems can be broken down into individual components which have observable measurable properties.
- Earth's components form systems. These systems continually interact at different rates of time, affecting the Earth locally and globally.
- Technology enables us to better understand Earth's systems. It also allows us to analyze the impact of human activities on Earth's systems and the impact of Earth's systems on human activity.

#### ***Essential Questions:***

- How does understanding the properties of Earth materials and the physical laws that govern their behavior lead to prediction of Earth events?
- How do changes in one part of the Earth system affect other parts of the system? In what ways can Earth processes be explained as interactions among spheres?
- How does technology extend human senses and understanding?

## **Science Standards**

### **And Enduring Understandings/Essential Questions**

#### ***SCIENCE STANDARD SIX: LIFE PROCESSES***

The natural world is defined by organisms and life processes which conform to principles regarding conservation and transformation of matter and energy. Living organisms use matter and energy to build their structures and conduct their life processes, and have mechanisms and behaviors to regulate their internal environments and to respond to changes in their surroundings. Knowledge about life processes can be applied to improving human health and well being.

#### ***Enduring Understandings:***

- Living systems demonstrate the complementary nature of structure and function.
- All organisms transfer matter and convert energy from one form to another. Both matter and energy are necessary to build and maintain structures within the organism.
- Organisms respond to internal and external cues, which allow them to survive.
- The life processes of organisms are affected by their interactions with each other and their environment, and may be altered by human manipulation.

#### ***Essential Questions:***

- How does structure relate to function in living systems?
- How is matter transferred and energy transferred/transformed in living systems?
- How do responses to internal and external cues aid in an organism's survival?
- What can we do to benefit the health of humans and other organisms?

## Science Standards

### And Enduring Understandings/Essential Questions

#### ***SCIENCE STANDARD SEVEN: DIVERSITY AND CONTINUITY OF LIVING THINGS***

The natural world consists of a diversity of organisms that transmit their characteristics to future generations. Living things reproduce, develop, and transmit traits, and theories of evolution explain the unity and diversity of species found on Earth. Knowledge of genetics, reproduction, and development is applied to improve agriculture and human health.

#### ***Enduring Understandings:***

- Organisms reproduce, develop, have predictable life cycles, and pass on heritable traits to their offspring.
- The diversity and changing of life forms over many generations is the result of natural selection, in which organisms with advantageous traits survive, reproduce, and pass those traits to offspring.
- The development of technology has allowed us to apply our knowledge of genetics, reproduction, development and evolution to meet human needs and wants.

#### ***Essential Questions:***

- Why do offspring resemble their parents? How do organisms change as they go through their life cycles?
- How are organisms of the same kind different from each other? How does this help them reproduce and survive?
- How does the understanding and manipulation of genetics, reproduction, development and evolution affect the quality of human life?

## **Science Standards**

### **And Enduring Understandings/Essential Questions**

#### ***SCIENCE STANDARD EIGHT: ECOLOGY***

Organisms are linked to one another in an ecosystem by the flow of energy and the cycling of materials. Humans are an integral part of the natural system and human activities can alter the stability of ecosystems.

#### ***Enduring Understandings:***

- Organisms and their environments are interconnected. Changes in one part of the system will affect other parts of the system.
- Matter needed to sustain life is continually recycled among and between organisms and the environment. Energy from the sun flows irreversibly through ecosystems and is conserved as organisms use and transform it.
- Humans can alter the living and non-living factors within an ecosystem, thereby creating changes to the overall system.

#### ***Essential Questions:***

- How can change in one part of an ecosystem affect change in other parts of the ecosystem?
- How do matter and energy link organisms to each other and their environments? Why is sunlight essential to life on Earth?
- How do humans have an impact on the diversity and stability of ecosystems?

# **Social Studies Standards**

## **And Enduring Understandings/Essential Questions**

### ***Content Standards:***

#### ***CIVICS STANDARD ONE: GOVERNMENT***

Students will examine the structure and purposes of governments with specific emphasis on constitutional democracy.

#### ***Enduring Understandings:***

- Students will understand that Constitutional democracy as a structure of government developed from the tension between the need for authority and the need to constrain authority.
- Students will understand that governments are structured to address the basic needs of the people in a society.

#### ***Civics Standard One 9-12a***

Students will analyze the ways in which the structure and purposes of different governments around the world reflect differing ideologies, cultures, values, and histories.

#### ***Essential Question***

- What is the relationship between the political culture and experiences of a country and the form and structure of its government?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***CIVICS STANDARD TWO: POLITICS***

Students will understand the principles and ideals underlying the American political system..

#### ***Enduring Understanding***

- Students will understand that the principles and ideals underlying American democracy are designed to promote the freedom of the American people.

#### ***Civics Standard Two 9-12a***

Students will examine and analyze the extra-Constitutional role that political parties play in American politics.

#### ***Essential Questions:***

- To what extent are political parties necessary to democracy? Why do two political parties dominate in America but other democracies have more?
- Under what conditions might political parties evolve or collapse?

#### ***Civics Standard Two 9-12b***

Students will understand that the functioning of the government is a dynamic process which combines the formal balances of power incorporated in the Constitution with traditions, precedents, and interpretations which have evolved over the past 200 years.

#### ***Essential Questions:***

- What problems would arise if a government failed to adapt to changing needs and desires of the people?
- To what extent do the structures and traditional processes of government minimize the dangers of change?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***CIVICS STANDARD THREE: CITIZENSHIP***

Students will understand the responsibilities, rights, and privileges of United States citizens.

#### ***Enduring Understandings:***

Students will understand that:

- Effective citizens are committed to protecting rights for themselves, other citizens, and future generations, by upholding their civic responsibilities and are aware of the potential consequences of inaction.
- Distinctions between a citizen's rights, responsibilities, and privileges help to define the requirements and limits of personal freedom.

#### ***Civics Standard Three 9-12a***

Students will understand that citizens are individually responsible for keeping themselves informed about public policy issues on the local, state, and federal levels; participating in the civic process; and upholding the laws of the land.

#### ***Essential Question:***

- What are the consequences of citizens not participating in democracy?

# Social Studies Standards

## And Enduring Understandings/Essential Questions

### ***CIVICS STANDARD FOUR: PARTICIPATION***

Students will develop and employ the civic skills necessary for effective, participatory citizenship.

#### ***Enduring Understandings:***

- Students will understand that effective citizens can research issues, form reasoned opinions, support their positions, and engage in the political process.
- Students will understand that effective governance requires responsible participation from diverse individuals who translate beliefs and ideas into lawful action and policy.

#### ***Civics Standard Four 9-12a***

Students will develop and employ the skills necessary to work with government programs and agencies.

#### ***Essential Question:***

- How should private citizens and interest groups most effectively communicate with government?

#### ***Civics Standard Four 9-12b***

Students will understand the process of working within a political party, a commission engaged in examining public policy, or a citizen's group.

#### ***Essential Question:***

- How should groups engaged in political activities organize to accomplish their goals?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***ECONOMICS STANDARD ONE: MICROECONOMICS***

Students will analyze the potential costs and benefits of personal economic choices in a market economy.

#### ***Enduring Understandings:***

- Students will understand that due to scarcity, individuals, families, communities, and societies as a whole, must make choices in their activities and consumption of goods and services.
- Students will understand that goods, services, and resources in a market economy are allocated based on the choices of consumers and producers.
- Students will understand that effective decision making requires comparing the additional costs of alternatives relative to the additional benefits received.

#### ***Economics Standard One 9-12a***

Students will demonstrate how individual economic choices are made within the context of a market economy in which markets influence the production and distribution of goods and services.

#### ***Essential Questions:***

- To what extent does economic self-interest (individual consumers and producers) contribute to the greater good?
- Does competition ensure efficiency?
- To what extent do government policies affect markets?
- How might markets create incentives that impact decisions of individual consumers, producers, and government?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***ECONOMICS STANDARD TWO: MACROECONOMICS***

Students will examine the interaction of individuals, families, communities, businesses, and governments in a market economy.

#### ***Enduring Understandings:***

- Students will understand that a nation's overall levels of income, employment, and prices are determined by the interaction of spending and production decisions made by all households, firms, government, and trading partners.
- Students will understand that because of interdependence, decisions made by consumers, producers, and government impact a nation's standard of living.
- Students will understand that market economies are dependent on the creation and use of money, and a monetary system to facilitate exchange.

#### ***Economics Standard Two 9-12a***

Students will develop an understanding of how economies function as a whole, including the causes and effect of inflation, unemployment, business cycles, and monetary and fiscal policies.

#### ***Essential Questions:***

- Why is our economy interdependent?
- How might government policy decisions affect the stability of the economy?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***ECONOMICS STANDARD THREE: ECONOMIC SYSTEMS***

Students will understand different types of economic systems and how they change.

#### ***Enduring Understandings:***

- Students will understand that because resources are scarce, societies must organize the production, distribution, and allocation of goods and services.
- Students will understand that the way societies make economic decisions depends on cultural values, availability and quality of resources, and the extent and use of technology.
- Students will understand that changing economic systems impact standards of living.

#### ***Economics Standard Three 9-12a***

Students will analyze the wide range of opportunities and consequences resulting from the current transitions from command to market economies in many countries.

#### ***Essential Questions:***

- Why do some economies in transition experience success and others fail?
- Why might citizens of a society question whether an increase in the standard of living improves the quality of life?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***ECONOMICS STANDARD FOUR: INTERNATIONAL TRADE***

Students will examine the patterns and results of international trade.

##### ***Enduring Understandings:***

- Students will understand that individuals and nations trade when all parties expect to gain.
- Students will understand that nations with different economic systems often specialize and become interdependent as a result of international trade.
- Students will understand that government actions that promote competition and free trade among people and nations increase the health of an economy and the welfare of nations.

##### ***Economics Standard Four 9-12a***

Students will analyze and interpret the influence of the distribution of the world's resources, political stability, national efforts to encourage or discourage trade, and the flow of investment on patterns of international trade.

##### ***Essential Questions:***

- To what extent is a nation's standard of living related to its trading patterns?
- How might changes in trading patterns affect the distribution of income and quality of life globally?
- To what extent should developed nations trade with less developed nations?

# Social Studies Standards

## And Enduring Understandings/Essential Questions

### ***GEOGRAPHY STANDARD ONE: MAPS***

Students will develop a personal geographic framework, or “mental map,” and understand the uses of maps and other geographics.

#### ***Enduring Understandings:***

- Students will understand that mental maps summarize differences and similarities about places. These differences and similarities lead to conflict or cooperation and the exchange of goods and ideas between peoples.
- Students will understand that mental maps change as the scale moves from local to global; we know more about our home area than more distant places; and these differences affect how we feel and behave towards places that are distant versus those that are close.
- Students will understand the ways mapped patterns are analyzed and used help solve societal problems.
- Students will understand that maps can be used to distort or introduce bias into the information they portray.

#### ***Geography Standard One 9-12a***

Students will identify geographic patterns which emerge when data is mapped, and analyze mapped patterns through the application of such common geographic principles as “hierarchy,” “accessibility,” “diffusion” and “complementarity.”

#### ***Essential Questions:***

- To what extent is competition or interaction between places influenced by their relative location and accessibility?
- How might the position of a place in a settlement hierarchy affect the life of the people in that place?
- What makes it likely or unlikely that people and/or goods will flow between two points?

#### ***Geography Standard One 9-12b***

Students will apply the analysis of mapped patterns to the solution of problems.

#### ***Essential Question***

- How might societal problems be posed so that they are open to solution through geographic map analysis?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***GEOGRAPHY STANDARD TWO: ENVIRONMENT***

Students will develop a knowledge of the ways humans modify and respond to the natural environment.

#### ***Enduring Understanding***

- Students will understand that the human response to the characteristics of a physical environment comes with consequences for both the human culture and the physical environment.

#### ***Geography Standard Two 9-12a***

Students will understand the Earth's physical environment as a set of interconnected systems (ecosystems) and the ways humans have perceived, reacted to, and changed environments at local to global scales.

#### ***Essential Questions:***

- To what extent can people predict the consequences from human alterations to the physical environment?
- Why might focusing on how people perceive the risks and resources of the natural environment help to explain human behavior in different parts of the world?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***GEOGRAPHY STANDARD THREE: PLACES***

Students will develop an understanding of the diversity of human culture and the unique nature of places.

#### ***Enduring Understandings:***

- Students will understand that places are unique associations of natural environments and human cultural modifications.
- Students will understand that Concepts of site and situation can explain the uniqueness of places. As site or situation change, so also does the character of a place.

#### ***Geography Standard Three 9-12a***

Students should understand the processes which result in distinctive cultures, economic activity and settlement form in particular locations across the world.

#### ***Essential Questions:***

- Why are some places more culturally diverse or similar than others?
- To what extent does the culture of a place change over time?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***GEOGRAPHY STANDARD FOUR: REGIONS***

Students will develop an understanding of the character and use of regions and the connections between and among them.

#### ***Enduring Understandings:***

- Students will understand that a region is a concept rather than a real object on the ground, used to simplify the diversity of places.
- Students will understand that regions must have boundaries to exist, yet there advantages and disadvantages associated with any real or abstract feature used to draw a boundary.

#### ***Geography Standard Four 9-12a***

Students will apply knowledge of the types of regions and methods of drawing boundaries to interpret the Earth's changing complexity.

#### ***Essential Questions:***

- How might regional analysis help to solve societal problems?
- To what extent are regional boundaries permanent? What might cause them to change over time?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***HISTORY STANDARD ONE: CHRONOLOGY***

Students will employ chronological concepts in analyzing historical phenomena.

#### ***Enduring Understandings:***

- History is often messy, yet a historian must logically organize events, recognize patterns and trends, explain cause and effect, make inferences, and draw conclusions from those sources which are available at the time.
- The questions a historian chooses to guide historical research that creates accurate chronologies will affect which events will go into the chronology and which will be left out. Competing chronologies can both be accurate, yet may not be equally relevant to the specific topic at hand.

#### ***History Standard One 9-12a***

Students will analyze historical materials to trace the development of an idea or trend across space or over a prolonged period of time in order to explain patterns of historical continuity and change.

#### ***Essential Questions:***

- Were contemporary issues also problematic for past societies? Why are those issues difficult? Is there a pattern of continuity or change?
- To what extent can we learn from studying historical responses to societal problems?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***HISTORY STANDARD TWO: ANALYSIS***

Students will gather, examine, and analyze historical data.

#### ***Enduring Understandings:***

- Many different types of sources exist to help us gather information about the past, such as artifacts and documents. Sources about the past need to be critically analyzed and categorized as they are used.
- Critical investigation demands constant reassessment of one's research strategies.
- A historian must prove where the information can be found that is the basis for historical conclusions.

#### ***History Standard Two 9-12a***

Students will develop and implement effective research strategies for investigating a given historical topic.

#### ***History Standard Two 9-12b***

Students will examine and analyze primary and secondary sources in order to differentiate between historical facts and historical interpretations.

#### ***Essential Questions:***

- What is the evidence for this argument? Is that all the evidence, or just what the author wanted me to read?
- Does differentiating between fact and interpretation matter?

## **Social Studies Standards**

### **And Enduring Understandings/Essential Questions**

#### ***HISTORY STANDARD THREE: INTERPRETATION***

Students will interpret historical data.

##### ***Enduring Understandings:***

- What is written by a historian depends upon that historian's personal background and methods, the questions asked about the sources, and the sources used to find the answers to those questions.
- Historians select important events from the past they consider worthy of being taught to the next generation. That selection process, deciding what to emphasize, and the questions that historians ask of the documents and other evidence, contributes significantly to the conclusions drawn.
- History is what the historian says it is. Historians may collect, use, and emphasize sources in ways that result in differing interpretations as they describe, compare, and interpret historical phenomena. Disagreement between historians about the causes and effects of historical events may result from these differences.

##### ***History Standard Three 9-12a***

Students will compare competing historical narratives, by contrasting different historian's choice of questions, use and choice of sources, perspectives, beliefs, and points of view, in order to demonstrate how these factors contribute to different interpretations.

##### ***Essential Questions:***

- Does the way research is conducted matter?
- To what degree is historical investigation about the historian as much as the history? Is it necessary to include an investigation of the writer in regard to what we read?
- Is there such a thing as completely unbiased history?