

## 05-71 DEPARTMENT OF EDUCATION

## Chapter 132 – Learning Results: Parameters for Essential Instruction

**SUMMARY:** The Maine Department of Education Regulation 132 - The Maine *Learning Results: Parameters for Essential Instruction* establishes parameters for essential teaching and learning in grades Pre-Kindergarten through Diploma across eight content areas and supports the goals outlined in the Guiding Principles. The Maine *Learning Results: Parameters for Essential Instruction* will inform the blueprint for item development of the large-scale State assessments aligned to the federal accountability standards found in Maine Department of Education Regulation 131 – The Federal, State, and Local Accountability Standards. High school, middle school, and elementary school programming in Maine’s publicly supported schools must be aligned to the knowledge and skills described in the Maine *Learning Results: Parameters for Essential Instruction*.

The proposed Maine Department of Education Regulation 132 - The Maine *Learning Results: Parameters for Essential Instruction* augments and expands upon the content standards for federal accountability (Maine Department of Education Regulation 131: The Maine Federal, State, and Local Accountability Standards) by describing details for essential teaching and learning for eight content areas. These learning goals identify the knowledge and skills required for college, career and citizenship in the 21<sup>st</sup> century.

**THE GUIDING PRINCIPLES** – The knowledge and skills described in the Maine Department of Education Regulation 132 support Maine students in achieving the goals established in Maine’s Guiding Principles. The Guiding Principles state that each Maine student must leave school as:

A. A clear and effective communicator who:

1. Demonstrates organized and purposeful communication in English and at least one other language;
2. Uses evidence and logic appropriately in communication;
3. Adjusts communication based on the audience; and
4. Uses a variety of modes of expression (spoken, written, and visual and performing including the use of technology to create and share the expressions);

B. A self-directed and lifelong learner who:

1. Recognizes the need for information and locates and evaluates resources;
2. Applies knowledge to set goals and make informed decisions;
3. Applies knowledge in new contexts;
4. Demonstrates initiative and independence;
5. Demonstrates flexibility including the ability to learn, unlearn, and relearn;
6. Demonstrates reliability and concern for quality; and
7. Uses interpersonal skills to learn and work with individuals from diverse backgrounds;

C. A creative and practical problem solver who: [1995, c. 649, §1 (new).]

1. Observes and evaluates situations to define problems;
2. Frames questions, makes predictions, and designs data/information collection and analysis strategies;
3. Identifies patterns, trends, and relationships that apply to solutions;
4. Generates a variety of solutions, builds a case for a best response and critically evaluates the effectiveness of the response;
5. Sees opportunities, finds resources, and seeks results;
6. Uses information and technology to solve problems; and
7. Perseveres in challenging situations;

## D. A responsible and involved citizen who:

1. Participates positively in the community and designs creative solutions to meet human needs and wants;
2. Accepts responsibility for personal decisions and actions;
3. Demonstrates ethical behavior and the moral courage to sustain it;
4. Understands and respects diversity;
5. Displays global awareness and economic and civic literacy; and
6. Demonstrates awareness of personal and community health and wellness;

## E. An integrative and informed thinker who:

1. Gains and applies knowledge across disciplines and learning contexts and to real life situations with and without technology;
2. Evaluates and synthesizes information from multiple sources;
3. Applies ideas across disciplines; and
4. Applies systems thinking to understand the interaction and influence of related parts on each other and on outcomes.

## CAREER AND EDUCATION DEVELOPMENT

Career and education development helps all students gain the knowledge, skills, and behaviors to interact with others, set goals, and make decisions related to career, college, and citizenship. Success in the twenty-first century differs significantly from the twentieth century model. Lifelong employment with a single employer has virtually vanished. Success today is increasingly dependent on a sophisticated knowledge base, the ability to enhance that base, to collaborate, to self-direct, and to adapt to change. Individuals will need to adapt their goals and decisions over their lifetimes in relation to school and workplace requirements and personal responsibilities. As part of career and education development, students must see education as a continuous lifelong process that will prepare them for and make them adaptable in a complex, information-rich, and fast-changing world.

**Embed Career and Education Development Instruction** - The knowledge, skills, and behaviors outlined in Career and Education Development Standards are essential for all students. It is important that the knowledge, skills, and behaviors of career and education development be connected to the context of schools, career, and community. Although stand-alone courses in career and education development may serve to help students focus on career, college, and citizenship goal, all content areas need to embed career and education standards to enable students to make the connection between content areas schoolwork, and career, college, and citizenship goals. School administrative units should determine the most appropriate content areas and school settings in which to embed these standards.

### OUTLINE OF CAREER AND EDUCATION DEVELOPMENT STANDARDS AND PERFORMANCE INDICATOR LABELS

- A. Learning about Self-Knowledge and Interpersonal Relationships
  - 1. Self-Knowledge and Self-Concept
  - 2. Beliefs and Behaviors that Lead to Success
  - 3. Interpersonal Skills
  - 4. Career and Life Roles
- B. Learning About and Exploring Education, Career, and Life Roles
  - 1. Relationships among Learning, Work, the Community, and the Global Economy
  - 2. Skills for Individual/Personal Success in the 21<sup>st</sup> Century
  - 3. Education and Career Information
- C. Learning to Make Decisions, Plan and Create Opportunities, and Make Meaningful Contributions
  - 1. The Planning Process
  - 2. Decision-Making

## 3. Influences on Decision-Making

## 4. Societal Needs and Changes that Influence Workplace Success

A. Learning About Self-Knowledge and Interpersonal Relationships: Students identify, demonstrate, analyze, and evaluate:

- self-knowledge related to interests, skills, work, and school;
- positive personal traits, attitudes, beliefs, behaviors, *habits of mind*, and experiences that lead to success in school, work, and community;
- their ability to build and maintain a positive *self-concept*; and
- their ability to develop and recognize the positive *interpersonal skills* that effectively influence work and relationships with others.

Although the performance indicators of Career and Education Development identify specific levels of performance at each grade span for the purpose of assessment, students at all grade spans should have opportunities to identify, demonstrate, analyze, and evaluate.

## A1 Self-Knowledge and Self-Concept

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify interests, skills, and <i>habits of mind</i> that build a positive <i>self-concept</i> .	Students identify and demonstrate interests, skills, <i>habits of mind</i> , and experiences that build and maintain a positive <i>self-concept</i> .	Students explain how interests, skills, <i>habits of mind</i> , and experiences support and maintain a positive <i>self-concept</i> .	Students reflect on and/or analyze interests, skills, <i>habits of mind</i> , and experiences to maintain a positive <i>self-concept</i> and to aid them in making career and life decisions. <ul style="list-style-type: none"> <li>a. <i>School-to-school</i> decisions.</li> <li>b. <i>School-to-work</i> decisions.</li> </ul>

## A2 Beliefs and Behaviors that Lead to Success

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and demonstrate the skills, behaviors, and attitudes that lead to success in schoolwork.	Students make choices about and demonstrate behaviors that lead to success in schoolwork.	Students analyze how positive and negative personal traits, choices about behaviors, and the belief that one can successfully complete	Students demonstrate and evaluate strategies to improve their personal traits, behaviors, and the belief that one can successfully complete

*Learning Results: Parameters for Essential Instruction*

Words in *blue italics* are defined in the glossary available online at <http://www.maine.gov/education/lres/review/glossary.pdf>

Highlighted = Maine Department of Education Regulation 131

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		tasks/goals affect success in school.	tasks/goals required for success in career and school. a. <i>School-to-school</i> decisions b. <i>School-to-work</i> decisions

### A3 Interpersonal Skills

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify social skills that influence interpersonal relationships in positive ways.</p> <ul style="list-style-type: none"> <li>a. Getting along with others</li> <li>b. Respecting differences</li> <li>c. Working as a member of a team</li> <li>d. Managing conflict</li> <li>e. Accepting/giving/using constructive feedback</li> <li>f. Accepting responsibility for personal behavior</li> <li>g. Demonstrating ethical behavior</li> <li>h. Following established rules/etiquette for observing/listening</li> <li>i. Demonstrating safe behavior</li> </ul>	<p>Students identify decisions and demonstrate behaviors that reflect positive <i>interpersonal skills</i> and lead to success in school or community.</p> <ul style="list-style-type: none"> <li>a. Getting along with others</li> <li>b. Respecting diversity</li> <li>c. Working as a member of a team</li> <li>d. Managing conflict</li> <li>e. Accepting/giving/using constructive feedback</li> <li>f. Accepting responsibility for personal behavior</li> <li>g. Demonstrating ethical behavior</li> <li>h. Following established rules/etiquette for observing/listening</li> <li>i. Demonstrating safe behavior</li> </ul>	<p>Students demonstrate behaviors that reflect positive <i>interpersonal skills</i> and analyze how positive <i>interpersonal skills</i> lead to success in a variety of school, work, and community settings.</p> <ul style="list-style-type: none"> <li>a. Getting along with others</li> <li>b. Respecting diversity</li> <li>c. Working as a member of a team</li> <li>d. Managing conflict</li> <li>e. Accepting/giving/using constructive feedback</li> <li>f. Accepting responsibility for personal behavior</li> <li>g. Demonstrating ethical behavior</li> <li>h. Following established rules/etiquette for observing/listening</li> </ul>	<p>Students demonstrate behaviors that reflect positive <i>interpersonal skills</i> and evaluate successful strategies that improve positive <i>interpersonal skills</i> in ways that lead to success in a variety of school, work, and community settings.</p> <ul style="list-style-type: none"> <li>a. Getting along with others</li> <li>b. Respecting diversity</li> <li>c. Working as a member of a team</li> <li>d. Managing conflict</li> <li>e. Accepting/giving/using constructive feedback</li> <li>f. Accepting responsibility for personal behavior</li> <li>g. Demonstrating ethical behavior</li> <li>h. Following established</li> </ul>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	j. Dealing with peer pressure	i. Demonstrating safe behavior j. Dealing with peer pressure	rules/etiquette for observing/listening i. Demonstrating safe behavior j. Dealing with peer pressure

## A4 Career and Life Roles

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and discuss <i>career roles</i> .	Students identify and explain the influences that <i>career and life roles</i> have on each other and on success in school or community.	Students develop and demonstrate positive strategies that aid in accomplishing tasks, creating <i>balance</i> among their <i>career and life roles</i> , and reducing stress.  a. Time management b. Goal-setting c. Resource management	Students demonstrate and evaluate successful strategies for accomplishing tasks, <i>balancing career and life roles</i> , and reducing stress in a variety of school, work, and community settings.  a. Time management b. Goal-setting c. Resource management

- B. Learning about and Exploring Education and *Career and Life Roles*: Students identify, demonstrate, analyze, and evaluate:
- An understanding of the relationship between education and work, especially how learning new skills and educational achievement lead to increased work options and success with personal career and life goals; and
  - the ability to identify and use education and career information for lifelong learning to achieve success.

Although the performance indicators of Career and Education Development identify specific levels of performance at each grade span for the purpose of assessment, students at all grade spans should have opportunities to identify, demonstrate, analyze and evaluate.

### B1 Relationships Among Learning, Work, the Community, and the Global Economy

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and demonstrate study habits, attitudes, and behaviors that lead to successful relationships.	Students explain how success in school supports their ability to positively contribute to school, home, and community.	Students explain how educational achievement and lifelong learning lead to increased participation in school, work, community, and the world.	Students evaluate strategies for improving educational achievement, increasing participation as an involved citizen, and increasing work options and earning potential in a 21 <sup>st</sup> century global economy.

### B2 Skills for Individual/Personal Success in the 21<sup>st</sup> Century

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify <i>literacy</i> and <i>numeracy</i> as skills that lead to improvement and success in the classroom.	Students identify and describe skills that lead to student learning and success in the classroom, and the achievement of schoolwork, career, and personal life goals. <ol style="list-style-type: none"> <li>Literacy skills</li> <li><i>Numeracy</i></li> <li><i>Critical thinking</i> skills</li> <li><i>Information and communication</i></li> </ol>	Students analyze their skills in relation to those that lead to learning and success in the classroom, and the achievement of schoolwork, career, and personal life goals. <ol style="list-style-type: none"> <li>Literacy skills</li> <li><i>Numeracy</i></li> </ol>	Students evaluate strategies to improve skills that lead to lifelong learning and success in the classroom, and the achievement of <i>schoolwork</i> , work and career, and personal life goals. <ol style="list-style-type: none"> <li>Literacy skills</li> <li><i>Numeracy</i></li> </ol>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	e. <i>technology (ICT) literacy</i> e. <i>Interpersonal skills</i> f. Other academic skills and knowledge	c. <i>Critical thinking</i> skills d. <i>Information and communication technology (ICT) literacy</i> e. <i>Interpersonal skills</i> f. Other academic skills and knowledge	c. <i>Critical thinking</i> skills d. <i>Information and communication technology (ICT) literacy</i> e. <i>Interpersonal skills</i> f. Other academic skills and knowledge

### B3 Education and Career Information

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and locate information resources at home, at school, and in the community that improve study habits, schoolwork, or educational achievement.	Students identify and locate different types of career and educational information resources and use them to explore school and career choices.	Students locate and analyze the use of different types of resources, including <i>occupational information</i> and <i>labor market information</i> , to explore <i>post-secondary education, training</i> , and career choices.	Students use previously acquired knowledge and skills to evaluate and utilize a variety of resources to articulate a plan and make decisions for <i>post-secondary education, training</i> , and career choices.

- C. Learning To Make Decisions, Plan and Create Opportunities, and Make Meaningful Contributions: Students identify, demonstrate, analyze, and evaluate:
- the main components of the *planning process*;
  - their ability to balance *career*, college, and citizenship *roles*;
  - their ability to apply successful strategies for effective decision-making; and
  - their ability to analyze the influence of diverse and changing societal and global economic needs on personal decision-making and career and education planning/success.

Although the performance indicators of Career and Education Development identify specific levels of performance at each grade span for the purpose of assessment, students at all grade spans should have opportunities to identify, demonstrate, analyze and evaluate.

### C1 The Planning Process

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and give examples of how they make choices and set personal goals for school.	<p>Students identify the parts of the <i>planning process</i> that assist in making choices.</p> <ul style="list-style-type: none"> <li>a. Self-knowledge</li> <li>b. Information and resources about career and educational options</li> <li>c. Decision-making skills</li> </ul>	<p>Students explain how the parts of the <i>planning process</i> assist in the exploration of education and work opportunities, and serve as tools for setting short-term and long-term goals.</p> <ul style="list-style-type: none"> <li>a. Self-knowledge</li> <li>b. Looking for and creating personal career options</li> <li>c. Decision-making skills</li> </ul>	<p>Students use the <i>planning process</i> to make <i>school-to-school</i> and <i>school-to-work</i> decisions.</p> <ul style="list-style-type: none"> <li>a. Self-knowledge</li> <li>b. Looking for and creating personal career options</li> <li>c. Decision-making skills</li> </ul>

### C2 Decision- Making

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify experiences and behaviors that reflect decision-making at school.	Students identify behaviors and decisions that reflect positive and negative consequences in school.	Students compare and apply different models for decision-making including the <i>rational, intuitive, and consultative models</i> for setting short-term and long-term goals in career and education.	Students determine and apply effective decision-making strategies for accomplishing short-term and long-term goals related to <i>school-to-school</i> and <i>school-to-work</i> decisions.

**C3 Influences on Decision-Making**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify people and experiences that influence decision- making in various settings.	Students identify behaviors that influence decision- making in various settings.	Students identify behaviors that influence career and education decision- making.	Students examine sources of information that influence their career and education decision- making.

**C4 Societal Needs and Changes that Influence Workplace Success**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	No performance indicator.	Students identify and explain how diverse and changing societal and global needs, including economic needs, influence personal decision- making.	Students analyze and evaluate strategies for addressing diverse and changing societal and global economic needs that influence personal decision- making for workplace success.

## ENGLISH LANGUAGE ARTS

The English language arts form the foundation for effective communication. The ability to construct meaning through reading, writing, listening, speaking, viewing, and the process of inquiry as well as the ability to present ideas through writing, speaking, and visual media are the bases of English language arts. These skills, essential to the health of our democracy and the quality of our culture, have become ever more important with the modern explosion of modern communication media. Effective communication is critical regardless of the devices used or the distances over which we are communicating.

The study of language helps students to control their lives and become more effective thinkers through communication, reflection, and understanding. To develop good thinking strategies, students must become engaged as active learners. To help them improve, students need to practice English language arts skills and receive frequent feedback across all areas of study. Parents, teachers, and other adults must encourage the interest in language that students bring with them when they first enter school. Collectively, the English language arts constitute both a discipline in its own right, like mathematics or science, and a means of communicating about all other disciplines. Without a command of these English language arts, it is difficult to think about, understand, or explain other disciplines.

**Literacy Skills Across the Content Areas** - The English Language Arts Standards describe the knowledge and skills all students need to be successful. These skills are important for career, college, and citizenship. These skills are also essential as students progress through their Pre-K-Diploma experience for accessing and sharing knowledge across content areas. Schools and teachers must take particular care to support and hold students accountable for the application of the performance indicators related to research, analysis of media, informational/position-taking writing, informational reading, listening, and speaking, where applicable, across all content areas. Maine's business community and higher education institutions have formally and informally underscored this need for effective communication and cross-content literacy.

**Research** – Research is an essential skill for success in the workplace, in college, and in life. All students should be able to locate information to support decisions and answer questions. Schools must ensure that the skills and knowledge of research are applied in all content areas.

**Reading and Writing Processes** - The English Language Arts Standards attempt to present the processes of reading, writing and the varied genres related to the two in a clear, concise format. This approach may create the misperception that these aspects of English language arts are linear and entirely discrete whereas they are often dynamic, iterative processes and sometimes overlapping constructs. Schools and teachers must recognize and accommodate this complexity in their student instruction.

**Text Complexity** - The use of reading standards is incomplete without a consideration of text complexity. The standards explain the knowledge and skills of reading. Text complexity provides a common understanding of the difficulty of the reading material to which the standards are applied. A grade appropriate span of text complexity can be determined in various ways including the use of reading lists, teacher judgment, and other standardized measures. An understanding of a student's reading ability, as defined by the text complexity that the student can successfully comprehend, is an important diagnostic tool for teachers as they work to advance the student's skills and ability to use those skills with increasingly complex texts. There are a number of variables that contribute to the complexity of any text including word difficulty, sentence complexity, familiarity of content, required background knowledge, organization of the text, unity of the writing, quality and rigor of the writing, and text length. The goal of the Maine *Learning Results* is to ensure that all students can read and comprehend texts that reflect the text complexity required for career, college, and citizenship.

**Grade Appropriate Span of Text Complexity** - The phrase grade appropriate span of text complexity refers to the range of complexity appropriate for the identified grade or grade span.

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OUTLINE OF ENGLISH LANGUAGE ARTS STANDARDS AND PERFORMANCE INDICATOR LABELS

A. Reading

1. Interconnected Elements: Comprehension, Vocabulary, Alphabetics, Fluency
2. Literary Texts
3. Informational Texts
4. Persuasive Texts

B. Writing

1. Interconnected Elements
2. Narrative
3. Argument/Analysis
4. Persuasive
5. Practical Application

C. Research

1. Research

D. Language

1. Grammar and Usage
2. Mechanics

E. Listening and Speaking

1. Listening
2. Speaking

F. Media

1. Analysis of Media

A. **READING:** Students read to comprehend, interpret, analyze, evaluate, and appreciate literary and expository texts by using a variety of strategies. They connect essential ideas, evaluate arguments, and analyze the various perspectives and ideas presented in a variety of literary and expository texts.

A1 Interconnected Elements: Comprehension, Vocabulary, *Alphabetics, Fluency*

Pre-K-2 Performance Indicators & Descriptors
<p>Students read texts, within a grade appropriate span of text complexity, and apply their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use comprehension strategies to understand texts within a grade appropriate span of text complexity.</li> <li>Develop vocabulary using knowledge of word parts and relationships among words including action words and different words that describe similar meanings.</li> <li>Demonstrate <i>phonemic awareness</i> and use <i>phonics</i> to decode new words.</li> <li>Read fluently and accurately with appropriate pacing and expression.</li> <li>Demonstrate comprehension by making logical predictions based on text or stating connections made.</li> </ol>

A1 Interconnected Elements: Comprehension, Vocabulary, *Alphabetics, Fluency*

Performance Indicators & Descriptors					
3	4	5	6	7	8
<p>Students read and draw conclusions from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use a range of strategies as they read including constant monitoring, searching, connecting, and inferring to</li> </ol>	<p>Students read and draw conclusions from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use a range of strategies as they read including constant monitoring, searching, connecting, and inferring to</li> </ol>	<p>Students read and draw conclusions from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use a range of strategies as they read including constant monitoring, searching, connecting, and inferring to</li> </ol>	<p>Students read and make generalizations from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use a range of before, during, and after <i>reading strategies</i> to deepen their understanding of text(s).</li> </ol>	<p>Students read and make generalizations from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use a range of before, during, and after <i>reading strategies</i> to deepen their understanding of text (s).</li> </ol>	<p>Students read and make generalizations from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, <i>alphabetics</i>, and <i>fluency</i>.</p> <ol style="list-style-type: none"> <li>Use a range of before, during, and after <i>reading strategies</i> to deepen their understanding of text(s).</li> </ol>

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Performance Indicators & Descriptors					
3	4	5	6	7	8
<p>deepen their understanding of text (s).</p> <p>b. Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different purposes.</p> <p>c. Determine the meaning of unknown words by using a variety of strategies including using the <i>context</i> of the text, word connections, and a dictionary.</p> <p>d. Use <i>phonics</i> including <i>syllable types</i>, <i>word parts</i>, word families and common <i>prefixes</i> and <i>suffixes</i> to read fluently and build meaning as they read.</p> <p>e. Fluently and accurately read text, within a grade appropriate span of text complexity, using appropriate pacing, phrasing, intonation,</p>	<p>deepen their understanding of text (s).</p> <p>b. Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different purposes.</p> <p>c. Determine the meaning of unknown words by using a variety of strategies including applying knowledge of synonyms, antonyms, <i>homophones</i>, and <i>homographs</i>.</p> <p>d. Use <i>phonics</i> including <i>word parts</i> and common <i>root words</i> to read fluently and build meaning as they read.</p> <p>e. Fluently and accurately read text, within a grade appropriate span of text complexity, using appropriate pacing, phrasing, intonation, and expression.</p>	<p>deepen their understanding of text (s).</p> <p>b. Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different purposes.</p> <p>c. Determine the meaning of unknown words by using a variety of strategies including distinguishing and interpreting words with multiple meanings and using word, <i>context cues</i>.</p> <p>d. Use <i>phonics</i> including <i>word parts</i> and less common <i>root words</i> to read fluently and build meaning as they read.</p> <p>e. Fluently and accurately read text, within a grade appropriate span of text complexity, using appropriate pacing, phrasing, intonation,</p>	<p>b. Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different purposes.</p> <p>c. Determine the meaning of unknown words by using a variety of strategies including <i>context cues</i>, definition, example, restatement, and compare/contrast.</p> <p>d. Use <i>phonics</i>, <i>word parts</i>, and word relationships when necessary to maintain fluency and meaning as they read.</p> <p>e. Fluently and accurately read text, within a grade appropriate span of text complexity, using appropriate pacing, phrasing, intonation, and expression.</p> <p>f. Demonstrate comprehension by summarizing and</p>	<p>b. Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different purposes.</p> <p>c. Determine the meaning of unknown words by using a variety of strategies including understanding and explaining that similar and related words can express different <i>shades of meaning</i>.</p> <p>d. Use the origins and meanings of foreign words that are frequently used in English to aid comprehension as they read.</p> <p>e. Fluently and accurately read text, within a grade appropriate span of text complexity, using appropriate pacing, phrasing, intonation, and expression.</p>	<p>b. Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different purposes.</p> <p>c. Determine the meaning of unknown words by using a variety of strategies including the <i>connotative</i> and <i>denotative</i> meaning of words.</p> <p>d. Use knowledge of Greek, Latin, and Anglo-Saxon <i>roots</i> and <i>word parts</i> to maintain fluency and meaning as they read science, social studies, and mathematics texts.</p> <p>e. Fluently and accurately read text, within a grade appropriate span of text complexity, using appropriate pacing, phrasing, intonation, and expression.</p>

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Performance Indicators & Descriptors					
3	4	5	6	7	8
f. and expression. Demonstrate comprehension of text(s) by stating connections or inferences made	f. Demonstrate comprehension of text(s) by stating connections or inferences made and stating questions or conclusions that indicate deeper understanding(s).	f. and expression. Demonstrate deep comprehension that goes beyond the text(s) by stating connections or inferences made and explaining relationships among prior knowledge and the conclusions and connections made.	making generalizations of whole texts, parts of texts, and across texts.	f. Demonstrate comprehension by summarizing, generalizing, drawing conclusions, making judgments, and making connections between prior knowledge and multiple texts.	f. Demonstrate comprehension by summarizing, generalizing, drawing conclusions, making judgments, interpreting text, and synthesizing information within and across texts.

#### A1 Interconnected Elements: Comprehension, Vocabulary, *Alphabetics, Fluency*

##### 9-Diploma Performance Indicators & Descriptors

Students read and evaluate texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, *alphabetics*, and *fluency*.

- Use a flexible range of before, during, and after *reading strategies* to deepen understanding of the author's message.
- Demonstrate ownership of appropriate vocabulary effectively using a word in different contexts and for different purposes.
- Determine the meaning of unknown words by analyzing the *context* in which they are used, using reference sources, and applying knowledge of *word parts* and their meanings.
- Pronounce and recognize foreign words, *tier 3 words* across all content areas, and specific literary terms to enhance comprehension of complex texts.
- Fluently and accurately read text using appropriate pacing, phrasing, intonation, and expression.
- Demonstrate comprehension by evaluating texts using established criteria.

#### A2 Literary Texts

##### Pre-K-2 Performance Indicators & Descriptors

Students read *fiction, nonfiction, drama, and poetry*, within a grade appropriate span of text complexity.

- Identify and describe *settings* and *characters*.
- Retell the sequence of events and include essential details.

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- c. Answer questions about information found directly in the text.
- d. Read dramatic scripts with support.
- e. Read a variety of **poems** with support.

**A2 Literary Texts**

**Performance Indicators & Descriptors**

3	4	5	6	7	8
<p>Students read <i>fiction, nonfiction, drama, and poetry</i>, within a grade appropriate span of text complexity.</p> <ul style="list-style-type: none"> <li>a. Identify and describe what characters are like based on what they say or do and by how the author or illustrator portrays them.</li> <li>b. Explain the basic <i>plots</i> of various texts (realistic fiction, historical fiction, classic fairy tales, myths, folktales, legends, or fables) by identifying the problem and solution in relation to the other story elements.</li> <li>c. Identify the speaker in a selection to aid comprehension.</li> <li>d. Identify and explain <i>literary devices</i>, including <i>similes</i> and exaggeration, to</li> </ul>	<p>Students read <i>fiction, nonfiction, drama, and poetry</i>, within a grade appropriate span of text complexity.</p> <ul style="list-style-type: none"> <li>a. Use knowledge of the situation, setting, and a <i>character's</i> traits, motivations, and feelings to determine the causes for that <i>character's</i> actions.</li> <li>b. Identify the main events of the <i>plot</i> including the cause and the effect of events on future actions and the major <i>theme(s)</i>.</li> <li>c. Define "narrator" and identify the <i>narrator</i> or speaker in a selection or story to aid comprehension.</li> <li>d. Identify and describe the effect of common <i>literary devices</i> on the reader, including <i>figurative language</i> and</li> </ul>	<p>Students read <i>fiction, nonfiction, drama, and poetry</i>, within a grade appropriate span of text complexity.</p> <ul style="list-style-type: none"> <li>a. Make inferences about <i>characters'</i> actions and explain how their behaviors affect the <i>plot</i> and/or <i>theme</i>.</li> <li>b. Summarize texts and select representative passages for support to identify the main problem or <i>conflict</i> and explain how it is resolved.</li> <li>c. Identify the speaker or <i>narrator</i> in a selection and tell whether the speaker or narrator is a character involved in the story.</li> <li>d. Identify and define the function of <i>figurative language</i> and the use of <i>literary devices</i></li> </ul>	<p>Students read <i>fiction, nonfiction, drama, and poetry</i>, within a grade appropriate span of text complexity, and analyze the characteristics noting how <i>structural features</i> and common <i>literary devices</i> help shape the reader's response.</p> <ul style="list-style-type: none"> <li>a. Describe external and internal <i>conflicts of the characters</i> and their effect on the <i>plot</i>.</li> <li>b. Analyze the influence of the setting on the problem and its resolution.</li> <li>c. Explain the difference between <i>first-person</i> and <i>third-person narration</i>.</li> <li>d. Explain how the effects of common <i>literary devices</i>, including <i>imagery</i>,</li> </ul>	<p>Students read <i>fiction, nonfiction, drama, and poetry</i>, within a grade appropriate span of text complexity, and analyze the characteristics noting how <i>structural features</i> and common <i>literary devices</i> help shape the reader's response.</p> <ul style="list-style-type: none"> <li>a. Analyze an author's characterization techniques including the <i>character's</i> thoughts, words, and actions; the <i>narrator's</i> description; and the thoughts, words, and actions of other characters.</li> <li>b. Identify events that advance the <i>plot</i> and determine how each event explains past or present action or foreshadows future</li> </ul>	<p>Students read <i>fiction, nonfiction, drama, and poetry</i>, within a grade appropriate span of text complexity, and analyze the characteristics, noting how <i>structural features</i> and common <i>literary devices</i> help shape the reader's response.</p> <ul style="list-style-type: none"> <li>a. Analyze the effect of the qualities of a <i>character</i> on the <i>plot</i> and on the resolution of the conflict.</li> <li>b. Evaluate the structural elements of the <i>plot</i>, such as subplots, parallel episodes, and climax; the <i>plot's</i> development; and the way in which conflicts are (or are not) addressed and resolved.</li> <li>c. Explain how different</li> </ul>

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<p>e. understand the text. Recognize <i>theme(s)</i> that are explicitly stated in text(s) to aid comprehension.</p> <p>f. Explain how <i>poems</i> are different from other kinds of <i>fiction</i> and demonstrate understanding by stating what a poem is about.</p> <p>g. Identify the main purpose of a passage or a particular part of a passage to aid comprehension.</p>	<p>e. <i>symbolism</i>, to understand the text. Explain <i>theme(s)</i> that are explicitly stated in text(s).</p> <p>f. Identify <i>rhyme, rhythm, alliteration</i>, and <i>onomatopoeia</i> in <i>poetry</i> and use this knowledge to understand poems.</p> <p>g. Identify the main purpose of a passage or particular parts of a passage to aid comprehension.</p>	<p>e. including <i>symbolism</i>, to understand the text. Explain that <i>theme</i> refers to the central ideas or meaning of a selection and identify theme(s) whether they are implied or stated directly.</p> <p>f. Identify and describe the function of common <i>literary devices</i> including <i>simile, alliteration, idioms</i>, simple <i>metaphors</i>, and <i>imagery</i> in <i>poetry</i> and use this knowledge to understand poems.</p> <p>g. Identify the main purpose of a poem, passage, or particular parts of a passage to aid comprehension.</p>	<p><i>symbolism</i>, or <i>metaphors</i>, in a variety of fictional and literary nonfiction texts, help the reader understand the text.</p> <p>e. Describe the <i>theme</i> of a selection, whether implied or stated directly.</p> <p>f. Identify how meaning is conveyed in poetry through <i>figurative language, rhythm, alliteration</i>, and <i>rhyme</i>.</p> <p>g. Identify various genres of literature and their purposes.</p>	<p>action.</p> <p>c. Contrast points of view including first person, third person, limited and omniscient in a literary text.</p> <p>d. Identify the relationship between the use of <i>literary devices</i> and a writer's style to understand the text.</p> <p>e. Compare how similar themes are presented in different works.</p> <p>f. Identify how meaning is conveyed in <i>poetry</i> through word choice, sentence structure, line length, and punctuation.</p> <p>g. Analyze the characteristics of various genres of literature and their purposes.</p>	<p>points of view can affect the overall theme of the work.</p> <p>d. Analyze the <i>literary devices</i> that define a writer's style and use those elements to interpret the text.</p> <p>e. Identify and analyze recurring <i>themes</i> that appear frequently across traditional and contemporary works.</p> <p>f. Describe the use of <i>diction, figurative language</i>, repetition, <i>rhyme</i> and <i>tone</i> to convey meaning in <i>poetry</i>.</p> <p>g. Evaluate the characteristics of various genres of literature and their purposes.</p>

**A2 Literary Texts**

**9-Diploma Performance Indicators & Descriptors**

Students read text, within a grade appropriate span of text complexity, and present analyses of *fiction, nonfiction, drama*, and *poetry*, using excerpts from the text to defend their assertions.

- a. Analyze the characters' external and internal *conflicts*.
- b. Analyze the difference between *first-person* and *third-person narration* and the effect of *point of view* on a reader's interpretation of a text.
- c. Determine the effects of common *literary devices* on the *style* and *tone* of a text.
- d. Evaluate the *theme* or *themes*, whether explicitly stated or implied, in a literary text.
- e. Identify, compare, and analyze recurring themes across works.
- f. Analyze how meaning is conveyed in *poetry* through *diction*, *figurative language*, repetition, and *rhyme*.
- g. Compare types of *poetry*.
- h. Evaluate the effective use of a genre of literature related to its intended purpose and audience.

**A3 Informational Texts**

PreK-2 Performance Indicators & Descriptors	
Students read <i>informational texts</i> , within a grade appropriate span of text complexity, for different purposes.	
<ol style="list-style-type: none"> <li>a. Ask and answer relevant questions.</li> <li>b. Restate facts from the text.</li> <li>c. Follow one-step and two-step written instructions.</li> </ol>	

**A3 Informational Texts**

Performance Indicators & Descriptors					
3	4	5	6	7	8
<p>Students read and summarize <i>informational texts</i>, within a grade appropriate span of text complexity, for different purposes.</p> <ol style="list-style-type: none"> <li>a. Generate questions, with support that can be answered using <i>text features</i> and information found within the text.</li> </ol>	<p>Students read, paraphrase, and summarize <i>informational texts</i>, within a grade appropriate span of text complexity, for different purposes.</p> <ol style="list-style-type: none"> <li>a. Create questions that can be answered by the text using <i>text features</i> and information found</li> </ol>	<p>Students read, paraphrase, and summarize <i>informational texts</i>, within a grade appropriate span of text complexity, for different purposes.</p> <ol style="list-style-type: none"> <li>a. Create and revise questions that can be answered by using <i>text features</i> and information found</li> </ol>	<p>Students read various <i>informational texts</i>, within a grade appropriate span of text complexity, making decisions about usefulness based on purpose, noting how the <i>text structures</i> affect the information presented.</p> <ol style="list-style-type: none"> <li>a. Create and revise questions that can be</li> </ol>	<p>Students read various <i>informational texts</i>, within a grade appropriate span of text complexity, making decisions about usefulness based on purpose, noting how the <i>text structures</i> affect the information presented.</p> <ol style="list-style-type: none"> <li>a. Create and revise questions that can be</li> </ol>	<p>Students read multiple <i>informational texts</i>, within a grade appropriate span of text complexity, making decisions about usefulness based on purpose, noting how the <i>text structures</i> affect the information presented.</p> <ol style="list-style-type: none"> <li>a. Create and revise questions that can be</li> </ol>

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<p>b. Use organizational <i>text features</i> including titles, tables of contents, chapter headings, a glossaries, an index, illustrations, and maps to locate information or to aid comprehension.</p> <p>c. Identify answers in the text or important ideas to demonstrate understanding.</p> <p>d. Make reasonable statements about text.</p> <p>e. Follow simple written instructions.</p> <p>f. Identify the main reason or purpose for a particular section of text to aid comprehension.</p>	<p>within the text.</p> <p>b. Use organizational <i>text features</i> including headings and sub-headings, bullets, bold- face fonts, illustrations, maps, and charts to locate information or to aid comprehension.</p> <p>c. Identify the <i>main idea(s)</i> of and details from the text which support the <i>main idea(s)</i> succinctly stating this information.</p> <p>d. Draw conclusions about information from text.</p> <p>e. Follow multi-step written instructions with four or more steps.</p> <p>f. Identify the main purpose of a text, particular paragraphs, or a section of the text to aid comprehension.</p>	<p>within the text.</p> <p>b. Use <i>text features</i> including diagrams, illustrations, charts, and maps to aid comprehension.</p> <p>c. Identify, summarize, or paraphrase the <i>main ideas</i> and details presented in texts and use evidence from the text to support those ideas.</p> <p>d. Distinguish between facts and opinions in text and/or draw conclusions from text.</p> <p>e. Follow multiple-step instructions which may be related to a content area text.</p> <p>f. Identify the main purpose of a text, particular paragraphs, or sections of the text to aid comprehension.</p>	<p>answered by using <i>text structures</i> and information found within texts.</p> <p>b. Identify the <i>text structures</i> of informational publications including newspapers, magazines, and online sources and use them to obtain information.</p> <p>c. Identify and trace the development of an author's argument, purpose, position, or perspective to aid comprehension.</p> <p>d. Make reasonable statements and draw conclusions that are supported with evidence from the text.</p> <p>e. Follow multi-step instructions related to a content area text or technical manual.</p>	<p>answered by using <i>text structures</i> and information found within texts.</p> <p>b. Analyze the amount of coverage and organization of ideas in varied informational materials.</p> <p>c. Draw conclusions about a text and its purpose, and support them with evidence from the text.</p> <p>d. Make comparisons about information from several passages or articles from different texts.</p> <p>e. Follow multi-step instructions in a technical manual or content area text to complete a task or use a simple device.</p>	<p>answered by using <i>text structures</i> and information found within texts.</p> <p>b. Analyze differences in the structures and purposes of varied informational materials.</p> <p>c. Evaluate the appropriateness of the evidence presented for an author's conclusions and evaluate whether the author adequately supports inferences.</p> <p>d. Draw conclusions about information from multiple texts and support them with evidence from the texts.</p> <p>e. Follow multi-step instructions to complete an application or a complex task.</p>

### A3 Informational Texts

#### 9-Diploma Performance Indicators & Descriptors

Students evaluate the validity, truthfulness, and usefulness of ideas presented in *informational texts*, within a grade appropriate span of text complexity, noting how

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the *text features* and *text structures* affect the information presented.

- a. Evaluate the extent to which the author’s conclusions can be logically drawn from the provided evidence.
- b. Evaluate the data contained in tables, charts, graphics, etc. for accuracy, credibility, and relevancy.
- c. Evaluate the effect(s) of rhetorical devices on the interpretation of information.
- d. Evaluate the effective use, purposes, and intended audiences of various types of informational texts.

**A4 Persuasive Texts**

**PreK-2 Performance Indicators & Descriptors**

No performance indicator.

Although no performance indicators are stated, students are expected to have instructional experiences that help them to understand and explain that sometimes authors write to convince readers of something.

**A4 Persuasive Texts**

**Performance Indicators & Descriptors**

3	4	5	6	7	8
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences that help them to identify the purpose of a text, the main idea and the supporting details and to explain that sometimes authors write to convince readers of something.</p>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences that help them to identify the purpose for a text or portion of a text, the central argument and its supporting details and to explain that sometimes authors write to convince readers of something.</p>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences that help them to identify the purpose for a text or portion of a text, the central argument and its supporting details, to differentiate between facts and opinions and to explain that sometimes authors write to convince</p>	<p>Students evaluate the information in persuasive texts, within a grade appropriate span of text complexity, noting how the <i>structural features</i> and <i>rhetorical devices</i> affect the information and argument(s) presented in these texts.</p> <ul style="list-style-type: none"> <li>a. Recognize arguments for and against issues.</li> <li>b. Identify the author’s position or</li> </ul>	<p>Students evaluate the information in persuasive texts, within a grade appropriate span of text complexity, noting how the <i>structural features</i> and <i>rhetorical devices</i> affect the information and argument(s) presented in these texts.</p> <ul style="list-style-type: none"> <li>a. Recognize organizational patterns of compare/contrast,</li> </ul>	<p>Students evaluate the information in persuasive texts, within a grade appropriate span of text complexity, noting how the <i>structural features</i> and <i>rhetorical devices</i> affect the information and argument(s) presented in these texts.</p> <ul style="list-style-type: none"> <li>a. Explain how organizational patterns shape an author’s argument.</li> </ul>

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		readers of something.	perspective. c. Distinguish among facts, supported inferences, and opinions. d. Summarize the author's position or perspective. e. Identify purpose and intended audience of a text. f. Identify rhetorical devices an author uses to persuade the reader including bandwagon, peer pressure, repetition, and testimonial.	proposition/support, and problem/solution in an argument to aid comprehension. b. Identify and use ways to detect bias. c. Identify problems with an author's use of figures of speech, logic, or reasoning. d. Make reasonable judgments about a text through accurate, supporting evidence. e. Identify purpose and intended audience of a text. f. Identify rhetorical devices an author uses to persuade the reader including bandwagon, peer pressure, repetition, testimonial, hyperbole, and loaded words.	b. Analyze the author's perspective, noting instances of <i>bias</i> , <i>stereotyping</i> , and generalizations. c. Explain instances of <i>propaganda</i> and faulty reasoning. d. Evaluate positions presented in text(s) and take a supported stand. e. Identify purpose and intended audience of a text. f. Identify rhetorical devices an author uses to persuade the reader including bandwagon, peer pressure, repetition, testimonial, hyperbole, loaded words, transfer, amplification, and extended metaphor.

**A4 Persuasive Texts**

**9-Diploma Performance Indicators & Descriptors**

Students evaluate the validity, truthfulness, and usefulness of ideas presented in persuasive texts, within a grade appropriate span of text complexity, noting how the *structural features* and *rhetorical devices* affect the information and argument(s) presented.

- a. Evaluate the logic of persuasive texts, noting instances of unsupported inferences and *fallacious reasoning*.

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- b. Recognize and explain the use and misuse of forms of nuance such as ambiguity, contradiction, irony, and over-or-understatement in persuasive texts.
- c. Identify and describe the effect of *figurative language* and other *rhetorical devices*; explain why they do or do not contribute to the overall effectiveness of the argument.
- d. Analyze the purpose(s) of a persuasive text; describe the intended audience, and assess the overall effectiveness of text.

**B. WRITING:** Students write to express their ideas and emotions, to describe their experiences, to communicate information, and to present or analyze an argument.

**B1 Interconnected Elements**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students use a <i>writing process</i> to communicate their ideas.</p> <ul style="list-style-type: none"> <li>a. Select a focus for writing and develop an idea, including a beginning, middle, and end.</li> <li>b. Respond to clarifying questions and suggested revisions.</li> <li>c. Edit, with assistance, for correct grammar, usage, and mechanics.</li> <li>d. Create <i>legible</i> final drafts.</li> </ul>	<p>Students use a <i>writing process</i> with an emphasis on the development of a central idea, for a variety of audiences and purposes.</p> <ul style="list-style-type: none"> <li>a. Select a purpose for writing.</li> <li>b. Pre-write using graphic organizers or other structures to organize their ideas.</li> <li>c. Establish an organizing structure and maintain a consistent focus.</li> <li>d. Include an introduction and conclusion.</li> <li>e. Write coherent paragraphs that have supporting sentences and a concluding sentence.</li> <li>f. Revise original drafts to improve coherence, provide better descriptive details, and to convey <i>voice</i>.</li> <li>g. Edit for correct grammar, usage, and mechanics.</li> <li>h. Create <i>legible</i> final drafts.</li> </ul>	<p>Students use a <i>writing process</i> to communicate for a variety of audiences and purposes.</p> <ul style="list-style-type: none"> <li>a. Determine a purpose for writing.</li> <li>b. Decide which information is included to achieve the desired purpose.</li> <li>c. Revise drafts to improve focus, effect, and <i>voice</i> incorporating <i>peer response</i> when appropriate.</li> <li>d. Edit for correct grammar, usage, and mechanics.</li> <li>e. Write to achieve a specific purpose.</li> <li>f. Create <i>legible</i> final drafts.</li> </ul>	<p>Students use a <i>writing process</i> to develop an appropriate <i>genre</i>, exhibiting an explicit <i>organizational structure</i>, perspective and <i>style</i> to communicate with target audiences for specific purposes.</p> <ul style="list-style-type: none"> <li>a. Locate, summarize, and synthesize information from <i>primary</i> and <i>secondary sources</i>, as necessary.</li> <li>b. Apply aspects of various <i>genres</i> for rhetorical effect, strong diction, and distinctive voice.</li> <li>c. Revise drafts to improve synthesis of information from sources, ensuring that the <i>organizational structure</i>, perspective, and <i>style</i> are effective for the targeted audience and purpose.</li> <li>d. Edit for correct grammar, usage, and mechanics.</li> <li>e. Create <i>legible</i> final drafts.</li> </ul>

**B2 Narrative**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students write stories that describe an experience.</p> <p>a. Include descriptive details that enable the reader to create mental images.</p>	<p>Students write <i>narratives</i> that relate events, ideas, observations, or recollections.</p> <p>a. Provide enough details and description in an organized manner so the reader can imagine the event or experience.</p> <p>b. Develop major events, settings, and characters and deal with problems and solutions in a story.</p> <p>c. Provide insight into why the selected event or experience is memorable.</p> <p>d. Include sensory details.</p>	<p>Students write <i>narratives</i> that convey complex ideas, observations, events, or reflections.</p> <p>a. Establish a <i>plot</i> or other narrative structure, <i>point of view</i>, setting, and <i>conflict</i>.</p> <p>b. Develop <i>characters</i>.</p> <p>c. Use a range of <i>narrative strategies</i> for effect including dialogue and suspense.</p> <p>d. Use <i>stylistic devices</i> including figurative language and <i>point of view</i> to clarify, enhance, and develop ideas.</p>	<p>Students embed <i>narrative</i> writing in a written text when appropriate to the audience and purpose.</p> <p>a. Use <i>diction, syntax, imagery, and tone</i> to create a distinctive <i>voice</i>.</p> <p>b. Organize ideas in a logical sequence with effective transitions.</p>

**B3 Argument/Analysis**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students write to inform an audience on a specific topic.</p> <p>a. Write brief descriptions of objects, people, places, or events.</p> <p>b. Record and share, in writing, information that has been gathered.</p>	<p>Students write to identify and explain a position to an identified audience.</p> <p>a. Summarize information from reading, listening, or viewing.</p> <p>b. Write about a central question or idea by using relevant supporting facts and details.</p>	<p>Students write <i>academic essays</i> that state a clear position, supporting the position with relevant evidence.</p> <p>a. Summarize and paraphrase and/or explain information from reading, listening, or viewing.</p> <p>b. Write essays that support an idea and build a <i>logical</i> argument excluding extraneous information and differentiating between facts and opinions.</p>	<p>Students write <i>academic essays</i> that structure ideas and arguments in a sustained and logical fashion.</p> <p>a. Explain and evaluate information from reading, listening, or viewing.</p> <p>b. Write thesis-driven essays that build a logical argument and support assertions with examples and evidence that are accurate, credible, and relevant.</p>

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## B4 Persuasive

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students write to explain likes and dislikes.</p> <p>a. Support opinions with examples.</p>	<p>Students write to persuade a targeted audience.</p> <p>a. Establish a clear position on a topic and support the position with relevant evidence.</p>	<p>Students write <i>persuasive essays</i> addressed to a specific audience for a particular purpose.</p> <p>a. Employ a variety of persuasive techniques, including presenting alternate views objectively or addressing potential counterclaims, in an essay that supports an idea using facts, supported inferences, and/or opinions appropriate to the audience and purpose and is intended to influence the opinions, beliefs, or positions of others.</p>	<p>Students write <i>persuasive essays</i> exhibiting logical reasoning and rhetorical techniques.</p> <p>a. Employ a variety of persuasive techniques including anticipating, addressing, and refuting potential counterclaims in a thesis-driven logical argument to influence the opinions, beliefs, or positions of others.</p>

## B5 Practical Application

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students convey simple needs in writing.</p> <p>a. Write a personal letter.</p> <p>b. Complete simple informational forms.</p> <p>c. Write one-step and two-step directions for completing a simple task.</p>	<p>Students write letters, other requests for information or directions for completing a process.</p> <p>a. Write a letter including a date, salutation, body, closing, signature and, when appropriate, an inside address.</p> <p>b. Write multiple-step directions for completing a task.</p>	<p>Students write simple business letters and documents related to career development.</p> <p>a. Write information purposefully and succinctly to meet the needs of the audience.</p> <p>b. Write to convey specific requests for detailed information.</p> <p>c. Follow a conventional format for writing resumes, memoranda, and/or proposals.</p> <p>d. Write multi-step directions, with</p>	<p>Students write personal communication and pieces related to educational development, career issues, and civic participation.</p> <p>a. Complete college, job, licensing, and/or scholarship applications.</p> <p>b. Write to request information.</p> <p>c. Write editorials.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		annotation where appropriate, for completing a task.	

C. **RESEARCH:** Students engage in inquiry by developing research questions, accessing and verifying a variety of sources, communicating findings, and applying the conventions of documentation. Students present findings orally, in writing, or using mixed media.

C1 Research

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students answer research questions by gathering information from <i>print and non-print sources</i>.</p> <ol style="list-style-type: none"> <li>Follow an established procedure for locating sources appropriate to reading level.</li> <li>Collect information for a specific purpose.</li> <li>Organize findings.</li> <li>Share information gathered using oral and visual examples.</li> </ol>	<p>Students create, identify, and answer research questions by gathering information from <i>print and non-print sources</i> and documenting sources and communicating findings.</p> <ol style="list-style-type: none"> <li>Identify key words and concepts related to research questions, making adjustments when appropriate.</li> <li>Locate and access information by using <i>text features</i>.</li> <li>Collect, evaluate, and organize information for a specific purpose.</li> <li>Communicate findings from a variety of <i>print and non-print sources</i>.</li> <li>Describe plagiarism and demonstrate appropriate <i>citation</i>.</li> </ol>	<p>Students propose and revise research questions, collect information from a wide variety of <i>primary and/or secondary sources</i>, and follow the conventions of documentation to communicate findings.</p> <ol style="list-style-type: none"> <li>Determine the nature and extent of information needed.</li> <li>Locate and access relevant information.</li> <li>Demonstrate facility with note-taking, organizing information, and creating bibliographies.</li> <li>Distinguish between <i>primary and secondary sources</i>.</li> <li>Evaluate and verify the credibility of the information found in <i>print and non-print sources</i>.</li> <li>Use additional sources to resolve contradictory information.</li> <li>Summarize and interpret information</li> </ol>	<p>Students develop research questions and modify them as necessary to elicit, present, and critique evidence from a variety of <i>primary and secondary sources</i> following the conventions of documentation.</p> <ol style="list-style-type: none"> <li>Select and apply research methods that are appropriate for the purpose of the inquiry.</li> <li>Make judgments about conflicting findings from different sources, incorporating findings from sources that are valid and refuting others.</li> <li>Synthesize information from varied sources and/or data gathered from fieldwork and interviews.</li> <li>Utilize media relevant to audience and purpose that extend and support oral, written, and visual communication.</li> <li>Create and present a coherent set of</li> </ol>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		<p>presented in varied sources, and/or from fieldwork, experiments, and interviews.</p> <p>h. Present findings by paraphrasing, quoting sources, and using proper <i>citation</i>.</p> <p>i. Use information ethically and legally.</p>	<p>findings that integrates paraphrasing, quotations, and proper citation. Access and present information ethically and legally.</p>

D. **LANGUAGE:** Students write and speak using the conventions of Standard American English. They apply knowledge of grammar and usage when reading to aid comprehension. They know and apply rules of mechanics and spelling to enhance the effectiveness and clarity of communication.

#### D1 Grammar and Usage

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students demonstrate an understanding of the parts of speech and simple sentence structures to communicate.</p> <p>a. Identify and use nouns and verbs correctly.</p> <p>b. Use simple sentences.</p>	<p>Students use parts of speech and vary sentence structure to communicate.</p> <p>a. Use forms of nouns, verbs, adjectives, adverbs, prepositions, conjunctions, pronouns, and interjections correctly.</p> <p>b. Use simple, compound, and complex sentences.</p>	<p>Students manipulate the parts of speech effectively and employ a variety of sentence structures to communicate.</p> <p>a. Use forms of nouns, pronouns, verbs, adjectives and their modifiers, adverbs, prepositions, transitions, conjunctions, and interjections correctly.</p> <p>b. Use compound complex sentences.</p> <p>c. Use active and passive voices effectively.</p>	<p>Students apply rhetorical skills when reading, writing, and speaking through their understanding of <i>Standard American English</i>.</p> <p>a. Use appropriate <i>diction, syntax</i>, and <i>figurative language</i> to suit purpose, context, and audience.</p> <p>b. Use handbooks, style guides or other writing sources to confirm accuracy of <i>Standard American English</i>.</p>

## D2 Mechanics

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students apply the rules of capitalization, punctuation, and spelling to communicate.</p> <p>a. Use commas in the greeting and closure of a letter and in dates.</p> <p>b. Capitalize proper nouns and words at the beginning of sentences.</p> <p>c. Use periods, question marks, and exclamation points.</p> <p>d. Spell high frequency grade-level words.</p> <p>e. Use <i>phonics</i> patterns to aid in spelling.</p>	<p>Students apply the rules of capitalization, punctuation, and spelling to communicate.</p> <p>a. Use end marks correctly.</p> <p>b. Capitalize correctly.</p> <p>c. Spell high- frequency grade- level words.</p>	<p>Students apply the rules of capitalization, punctuation, and spelling to communicate effectively.</p> <p>a. Use correct capitalization and punctuation including commas and semi-colons.</p> <p>b. Correctly spell frequently misspelled words and common <i>homophones</i>.</p>	<p>Students demonstrate the use of the structures and conventions of <i>Standard American English</i> in their communication.</p> <p>a. Use appropriate punctuation, spelling, and sentence and paragraph structure to suit purpose, situation, and audience.</p>

E. **LISTENING AND SPEAKING:** Students listen to comprehend and speak to communicate effectively.

## E1 Listening

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students use early active listening skills.</p> <p>a. Ask relevant questions at appropriate times.</p> <p>b. Converse without interrupting.</p> <p>c. Follow one-step and two- step oral instructions.</p>	<p>Students apply active listening skills.</p> <p>a. Ask clarifying questions.</p> <p>b. Attend and respond appropriately to classmates and adults.</p> <p>c. Follow multi-step oral instructions.</p>	<p>Students adjust listening strategies to understand formal and informal discussion, debates or presentations and then apply the information.</p> <p>a. Ask appropriate clarifying questions.</p> <p>b. Summarize and apply information presented.</p> <p>c. Acknowledge and build upon the ideas of others.</p>	<p>Students adjust listening strategies for formal and informal discussion, debates or presentations, and then evaluate the information.</p> <p>a. Formulate clarifying questions.</p> <p>b. Examine and critique information presented.</p> <p>c. Expand on ideas presented by others.</p>

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## E2 Speaking

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students use speaking skills to communicate.</p> <p>a. Make clear requests at appropriate times.</p> <p>b. Make simple presentations using eye contact.</p> <p>c. Use voice level appropriate to the situation.</p> <p>d. Share stories and information and support opinions using oral and visual examples.</p>	<p>Students use active speaking skills to communicate effectively in a variety of contexts.</p> <p>a. Explain ideas clearly and respond to questions with appropriate information.</p> <p>b. Speak using eye contact, clear enunciation, clear gestures for emphasis, and appropriate volume and rate.</p> <p>c. Share information summarized from reading, listening, or viewing and form a position on a topic, supporting the position with a variety of <i>print and non-print sources</i>.</p>	<p>Students adjust speaking strategies for formal and informal discussions, debates, or presentations appropriate to the audience and purpose.</p> <p>a. Organize and present information logically.</p> <p>b. Adjust volume, tone, eye contact, and gestures to suit the audience.</p> <p>c. Use conventions of <i>Standard American English</i>.</p> <p>d. Seek feedback and revise to improve effectiveness of communication.</p> <p>e. Select appropriate media, relevant to audience and purpose that support oral, written, and visual communication.</p>	<p>Students determine speaking strategies for formal and informal discussions, debates, or presentations appropriate to the audience and purpose.</p> <p>a. Choose and present appropriate information logically and ethically.</p> <p>b. Apply conventions of <i>Standard American English</i> to suit audience and purpose.</p> <p>c. Analyze feedback and revise delivery to improve effectiveness of communication.</p> <p>d. Select appropriate media, relevant to audience and purpose, to extend and support oral, written, and visual communication.</p>

F **MEDIA:** Students recognize and can explain the effects that both *print and non-print sources* have on listeners, viewers and readers, in order to develop an awareness of the effects that the media have on forming opinions and making decisions.

## F1 Analysis of Media

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand that there are differences among the kinds of information in different forms of media.</p>	<p>Students explain that the same information can have different effects when presented through different forms of media.</p>	<p>Students identify the various purposes, techniques, and/or effects used to communicate auditory, visual, and written information found in different forms of media.</p>	<p>Students analyze the effectiveness of auditory, visual, and written information used to communicate in different forms of media.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<ul style="list-style-type: none"> <li>a. Identify the different types of media in the daily lives of most people.</li> <li>b. Describe their reactions to a variety of <i>print and/or non-print sources</i>.</li> </ul>	<ul style="list-style-type: none"> <li>a. Compare the effects of the same kind of information as found in books, movies, newspapers, magazines, and/or on the Internet and television.</li> <li>b. Recognize that there are multiple roles and purposes of media.</li> </ul>	<ul style="list-style-type: none"> <li>a. Describe and evaluate the <i>text features</i> of visual and non-visual media.</li> <li>b. Explain the role of the media in shaping opinions.</li> <li>c. Note instances of <i>bias, stereotyping, and propaganda</i>.</li> </ul>	<ul style="list-style-type: none"> <li>a. Explain how visual and sound effects influence messages in various media.</li> <li>b. Explain the similarities and differences between the messages conveyed by <i>print and non-print sources</i>.</li> <li>c. Compare the role of <i>print and non-print sources</i>, including advertising, in shaping public opinion and noting instances of unsupported inferences, or <i>fallacious reasoning</i>.</li> <li>d. Select appropriate media, relevant to audience and purpose that extend and support oral, written, and visual communication.</li> </ul>

## HEALTH EDUCATION AND PHYSICAL EDUCATION

The Health Education and Physical Education Standards and performance indicators represent the essential knowledge and skills students need to be healthy individuals. Every day, students make decisions affecting their health and well-being: what foods to eat; what company to keep; what risks to take; and what to do for physical activity. These decisions often lead to habits that stay with them throughout life. The Health Education and Physical Education Standards will guide instruction that will help students make better decisions about their health. Through achievement of the Health Education and Physical Education Standards, students learn that their decisions can affect their health and set a pattern for their lives. Students also learn to protect their health by acquiring good information, by seeking good advice and friendships, and by taking responsibility for their own wellness which contributes to a healthy, active, balanced approach to life.

**Health education** gives students the knowledge and skills to thrive physically, mentally, emotionally, and socially. It contributes to students' ability to successfully practice behaviors that protect and promote health, and avoid and reduce health risks. Health education helps students to determine personal values and group norms that support healthy behaviors. Through comprehensive health education, students learn basic health concepts and influences on health. They develop the skills required to adopt, practice, and maintain health-enhancing and safe behaviors. These skills include: analyzing the reliability and validity of media and health resources; communicating effectively using refusal and conflict management skills; setting goals; and making healthy decisions. Health education helps students to be better consumers of information, manage stress, and make healthy decisions in the face of conflicting messages. It assists them in living healthier lives.

**Physical education** provides students with the skills and knowledge needed to support participation in a wide variety of physical activities that contribute to an active lifestyle. Physical education provides building blocks for skill development, skill analysis, physical fitness, stress reduction, decision-making, and positive social skills. Students learn to assess and set goals, evaluate their own physical fitness, and use the knowledge to maintain or improve their current fitness level. Students who participate in physical education on a regular basis learn the benefits of physical activity and its contribution to a healthy lifestyle.

### OUTLINE OF HEALTH EDUCATION AND PHYSICAL EDUCATION STANDARDS AND PERFORMANCE INDICATOR LABELS

#### A. Health Concepts

1. Healthy Behaviors and Personal Health
2. Dimensions of Health
3. Diseases/Other Health Problems
4. Environment and Personal Health
5. Growth and Development
6. Basic Health Concepts

#### B. Health Information, Products, and Services

1. Validity of Resources
2. Locating Health Resources

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- C. Health Promotion and Risk Reduction
  - 1. Healthy Practices and Behaviors
  - 2. Avoiding/Reducing Health Risks
  - 3. Self-Management
- D. Influences on Health
  - 1. Influences on Health Practices/Behaviors
  - 2. Technology and Health
  - 3. Compound Effect of Risky Behavior
- E. Communication and Advocacy Skills
  - 1. Interpersonal Communication Skills
  - 2. Advocacy Skills
- F. Decision-Making and Goal-Setting Skills
  - 1. Decision-Making
  - 2. Goal-Setting
  - 3. Long-Term Health Plan
- G. Movement/Motor Skills and Knowledge
  - 1. Stability and Force
  - 2. Movement Skills
  - 3. Skill-Related Fitness Components
  - 4. Skill Improvement
- H. Physical Fitness Activities and Knowledge
  - 1. Fitness Assessment
  - 2. Health-Related Fitness Plan
  - 3. Fitness Activity
  - 4. Physical Activity Benefits
- I. Personal and Social Skills and Knowledge
  - 1. Cooperative Skills
  - 2. Responsible Behavior
  - 3. Safety Rules and Rules of Play

A. **Health Concepts:** Students comprehend concepts related to health promotion and disease prevention to enhance health.

### A1 Healthy Behaviors and Personal Health

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students recognize that healthy behaviors impact personal health.	Students explain the relationship between healthy behaviors and personal health.	Students examine the relationship between behaviors and personal health. <ul style="list-style-type: none"> <li>a. Explain the importance of assuming responsibility for personal health.</li> <li>b. Examine the relationship between healthy and unhealthy behaviors and personal health.</li> <li>c. Identify the possible barriers to practicing healthy behaviors.</li> </ul>	Students predict how behaviors can impact health status. <ul style="list-style-type: none"> <li>a. Analyze individual responsibility for enhancing health.</li> <li>b. Predict how healthy behaviors can positively impact health status.</li> <li>c. Describe barriers to practicing healthy behaviors.</li> <li>d. Examine <i>personal susceptibility</i> to, and the <i>potential severity</i> of, injury or illness if engaging in unhealthy behaviors.</li> </ul>

### A2 Dimensions of Health

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students recognize that there are multiple <i>dimensions of health</i> .	Students identify examples of <i>physical, mental, emotional</i> , and <i>social health</i> during childhood.	Students explain the interrelationship of <i>physical, mental/intellectual, emotional</i> , and <i>social health</i> .	Students analyze the interrelationship of <i>physical, mental/intellectual, emotional</i> , and <i>social health</i> .

### A3 Diseases/Other Health Problems

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students describe the transmission	Students describe ways to detect	Students identify causes of	Students explain causes of

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
and prevention of common childhood communicable diseases.	and treat common childhood diseases and other health problems.	common adolescent diseases and other health problems and describe ways to reduce, prevent, or treat them.	common diseases, disorders, and other health problems and propose ways to reduce, prevent, or treat them.

#### A4 Environment and Personal Health

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students describe ways a safe and healthy school <i>environment</i> can promote personal health.	Students describe ways a safe and healthy school and community <i>environment</i> can promote personal health.	Students determine how <i>environment</i> and other factors impact personal health. <ul style="list-style-type: none"> <li>a. Analyze how <i>environment</i> impacts personal health.</li> <li>b. Describe how <i>family history</i> can impact personal health.</li> <li>c. Explain how appropriate health care can promote personal health.</li> </ul>	Students determine the interrelationship between the <i>environment</i> and other factors and personal health. <ul style="list-style-type: none"> <li>a. Analyze how environment and personal health are interrelated.</li> <li>b. Describe how <i>genetics</i> and <i>family history</i> can impact personal health.</li> <li>c. Analyze the relationship between access to health care and health status.</li> </ul>

#### A5 Growth and Development

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	Students identify the general characteristics of human growth and development.	Students describe specific characteristics of adolescent human growth and development.	Students describe the characteristics of human growth and development throughout the various stages of life.

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## A6 Basic Health Concepts

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify basic health terms related to family life; nutrition; personal health; safety and injury prevention; and tobacco, alcohol, and other drug use prevention.	Students define basic health concepts related to family life; nutrition; personal health; safety and injury prevention; and tobacco, alcohol, and other drug use prevention.	Students explain essential health concepts related to family life; nutrition; personal health; safety and injury prevention; and tobacco, alcohol, and other drug use prevention.	Students analyze complex health concepts related to family life; nutrition; personal health; safety and injury prevention; and tobacco, alcohol, and other drug use prevention.

B. Health Information, Products and Services: Students demonstrate the ability to access valid health information, services, and products to enhance health.

## B1 Validity of Resources

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify trusted adults and professionals who can help promote health.	Students identify characteristics of <i>valid health information, products, and services</i> .	Students analyze the <i>validity of health information, products, and services</i> .	Students evaluate the <i>validity</i> and accessibility of <i>health information, products, and services</i> .

## B2 Locating Health Resources

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify ways to locate school and community health helpers.	Students locate resources from home, school, and the community that provide <i>valid health information</i> .	Students locate <i>valid</i> and reliable <i>health information, products, and services</i> .  a. Explain situations requiring the use of <i>valid</i> and reliable <i>health information, products, and</i>	Students access <i>valid</i> and reliable <i>health information, products, and services</i> .  a. Determine when professional health services may be required. b. Access <i>valid</i> and reliable <i>health</i>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		<i>services.</i> b. Locate <i>valid</i> and reliable <i>health information.</i> c. Locate <i>valid</i> and reliable <i>health products, and services.</i>	<i>information.</i> c. Access <i>valid</i> and reliable <i>health products and services.</i>

C. **Health Promotion and Risk Reduction:** Students demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

### C1 Healthy Practices and Behaviors

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students demonstrate age-appropriate healthy practices to maintain or improve personal health.  a. Choose healthy foods. b. Demonstrate personal hygiene skills, including hand-washing.	Students demonstrate age-appropriate healthy practices and/or behaviors to maintain or improve personal health.  a. Design healthy menus. b. Demonstrate basic care of the human body.	Students demonstrate a healthy practice and/or behavior to maintain or improve their own health in each of the following areas: personal hygiene, healthy eating; physical activity; and tobacco, alcohol, and other drug use prevention.	Students demonstrate healthy practices and/or behaviors to maintain or improve the health of self and others in each of the following areas: healthy eating; physical activity; tobacco, alcohol, and other drug use prevention; and prevention of <i>STDs</i> , <i>HIV</i> and unintended pregnancy.

### C2 Avoiding/Reducing Health Risks

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students demonstrate behaviors to avoid or reduce personal health risks.  a. Demonstrate a variety of safety	Students demonstrate a variety of behaviors to avoid or reduce personal health risks.  a. Demonstrate healthy and safe	Students demonstrate behaviors to avoid or reduce health risks to self and others.  a. Demonstrate ways to recognize,	Students demonstrate a variety of behaviors to avoid or reduce health risks to self and others.  a. Develop ways to recognize, avoid,

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
skills for different situations. b. Differentiate between safe and harmful substances found at home and school. c. Recognize basic signs, symbols, and warning labels for health and safety.	ways to recognize, deal with, or avoid threatening situations. b. Develop injury prevention and safety strategies for personal health.	avoid, or change situations that threaten the safety of self and others. b. Develop injury prevention and response strategies including first aid for personal and family health.	or change situations that threaten the safety of self and others. b. Develop injury prevention and response strategies including first aid for personal, family, and community health.

### C3 Self-Management

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students demonstrate coping strategies to use when feeling too excited, anxious, upset, angry, or out of control.	Students demonstrate strategies that can be used to manage stress, anger, or grief.	Students distinguish between healthy and unhealthy strategies for stress, anger, and grief management.	Students design, implement, and evaluate a plan for stress management.

D. Influences on Health: Students analyze the ability of family, peers, culture, media, technology, and other factors to enhance health.

### D1 Influences on Health Practices/Behaviors

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify influences on personal health practices and behaviors.  a. Identify family influences on personal health practices and behaviors.	Students describe how a variety of factors influence personal health behaviors.  a. Describe how family, school, and community influence and support personal health practices and	Students explain and analyze influences on adolescent health behaviors.  a. Examine how the family, school, and community influence the health behaviors of adolescents.	Students analyze and evaluate influences on health and health behaviors.  a. Analyze how family, school and community influence the health of individuals.

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
b. Identify what the school can do to support personal health practices and behaviors. c. Describe how the media can influence health behaviors.	behaviors. b. Describe how peers and <i>culture</i> can influence health practices and behaviors. c. Explain how media influences thoughts, feelings, and health behaviors.	b. Describe how peers influence healthy and unhealthy behaviors. c. Analyze how messages from media influence health behaviors. d. Explain how the <i>perceptions of norms</i> influence healthy and unhealthy behaviors. e. Explain how <i>culture</i> and personal values and beliefs influence individual health behaviors.	b. Analyze how peers influence healthy and unhealthy behaviors. c. Evaluate the effect of the media on personal and family health. d. Analyze how the perceptions of norms influence healthy and unhealthy behaviors. e. Analyze how <i>culture</i> and personal values and beliefs influence individual health behaviors. f. Investigate how public health policies and government regulations can influence health promotion and disease prevention.

## D2 Technology and Health

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	Students describe ways technology can influence personal health.	Students analyze the influence of technology, including medical technology, on personal and family health.	Students evaluate the impact of technology, including medical technology, on personal, family, and community health.

## D3 Compound Effect of Risk Behavior

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	No performance indicator.	Students describe how some health risk behaviors can influence the likelihood of engaging in unhealthy	Students analyze how some health risk behaviors can influence the likelihood of engaging in unhealthy

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		<p>behaviors.</p> <ul style="list-style-type: none"> <li>a. Describe how <i>gateway drugs</i> can lead to the use of other drugs.</li> <li>b. Describe the influence of alcohol and other drug use on judgment and self-control.</li> </ul>	<p>behaviors.</p> <ul style="list-style-type: none"> <li>a. Analyze the influence of alcohol use on individual and group behavior.</li> <li>b. Analyze the influence of drug use on individual and group behavior.</li> </ul>

E. **Communication and Advocacy Skills:** Students demonstrate the ability to use interpersonal communication and advocacy skills to enhance personal, family, and community health.

E1 Interpersonal Communication Skills

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students demonstrate healthy ways to communicate.</p> <ul style="list-style-type: none"> <li>a. Demonstrate healthy ways to express needs, wants, and feelings.</li> <li>b. Distinguish between verbal and nonverbal communication.</li> <li>c. Make requests to promote personal health.</li> <li>d. Demonstrate listening skills to enhance health.</li> <li>e. Demonstrate ways to respond to an unwanted, threatening, or dangerous situation including</li> </ul>	<p>Students demonstrate effective verbal and nonverbal <i>interpersonal communication</i> skills to enhance health.</p> <ul style="list-style-type: none"> <li>a. Demonstrate appropriate listening skills to enhance health.</li> <li>b. Demonstrate effective verbal and non-verbal communication skills including assertiveness skills to enhance health.</li> <li>c. Demonstrate how to ask for assistance to enhance personal health.</li> <li>d. Demonstrate refusal skills to avoid</li> </ul>	<p>Students apply effective verbal and nonverbal <i>interpersonal communication</i> skills to enhance health.</p> <ul style="list-style-type: none"> <li>a. Demonstrate communication skills to build and maintain healthy relationships.</li> <li>b. Demonstrate effective communication skills including asking for assistance to enhance the health of self and others.</li> <li>c. Demonstrate refusal and negotiation skills to avoid or reduce health risks.</li> </ul>	<p>Students utilize skills for communicating effectively with family, peers, and others to enhance health.</p> <ul style="list-style-type: none"> <li>a. Demonstrate effective communication skills including asking for and offering assistance to enhance the health of self and others.</li> <li>b. Demonstrate refusal, negotiation, and collaboration skills to enhance health and avoid and reduce health risks.</li> <li>c. Demonstrate strategies to prevent,</li> </ul>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
telling a trusted adult if threatened or harmed.	or reduce health risks. e. Demonstrate non-violent strategies to manage or resolve conflict.	d. Demonstrate effective conflict management or conflict resolution strategies.	manage, or resolve interpersonal conflicts without harming self or others.

**E2 Advocacy Skills**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students encourage peers to make positive health choices.	Students encourage others to make positive health choices.  a. Express opinions about health issues. b. Give accurate information about health issues.	Students describe ways to influence and support others in making positive health choices.  a. Develop a health-enhancing position on a topic and support it with information. b. Develop health-enhancing messages using communication techniques that target a specific audience. c. Demonstrate an ability to work cooperatively as an advocate for healthy individuals, families, and schools.	Students demonstrate ways to influence and support others in making positive health choices.  a. Utilize accurate peer and societal norms to formulate a health-enhancing message. b. Adapt health messages and communication techniques for different audiences. c. Demonstrate an ability to work cooperatively as an advocate for improving personal, family, and community health.

F. **Decision-Making and Goal-Setting Skills:** Students demonstrate the ability to make decisions and set goals to enhance health.

F1 Decision-Making

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify situations where a health-related decision is needed.</p> <p>a. Differentiate between situations when health-related decisions can appropriately be made by the individual and when assistance is needed.</p>	<p>Students apply decision-making steps to enhance health.</p> <p>a. Identify health-related situations that might require a thoughtful decision.</p> <p>b. List healthy options to health-related issues or problems and predict the potential outcomes of each option when making a health-related decision.</p> <p>c. Choose a healthy option when making a decision.</p> <p>d. Describe the outcome of a health-related decision.</p>	<p>Students apply decision-making skills to enhance health.</p> <p>a. Determine when health-related situations require the application of a thoughtful decision-making process.</p> <p>b. Determine when individual or collaborative <i>decision-making</i> is appropriate.</p> <p>c. Distinguish between healthy and unhealthy alternatives to health-related issues or problems and predict the potential short-term impact of alternative decisions for themselves and others.</p> <p>d. Choose healthy alternatives over unhealthy alternatives when making a decision.</p> <p>e. Analyze the outcomes of a health-related decision.</p>	<p>Students apply a decision-making process to enhance health.</p> <p>a. Compare the value of thoughtful <i>decision-making</i> to quick <i>decision-making</i> in a health-related situation.</p> <p>b. Justify when individual or collaborative <i>decision-making</i> is appropriate.</p> <p>c. Generate alternative approaches to situations involving health-related decisions and predict the potential short-term and long-term impact for themselves and others for each alternative.</p> <p>d. Defend the healthy choice when making a decision.</p> <p>e. Evaluate the effectiveness of a health-related decision.</p>

F2 Goal-Setting

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify a short-term personal health goal and take</p>	<p>Students utilize <i>goal-setting</i> skills to implement a short-term personal</p>	<p>Students develop and apply strategies to attain a short-term</p>	<p>Students develop and analyze a plan to attain a personal health</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
action toward achieving the goal.	<p>health goal.</p> <ul style="list-style-type: none"> <li>a. Set a short-term personal health goal.</li> <li>b. Identify resources to assist in achieving the health goal.</li> <li>c. Track progress toward achieving the goal.</li> </ul>	<p>personal health goal.</p> <ul style="list-style-type: none"> <li>a. Assess personal health practices.</li> <li>b. Develop a short-term goal to adopt, maintain, or improve a personal health practice.</li> <li>c. Develop and apply strategies and monitor progress toward a personal health goal.</li> <li>d. Describe how personal health goals can vary with changing abilities, priorities, and responsibilities.</li> </ul>	<p>goal.</p> <ul style="list-style-type: none"> <li>a. Assess personal health practices and overall health status.</li> <li>b. Develop a plan to attain a short-term personal health goal that addresses strengths, needs, and risks.</li> <li>c. Implement strategies and analyze progress in achieving a personal health goal.</li> </ul>

### F3 Long-Term Health Plan

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	No performance indicator.	No performance indicator.	Students formulate a long-term personal health plan, incorporating decision-making and goal-setting strategies.

- G. **Movement/Motor Skills and Knowledge:** Students demonstrate the *fundamental and specialized movement skills* and apply *principles of movement* for improved performance.

### G1 Stability and Force

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students demonstrate positions that create stability and force.</p> <p>a. Show how base of support changes during <i>static balances</i>.</p> <p>b. Demonstrate how body position can be adapted to pushing and pulling forces.</p> <p>c. Demonstrate how to lift objects to prevent injuries.</p>	<p>Students demonstrate a variety of movements that apply stability and force.</p> <p>a. Demonstrate movements that change the <i>center of gravity and line of gravity</i> during <i>dynamic balances</i>.</p> <p>b. Show how increasing speed and mass can change the force on an object.</p> <p>c. Demonstrate how body position can be changed to absorb force and decrease risk for injury.</p>	<p>Students change their motion and the motion of objects by applying the principles of stability and force during skill practice.</p> <p>a. Demonstrate the <i>principle of opposition</i>.</p> <p>b. Demonstrate how the point of contact changes the path of an object.</p> <p>c. Demonstrate how the point of release changes the path of an object.</p> <p>d. Demonstrate lifts and actions that decrease risk for injury.</p>	<p>Students change their motion and the motion of objects by applying the principles of stability and force to modify their performance in games/physical activities.</p> <p>a. Demonstrate how spin and rebound affect the motion of an object.</p> <p>b. Use the <i>principle of opposition</i>, point of contact, and point of release to change the path of an object during a game/physical activity.</p> <p>c. Adjust movements to accommodate external forces that decrease risk for injury.</p>

### G2 Movement Skills

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students demonstrate a variety of <i>locomotor skills</i>.</p> <p>a. Demonstrate correct technique for a variety of <i>locomotor skills</i>.</p>	<p>Students demonstrate a variety of <i>locomotor skills</i> and <i>manipulative skills</i>.</p> <p>a. Demonstrate correct technique for</p>	<p>Students demonstrate <i>motor skills</i> and <i>manipulative skills</i> during drills or modified games/physical activities.</p>	<p>Students demonstrate a variety of <i>specialized movement skills</i> specific to a game/physical activity while participating in a game/physical activity.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
b. Demonstrate a <i>locomotor skill</i> applying changes in direction, level, and/or pathway. c. Demonstrate combinations of <i>locomotor skills</i> .	a variety of <i>manipulative skills</i> . b. Demonstrate <i>locomotor skills</i> and <i>manipulative skills</i> in combination using changes in direction, level, or pathway.	a. Demonstrate correct technique for <i>motor skills</i> and <i>manipulative skills</i> during drills or modified games/physical activities. b. Combine <i>manipulative skills</i> with <i>motor skills</i> during drills or modified games/physical activities.	

### G3 Skill-Related Fitness Components

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify the skill-related fitness components of balance and coordination.	Students identify the skill-related fitness components of balance, coordination, agility, and speed.	Students describe the following skill-related fitness components: balance, coordination, agility, speed, and power.	Students explain the relationship of skill-related fitness components to <i>specialized movement skills</i> .

### G4 Skill Improvement

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.  Although no performance indicator is stated, students are expected to have instructional experiences that help them to understand the importance of practice.	Students describe why practice is important to skill improvement.	Students explain how specific, positive, and correct feedback affect skill improvement.	Students design appropriate practice sessions, utilizing <i>fundamental movement skills</i> to improve performance.

H. Physical Fitness Activities and Knowledge: Students demonstrate and apply fitness concepts.

## H1 Fitness Assessment

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	Students participate in multiple <i>health-related fitness assessments</i> (including a cardiovascular assessment) and reassess to observe changes over time.	Students participate in a <i>health-related fitness assessment</i> that addresses a variety of health-related fitness components to establish personal fitness goals.	Students participate in a <i>health-related fitness assessment</i> to establish personal fitness goals and reassess their fitness over time.

## H2 Health-Related Fitness Plan

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify components of health-related fitness.	Students describe and give examples of the five <i>health-related fitness components</i> .	Students design a fitness program from established goals which addresses the five <i>health-related fitness components</i> and applies the frequency, intensity, time, and type ( <i>FITT</i> ) guidelines.	Students design and critique a personal fitness plan, from established goals, that applies the five <i>health-related fitness components</i> and the <i>principles of training</i> (specificity, overload, and progression).

**H3 Fitness Activity**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students participate in physical activities to introduce the <i>health-related fitness components</i> of <i>flexibility, cardiovascular endurance, muscular endurance, and muscular strength</i> .	Students participate in physical activities that address each of the five <i>health-related fitness components</i> including <i>flexibility, cardiovascular endurance, muscular endurance, muscular strength, and body composition</i> .	Students participate in physical activities that address personal fitness goals for the <i>health-related fitness components</i> including <i>flexibility, cardiovascular endurance, muscular endurance, muscular strength, and body composition</i> .	Students select and participate in physical activities that address their personal fitness plans and apply the five <i>health-related fitness components</i> .

**H4 Physical Activity Benefits**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify the physical benefits and bodily responses related to physical activities.	Students identify physical and mental benefits and bodily responses related to regular participation in physical activity.	Students describe physiological responses and physical, mental/intellectual, emotional, and social benefits related to regular participation in physical activity.	Students explain the interrelationship of physiological responses and physical, mental/intellectual, emotional, and social benefits related to regular participation in physical activity.

- I. **Personal and Social Skills and Knowledge:** Students demonstrate and explain responsible personal behavior and responsible social behavior in physical activity settings.

### I1 Cooperative Skills

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students demonstrate taking turns and sharing while participating in physical activities.	Students demonstrate cooperative skills while participating in physical activities. <ul style="list-style-type: none"> <li>a. Demonstrate active listening.</li> <li>b. Get along with others.</li> <li>c. Accept responsibility for personal behavior.</li> </ul>	Students demonstrate cooperative and inclusive skills while participating in physical activities. <ul style="list-style-type: none"> <li>a. Work together as a team.</li> <li>b. Respond appropriately to peer pressure.</li> <li>c. Manage conflict.</li> <li>d. Engage peers respectfully in activities.</li> </ul>	Students demonstrate collaborative skills while participating in physical activities. <ul style="list-style-type: none"> <li>a. Accept constructive feedback.</li> <li>b. Give constructive feedback.</li> <li>c. Include peers respectfully in activities.</li> </ul>

### I2 Responsible Behavior

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students follow procedures for safe behaviors, including maintaining appropriate personal space, while participating in physical activities.	Students demonstrate safe behaviors and appropriate equipment use while participating in physical activities.	Students demonstrate responsible personal behaviors while participating in physical activities.	Students demonstrate responsible and ethical personal behavior while participating in physical activities.

**I3 Safety Rules and Rules of Play**

<b>Performance Indicators &amp; Descriptors</b>			
<b>Pre-K-2</b>	<b>3-5</b>	<b>6-8</b>	<b>9-Diploma</b>
Students identify safety rules and rule of play for games/physical activities.	Students describe safety rules and rules of play for games/physical activities.	Students describe game/physical activity rules and safety rules and their purposes. <ul style="list-style-type: none"> <li>a. Explain the purposes for modifying playing rules in specified situations.</li> <li>b. Explain the safety rules and possible risks associated with specific games/physical activities.</li> </ul>	Students predict how etiquette/rules improve games/activities. <ul style="list-style-type: none"> <li>a. Explain how etiquette/rules contribute to productive participation.</li> <li>b. Predict how modifications to the environment can impact safety during games/physical activities.</li> </ul>

## MATHEMATICS

Education must equip all students with mathematical skills and ways of thinking that provide them with the flexibility, adaptability, and creativity to function as productive citizens in the changing society of the 21<sup>st</sup> century. Mathematical understanding must extend beyond the skills of calculation and manipulation of numbers and symbols to the use of mathematics to investigate, predict, analyze, interpret, create, and evaluate.

Deep mathematical understanding develops over time. While performance indicators describe the knowledge and skills expected at a given grade level, these concepts and skills may be introduced in previous years. They will also be used in later years as the foundations for more advanced topics or in new problem situations.

The use of “understand” in this document is intended to communicate the desired depth and breadth of mathematics programs for Maine students. To understand a procedure or concept means to be able to:

- communicate its meaning, its use, the results of its application, and its implications for a given context,
- reason about it by making conjectures and justifying conclusions,
- represent it in a variety of ways,
- connect it to other ideas in and outside of mathematics, and
- know when and how to apply it to solve problems in mathematics and in other contexts.

Central to mathematical understanding is learning through problems that arise in mathematics and applied contexts. To this end, students learn to identify problems, formulate approaches, carry out these approaches, and communicate and justify solutions. Mathematical reasoning pervades all areas of mathematics. Mathematical reasoning is manifested through classification, comparison, deduction, induction, generalization, justification, verification, and spatial visualization.

As growing mathematicians, students need to do mathematics and see themselves as capable of developing their own understanding of mathematical concepts, properties, and procedures. Mathematics classrooms should provide practical experiences using mathematics in everyday applications and in other content areas, as well as explorations solely within mathematics. Discussing mathematics is an important component of developing mathematical understanding. Technology should be used as an aid to understanding mathematical ideas. Classrooms that reflect these beliefs prepare students to be confident and effective mathematical thinkers.

As lifelong learners students will research mathematics concepts and methods. They must learn about sources of mathematics information, how to read and comprehend mathematics, how to employ the mathematical ideas they learn, and how to communicate what they learn.

The State of Maine should expect its students to enjoy, appreciate, and use mathematics. Students who are challenged to master the Mathematics Standards and are supported in reaching them will be better prepared for a future in which mathematics will be increasingly important in all areas of endeavor.

## OUTLINE OF MATHEMATICS STANDARDS AND PERFORMANCE INDICATORS

### A. Number

Whole Number  
Rational Number  
Real Number

	Whole Number	Rational Number	Real Number
Performance Indicators PreK - 2	1, 2	3	none
Performance Indicators 3	1, 2, 3	4	none
Performance Indicators 4	1, 2, 3	4, 5	none
Performance Indicators 5	1, 2, 3	4, 5, 6	none
Performance Indicators 6	1	2, 3, 4, 5	none
Performance Indicators 7	none	1, 2, 3, 4	none
Performance Indicators 8	none	none	1
Performance Indicators 9 - Diploma	none	none	1

### B. Data

Measurement and Approximation  
Data Analysis  
Probability

	Measurement and Approximation	Data Analysis	Probability
Performance Indicators PreK - 2	1	2	none
Performance Indicators 3	1	2	none
Performance Indicators 4	1	2	none
Performance Indicators 5	1	2, 3	none
Performance Indicators 6	1	2, 3	none
Performance Indicators 7	none	1	2

Performance Indicators 8	1, 2	3	4
Performance Indicators 9 - Diploma	1	2, 3, 4	5

## C. Geometry

Geometric Figures

Geometric Measurement

Transformations

	Geometric Figures	Geometric Measurement	Transformations
Performance Indicators PreK - 2	1	2	none
Performance Indicators 3	1	2	none
Performance Indicators 4	1	2	3
Performance Indicators 5	1	2, 3, 4	3
Performance Indicators 6	1	2, 3	4, 5
Performance Indicators 7	1	2	3
Performance Indicators 8	1, 2, 3	4	none
Performance Indicators 9 - Diploma	1, 2, 3	4	none

## D. Algebra

Symbols and Expressions

Equations and Inequalities

Functions and Relations

	Symbols and Expressions	Equations and Inequalities	Functions and Relations
Performance Indicators PreK - 2	1	2	3, 4
Performance Indicators 3	1	2	3
Performance Indicators 4	1	2	3
Performance Indicators 5	1	2	3

Performance Indicators 6	1	2	3
Performance Indicators 7	1	2	3
Performance Indicators 8	1, 2	2, 3	4
Performance Indicators 9 - Diploma	1	2, 3	4, 5

A. **NUMBER:** Students use numbers in everyday and mathematical contexts to quantify or describe phenomena, develop concepts of operations with different types of numbers, use the structure and properties of numbers with operations to *solve* problems, and perform mathematical computations. Students develop number sense related to magnitude, estimation, and the effects of mathematical operations on different types of numbers. It is expected that students use numbers flexibly, using forms of numbers that best match a situation. Students compute efficiently and *accurately*. *Estimation* should always be used when computing with numbers or solving problems.

Whole Number

Pre-K-2 Performance Indicators & Descriptors	
1	Students <i>understand</i> and use number notation and place value to 1000 in numerals. <ul style="list-style-type: none"> <li>a. Read and write numbers to 1000 using numerals.</li> <li>b. Recognize the place values of digits in numbers (hundreds, tens, and ones).</li> <li>c. Compare and order one-digit, two-digit, and three-digit numbers.</li> </ul>
2	Students <i>understand</i> and use procedures to add and subtract whole numbers with one and two digits. <ul style="list-style-type: none"> <li>a. Use and explain multiple strategies for computation.</li> <li>b. Use an operation appropriate to a given situation.</li> </ul>

Whole Number

Performance Indicators & Descriptors					
3	4	5	6	7	8
1 Students <i>understand</i> and use number notation and place value to 10,000 in	1 Students <i>understand</i> and use number notation and place value to 100,000 in	1 Students <i>understand</i> and use number notation to 10 million in numerals	1 Students use factors and multiples. <ul style="list-style-type: none"> <li>a. Identify prime</li> </ul>	No performance indicator.  It is expected that students continue to use	No performance indicator.  It is expected that students continue to use

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Performance Indicators & Descriptors					
3	4	5	6	7	8
<p><b>numerals.</b></p> <p>a. Read and write numbers up to 10,000 in numerals and words.</p> <p>b. Recognize the place values of digits in numbers up to 10,000.</p> <p>c. Compare and order numbers with up to four digits.</p> <p><b>2 Students <i>understand</i> and use procedures to add and subtract whole numbers with up to four digits.</b></p> <p>a. Display an understanding of the base ten place value system.</p> <p>b. Use an operation appropriate to a given situation.</p> <p><b>3 Students</b></p>	<p><b>numerals.</b></p> <p>a. Read and write numbers up to 100,000 in numerals and words.</p> <p>b. Recognize the place value of digits in numbers to 100,000.</p> <p>c. Compare and order numbers with up to five digits.</p> <p>d. Round numbers to the nearest 100 or 1000.</p> <p><b>2 Students <i>understand</i> and use the concepts of factor and multiple.</b></p> <p>a. Determine if a single-digit number is a factor of a given whole number.</p> <p>b. Determine if a whole number is a multiple of a given single-digit number.</p> <p>c. List the first ten</p>	<p><b>and words.</b></p> <p>a. Read and write numbers to 10 million in numerals.</p> <p>b. Round numbers to the place value appropriate for given contexts.</p> <p>c. Compare and order numbers up to 10 million.</p> <p><b>2 Students multiply and divide numbers up to four digits by numbers up to two digits, and by tens, hundreds, and thousands and <i>interpret</i> any remainders.</b></p> <p><b>3 Students <i>solve</i> problems requiring multiple operations (addition, subtraction, multiplication, and division) and use</b></p>	<p>numbers and composite numbers and use their properties to <i>solve</i> problems.</p> <p>b. Use the property that every integer greater than one is a prime number or can be written as a unique product of prime numbers.</p> <p>c. <i>Interpret</i> and use exponential notation as repeated multiplication.</p> <p>d. Find the least common multiple and greatest common factor of two numbers.</p>	<p>prior concepts and skills in new and familiar contexts.</p>	<p>prior concepts and skills in new and familiar contexts.</p>

Performance Indicators & Descriptors					
3	4	5	6	7	8
<p><b><i>understand</i> and apply meanings of multiplication and division.</b></p> <p>a. Multiply single-digit numbers and divide using single-digit divisors and up to two-digit dividends (division facts only, but remainders may be present).</p> <p>b. Use an operation appropriate to a given situation.</p> <p>c. Recognize and use models for multiplication and division situations.</p> <p>d. Use multiple strategies for multiplication and division.</p>	<p>multiples of a given number.</p> <p><b>3 Students <i>understand</i> and use procedures to multiply and divide whole numbers by two-digit numbers.</b></p> <p>a. Multiply up to four-digit numbers by a single-digit number.</p> <p>b. Multiply three-digit numbers by two-digit numbers.</p> <p>c. Divide whole numbers up to four digits by a single-digit number and by ten (remainders may be present).</p>	<p><b>the conventions of order of operations (no exponents expected).</b></p>			

**Whole Number**

**9-Diploma Performance Indicators & Descriptors**

**No performance indicator.**

Although no performance indicators are stated, students are expected to continue to use prior concepts and skills in new and familiar contexts.

Rational Number

Pre-K-2 Performance Indicators & Descriptors	
3	Students recognize unit fractions including $\frac{1}{2}$ , $\frac{1}{4}$ , and $\frac{1}{3}$ .

Rational Number

Performance Indicators & Descriptors					
3	4	5	6	7	8
<p><b>4</b> Students recognize, name, compare, illustrate, and use simple fractions.</p> <p>a. Recognize, name, and illustrate fractions with denominators from two to ten.</p> <p>b. Recognize, name, and illustrate parts of a whole.</p> <p>c. Compare and order fractions with like numerators or with like denominators.</p>	<p><b>4</b> Students <i>understand</i>, name, compare, illustrate, combine, and use fractions.</p> <p>a. Add and subtract fractions with like denominators and use repeated addition to multiply a unit fraction by a whole number.</p> <p>b. List equivalent fractions.</p> <p>c. Represent fractions greater than one as mixed numbers and mixed numbers as fractions.</p> <p><b>5</b> Students <i>understand</i> and use number notation and place value in numbers</p>	<p><b>4</b> Students <i>understand</i>, name, compare, illustrate, compute with, and use fractions.</p> <p>a. Add and subtract fractions with unlike denominators.</p> <p>b. Multiply a fraction by a whole number.</p> <p><b>5</b> Students <i>understand</i> and use number notation and place value in numbers with three decimal places.</p> <p>a. Compare, order, read, round, and <i>interpret</i> decimals with up to three decimal places.</p> <p>b. Add and subtract</p>	<p><b>2</b> Students express fractions greater than 0 as decimals and compare positive numbers that are written as fractions and decimals and place them on the number line.</p> <p><b>3</b> Students add, subtract, multiply, and divide numbers expressed as fractions and as decimals including mixed numbers.</p> <p><b>4</b> Students <i>understand</i> how to express relative quantities as percentages and as decimals and</p>	<p><b>1</b> Students use negative and positive rational numbers expressed as integers, fractions, and decimals.</p> <p>a. Recognize rational numbers as quotients of integers with a non-zero denominator and recognize that rational numbers can be negative or positive.</p> <p>b. Compare signed rational numbers and place them on the number line.</p> <p><b>2</b> Students compute with signed rational numbers.</p>	<p><b>1</b> Students express or <i>interpret</i> numbers using scientific notation from real-life contexts.</p> <p>a. Use positive and negative integer exponents for powers of ten.</p> <p>b. Convert between standard and scientific notation forms and compare the relative size of numbers including the <i>interpretation</i> of numbers as displayed on calculators and computers.</p>

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Performance Indicators & Descriptors					
3	4	5	6	7	8
	<p><b>with two decimal places in real-world contexts including money.</b></p> <p>a. Compare, order, read, round, and <i>interpret</i> decimals with up to two decimal places.</p> <p>b. Add and subtract decimals with up to two decimal places.</p> <p>c. Multiply and divide decimals with up to two decimal places by a one- digit whole number.</p> <p>d. Connect equivalent decimals and fractions for 1/10s, 1/4s and 1/2s in meaningful contexts.</p>	<p>decimals with up to three decimal places.</p> <p>c. Multiply and divide decimals with up to three decimals places by a two-digit whole number.</p> <p>d. Develop the concept of a fraction as division through expressing fractions with denominators of two, four, five, and 10, as decimals and decimals as fractions.</p> <p><b>6 Students understand concepts of positive and negative integers.</b></p> <p>a. Place positive and negative integers on a number line or scale.</p> <p>b. Compare and order positive and negative integers.</p>	<p><b>fractions.</b></p> <p>a. Use ratios to describe relationships between quantities.</p> <p>b. Use decimals, fractions, and percentages to express relative quantities.</p> <p>c. <i>Interpret</i> relative quantities expressed as decimals, fractions, and percentages.</p> <p><b>5 Students multiply and divide decimals with up to three decimal places by tens, hundreds, and thousands.</b></p>	<p>a. Use and <i>interpret</i> exponents.</p> <p>b. Follow conventions of order of operations including exponents.</p> <p>c. Solve problems using signed rational numbers.</p> <p><b>3 Students understand that when the ratio of two varying quantities is constant, the two quantities are in direct proportion.</b></p> <p>a. Use ratios to compare quantities and use comparison to solve problems.</p> <p>b. Identify proportional relationships.</p> <p>c. Use proportions to <i>solve</i> problems.</p> <p><b>4 Students interpret and use percents to solve problems.</b></p>	

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3	4	5	6	7	8
		c. Find the distance between two integers in a context.		a. Use percents when comparing fractional parts of sets of unequal size. b. <i>Solve</i> practical problems involving percents.	

**Rational Number**

**9-Diploma Performance Indicators & Descriptors**

No performance indicator.

Although no performance indicators are stated, students are expected to have instructional experiences in which they continue to use prior concepts and skills in new and familiar contexts.

**Real Number**

**Pre-K-2 Performance Indicators & Descriptors**

No performance indicator.

Although no performance indicators are stated, students are expected to use only rational numbers at this level.

**Real Number**

Performance Indicators & Descriptors					
3	4	5	6	7	8
No performance indicator.	No performance indicator.	No performance indicator.	No performance indicator.	No performance indicator.	1 Students <i>understand</i> the set of real numbers as containing the
Although no	Although no	Although no	Although no	Although no	

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Performance Indicators & Descriptors					
3	4	5	6	7	8
performance indicators are stated, students are expected to have instructional experiences in which they use only rational numbers.	performance indicators are stated, students are expected to have instructional experiences in which they use only rational numbers.	performance indicators are stated, students are expected to have instructional experiences in which they use only rational numbers.	performance indicators are stated, students are expected to have instructional experiences in which they use rational numbers including rational approximations for pi or square roots.	performance indicators are stated, students are expected to have instructional experiences in which they use rational numbers including rational approximations for pi or square roots.	<p><b>rational numbers and the irrational numbers.</b></p> <ul style="list-style-type: none"> <li>a. Know that there are real numbers that are not rational numbers.</li> <li>b. Know some common examples of irrational numbers including pi or those arising from square roots.</li> <li>c. Use square roots. Be able to <i>estimate</i> the value of the square roots of whole numbers and place them on the number line.</li> </ul>

**Real Number**

**9-Diploma Performance Indicators & Descriptors**

**1 Students know how to represent and use real numbers.**

- a. Use the concept of  $n^{\text{th}}$  root.
- b. *Estimate* the value(s) of roots and use technology to approximate them.
- c. Compute using laws of exponents.
- d. Multiply and divide numbers expressed in scientific notation.

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e. *Understand* that some quadratic equations do not have real solutions and that there exist other number systems to allow for solutions to these equations.

B. **DATA:** Students make measurements and collect, display, evaluate, analyze, and compute with data to describe or *model* phenomena and to make decisions based on data. Students compute statistics to summarize data sets and use concepts of probability to make predictions and describe the uncertainty inherent in data collection and measurement. It is expected that when working with measurements students:

- *understand* that most measurements are approximations and that taking repeated measurements reveals this variability;
- *understand* that a number without a *unit* is not a measurement, and that an appropriate *unit* must always be attached to a number to provide a measurement;
- *understand* that the *precision* and *accuracy* of a measurement depends on selecting the appropriate tools and *units*; and
- use *estimation* comparing measures to *benchmarks* appropriate to the type of measure and *units*.

Measurement and Approximation

Pre-K-2 Performance Indicators & Descriptors

- 1 Students *understand* and use *units* of time, temperature, and money.
- Apply and use sequences of hours in a day, days in a week, and months in a year.
  - Tell time to the hour and half hour.
  - Identify and give the value of different coins.
  - Find the total value of collections of coins up to \$1.00.
  - Read temperature on thermometers with scales marked with one degree intervals.

Measurement and Approximation

Performance Indicators & Descriptors

3	4	5	6	7	8
1 Students <i>understand</i> and use measurement of time and temperature.	1 Students <i>understand</i> and use measurement of time, capacity, and temperature.	1 Students <i>understand</i> and use measures of elapsed time, temperature, capacity, mass,	1 Students convert within measurement systems.  a. <i>Solve</i> problems	No performance indicator.  Although no performance indicators are stated at this level, it	1 Students <i>understand</i> and use <i>derived measures</i> (measurements expressed as

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Performance Indicators & Descriptors					
3	4	5	6	7	8
<p>a. Select appropriate tools and <i>units</i> for these measures.</p> <p>b. <i>Solve</i> and <i>justify</i> problems with these measures.</p>	<p>a. Select appropriate tools and <i>units</i> for these measures.</p> <p>b. <i>Solve</i> and <i>justify</i> problems with these measures.</p>	<p><b>and use measures of mass and weight.</b></p> <p>a. Select and use appropriate tools and <i>units</i> (mass in grams, weight in pounds) for these measures.</p> <p>b. <i>Solve</i> and <i>justify</i> problems with these measures.</p>	<p>where different <i>units</i> are used within the metric and traditional systems of measurement.</p>	<p>is expected that students continue to use prior concepts and skills in new and familiar concepts.</p>	<p><b>rates).</b></p> <p>a. Calculate measures using multiple attributes including speed (distance per time).</p> <p>b. <i>Solve</i> for an unknown component of a measure including finding time given average speed and distance.</p> <p><b>2 Students convert across measurement systems and within a system for different <i>units</i> in <i>derived measures</i>.</b></p> <p>a. Approximate metric and customary equivalents given a conversion factor.</p> <p>b. Convert <i>derived measures</i>, including feet per second to miles per hour.</p>

**Measurement and Approximation**

**9-Diploma Performance Indicators & Descriptors**

**1** Students *understand* the relationship between *precision* and *accuracy*.

- a. Express answers to a reasonable degree of *precision* in the context of a given problem.
- b. Represent an approximate measurement using appropriate numbers of significant figures.
- c. Know that most measurements are approximations and explain why it is useful to take the mean of repeated measurements.

**Data Analysis**

**Pre-K-2 Performance Indicators & Descriptors**

**2** Students read, construct, and *interpret* picture graphs.

**Data Analysis**

**Performance Indicators & Descriptors**

3	4	5	6	7	8
<p><b>2</b> Students read, construct, and <i>interpret</i> bar graphs.</p>	<p><b>2</b> Students collect and represent data in tables, line plots, and bar graphs, and read and <i>interpret</i> these types of data displays.</p>	<p><b>2</b> Students read, construct, and <i>interpret</i> line graphs.</p> <p><b>3</b> Students find and use median, mode, and range for a set of data.</p>	<p><b>2</b> Students read and <i>interpret</i> pie charts.</p> <p><b>3</b> Students find and compare the mean, median, mode, and range for sets of data.</p>	<p><b>1</b> Students use graphs and charts to represent, organize, <i>interpret</i>, and draw inferences from data.</p> <p>a. <i>Create</i> tables, pictograms, bar graphs, line graphs, pie charts, stem and leaf plots, box and whiskers plots, and histograms using pencil and paper and electronic</p>	<p><b>3</b> Students use the mean, median, mode, range, and quartiles to <i>solve</i> problems involving raw data and information from data displays.</p>

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Performance Indicators & Descriptors					
3	4	5	6	7	8
				technologies. b. Draw conclusions based on graphs and charts including tables, pictograms, bar graphs, line graphs, pie charts, stem and leaf plots, box and whiskers plots, and histograms.	

### Data Analysis

#### 9-Diploma Performance Indicators & Descriptors

##### 2 Students *understand* correlation and cause and effect.

- Recognize when correlation has been confused with cause and effect.
- Create* and *interpret* scatter plots and *estimate* correlation and lines of best fit.
- Recognize positive and negative correlations based on data from a table or scatter plot.
- Estimate* the strength of correlation based upon a scatter plot.

##### 3 Students *understand* and know how to describe distributions and find and use descriptive statistics for a set of data.

- Find and apply range, quartiles, mean absolute deviation, and standard deviation (using technology) of a set of data.
- Interpret*, give examples of, and describe key differences among different types of distributions: uniform, normal, and skewed.
- For the sample mean of normal distributions, use the standard deviation for a group of observations to establish 90%, 95%, or 99% confidence intervals.

##### 4 Students *understand* that the purpose of random sampling is to reduce bias when creating a representative sample for a set of data.

- Describe and account for the difference between sample statistics and statistics describing the distribution of the entire population.
- Recognize that sample statistics produce *estimates* for the distribution of an entire population and recognize that larger sample sizes will produce more

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reliable *estimates*.  
 c. Apply methods of *creating* random samples and recognize possible sources of bias in samples.

**Probability**

**Pre-K-2 Performance Indicators & Descriptors**

No performance indicator.

Although no performance indicators are stated, students are expected to have experiences with probability in these grades, but it is not expected that the knowledge will be secure.

**Probability**

**Performance Indicators & Descriptors**

3	4	5	6	7	8
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have experiences with probability in grade three, but it is not expected that the knowledge will be secure.</p>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have experiences with probability in grade four, but it is not expected that the knowledge will be secure.</p>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have experiences with probability in grade five, but it is not expected that the knowledge will be secure.</p>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have experiences with probability in grade six, but it is not expected that the knowledge will be secure.</p>	<p><b>2 Students <i>understand</i> and apply concepts of probability to simple events.</b></p> <p>a. Describe events as likely or unlikely and discuss the concept of likelihood using such words phrases as “certain”, “equally likely”, and “impossible”.</p> <p>b. Predict the probability of outcomes of simple experiments and</p>	<p><b>4 Students <i>understand</i> and apply concepts of probability.</b></p> <p>a. Use appropriate terminology to describe complementary and mutually exclusive events.</p> <p>b. Use an <i>understanding</i> of relative frequency to make and test conjectures about results of experiments and</p>

Performance Indicators & Descriptors					
3	4	5	6	7	8
				verify predictions using the <i>understanding</i> that the probability of an occurrence is the ratio of the number of actual occurrences to the number of possible occurrences. c. <i>Interpret</i> probabilities between and including zero and one and explain why zero and one are the upper and lower limits for probability values.	simulations. c. Compute probabilities for compound events, using such methods as organized lists, tree diagrams, and area models.

**Probability**

**9-Diploma Performance Indicators & Descriptors**

<p><b>5</b> Students <i>understand</i> the relationship of probability to relative frequency and know how to find the probability of compound events.</p> <p>a. Find the expected frequency of an event.</p> <p>b. Find the expected value of events.</p> <p>c. Find the probability of compound events including independent and dependent events.</p>
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C. **GEOMETRY:** Students use measurement and observation to describe objects based on their sizes and shapes; *model* or construct two-dimensional and three-dimensional objects; *solve* problems involving geometric properties; compute areas and volumes based on object properties and dimensions; and perform transformations on geometric figures. When making or calculating measures students use *estimation* to check the reasonableness of results.

Geometric Figures

Pre-K-2 Performance Indicators & Descriptors	
1	Students recognize, <i>classify</i> , and <i>create</i> geometric figures in two and three dimensions.
	<ul style="list-style-type: none"> <li>a. Identify shapes in the physical environment.</li> <li>b. <i>Classify</i> figures as circles, triangles, and quadrilaterals by focusing on their properties.</li> <li>c. <i>Create</i> shapes by using objects to combine and <i>decompose</i> other shapes.</li> </ul>

Geometric Figures

Performance Indicators & Descriptors					
3	4	5	6	7	8
<p>1 Students identify, describe, and <i>classify</i> familiar two-dimensional shapes.</p> <ul style="list-style-type: none"> <li>a. Describe and <i>classify</i> two-dimensional shapes according to the number of vertices and by number, length and shape of sides.</li> <li>b. Know how to put shapes together and</li> </ul>	<p>1 Students identify and name angles, lines, relationships between lines, quadrilaterals, and triangles.</p> <ul style="list-style-type: none"> <li>a. Identify perpendicular and parallel lines and sides.</li> <li>b. Identify and sketch the following quadrilaterals: rectangle, square, parallelogram,</li> </ul>	<p>1 Students identify, describe, and <i>classify</i> solid figures.</p> <ul style="list-style-type: none"> <li>a. Identify edges, vertices, and faces in three-dimensional figures.</li> <li>b. Describe and <i>classify</i> solid figures according to the number of edges, faces, and vertices as well as the shapes of faces.</li> </ul>	<p>1 Students represent solid figures in two dimensions.</p> <ul style="list-style-type: none"> <li>a. Represent cubes, prisms, and square-based or triangular-based pyramids using <i>nets</i>.</li> <li>b. Recognize and <i>classify</i> solids presented in picture views.</li> <li>c. Sketch three-dimensional figures.</li> </ul>	<p>1 Students <i>understand</i> angle properties of lines in the plane.</p> <ul style="list-style-type: none"> <li>a. Identify and name straight angles, angles at a point, and vertical angles and use these measures to find the measures of unknown angles.</li> <li>b. Recognize that the measures that form straight angles add</li> </ul>	<p>1 Students know and use properties of polygons.</p> <ul style="list-style-type: none"> <li>a. Apply the triangle inequality.</li> <li>b. Find the sum of the measures of the interior angles of a polygon.</li> <li>c. Apply the property that the sum of the measures of the exterior angles of a polygon is 360 degrees.</li> </ul>

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<p>take them apart to form other shapes.</p> <p>c. Identify edges, vertices, and right angles in two-dimensional shapes.</p> <p>d. Tell whether a given angle is greater or smaller than a right angle.</p>	<p>rhombus, and trapezoid.</p> <p>c. Identify and sketch the following triangles: isosceles, equilateral, acute, obtuse, and right.</p>			<p>to 180 degrees and the measures of angles at a point add to 360 degree and apply this property to solve problems.</p> <p>c. Recognize that vertical angles are congruent and apply this property to solve problems.</p>	<p><b>2 Students know and use angle properties of parallel lines to <i>solve</i> problems and determine geometric relationships.</b></p> <p>a. Know and use properties of angles created when parallel lines are cut by a transversal.</p> <p>b. Use angle properties to determine whether lines are parallel.</p> <p>c. Know and use properties of angles created by parallel lines and transversals to determine the angle properties of trapezoids and parallelograms, and apply these properties in problem situations.</p>

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3	4	5	6	7	8
					3 Students know and use the Pythagorean Theorem.

## Geometric Figures

### 9-Diploma Performance Indicators & Descriptors

1 Students *justify* statements about polygons and *solve* problems.

- Use the properties of triangles to prove theorems about figures and relationships among figures.
- Solve* for missing dimensions based on congruence and similarity.
- Use the Pythagorean Theorem in situations where right triangles are created by adding segments to figures.
- Use the distance formula.

2 Students *justify* statements about circles and *solve* problems.

- Use the concepts of central and inscribed angles to *solve* problems and *justify* statements.
- Use the relationships among arc length and circumference, and areas of circles and sectors to *solve* problems and *justify* statements.

3 Students *understand* and use basic ideas of trigonometry.

- Identify and find the value of trigonometric ratios for angles in right triangles.
- Use trigonometry to *solve* for missing lengths in right triangles.
- Use inverse trigonometric functions to find missing angles in right triangles.

## Geometric Measurement

### Pre-K-2 Performance Indicators & Descriptors

2 Students *understand* how to measure length and capacity and use appropriate *units*.

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- a. Measure length and capacity by *direct and indirect comparison*.
- b. Measure the length and capacity of objects using non-standard *units*.
- c. Measure the length of objects to whole inches and centimeters.

**Geometric Measurement**

**Performance Indicators & Descriptors**

3	4	5	6	7	8
<p><b>2</b> Students <i>understand</i> how to find the distance around a figure.</p> <p>a. Calculate and measure the distance around a figure whose perimeter is comprised of straight edges.</p>	<p><b>2</b> Students <i>understand</i> the concept of area of a figure.</p> <p>a. Find the area of shapes in non-standard <i>units</i>.</p> <p>b. Find the area of squares and other rectangles in standard <i>units</i>.</p> <p>c. Recognize and <i>estimate</i> the relative sizes of one square meter and one square centimeter and one square inch and one square foot.</p>	<p><b>2</b> Students find the area of triangles and quadrilaterals.</p> <p>a. Know how to derive and use the formula, <math>A = (1/2) bh</math> for the area of a triangle.</p> <p>b. Find the area of parallelograms.</p> <p><b>3</b> Students <i>understand</i> how to find the volume and surface area of rectangular prisms.</p> <p>a. Know how to build solids with unit cubes and find their volume.</p> <p>b. Recognize and <i>estimate</i> the relative</p>	<p><b>2</b> Students find the perimeters and areas of geometric figures.</p> <p>a. Triangles</p> <p>b. Quadrilaterals</p> <p>c. Circles</p> <p><b>3</b> Students find the volume and surface areas of right prisms with bases that are triangles and quadrilaterals.</p>	<p><b>2</b> Students <i>solve</i> problems involving perimeter and area.</p> <p>a. <i>Solve</i> problems involving the area and perimeter of regions in the plane bounded by line segments and circular arcs.</p> <p>b. <i>Solve</i> problems involving the area of combined figures.</p>	<p><b>4</b> Students find the volume and surface area of prisms, pyramids, cylinders, and other figures <i>composed</i> of these solids.</p> <p>a. Apply the <i>understanding</i> that the volume of prisms and cylinders can be found by multiplying the area of a base by the height of the solid.</p> <p>b. Apply the <i>understanding</i> that the volume of pyramids can be found by multiplying the area of a base by 1/3 the height of</p>

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		<p>sizes of one cubic meter and one cubic centimeter or one cubic inch and one cubic foot.</p> <p>c. Know how to derive and use the formula (length x width x height) for the volume of a rectangular prism.</p> <p>d. <i>Create nets</i> to aid visualization and computation.</p> <p><b>4 Students <i>understand</i> how to describe position and direction in two dimensions.</b></p> <p>a. Locate points on the Cartesian plane.</p> <p>b. Determine horizontal and vertical distance on the coordinate plane.</p> <p>c. Measure angles in degrees.</p>			<p>the solid.</p> <p>c. Apply the <i>understanding</i> that the surface area of a figure is the sum of the areas of its faces and find the surface areas of cylinders.</p>

**Geometric Measurement**

**9-Diploma Performance Indicators & Descriptors**

**4 Students find the surface area and volume of three-dimensional objects.**

- a. Find the volume and surface area of three-dimensional figures including cones and spheres.
- b. Determine the effect of changes in linear dimensions on the volume and surface area of similar and other three-dimensional figures.

**Transformations**

**Pre-K-2 Performance Indicators & Descriptors**

**No performance indicator.**

Although no performance indicators are stated, students are expected to have experiences with symmetry, transformations, and congruence in these grades, but it is not expected that the knowledge will be secure.

**Transformations**

**Performance Indicators & Descriptors**

3	4	5	6	7	8
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have experiences with symmetry, transformations, and congruency in grade three, but it is not expected that the knowledge will be secure.</p>	<p><b>3 Students recognize congruent figures and line symmetry in figures.</b></p> <ul style="list-style-type: none"> <li>a. Recognize whether a line is a line of symmetry in a figure.</li> <li>b. Recognize congruent figures.</li> </ul>	<p><b>5 Students reflect, slide, and rotate plane figures.</b></p> <ul style="list-style-type: none"> <li>a. Identify figures with rotational or line symmetry.</li> <li>b. <i>Create</i> figures with rotational or line symmetry</li> <li>c. Slide, rotate or reflect figures to create patterns or demonstrate congruence.</li> </ul>	<p><b>4 Students <i>understand</i> and use reflections, rotations, and translations to define and identify congruent plane figures.</b></p> <ul style="list-style-type: none"> <li>a. Apply the <i>understanding</i> that if a plane figure can be laid on top of another plane figure by rotations,</li> </ul>	<p><b>3 Students <i>understand</i> and use the concept of scale drawings to enlarge or reduce two-dimensional plane figures.</b></p> <ul style="list-style-type: none"> <li>a. Use the concept of scale factors when enlarging or reducing and recognize the invariance of shape.</li> <li>b. Apply the</li> </ul>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to continue to use prior concepts and skills in new and familiar contexts.</p>

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3	4	5	6	7	8
			translations, or reflections then the figures are congruent.  5 Students <i>understand</i> how to use proportional relationships to make indirect linear measurements and use scale drawings to make linear measurements.	<i>understanding</i> that enlargement or reduction by a scale factor leaves angle measures unchanged. c. Identify similar figures and name corresponding parts.	

**Transformations**

**9-Diploma Performance Indicators & Descriptors**

No performance indicator.

Although no performance indicators are stated, students are expected to continue to use prior concepts and skills in new and familiar contexts. Methods of transformational geometry might also be used in Geometric Figures 9-Diploma Performance Indicator 1.

D. **ALGEBRA:** Students use symbols to represent or *model* quantities, patterns, and relationships and use symbolic manipulation to *evaluate* expressions and *solve* equations. Students *solve* problems using symbols, tables, graphs, and verbal rules choosing the most effective representation and converting among representations.

Symbols and Expressions

Pre-K-2 Performance Indicators & Descriptors

<p>1 Students <i>understand</i> how to represent quantities as simple expressions using addition and subtraction.</p> <p>a. Show that any quantity can be represented by multiple equivalent expressions where each represents the quantity ten.</p> <p>b. Know that addition is commutative and apply this <i>understanding</i> in computation and problem-solving.</p> <p>c. Know that addition and subtraction are inverse operations and apply this <i>understanding</i> in computation and problem-solving.</p>
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Symbols and Expressions

Performance Indicators & Descriptors

3	4	5	6	7	8
<p>1 Students use equivalent expressions to aid computation such as knowing that <math>43 + 56</math> is the same as <math>40 + 3 + 50 + 6</math>.</p>	<p>1 Students <i>create</i> and <i>evaluate</i> simple expressions in the context of numbers and operations as described in <u>Standard 2.1: Number</u> * for this grade level.</p> <p>a. <i>Create</i> and <i>evaluate</i> expressions with no more than two variables.</p> <p>* <u>Standard 2.1</u> referenced here in the language of Me. Dept of Ed Reg. 131 refers to <u>Standard A</u> of this document.</p>	<p>1 Students <i>create</i> and <i>evaluate</i> simple expressions in the context of numbers and operations as described in <u>2.1: Number</u> * for this grade level.</p> <p>a. <i>Create</i> and <i>evaluate</i> expressions with no more than three variables.</p> <p>* <u>Standard 2.1</u> referenced here in the language of Me. Dept of Ed Reg. 131 refers to <u>Standard A</u> of this document.</p>	<p>1 Students <i>create</i> and <i>evaluate</i> expressions.</p> <p>a. <i>Create</i> and <i>evaluate</i> expressions using whole numbers.</p> <p>b. <i>Create</i> and <i>evaluate</i> expressions using positive fractions including decimals.</p>	<p>1 Students <i>create</i> and <i>evaluate</i> expressions.</p> <p>a. <i>Create</i> and <i>evaluate</i> expressions using integers.</p> <p>b. <i>Create</i> and <i>evaluate</i> expressions using rational numbers.</p>	<p>1 Students <i>create</i>, <i>evaluate</i>, and manipulate expressions.</p> <p>a. Create and evaluate expressions using real numbers.</p> <p>b. Add and subtract linear expressions.</p> <p>c. Apply the properties of the real number system, including distributive and associative laws, to create equivalent expressions.</p>

Learning Results: Parameters for Essential Instruction

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## Symbols and Expressions

### 9-Diploma Performance Indicators & Descriptors

1 Students *understand* and use polynomials and expressions with rational exponents.

- Simplify* expressions including those with rational exponents.
- Add, subtract, and multiply polynomials.
- Factor the common term out of polynomial expressions.
- Divide polynomials by  $(ax+b)$ .

## Equations and Inequalities

### Pre-K-2 Performance Indicators & Descriptors

2 Students *understand* that the equal sign means, "is the same as."

- Identify true and false number sentences.
- Describe what makes number sentences true or false and apply this knowledge.
- Find solutions for unknowns in simple open number sentences such as  $12 = 4 + [ ]$ .

## Equations and Inequalities

### Performance Indicators & Descriptors

3	4	5	6	7	8
2 Students find the unknown in simple equations (or open sentences) in the context of numbers and operations as described in <u>Standard 2.1: Number</u> * for this grade level such as:	2 Students find the unknown in simple equations in the context of numbers and operations as described in <u>Standard 2.1: Number</u> * for this grade level such as: $3 \cdot b = 12$	2 Students find the unknown in simple equations in the context of numbers and operations as described in <u>Standard 2.1: Number</u> * for this grade level such as: $39 - k = 39 - 40$	2 Students recognize and <i>solve</i> problems involving linear equations and recognize examples and non-examples of linear equations.  a. <i>Solve</i> equations of the form $ax \pm b = c$ where a,	2 Students <i>understand</i> and <i>solve</i> problems involving linear equations and know that a linear equation can be written in the form $0 = ax + b$ .  a. <i>Solve</i> equations of the form $ax + b = c$	2 Students <i>understand</i> and <i>solve</i> problems involving linear equations.  a. <i>Solve</i> any linear equation including linear equations of the form $ax + b = cx + d$ . b. Recognize that, in

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Performance Indicators & Descriptors					
3	4	5	6	7	8
<p><math>3 + 5 = [ ] + 3</math>  <math>3 + 9 = [ ] + 10</math>  <math>[ ] + ( ) = 10.</math></p> <p>* <u>Standard 2.1</u> referenced here in the language of Me. Dept of Ed Reg. 131 refers to <u>Standard A</u> of this document.</p>	<p><math>3 + 4 = x + 5</math>  <math>6 \times 5 = 3 \times [ ]</math>.</p> <p>* Standard 2.1 referenced here in the language of Me. Dept of Ed Reg. 131 refers to Standard A of this document.</p>	<p><math>78 + b = 57 + 79</math>  <math>30 \times A = 276</math>  <math>(3 + 4) \times 6 = 6 \times [ ]</math>  <math>3 \times 15 = 3 \times (10 + [ ])</math>.</p> <p>* <u>Standard 2.1</u> referenced here in the language of Me. Dept of Ed Reg. 131 refers to <u>Standard A</u> of this document.</p>	<p>b, and c are whole numbers.</p> <p>b. Recognize from a table whether a relationship has a constant rate of change.</p>	<p>where a, b, and c are positive rational numbers or positive or negative integers.</p> <p>b. Convert equations to <math>0 = ax + b</math> form.</p>	<p>general, linear equations have just one solution—but know also that some linear equations can have no solution and those linear equations that are identities have every value of x as a solution.</p> <p>c. Use graphs to <i>estimate</i> solutions to equations and systems of equations, check algebraic approaches, provide alternative solution paths, and communicate the solution to a problem.</p> <p><b>3</b> Students <i>understand</i> and <i>solve</i> linear inequalities in one unknown.</p> <p>a. Represent problem</p>

Performance Indicators & Descriptors					
3	4	5	6	7	8
					situations as inequalities. b. <i>Solve</i> linear inequalities. c. <i>Interpret</i> the solutions to linear inequalities.

### Equations and Inequalities

#### 9-Diploma Performance Indicators & Descriptors

##### 2 Students *solve* families of equations and inequalities.

- Solve* systems of linear equations and inequalities in two unknowns and interpret their graphs.
- Solve* quadratic equations graphically, by factoring in cases where factoring is efficient, and by applying the quadratic formula.
- Solve* simple rational equations similar to  $\frac{1}{2x+1} = 5$ .
- Solve* absolute value equations and inequalities and interpret the results.
- Apply the *understanding* that the solution(s) to equations of the form  $f(x) = g(x)$  are the  $x$ -value(s) of the point(s) of intersection of the graphs of  $f(x)$  and  $g(x)$  and common outputs in table of values.
- Explain why the coordinates of the point of intersection of the lines represented by a system of equations is its solution and apply this *understanding* to solving problems.

##### 3 Students *understand* and apply ideas of logarithms.

- Use and *interpret* logarithmic scales.
- Solve* equations in the form of  $x = b^y$  using the equivalent form  $y = \log_b x$ .

Functions and Relations

Pre-K-2 Performance Indicators & Descriptors	
3	Students <i>understand</i> how to <i>create</i> , identify, describe, and extend patterns given a pattern or a rule. <ul style="list-style-type: none"> <li>a. Describe, extend, and <i>create</i> repeating patterns.</li> <li>b. Describe, extend, and <i>create</i> growing patterns.</li> </ul>

Functions and Relations

Performance Indicators & Descriptors					
3	4	5	6	7	8
<p>3 Students <i>understand</i> arithmetic relationships among positive whole numbers.</p> <ul style="list-style-type: none"> <li>a. Use the inverse relationships between addition and subtraction and between multiplication and division and the commutative laws of multiplication and addition to <i>solve</i> problems.</li> <li>b. Be able to show that for whole numbers subtraction and division are not commutative and</li> </ul>	<p>3 Students use tables, rules, diagrams, and patterns to represent the relationship between quantities and to extend sequences.</p>	<p>3 Students use tables, rules, diagrams, and graphs to represent and analyze the relationship between quantities.</p>	<p>3 Students use tables, formulas, diagrams, and graphs to analyze relationships between quantities.</p> <ul style="list-style-type: none"> <li>a. Use tables, formulas and graphs to analyze constant difference (additive) relationships.</li> <li>b. Use tables, formulas, and graphs to analyze constant ratio (multiplicative) relationships.</li> </ul>	<p>3 Students <i>understand</i> and use directly proportional relationships, <math>y = kx</math>.</p> <ul style="list-style-type: none"> <li>a. Recognize directly proportional relationships by information in a table, graph, or formula.</li> <li>b. Translate common directly proportional relationships into symbolic statements and graphs.</li> <li>c. <i>Interpret</i> the slope and y-intercept of the graph of <math>y = kx</math> in terms of a given context.</li> </ul>	<p>4 Students <i>understand</i> and use the basic properties of linear relationships, <math>y = kx + b</math>.</p> <ul style="list-style-type: none"> <li>a. <i>Understand</i> that linear relationships are characterized by a constant rate of change, <math>k</math>.</li> <li>b. <i>Understand</i> that the graph of a linear relationship <math>y = kx + b</math> is a line where the slope is <math>k</math> and <math>b</math> is the y-coordinate of the point where the graph crosses the y-axis (i.e., value of <math>y</math> when <math>x = 0</math>).</li> <li>c. Translate common</li> </ul>

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Performance Indicators & Descriptors					
3	4	5	6	7	8
show that multiplication and addition are commutative.					linear phenomena into symbolic statements and graphs, and interpret the slope and y-intercept of the graph of $y = kx + b$ in terms of the original situation.
4 Students <i>create</i> , describe, explain and extend patterns with numbers and geometric objects.					

### Functions and Relations

#### 9-Diploma Performance Indicators & Descriptors

4 Students *understand* and *interpret* the characteristics of functions using graphs, tables, and algebraic techniques.

a. Recognize the graphs and sketch graphs of the basic functions

$$f(x) = x^n, \text{ where } n = 1 \text{ to } 3;$$

$$f(x) = ax^2 + bx + c;$$

$$f(x) = \sqrt{x};$$

$$f(x) = |x|;$$

$$f(x) = \frac{a}{x};$$

$$f(x) = a^x; \text{ and}$$

$$f(x) = kx + b$$

b. Apply functions from these families to problem situations.

c. Use concepts such as domain, range, zeros, intercepts, and maximum and minimum values.

d. Use the concepts of average rate of change (table of values) and increasing and decreasing over intervals, and use these characteristics to compare

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functions.

**5** Students express relationships *recursively* and use *iterative* methods to *solve* problems.

- a. Express the  $(n+1)^{\text{st}}$  term in terms of the  $n^{\text{th}}$  term and describe relationships in terms of a starting point and rule followed to transform one term to the next.
- b. Use technology to perform repeated calculations to develop solutions to real life problems involving linear, exponential, and other patterns of change.

## SCIENCE AND TECHNOLOGY

Science and technology provide people with the knowledge and tools to understand and address many of the challenges of a rapidly changing world. Students must be provided with opportunities to access, understand, and evaluate current information and tools related to science and technology if they are to be ready to live in a 21<sup>st</sup> century global society.

The study of science and technology includes both processes and bodies of knowledge. Scientific processes are the ways scientists investigate and communicate about the natural world. The scientific body of knowledge includes concepts, principles, facts, laws, and theories about the way the world around us works. Technology includes the technological design process and the body of knowledge related to the study of tools and the effect of technology on society.

Science and technology merge in the pursuit of knowledge and solutions to problems that require the application of scientific understanding and product design. Solving technological problems demands scientific knowledge while modern technologies make it possible to discover new scientific knowledge. In a world shaped by science and technology, it is important for students to learn how science and technology connect with the demands of society and the knowledge of all content areas. It is equally important that students are provided with learning experiences that integrate tools, knowledge, and processes of science and technology.

The Science and Technology Standards outline the essential understandings of these disciplines. Standard A describes four themes that serve as a broad scaffold for understanding and organizing student understanding of the content and processes of science and technology. Standard B describes the processes of scientific inquiry and technological design. As a complement to the expectations of inquiry and design outlined in Standard B, Standard C describes the enterprises of science and technology and the connection to society. Standards D and E have performance indicators that encompass the subject matter conventionally referred to as life, physical, earth, and space science. It is essential that classroom instruction integrate the processes and ideas of Standards A, B, and C with the knowledge of Standards D and E, rather than teach them separately. Instruction should support students in asking questions and making inquiries to help them, understand and solve problems that require the integration of knowledge and processes in authentic contexts.

**Unifying Themes** - The proposed revised standards begin with a focus on four themes of science and technology: systems, models, and constancy and change and scale. These themes provide teachers and students with a scaffold on which to organize the details of the standards. National standards documents identify these themes as critical knowledge for students in the 21<sup>st</sup> century.

**The Skills of Scientific Inquiry and Technological Design Process** - The Science and Technology Standards define both the student skills of scientific inquiry and the student skills of technological design. The inclusion of scientific inquiry, the development of a coherent section on technological design and the inclusion of a standard on scientific and technological enterprise highlight the importance of developing student understanding of the unique characteristics of and relationships between science and technology. The scientific and technological enterprise standard outlines key understandings about the relationships among science, technology and society and underscores the role of citizens in the decision-making process related to science and technology.

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**OUTLINE OF SCIENCE AND TECHNOLOGY STANDARDS AND PERFORMANCE INDICATOR LABELS****A. Unifying Themes**

1. Systems
2. Models
3. Constancy and Change
4. Scale

**B. The Skills and Traits of Scientific Inquiry and Technological Design**

1. Skills and Traits of Scientific Inquiry
2. Skills and Traits of Technological Design

**C. The Scientific and Technological Enterprise**

1. Understandings of Inquiry
2. Understandings about Science and Technology
3. Science, Technology, and Society
4. History and Nature of Science

**D. The Physical Setting**

1. Universe and Solar System
2. Earth
3. Matter and Energy
4. Force and Motion

**E. The Living Environment**

1. Biodiversity
2. Ecosystems
3. Cells
4. Heredity and Reproduction
5. Evolution

A. **Unifying Themes:** Students apply the principles of *systems*, *models*, constancy and change, and scale in science and technology.

### A1 Systems

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students recognize that parts work together, and make up whole man-made and natural objects.</p> <p>a. Explain that most man-made and natural objects are made of parts.</p> <p>b. Explain that when put together, parts can do things they could not do separately.</p>	<p>Students explain interactions between parts that make up whole man-made and natural things.</p> <p>a. Give examples that show how individual parts of organisms, ecosystems, or man-made structures can influence one another.</p> <p>b. Explain ways that things including organisms, ecosystems, or man-made structures may not work as well (or at all) if a part is missing, broken, worn out, mismatched, or misconnected.</p>	<p>Students describe and apply principles of <i>systems</i> in man-made things, natural things, and processes.</p> <p>a. Explain how individual parts working together in a <i>system</i> (including organisms, Earth systems, solar systems, or man-made structures) can do more than each part individually.</p> <p>b. Explain how the output of one part of a <i>system</i>, including waste products from manufacturing or organisms, can become the input of another part of a <i>system</i>.</p> <p>c. Describe how <i>systems</i> are nested and that <i>systems</i> may be thought of as containing subsystems (as well as being a subsystem of a larger <i>system</i>) and apply the understanding to analyze <i>systems</i>.</p>	<p>Students apply an understanding of <i>systems</i> to explain and analyze man-made and natural phenomena.</p> <p>a. Analyze a <i>system</i> using the principles of boundaries, subsystems, inputs, outputs, feedback, or the <i>system's</i> relation to other <i>systems</i> and design solutions to a <i>system</i> problem.</p> <p>b. Explain and provide examples that illustrate how it may not always be possible to predict the impact of changing some part of a man-made or natural <i>system</i>.</p>

## A2 Models

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify <i>models</i> and the objects they represent to learn about their features.</p> <p>a. Describe ways in which toys and pictures are like the real things they model.</p> <p>b. Use a <i>model</i> as a tool to describe the motion of objects or the features of plants and animals.</p>	<p>Students use <i>models</i> to represent objects, processes, and events from the physical setting, the living environment, and the technological world.</p> <p>a. Represent the features of a real object, event, or process using <i>models</i> including geometric figures, number sequences, graphs, diagrams, sketches, maps, or three-dimensional figures and note ways in which those representations do (and do not) match features of the originals.</p>	<p>Students use <i>models</i> to examine a variety of real-world phenomena from the physical setting, the living environment, and the technological world and compare advantages and disadvantages of various <i>models</i>.</p> <p>a. Compare different types of <i>models</i> that can be used to represent the same thing (including <i>models</i> of chemical reactions, motion, or cells) in order to match the purpose and complexity of a model to its use.</p> <p>b. Propose changes to <i>models</i> and explain how those changes may better reflect the real thing.</p>	<p>Students evaluate the effectiveness of a <i>model</i> by comparing its predictions to actual observations from the physical setting, the living environment, and the technological world.</p>

## A3 Constancy and Change

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students observe that in the physical setting, the living environment, and the technological world some things change over time and some things stay the same.</p>	<p>Students identify and represent basic patterns of change in the physical setting, the living environment, and the technological world.</p> <p>a. Recognize patterns of change</p>	<p>Students describe how patterns of change vary in physical, biological, and technological <i>systems</i>.</p> <p>a. Describe <i>systems</i> that are changing including ecosystems, Earth <i>systems</i>, and technologies.</p>	<p>Students identify and analyze examples of constancy and change that result from varying types and rates of change in physical, biological, and technological <i>systems</i> with and without <i>counterbalances</i>.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
a. Describe the size, weight, color, or movement of things over varying lengths of time and note qualities that change or remain the same.	including steady, repetitive, irregular, or apparently unpredictable change. b. Make tables or graphs to represent changes.	b. Give examples of <i>systems</i> including ecosystems, Earth systems, and technologies that appear to be unchanging (even though things may be changing within the <i>system</i> ) and identify any feedback mechanisms that may be modifying the changes. c. Describe rates of change and cyclic patterns using appropriate grade-level mathematics.	

## A4 Scale

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<b>Students observe differences in scale.</b> a. Compare significantly different sizes, weights, ages, and speeds of objects.	<b>Students use mathematics to describe scale for man-made and natural things.</b> a. Measure things to compare sizes, speeds, times, distances, and weights. b. Use fractions and multiples to make comparisons of scale.	<b>Students use scale to describe objects, phenomena, or processes related to Earth, space, matter, and mechanical and living <i>systems</i>.</b> a. Describe how some things change or work differently at different scales. b. Use proportions, averages, and ranges to describe small and large extremes of scale.	<b>Students apply understanding of scale to explain phenomena in physical, biological, and technological <i>systems</i>.</b> a. Describe how large changes of scale may change how physical and biological <i>systems</i> work and provide examples. b. Mathematically represent large magnitudes of scale.

- B. The Skills and Traits of Scientific Inquiry and Technological Design:** Students plan, conduct, analyze data from and communicate results of in-depth scientific investigations; and they use a systematic process, tools, equipment, and a variety of materials to create a technological design and produce a solution or product to meet a specified need.

### B1 Skills and Traits of Scientific Inquiry

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students conduct and communicate results of simple investigations.</p> <p>a. Ask questions and make observations about objects, organisms, and events in the environment.</p> <p>b. Safely conduct simple investigations to answer questions.</p> <p>c. Use simple instruments with basic units of measurement to gather data and extend the senses.</p> <p>d. Know what constitutes evidence that can be used to construct a reasonable explanation.</p> <p>e. Use writing, speaking, and drawing to communicate investigations and explanations.</p>	<p>Students plan, conduct, analyze data from, and communicate results of investigations, including <i>fair tests</i>.</p> <p>a. Pose investigable questions and seek answers from reliable sources of scientific information and from their own investigations.</p> <p>b. Plan and safely conduct investigations including simple experiments that involve a <i>fair test</i>.</p> <p>c. Use simple equipment, tools, and appropriate metric units of measurement to gather data and extend the senses.</p> <p>d. Use data to construct and support a reasonable explanation.</p> <p>e. Communicate scientific procedures and explanations.</p>	<p>Students plan, conduct, analyze data from, and communicate results of investigations, including simple experiments.</p> <p>a. Identify questions that can be answered through scientific investigations.</p> <p>b. Design and safely conduct scientific investigations including experiments with controlled variables.</p> <p>c. Use appropriate tools, metric units, and techniques to gather, analyze, and interpret data.</p> <p>d. Use mathematics to gather, organize, and present data and structure convincing explanations.</p> <p>e. Use logic, critical reasoning and evidence to develop descriptions, explanations, predictions, and <i>models</i>.</p> <p>f. Communicate, critique, and analyze their own scientific work and the work of other students.</p>	<p>Students methodically plan, conduct, analyze data from, and communicate results of in-depth scientific investigations, including experiments guided by a testable hypothesis.</p> <p>a. Identify questions, concepts, and testable hypotheses that guide scientific investigations.</p> <p>b. Design and safely conduct methodical scientific investigations, including experiments with controls.</p> <p>c. Use statistics to summarize, describe, analyze, and interpret results.</p> <p>d. Formulate and revise scientific investigations and <i>models</i> using logic and evidence.</p> <p>e. Use a variety of tools and technologies to improve investigations and communications.</p> <p>f. Recognize and analyze alternative explanations and <i>models</i> using</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			scientific criteria. g. Communicate and defend scientific ideas.

## B2 Skills and Traits of Technological Design

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students use a simple design process and basic tools and materials to solve a problem or create a product.</p> <p>a. Describe a design problem in their own words.</p> <p>b. Propose a way to build something or cause something to work better.</p> <p>c. Use suitable tools, materials, safe techniques, and measurements to implement a proposed solution to a design problem.</p> <p>d. Judge how well a product or design solved a problem.</p> <p>e. Present a design or solution to a problem using oral, written, or pictorial means of communication.</p>	<p>Students use a design process, simple tools, and a variety of materials to solve a problem or create a product, recognizing the constraints that need to be considered.</p> <p>a. Identify and explain a simple design problem and a solution related to the problem.</p> <p>b. Propose a solution to a design problem that recognizes constraints including cost, materials, time, space, or safety.</p> <p>c. Use appropriate tools, materials, safe techniques, and quantitative measurements to implement a proposed solution to a design problem.</p> <p>d. Balance simple constraints in carrying out a proposed solution to a design problem.</p> <p>e. Evaluate their own design results,</p>	<p>Students use a systematic process, tools, equipment, and a variety of materials to design and produce a solution or product to meet a specified need, using established criteria.</p> <p>a. Identify appropriate problems for technological design.</p> <p>b. Design a solution or product.</p> <p>c. Communicate a proposed design using drawings and simple <i>models</i>.</p> <p>d. Implement a proposed design.</p> <p>e. Evaluate a completed design or product.</p> <p>f. Suggest improvements for their own and others' designs and try out proposed modifications.</p> <p>g. Explain the design process including the stages of problem identification, solution design, implementation, and evaluation.</p>	<p>Students use a systematic process, tools and techniques, and a variety of materials to design and produce a solution or product that meets new needs or improves existing designs.</p> <p>a. Identify new problems or a current design in need of improvement.</p> <p>b. Generate alternative design solutions.</p> <p>c. Select the design that best meets established criteria.</p> <p>d. Use <i>models</i> and simulations as prototypes in the design planning process.</p> <p>e. Implement the proposed design solution.</p> <p>f. Evaluate the solution to a design problem and the consequences of that solution.</p> <p>g. Present the problem, design process, and solution to a design</p>

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	<p>as well as those of others, using established criteria.</p> <p>f. Modify designs based on results of evaluations.</p> <p>g. Present the design problem, process, and design or solution using oral, written, and/or pictorial means of communication.</p>		<p>problem including models, diagrams, and demonstrations.</p>

C. **The Scientific and Technological Enterprise:** Students understand the history and nature of scientific knowledge and technology, the processes of inquiry and technological design, and the impacts science and technology have on society and the environment.

#### C1 Understandings of Inquiry

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe the use of questions and accurate communication in scientists' work.</p> <p>a. Describe how scientific investigations involve asking and answering a question.</p> <p>b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them.</p>	<p>Students describe how scientific investigations result in explanations that are communicated to other scientists.</p> <p>a. Describe how scientists answer questions by developing explanations based on observations, evidence, and knowledge of the natural world.</p> <p>b. Describe how scientists make their explanations public.</p>	<p>Students describe how scientists use varied and systematic approaches to investigations that may lead to further investigations.</p> <p>a. Explain how the type of question informs the type of investigation.</p> <p>b. Explain why it is important to identify and control variables and replicate trials in experiments.</p> <p>c. Describe how scientists' analyses of findings can lead to new investigations.</p>	<p>Students describe key aspects of scientific investigations: that they are guided by <i>scientific principles</i> and knowledge, that they are performed to test ideas, and that they are communicated and defended publicly.</p> <p>a. Describe how hypotheses and past and present knowledge guide and influence scientific investigations.</p> <p>b. Describe how scientists defend</p>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			their evidence and explanations using logical arguments and verifiable results.

## C2 Understandings About Science and Technology

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students recognize that people have always engaged in science and technology and that there is a difference between the natural and designed worlds.</p> <p>a. Recognize that people have always had problems and invented tools and ways of doing things to solve problems.</p> <p>b. Distinguish between objects that occur in nature and objects that are man-made.</p>	<p>Students describe why people use science and technology and how scientists and engineers work.</p> <p>a. Describe how scientists seek to answer questions and explain the natural world.</p> <p>b. Describe how engineers seek solutions to problems through the design and production of products.</p>	<p>Students understand and compare the similarities and differences between scientific inquiry and technological design.</p> <p>a. Compare the process of scientific inquiry to the process of technological design.</p> <p>b. Explain how constraints and consequences impact scientific inquiry and technological design.</p>	<p>Students explain how the relationship between scientific inquiry and technological design influences the advancement of ideas, products, and systems.</p> <p>a. Provide an example that shows how science advances with the introduction of new technologies and how solving technological problems often impacts new scientific knowledge.</p> <p>b. Provide examples of how creativity, imagination, and a good knowledge base are required to advance scientific ideas and technological design.</p> <p>c. Provide examples that illustrate how technological solutions to problems sometimes lead to new problems or new fields of inquiry.</p>

## C3 Science, Technology, and Society

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences that describe influences of science and technology on their own lives.</p>	<p><b>Students identify and describe the influences of science and technology on people and the environment.</b></p> <ol style="list-style-type: none"> <li>Explain how scientific and technological information can help people make safe and healthy decisions.</li> <li>Give examples of changes in the environment caused by natural or man-made influences.</li> <li>Explain that natural resources are limited, and that reusing, recycling, and reducing materials and using renewable resources is important.</li> </ol>	<p><b>Students identify and describe the role of science and technology in addressing personal and societal challenges.</b></p> <ol style="list-style-type: none"> <li>Describe how science and technology can help address societal challenges including population, natural hazards, sustainability, personal health and safety, and environmental quality.</li> <li>Identify personal choices that can either positively or negatively impact society including population, ecosystem sustainability, personal health, and environmental quality.</li> <li>Identify factors that influence the development and use of science and technology.</li> </ol>	<p><b>Students describe the role of science and technology in creating and solving contemporary issues and challenges.</b></p> <ol style="list-style-type: none"> <li>Explain how science and technology influence the <i>carrying capacity</i> and sustainability of the planet.</li> <li>Explain how ethical, societal, political, economic, and cultural factors influence personal health, safety, and the quality of the environment.</li> <li>Explain how ethical, societal, political, economic, religious, and cultural factors influence the development and use of science and technology.</li> </ol>

## C4 History and Nature of Science

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences that</p>	<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences that</p>	<p><b>Students describe historical examples that illustrate how science advances knowledge through the scientists involved and through the ways scientists think</b></p>	<p><b>Students describe the human dimensions and traditions of science, the nature of scientific knowledge, and historical episodes in science that impacted science</b></p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
describe how people use science in their lives.	describe how science helps people understand the natural world.	<p><b>about their work and the work of others.</b></p> <ul style="list-style-type: none"> <li>a. Describe how women and men of various backgrounds, working in teams or alone and communicating about their ideas extensively with others, engage in science, engineering, and related fields.</li> <li>b. Describe a breakthrough from the history of science that contributes to our current understanding of science.</li> <li>c. Describe and provide examples that illustrate that science is a human endeavor that generates explanations based on verifiable evidence that are subject to change when new evidence does not match existing explanations.</li> </ul>	<p><b>and society.</b></p> <ul style="list-style-type: none"> <li>a. Describe the ethical traditions in science including peer review, truthful reporting, and making results public.</li> <li>b. Select and describe one of the major episodes in the history of science including how the scientific knowledge changed over time and any important effects on science and society.</li> <li>c. Give examples that show how societal, cultural, and personal beliefs and ways of viewing the world can bias scientists.</li> <li>d. Provide examples of criteria that distinguish scientific explanations from pseudoscientific ones.</li> </ul>

**D. The Physical Setting:** Students understand the universal nature of matter, energy, force, and motion and identify how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe.

### D1 Universe and Solar System

#### Performance Indicators & Descriptors

Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe the movement of objects across the sky, as seen from Earth.</p> <p>a. Describe how the sun and moon seem to move across the sky.</p> <p>b. Describe the changes in the appearance of the moon from day to day.</p>	<p>Students describe the positions and apparent motions of different objects in and beyond our solar system and how these objects can be viewed from Earth.</p> <p>a. Show the locations of the sun, Earth, moon, and planets and their orbits.</p> <p>b. Observe and report on observations that the sun appears to move across the sky in the same way every day, but its path changes slowly over the seasons.</p> <p>c. Recognize that the sun is a star and is similar to other stars in the universe.</p>	<p>Students explain the movements and describe the location, composition, and characteristics of our solar system and universe, including planets, the sun, and galaxies.</p> <p>a. Describe the different kinds of objects in the solar system including planets, sun, moons, asteroids, and comets.</p> <p>b. Explain the motions that cause days, years, phases of the moon, and eclipses.</p> <p>c. Describe the location of our solar system in its galaxy and explain that other galaxies exist and that they include stars and planets.</p>	<p>Students explain the physical formation and changing nature of our universe and solar system, and how our past and present knowledge of the universe and solar system developed.</p> <p>a. Explain why the unit of light years can be used to describe distances to objects in the universe and use light years to describe distances.</p> <p>b. Explain the role of gravity in forming and maintaining planets, stars, and the solar system.</p> <p>c. Outline the age, origin, and process of formation of the universe as currently understood by science.</p> <p>d. Describe the major events that have led to our current understanding of the universe and the current technologies used to further our understanding.</p>

**D2 Earth****Performance Indicators & Descriptors**

Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe Earth's weather and surface materials and the different ways they change.</p> <p>a. Explain that the sun warms the air, water, and land.</p> <p>b. Describe the way in which weather changes over months.</p> <p>c. Describe what happens to water left in an open container as compared to water left in a closed container.</p>	<p>Students describe the properties of Earth's surface materials, the processes that change them, and cycles that affect the Earth.</p> <p>a. Explain the effects of the rotation of Earth on the day/night cycle, and how that cycle affects local temperature.</p> <p>b. Describe the various forms water takes in the air and how that relates to weather.</p> <p>c. Explain how wind, waves, water, and ice reshape the surface of Earth.</p> <p>d. Describe the kinds of materials that form rocks and soil.</p> <p>e. Recognize that the sun is the source of Earth's surface heat and light energy.</p> <p>f. Explain how the substance called air surrounds things, takes up space, and its movement can be felt as wind.</p>	<p>Students describe the various cycles, physical and biological forces and processes, position in space, energy transformations, and human actions that affect the short-term and long-term changes to the Earth.</p> <p>a. Explain how the tilt of Earth's rotational axis relative to the plane of its yearly orbit around the sun affects the day length and sunlight intensity to cause seasons.</p> <p>b. Describe Earth Systems - biosphere, atmosphere, hydrosphere and lithosphere - and cycles and interactions within them (including water moving among and between them, rocks forming and transforming, and weather formation).</p> <p>c. Give several reasons why the climate is different in different regions of the Earth.</p> <p>d. Describe significant Earth resources and how their limited supply affects how they are used.</p> <p>e. Describe the effect of gravity on objects on Earth.</p> <p>f. Give examples of abrupt changes</p>	<p>Students describe and analyze the biological, physical, energy, and human influences that shape and alter Earth Systems.</p> <p>a. Describe and analyze the effect of solar radiation, ocean currents, and atmospheric conditions on the Earth's surface and the habitability of Earth.</p> <p>b. Describe Earth's internal energy sources and their role in plate tectonics.</p> <p>c. Describe and analyze the effects of biological and geophysical influences on the origin and changing nature of Earth Systems.</p> <p>d. Describe and analyze the effects of human influences on Earth Systems.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		and slow changes in Earth Systems.	

### D3 Matter and Energy

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students use observable characteristics to describe objects and materials and changes to physical properties of materials.</p> <p>a. Describe objects in terms of what they are made of and their physical properties.</p> <p>b. Describe changes in properties of materials when mixed, heated, frozen, or cut.</p>	<p>Students describe properties of objects and materials before and after they undergo a change or interaction.</p> <p>a. Describe how the weight of an object compares to the sum of the weight of its parts.</p> <p>b. Illustrate how many different substances can be made from a small number of basic ingredients.</p> <p>c. Describe properties of original materials, and the new material(s) formed, to demonstrate that a change has occurred.</p> <p>d. Describe what happens to the temperatures of objects when a warmer object is near a cooler object.</p> <p>e. Describe how the heating and cooling of water and other materials can change the properties of the materials.</p> <p>f. Explain that the properties of a</p>	<p>Students describe physical and chemical properties of matter, interactions and changes in matter, and transfer of energy through matter.</p> <p>a. Describe that all matter is made up of atoms and distinguish between/among elements, atoms, and molecules.</p> <p>b. Describe how physical characteristics of elements and types of reactions they undergo have been used to create the Periodic Table.</p> <p>c. Describe the difference between physical and chemical change.</p> <p>d. Explain the relationship of the motion of atoms and molecules to the states of matter for gases, liquids, and solids.</p> <p>e. Explain how atoms are packed together in arrangements that compose all substances including</p>	<p>Students describe the structure, behavior, and interactions of matter at the atomic level and the relationship between matter and energy.</p> <p>a. Describe the structure of atoms in terms of neutrons, protons, and electrons and the role of the atomic structure in determining chemical properties.</p> <p>b. Describe how the number and arrangement of atoms in a molecule determine a molecule's properties, including the types of bonds it makes with other molecules and its mass, and apply this to predictions about chemical reactions.</p> <p>c. Explain the essential roles of carbon and water in life processes.</p> <p>d. Describe how light is emitted and absorbed by atoms' changing</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	<p>material may change but the total amount of material remains the same.</p> <p>g. Explain that materials can be composed of parts too small to be seen without magnification.</p>	<p>elements, compounds, mixtures, and solutions.</p> <p>f. Explain and apply the understanding that substances have characteristic properties, including density, boiling point, and solubility and these properties are not dependent on the amount of matter present.</p> <p>g. Use the idea of atoms to explain the conservation of matter.</p> <p>h. Describe several different types of energy forms including heat energy, chemical energy, and mechanical energy.</p> <p>i. Use examples of energy transformations from one form to another to explain that energy cannot be created or destroyed.</p> <p>j. Describe how <i>heat</i> is transferred from one object to another by conduction, convection, and/or radiation.</p> <p>k. Describe the properties of solar radiation and its interaction with objects on Earth.</p>	<p>energy levels, and how the results can be used to identify a substance.</p> <p>e. Describe factors that affect the rate of chemical reactions (including concentration, pressure, temperature, and the presence of molecules that encourage interaction with other molecules).</p> <p>f. Apply an understanding of the factors that affect the rate of chemical reaction to predictions about the rate of chemical reactions.</p> <p>g. Describe nuclear reactions, including fusion and fission, and the energy they release.</p> <p>h. Describe radioactive decay and half-life.</p> <p>i. Explain the relationship between kinetic and potential energy and apply the knowledge to solve problems.</p> <p>j. Describe how in energy transformations the total amount of energy remains the same, but because of inefficiencies (<i>heat</i>, sound, and vibration) useful energy is often lost through radiation or conduction.</p> <p>k. Apply an understanding of energy</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			transformations to solve problems. I. Describe the relationship among <i>heat, temperature</i> , and pressure in terms of the actions of atoms, molecules, and ions.

**D4 Force and Motion**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe how objects move in different ways.</p> <p>a. Describe different ways things move and what it takes to start objects moving, keep objects moving, or stop objects.</p> <p>b. Give examples of things that make sound by vibrating.</p>	<p>Students summarize how various forces affect the motion of objects.</p> <p>a. Predict the effect of a given force on the motion of an object.</p> <p>b. Describe how fast things move by how long it takes them to go a certain distance.</p> <p>c. Describe the path of an object.</p> <p>d. Give examples of how gravity, magnets, and electrically charged materials push and pull objects.</p>	<p>Students describe the force of gravity, the motion of objects, the properties of waves, and the wavelike property of energy in light waves.</p> <p>a. Describe the similarities and differences in the motion of sound vibrations, earthquakes, and light waves.</p> <p>b. Explain the relationship among visible light, the electromagnetic spectrum, and sight.</p> <p>c. Describe and apply an understanding of how the gravitational force between any two objects would change if their mass or the distance between them changed.</p> <p>d. Describe and apply an understanding of how electric</p>	<p>Students understand that the laws of force and motion are the same across the universe.</p> <p>a. Describe the contribution of Newton to our understanding of force and motion, and give examples of and apply Newton's three laws of motion and his theory of gravitation.</p> <p>b. Explain and apply the ideas of relative motion and frame of reference.</p> <p>c. Describe the relationship between electric and magnetic fields and forces, and give examples of how this relationship is used in modern technologies.</p> <p>d. Describe and apply characteristics of waves including wavelength, frequency, and amplitude.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		<p>currents and magnets can exert force on each other.</p> <p>e. Describe and apply an understanding of the effects of multiple forces on an object, and how unbalanced forces will cause changes in the speed or direction.</p>	<p>e. Describe and apply an understanding of how waves interact with other waves and with materials including reflection, refraction, and absorption.</p> <p>f. Describe kinetic energy (the energy of motion), potential energy (dependent on relative position), and energy contained by a field (including electromagnetic waves) and apply these understandings to energy problems.</p>

**E. The Living Environment:** Students understand that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Students understand similarities and differences between humans and other organisms and the interconnections of these interdependent webs.

**E1 Biodiversity**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals.</p> <p>a. Describe similarities and differences in the way plants and</p>	<p>Students compare living things based on their behaviors, external features, and environmental needs.</p> <p>a. Describe how living things can be sorted in many ways, depending on which features or behaviors are</p>	<p>Students differentiate among organisms based on biological characteristics and identify patterns of similarity.</p> <p>a. Compare physical characteristics that differentiate organisms into</p>	<p>Students describe and analyze the evidence for relatedness among and within diverse populations of organisms and the importance of biodiversity.</p> <p>a. Explain how the variation in</p>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>animals look and the things that they do.</p> <p>b. Describe some features of plants and animals that help them live in different environments.</p> <p>c. Describe how organisms change during their lifetime.</p>	<p>used to sort them, and apply this understanding to sort living things.</p> <p>b. Describe the changes in external features and behaviors of an organism during its life cycle.</p>	<p>groups (including plants that use sunlight to make their own food, animals that consume energy-rich food, and organisms that cannot easily be classified as either).</p> <p>b. Explain how biologists use internal and external anatomical features to determine relatedness among organisms and to form the basis for classification <i>systems</i>.</p> <p>c. Explain ways to determine whether organisms are the same species.</p> <p>d. Describe how external and internal structures of animals and plants contribute to the variety of ways organisms are able to find food and reproduce.</p>	<p>structure and behavior of a population of organisms may influence the likelihood that some members of the species will have adaptations that allow them to survive in a changing environment.</p> <p>b. Describe the role of DNA sequences in determining the degree of kinship among organisms and the identification of species.</p> <p>c. Analyze the relatedness among organisms using structural and molecular evidence.</p> <p>d. Analyze the effects of changes in biodiversity and predict possible consequences.</p>

**E2 Ecosystems**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand how plants and animals depend on each other and the environment in which they live.</p> <p>a. Explain that animals use plants and other animals for food, shelter, and nesting.</p>	<p>Students describe ways organisms depend upon, interact within, and change the living and non-living environment as well as ways the environment affects organisms.</p> <p>a. Explain how changes in an organism's habitat can</p>	<p>Students examine how the characteristics of the physical, non-living (abiotic) environment, the types and behaviors of living (biotic) organisms, and the flow of matter and energy affect organisms and the ecosystem of which they are part.</p>	<p>Students describe and analyze the interactions, cycles, and factors that affect short-term and long-term ecosystem stability and change.</p> <p>a. Explain why ecosystems can be reasonably stable over hundreds</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
b. Compare different animals and plants that live in different environments of the world.	<p>influence its survival.</p> <p>b. Describe that organisms all over the Earth are living, dying, and decaying and new organisms are being produced by the old ones.</p> <p>c. Describe some of the ways in which organisms depend on one another, including animals carrying pollen and dispersing seeds.</p> <p>d. Explain how the food of most animals can be traced back to plants and how animals use food for energy and repair.</p> <p>e. Explain how organisms can affect the environment in different ways.</p>	<p>a. List various kinds of resources within different biomes for which organisms compete.</p> <p>b. Describe ways in which two types of organisms may interact (including competition, predator/prey, producer/consumer/decomposer, parasitism, and mutualism) and describe the positive and negative consequences of such interactions.</p> <p>c. Describe the source and flow of energy in the two major food webs, terrestrial and marine.</p> <p>d. Describe how matter and energy change from one form to another in living things and in the physical environment.</p> <p>e. Explain that the total amount of matter in the environment stays the same even as its form and location change.</p>	<p>or thousands of years, even though populations may fluctuate.</p> <p>b. Describe dynamic equilibrium in ecosystems and factors that can, in the long run, lead to change in the normal pattern of cyclic fluctuations and apply that knowledge to actual situations.</p> <p>c. Explain the concept of <i>carrying capacity</i> and list factors that determine the amount of life that any environment can support.</p> <p>d. Describe the critical role of photosynthesis and how energy and the chemical elements that make up molecules are transformed in ecosystems and obey basic conservation laws.</p>

## E3 Cells

## Performance Indicators &amp; Descriptors

Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive.</p> <p>a. List living things and their parts that are so small we can only see them using magnifiers.</p> <p>b. List the basic things that most organisms need to survive.</p> <p>c. Identify structures that help organisms do things to stay alive.</p>	<p>Students describe how living things are made up of one or more cells and the ways cells help organisms meet their basic needs.</p> <p>a. Give examples of organisms that consist of a single cell and organisms that are made of a collection of cells.</p> <p>b. Compare how needs of living things are met in single-celled and multi-celled organisms.</p>	<p>Students describe the hierarchy of organization and function in organisms, and the similarities and differences in structure, function, and needs among and within organisms.</p> <p>a. Describe the basic functions of organisms carried out within cells including the extracting of energy from food and the elimination of wastes.</p> <p>b. Explain the relationship among cells, tissues, organs, and organ <i>systems</i>, including how tissues and organs serve the needs of cells and organisms.</p> <p>c. Compare the structures, <i>systems</i>, and interactions that allow single-celled organisms and multi-celled plants and animals, including humans, to defend themselves, acquire and use energy, self-regulate, reproduce, and coordinate movement.</p> <p>d. Explain that all living things are composed of cells numbering from just one to millions.</p>	<p>Students describe structure and function of cells at the intracellular and molecular level including differentiation to form <i>systems</i>, interactions between cells and their environment, and the impact of cellular processes and changes on individuals.</p> <p>a. Describe the similarities and differences in the basic functions of cell membranes and of the specialized parts within cells that allow them to transport materials, capture and release energy, build proteins, dispose of waste, communicate, and move.</p> <p>b. Describe the relationship among DNA, protein molecules, and amino acids in carrying out the work of cells and how this is similar among all organisms.</p> <p>c. Describe the interactions that lead to cell growth and division (mitosis) and allow new cells to carry the same information as the original cell (meiosis).</p> <p>d. Describe ways in which cells can malfunction and put an organism at risk.</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			e. Describe the role of regulation and the processes that maintain an internal environment amidst changes in the external environment. f. Describe the process of metabolism that allows a few key biomolecules to provide cells with necessary materials to perform their functions. g. Describe how cells differentiate to form specialized <i>systems</i> for carrying out life functions.

**E4 Heredity and Reproduction**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students describe the cycle of birth, development, and death in different organisms and the ways in which organisms resemble their parents.  a. Give examples of how organisms are like their parents and not like them. b. Describe the life cycle of a plant or animal (including being born, growing, reproducing, and dying).	Students describe characteristics of organisms, and the reasons why organisms differ from or are similar to their parents.  a. Name some likenesses between children and parents that are inherited, and some that are not. b. Explain that in order for offspring to look like their parents, information related to inherited likenesses must be handed from	Students describe the general characteristics and mechanisms of reproduction and heredity in organisms, including humans, and ways in which organisms are affected by their genetic traits.  a. Explain that sexual reproduction includes fertilization that results in the inclusion of genetic information from each parent and determines the inherited traits that	Students examine the role of DNA in transferring traits from generation to generation, in differentiating cells, and in evolving new species.  a. Explain some of the effects of the sorting and recombination of genes in sexual reproduction. b. Describe genes as segments of DNA that contain instructions for the cells and include information

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	parents to offspring in a reliable manner.	are a part of every cell. b. Identify some of the risks to the healthy development of an embryo including mother's diet, lifestyle, and hygiene. c. Describe asexual reproduction as a process by which all genetic information comes from one parent and determines the inherited traits that are a part of every cell.	that leads to the differentiation of cells. c. Explain how the instructions in DNA that lead to cell differentiation result in varied cell functions in the organism and DNA. d. Describe the possible causes and effects of gene mutations.

**E5 Evolution**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students describe similarities and differences between present day and past organisms that helped the organisms live in their environment.</p> <p>a. Describe some organisms' features that allow the organisms to live in places others cannot.                      b. Explain how some kinds of organisms that once lived on Earth have completely disappeared, although they were similar to some that are alive today.</p>	<p>Students describe the fossil evidence and present explanations that help us understand why there are differences among and between present and past organisms.</p> <p>a. Explain advantages and disadvantages gained when some individuals of the same kind are different in their characteristics and behavior.                      b. Compare fossils to one another and to living organisms according to their similarities and</p>	<p>Students describe the evidence that evolution occurs over many generations, allowing species to acquire many of their unique characteristics or adaptations.</p> <p>a. Explain how the layers of sedimentary rock and their contained fossils provide evidence for the long history of Earth and for the long history of changing life.                      b. Describe how small differences between parents and offspring can lead to descendants who are very</p>	<p>Students describe the interactions between and among species, populations, and environments that lead to natural selection and evolution.</p> <p>a. Describe the premise of biological evolution, citing evidence from the fossil record and evidence based on the observation of similarities within the diversity of existing organisms.                      b. Describe the origins of life and how the concept of natural selection provides a mechanism</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	differences.	<p>different from their ancestors.</p> <p>c. Describe how variations in the behavior and traits of an offspring may permit some of them to survive a changing environment.</p> <p>d. Explain that new varieties of cultivated plants and domestic animals can be developed through genetic modification and describe the impacts of the new varieties of plants and animals.</p>	<p>for evolution that can be advantageous or disadvantageous to the next generation.</p> <p>c. Explain why some organisms may have characteristics that have no apparent survival or reproduction advantage.</p> <p>d. Relate structural and behavioral adaptations of an organism to its survival in the environment.</p>

## SOCIAL STUDIES

The primary purpose of social studies is to develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world (National Council of the Social Studies, 1994, p.3). The great architects of American public education, such as Thomas Jefferson, Horace Mann, and John Dewey, believed that every student must be well versed in our nation's history, the principles and practices which undergird citizenship, and the institutions that define our government. Understandings of commerce and geography were critical to their thinking as well. In essence, Jefferson, Mann, and Dewey viewed the study of social studies as critical to the mission of public schools. Indeed, they would applaud the inclusion of a "responsible and involved citizen" in the Guiding Principles, as well as social studies as one of eight content areas in the *Learning Results*.

A strong social studies education depends upon a clear understanding of its interrelated disciplines. Without knowledge of the geography and economics of earlier times, history offers only lists of people, events, and dates. Without knowledge of history, the institutions of American government and the dynamics of today's global economy are difficult to understand. Although social studies curricula vary in their breadth and depth, the Social Studies Standards reflect a focus on government, history, geography, and economics as the pillars of the content, with other disciplines within the social sciences deemed important, but not essential.

### Key Ideas in the Social Studies Standards:

**Understand** - The word "understand" appears in performance indicators throughout the Social Studies Standards. It refers to a variety of different levels on Bloom's taxonomy and was used intentionally to serve as an umbrella term for the cognitive demand that is described by the descriptors beneath the performance indicators. Look to the descriptors to define the level of cognitive demand for student performance.

**Various** -The Social Studies Standards refer to "various" peoples, nations, regions of the world, historical eras, and enduring themes. School administrative units should develop a local curriculum that assists students in gaining a coherent, broad perspective on a variety of peoples, nations, regions, historical eras, and enduring themes.

**Major Enduring Themes** - The term "major enduring themes" is used in several places in the Social Studies Standards. This term refers to general topics or issues that have been relevant over a long period of time. Using a consistent set of themes can serve as a framework within which other concepts, topics, and facts can be organized. It can also help students make connections between events within and across historical eras, and use history to help make informed decisions. Four different lists of major themes are provided, and schools may select from them based on their judgment of which list will best serve the learning of their students.

**Eras** – School Administrative Units (SAU) should develop a coherent curriculum that provides students with a balanced exposure to the major eras of United States and World History. The term "various eras" in this document refers to those eras that are selected by an SAU to build a cohesive, balanced understanding. The "eras", some of which overlap, include:

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<p><u>Eras in United States History</u></p> <ol style="list-style-type: none"> <li>1. The Americas to 1600</li> <li>2. The Colonial Era, 1500-1754</li> <li>3. The Revolutionary Era, 1754-1783</li> <li>4. Nation Building, 1783-1815</li> <li>5. The Expanding Nation, 1815-1850</li> <li>6. Civil War and Reconstruction, 1850-1877</li> <li>7. Development of the Industrial United States, 1865-1914</li> <li>8. The Progressive Era, 1890-1914</li> <li>9. Emergence of the United States as a World Power, 1890-1920</li> <li>10. The 1920's: Prosperity and Problems</li> <li>11. The Depression and The New Deal, 1929-1941</li> <li>12. World War II and Postwar United States, 1939-1961</li> <li>13. Contemporary United States, 1961-Present</li> </ol>	<p><u>Eras in World History</u></p> <ol style="list-style-type: none"> <li>1. The Emergence of Civilization to 1000 BC</li> <li>2. The Classical Civilizations of the Mediterranean Basin, India, and China, 1000 BC – 600 AD</li> <li>3. The Expansion and Interaction of Civilizations, 600 AD – 1450 AD</li> <li>4. The Early Modern World, 1450 – 1800</li> <li>5. The World in the Nineteenth Century</li> <li>6. The World in the Contemporary Era</li> </ol>
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**Maine Native Americans** - The phrase Maine Native Americans refers to the four Maine Native American tribes – the Penobscot, the Passamaquoddy, the Micmac, and the Maliseet.

**Unity and Diversity** - The Civics and Government, Economics, Geography, and History Standards all include performance indicators that address individual, cultural, international, and global connections. It will be up to the SAU to determine whether they use these performance indicators as an opportunity to integrate across the disciplines of the social studies or address them separately. In whatever manner the SAU addresses the instruction related to these performance indicators, it is critical that schools understand the importance of addressing the issues that both unify and divide. The following should help to provide clarity about the ideas related to unity and diversity that are contained in these performance indicators.

Unity and Diversity - The concepts of "unity" and "diversity" apply to the Civics and Government, Economics, Geography, and History Standards in Social Studies. Unity and diversity have long been valued in the United States as foundations of the unique character of our society. People throughout our nation's history have come from distinct and varied cultural, political, and religious backgrounds and perspectives. They have helped to shape and have participated in our national life based on the shared democratic values represented in our founding documents. We build common bonds of unity based on the democratic values, processes, and institutions that support our democratic way of life. At the same time we recognize the unique contributions, traditions, and perspectives of various groups and cultures. The concepts of unity and diversity also play a role in geography and economics. Diversity and unity influence the settlement and the economics of communities, regions, and nations. For example, in some cases a geographic factor such as a river serves as a resource that may bind a region, community, or a group of people of similar ethnic origins together. Economic systems or activities may unify a community or region; in other cases

economic influences may lead to economic diversity. The Social Studies Standards define the essential knowledge related to the concepts of unity and diversity under the broad umbrella of the performance indicators set forth at B3, C2, D2, and E2 which address Individual, Cultural, International, and Global Connections in civics and government, economics, geography, and history, respectively.

**Embedded Definition of the Social Studies Disciplines** - The first performance indicator of each of these disciplines includes a descriptor that provides a definition of each of these disciplines that develops across the grade spans. This series of descriptors provides a developmentally appropriate picture of what is learned in the discipline, and should help to ensure that students will be able to distinguish among the disciplines of the social studies and what the individuals engaged in those areas of study do, and to understand which discipline or combinations of disciplines best address specific topics and issues.

## OUTLINE OF SOCIAL STUDIES STANDARDS AND PERFORMANCE INDICATOR LABELS

### A. Applications of Social Studies Processes, Knowledge, and Skills

1. Researching and Developing Positions on Current Social Studies Issues
2. Making Decisions Using Social Studies Knowledge and Skills
3. Taking Action Using Social Studies Knowledge and Skills

### B. Civics and Government

1. Knowledge, Concepts, Themes, and Patterns of Civics/Government
2. Rights, Duties, Responsibilities, and Citizen Participation in Government
3. Individual, Cultural, International, and Global Connections in Civics and Government

### C. Economics

1. Economic Knowledge, Concepts, Themes, and Patterns
2. Individual, Cultural, International, and Global Connections in Economics

### D. Geography

1. Geographic Knowledge, Concepts, Themes, and Patterns
2. Individual, Cultural, International, and Global Connections in Geography

### E. History

1. Historical Knowledge, Concepts, Themes, and Patterns
2. Individual, Cultural, International, and Global Connections in History

- A. **Applications of Social Studies Processes, Knowledge, and Skills:** Students apply critical thinking, a research process, and *discipline-based processes* and knowledge from civics/government, economics, geography, and history in *authentic contexts*.

#### A1 Researching and Developing Positions on Current Social Studies Issues

##### Performance Indicators & Descriptors

Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify and investigate research questions related to social studies by locating, organizing, and sharing information.</p> <ol style="list-style-type: none"> <li>Identify questions related to social studies.</li> <li>Follow an established procedure for locating sources appropriate to reading level.</li> <li>Locate and collect information for a specific purpose from sources including maps, photographs, charts, and graphs.</li> <li>Organize findings.</li> <li>Share information gathered using oral and visual examples.</li> </ol>	<p>Students identify and answer research questions related to social studies, by locating and selecting information and presenting findings.</p> <ol style="list-style-type: none"> <li>Identify research questions related to social studies - seeking multiple perspectives from varied sources.</li> <li>Identify key words and concepts related to research questions, making adjustments when necessary.</li> <li>Locate and access information by using <i>text features</i>.</li> <li>Collect, evaluate, and organize for a specific purpose.</li> <li>Communicate findings from a variety of <i>print and non-print sources</i>.</li> <li>Describe plagiarism and demonstrate appropriate <i>citation</i>.</li> <li>Distinguish between facts and opinions/interpretations in sources.</li> </ol>	<p>Students research, select, and present a position on a <i>current social studies issue</i> by proposing and revising research questions, and locating and selecting information from multiple and varied sources.</p> <ol style="list-style-type: none"> <li>Propose and revise research questions related to a <i>current social studies issue</i>.</li> <li>Determine the nature and extent of information needed.</li> <li>Locate and access relevant information that includes multiple perspectives from varied sources.</li> <li>Demonstrate facility with note-taking, organizing information, and creating bibliographies.</li> <li>Distinguish between <i>primary and secondary sources</i>.</li> <li>Evaluate and verify the credibility of the information found in <i>print and non-print sources</i>.</li> <li>Use additional sources to resolve contradictory information.</li> <li>Summarize and interpret</li> </ol>	<p>Students research, develop, present, and defend positions on <i>current social studies issues</i> by developing and modifying research questions, and locating, selecting, evaluating, and synthesizing information from multiple and varied sources.</p> <ol style="list-style-type: none"> <li>Develop research questions related to a <i>current social studies issue</i>.</li> <li>Select and apply research methods that are appropriate for the purpose of the inquiry.</li> <li>Make judgments about conflicting findings from different sources, incorporating those from sources that are valid and refuting others.</li> <li>Synthesize information from varied sources, fieldwork, experiments, and/or interviews that reflect multiple perspectives.</li> <li>Utilize media relevant to audience and purpose that extend and support oral, written, and visual communication.</li> </ol>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		<p>information found in varied sources and/or from fieldwork, experiments, and interviews.</p> <p>i. Select a clear supportable position.</p> <p>j. Present a well-supported position, based on findings that integrate paraphrasing, quotations, and citations, to a <i>variety of audiences</i>.</p> <p>k. Use appropriate tools, methods, and sources from government, history, geography, economics, or related fields.</p> <p>l. Use information ethically and legally.</p>	<p>f. Create and present a coherent set of findings that integrate paraphrasing, quotations, and <i>citations</i>.</p> <p>g. Develop a clear well-supported position.</p> <p>h. Present and defend a well-supported position to a <i>variety of audiences</i> using a prescribed format.</p> <p>i. Select and use appropriate tools, methods, and sources from government, history, geography, economics, or related fields, including <i>ethical reasoning skills</i>.</p> <p>j. Access and present information ethically and legally.</p>

## A2 Making Decisions Using Social Studies Knowledge and Skills

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students make individual and collaborative decisions on matters related to social studies using research and discussion skills.</p> <p>a. Share ideas and listen to the ideas of others to reach individual and collaborative decisions and make plans.</p>	<p>Students make individual and collaborative decisions on matters related to social studies using relevant information and research and discussion skills.</p> <p>a. Contribute equitably to collaborative discussions, examine alternative ideas, and</p>	<p>Students make individual and collaborative decisions on matters related to social studies using relevant information and research and discussion skills.</p> <p>a. Develop individual and collaborative decisions/plans by contributing equitably to</p>	<p>Students make individual and collaborative decisions on matters related to social studies using relevant information and research, discussion, and <i>ethical reasoning skills</i>.</p> <p>a. Develop individual and collaborative decisions/plans by</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
b. Make a <i>real or simulated decision</i> related to the classroom, school, or beyond by applying appropriate and relevant social studies skills, including research skills, and relevant information.	work cooperatively to share ideas, and individually and collaboratively develop a decision or plan. b. Make a <i>real or simulated decision</i> related to the classroom, school, community, or civic organization by applying appropriate and relevant social studies knowledge and skills, including research skills, and other relevant information.	collaborative discussions, seeking and examining alternative ideas, considering the pros and cons, and thoughtfully and respectfully recognizing the contributions of other group members. b. Make a <i>real or simulated decision</i> related to the classroom, school, community, civic organization, Maine, or beyond by applying appropriate and relevant social studies knowledge and skills, including research skills, and other relevant information.	considering multiple points of view, weighing pros and cons, building on the ideas of others, and sharing information in an attempt to sway the opinions of others. b. Make a <i>real or simulated decision</i> related to the classroom, school, community, civic organization, Maine, United States, or international entity by applying appropriate and relevant social studies knowledge and skills, including research skills, <i>ethical reasoning skills</i> , and other relevant information.

### A3 Taking Action Using Social Studies Knowledge and Skills

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students select, plan, and participate in a <i>civic action</i> or <i>service-learning</i> project based on a classroom or school asset or need, and describe the project's potential civic contribution.	Students select, plan, and participate in a <i>civic action</i> or <i>service-learning</i> project based on a classroom, school or local community asset or need, and describe evidence of the project's effectiveness and civic contribution.	Students select, plan, and implement a <i>civic action</i> or <i>service-learning</i> project based on a school, ****community, or State asset or need, and analyze the project's effectiveness and civic contribution.	Students select, plan, and implement a <i>civic action</i> or <i>service-learning</i> project based on a community, school, State, national, or international asset or need, and evaluate the project's effectiveness and civic contribution.

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- B. Civics and Government:** Students draw on concepts from civics and government to understand political systems, power, authority, governance, civic ideals and practices, and the role of citizens in the community, Maine, the United States, and world.

**B1 Knowledge, Concepts, Themes, and Patterns of Civics/Government**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand key ideas and processes that characterize democratic government in the community and the United States.</p> <p>a. Describe and provide examples of <i>democratic ideals</i>.</p> <p>b. Recognize symbols, monuments, celebrations, and leaders of local, State, and national government.</p> <p>c. Identify community workers and volunteers and the roles they play in promoting the common good.</p>	<p>Students understand the basic ideals, purposes, principles, structures, and processes of democratic government in Maine and the United States.</p> <p>a. Explain that the study of government includes how governments are organized and how citizens participate.</p> <p>b. Explain and provide examples of <i>democratic ideals</i> and <i>constitutional principles</i> to include the rule of law, legitimate power, and common good.</p> <p>c. Explain and give examples of <i>governmental structures</i> including the legislative, executive, and judicial branches and the local, State, and national levels of government.</p> <p>d. Explain how leaders are elected and how laws are made and implemented.</p> <p>e. Explain that the <i>structures</i> and processes of government are described in documents, including</p>	<p>Students understand the basic ideals, purposes, principles, structures, and processes of constitutional government in Maine and the United States as well as examples of other forms of government in the world.</p> <p>a. Explain that the study of government includes the <i>structures</i> and functions of government and the political and civic activity of citizens.</p> <p>b. Analyze examples of <i>democratic ideals</i> and <i>constitutional principles</i> that include the rule of law, legitimate power, and common good.</p> <p>c. Describe the <i>structures</i> and processes of United States government and government of the State of Maine and how these are framed by the United States Constitution, the Maine Constitution, and other primary sources.</p> <p>d. Explain the concepts of federalism</p>	<p>Students understand the ideals, purposes, principles, structures, and processes of constitutional government in the United States and in the American political system, as well as examples of other forms of government and political systems in the world.</p> <p>a. Explain that the study of government includes the <i>structures</i>, functions, institutions, and forms of government and the relationship of government to citizens in the United States and in other regions of the world.</p> <p>b. Evaluate <i>current issues</i> by applying <i>democratic ideals</i> and <i>constitutional principles</i> of government in the United States, including checks and balances, federalism, and consent of the governed as put forth in <i>founding documents</i>.</p> <p>c. Explain how and why democratic institutions and interpretations of <i>democratic ideals</i> and</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	the Constitutions of Maine and the United States.	and checks and balances and the role these concepts play in the governments of the United States and Maine as framed by the United States Constitution, the Maine Constitution and other primary sources. e. Compare how laws are made in Maine and at the federal level in the United States. f. Compare the <i>structures</i> and processes of United States government with examples of other forms of government.	<i>constitutional principles</i> change over time. d. Describe the purpose, structures, and processes of the <i>American political system</i> . e. Compare the <i>American political system</i> with examples of political systems from other parts of the world.

## B2 Rights, Duties, Responsibilities, and Citizen Participation in Government

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students understand the concepts of <i>rights, duties, responsibilities,</i> and participation. a. Describe classroom <i>rights, duties, and responsibilities</i> including how students participate in some classroom decisions and are obliged to follow classroom rules. b. Explain the purpose of school/classroom rules and laws encountered in daily experiences	Students understand the basic <i>rights, duties, responsibilities,</i> and roles of citizens in a democracy. a. Identify the <i>rights, duties, and responsibilities</i> of citizens within the class, school, or community. b. Identify and describe the United States Constitution and Bill of Rights as documents that establish government and protect the rights of the individual United	Students understand constitutional and legal <i>rights, civic duties and responsibilities,</i> and roles of citizens in a constitutional democracy. a. Explain the constitutional and legal status of "citizen" and provide examples of <i>rights, duties, and responsibilities</i> of citizens. b. Describe how the powers of government are limited to protect	Students understand the constitutional and legal <i>rights,</i> the civic <i>duties and responsibilities,</i> and roles of citizens in a constitutional democracy and the role of citizens living under other forms of government in the world. a. Explain the relationship between constitutional and legal <i>rights,</i> and civic <i>duties and responsibilities</i> in a constitutional democracy.

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
to promote the common good and the peaceful resolution of conflict.	<p>States citizen.</p> <p>c. Provide examples of how people influence government and work for the common good including voting, writing to legislators, performing community service, and engaging in civil disobedience.</p>	<p>individual rights and minority rights as described in the United States Constitution and the Bill of Rights.</p> <p>c. Analyze examples of the protection of rights in court cases or from current events.</p> <p>d. Analyze how people influence government and work for the common good including voting, writing to legislators, performing community service, and engaging in civil disobedience.</p>	<p>b. Evaluate the relationship between the government and the individual as evident in the United States Constitution, the Bill of Rights, and landmark court cases.</p> <p>c. Analyze the <i>constitutional principles</i> and the roles of the citizen and the government in major laws or cases.</p> <p>d. Compare the <i>rights, duties, and responsibilities</i> of United States citizens with those of citizens from other nations.</p> <p>e. Evaluate how people influence government and work for the common good including voting, writing to legislators, performing community service, and engaging in civil disobedience.</p>

**B3 Individual, Cultural, International, and Global Connections in Civics and Government**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students understand civic aspects of classroom traditions and decisions, and the traditions of various cultures, including Maine Native Americans.	Students understand civic aspects of unity and diversity in the daily life of various cultures in the United States and the world, including Maine Native Americans.	Students understand political and civic aspects of unity and diversity in Maine, the United States, and various world cultures including Maine Native Americans.	Students understand political and civic aspects of unity and diversity in Maine, the United States, and the world, including Maine Native Americans.
a. Identify and compare similar and	a. Identify examples of unity and	a. Explain basic constitutional,	a. Analyze the constitutional,

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>differing interests and opinions students have related to classroom traditions and decisions.</p> <p>b. Compare traditions that are similar across the nation and traditions that differ in various cultural groups including Maine Native Americans.</p>	<p>diversity in the United States that relate to how laws protect individuals or groups to support the common good.</p> <p>b. Describe civic beliefs and activities in the daily life of diverse cultures, including Maine Native Americans and various cultures in the United States and the world.</p>	<p>political, and civic aspects of historical and/or <i>current issues</i> that involve unity and diversity in Maine, the United States, and other nations.</p> <p>b. Describe the <i>political structures</i> and civic responsibilities within diverse cultures, including Maine Native Americans, various <i>historical and recent immigrant groups</i> in the United States, and various cultures in the world.</p>	<p>political, and civic aspects of historical and/or <i>current issues</i> that involve unity and diversity in Maine, the United States, and other nations.</p> <p>b. Analyze the <i>political structures</i>, political power, and political perspectives of diverse cultures, including those of Maine and other Native Americans, various <i>historical and recent immigrant groups</i> in Maine and the United States, and those of various world cultures.</p>

C. **Economics:** Students draw on concepts and processes from economics to understand issues of *personal finance* and issues of production, distribution, and consumption in the community, Maine, the United States, and world.

C1 Economic Knowledge, Concepts, Themes, and Patterns

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand the nature of economics as well as key foundation ideas.</p> <p>a. Describe economics as how people make choices about how to use <i>scarce resources</i> to meet</p>	<p>Students understand personal economics and the basis of the economies of the community, Maine, the United States, and various regions of the world.</p> <p>a. Explain that economics includes</p>	<p>Students understand the principles and processes of personal economics, the influence of economics on personal life and business, and the <i>economic systems</i> of Maine, the United States, and various regions of the</p>	<p>Students understand the principles and processes of personal economics, the role of markets, the <i>economic system</i> of the United States, and other <i>economic systems</i> in the world, and how economics serves to inform</p>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>their wants and needs.</p> <p>b. Describe how money is earned and managed in order to buy <i>goods and services</i> and save for the future.</p>	<p>the study of scarcity which leads to economic choices about what <i>goods and services</i> will be produced, how they will be distributed, and for whom they will be produced.</p> <p>b. Explain how <i>entrepreneurs</i> and other producers of <i>goods and services</i> help satisfy the wants and needs of consumers in a <i>market economy</i>, locally and nationally, by using <i>natural, human, and capital resources</i>.</p> <p>c. Describe situations in which personal choices are related to the use of financial resources and financial institutions including the use of money, consumption, savings, investment, and banking.</p>	<p>world.</p> <p>a. Explain that economics is the study of how scarcity requires choices about what, how, for whom, and in what quantity to produce, and how scarcity relates to <i>market economy, entrepreneurship, supply and demand, and personal finance</i>.</p> <p>b. Describe the functions of <i>economic institutions</i> and <i>economic processes</i> including financial institutions, businesses, government, taxing, and trade.</p> <p>c. Identify factors that contribute to personal spending and savings decisions including work, wages, income, expenses, and budgets as they relate to the study of individual financial choices.</p>	<p>decisions in the present and future.</p> <p>a. Explain that the study of economics includes the analysis and description of production, distribution, and consumption of <i>goods and services</i> by business, and is the basis of individual <i>personal finance</i> management including saving and investing.</p> <p>b. Explain and analyze the role of financial institutions, the stock market, and government, including <i>fiscal, monetary, and trade policies</i>, in personal, business, and national economics.</p> <p>c. Evaluate different forms of money management, and the positive and negative impacts that credit can have on individual finances, using <i>economic reasoning</i>.</p> <p>d. Identify and explain various <i>economic indicators</i> and how they represent and influence economic activity.</p> <p>e. Analyze economic activities and policies in relationship to freedom, efficiency, equity, security, growth, and sustainability.</p> <p>f. Explain and apply the concepts of <i>specialization, economic</i></p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			<p><i>interdependence</i>, and <i>comparative advantage</i>.</p> <p>g. Solve problems using the theory of <i>supply and demand</i>.</p>

**C2 Individual, Cultural, International, and Global Connections in Economics**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand the influence of economics on individuals and groups in the United States and the world, including Maine Native Americans.</p> <p>a. Identify examples of how individuals, families, and communities, including Maine Native Americans, are influenced by <i>economic factors</i>.</p> <p>b. Describe the work and contribution of various groups to the economics of the local community in the past and present.</p>	<p>Students understand economic aspects of unity and diversity in the community, Maine, and regions of the United States and the world, including Maine Native American communities.</p> <p>a. Describe economic similarities and differences within the community, Maine, and the United States.</p> <p>b. Identify <i>economic processes</i>, <i>economic institutions</i>, and economic influences related to Maine Native Americans and various cultures in the United States and the world.</p>	<p>Students understand economic aspects of unity and diversity in Maine, the United States, and various world cultures, including Maine Native Americans.</p> <p>a. Describe factors in <i>economic development</i>, and how states, regions, and nations have worked together to promote economic unity and interdependence.</p> <p>b. Describe the economic aspects of diverse cultures, including Maine Native Americans, various historical and recent immigrant groups in the United States, and various cultures in the world.</p>	<p>Students understand economic aspects of unity and diversity in Maine, the United States, and the world, including Maine Native American communities.</p> <p>a. Analyze the role of regional, international, and global organizations that are engaged in <i>economic development</i>.</p> <p>b. Compare a variety of <i>economic systems</i> and the <i>economic development</i> of Maine, the United States, and various regions of the world that are economically diverse.</p> <p>c. Analyze wealth, poverty, resource distribution, and other <i>economic factors</i> of diverse cultures, including Maine and other Native Americans, various historical and recent immigrant groups in Maine</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			and the United States, and various world cultures.

- D. **Geography:** Students draw on concepts and processes from geography to understand issues involving people, places, and environments in the community, Maine, the United States, and world.

#### D1 Geographic Knowledge, Concepts, Themes, and Patterns

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand the nature and basic ideas of geography.</p> <p>a. Explain that geography is the study of the Earth's surface and peoples.</p> <p>b. Create visual representations of the immediate neighborhood and community.</p> <p>c. Use basic maps and globes to identify local and distant <i>places</i> and <i>locations</i>, directions (including N, S, E, and W), and basic physical, environmental, and cultural features.</p>	<p>Students understand the geography of the community, Maine, the United States, and various regions of the world.</p> <p>a. Explain that geography includes the study of Earth's physical features including climate and the distribution of plant, animal, and human life.</p> <p>b. Create visual representations of the world, showing a basic understanding of the <i>geographic grid</i>, including the equator and prime meridian.</p> <p>c. Identify the Earth's major geographic features such as continents, oceans, major mountains, and rivers using a</p>	<p>Students understand the geography of the community, Maine, the United States, and various regions of the world and the geographic influences on life in the past, present, and future.</p> <p>a. Explain that geography includes the study of physical, environmental, and cultural features of the State, nation, and various regions of the world to identify consequences of geographic influences and make predictions.</p> <p>b. Use the <i>geographic grid</i> and a variety of <i>types of maps</i> to gather geographic information.</p> <p>c. Identify the major regions of the</p>	<p>Students understand the geography of the United States and various regions of the world and the effect of geographic influences on decisions about the present and future.</p> <p>a. Explain that geography includes the study of physical, environmental, and cultural features at the local, state, national, and global levels and helps people to better predict and evaluate consequences of geographic influences.</p> <p>b. Describe the major regions of the Earth and their major physical, environmental, and cultural features using a variety of</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	variety of <i>geographic tools</i> . d. Explain examples of changes in the Earth's physical features and their impact on communities and regions.	Earth and their major physical features and political boundaries using a variety of <i>geographic tools</i> . d. Describe the impact of change, including technological change, on the physical and cultural environment.	<i>geographic tools</i> . c. Analyze local, national, and global geographic data on physical, environmental, and cultural processes that shape and change places and regions. d. Evaluate the impact of change, including technological change, on the physical and cultural environment.

## D2 Individual, Cultural, International, and Global Connections in Geography

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students understand the influence of geography on individuals and groups in the United States and the world, including Maine Native Americans.  a. Identify the impacts of geographic features on individuals, families, and communities, including Maine Native Americans, in the United States and various other nations.	Students understand geographic aspects of unity and diversity in the community, Maine, and regions of the United States and the world, including Maine Native American communities.  a. Identify examples of how geographic features unify communities and regions as well as support diversity. b. Describe impacts of geographic features on the daily life of various cultures, including Maine Native Americans and other cultures in the United States and the world.	Students understand geographic aspects of unity and diversity in Maine, the United States, and various world cultures, including Maine Native Americans.  a. Explain geographic features that have impacted unity and diversity in Maine, the United States, and other nations. b. Describe the dynamic relationship between geographic features and various cultures, including the cultures of Maine Native Americans, various historical and recent immigrant groups in the	Students understand geographic aspects of unity and diversity in Maine, the United States, and the world, including Maine Native American communities.  a. Analyze geographic features that have impacted unity and diversity in the United States and other nations and describe their effects. b. Analyze the dynamic relationship between geographic features and various cultures, including the cultures of Maine and other Native Americans, various historical and recent immigrant groups in the

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		United States, and other cultures in the world.	United States, and other cultures in the world.

E. **History:** Students draw on concepts and processes from history to develop *historical* perspective and understand issues of continuity and change in the community, Maine, the United States, and world.

E1 Historical Knowledge, Concepts, Themes, and Patterns

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand the nature of history as well as key foundation ideas.</p> <p>a. Describe history as “stories” of the past.</p> <p>b. Identify a few key figures and events from personal history, and the history of the community, Maine, and the United States, especially those associated with historically-based traditions.</p> <p>c. Identify past, present, and future in stories, pictures, poems, songs, or videos.</p> <p>d. Apply terms such as “before” and</p>	<p>Students understand various major eras in the history of the community, Maine, and the United States.</p> <p>a. Explain that history includes the study of past human experience based on available evidence from a variety of sources.</p> <p>b. Identify various major <i>historical</i> eras, major enduring themes, turning points, events, consequences, persons, and timeframes, in the history of the community, Maine, and the United States.</p> <p>c. Trace and explain how the history of</p>	<p>Students understand major eras, major enduring themes, and <i>historic</i> influences in the history of Maine, the United States, and various regions of the world.</p> <p>a. Explain that history includes the study of past human experience based on available evidence from a variety of sources; and explain how history can help one better understand and make informed decisions about the present and future.</p> <p>b. Identify and analyze major <i>historical</i> eras, major enduring</p>	<p>Students understand major eras, major enduring themes, and <i>historic</i> influences in United States and world history, including the roots of democratic philosophy, ideals, and institutions in the world.</p> <p>a. Explain that history includes the study of the past based on the examination of a variety of <i>primary and secondary sources</i> and how history can help one better understand and make informed decisions about the present and future.</p> <p>b. Analyze and critique major</p>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>"after" in sequencing events.</p> <p>e. Create a brief <i>historical</i> account about family, the local community, or the nation by using artifacts, photographs, or stories of the past.</p>	<p>democratic principles is preserved in <i>historic symbols, monuments and traditions</i> important in the community, Maine, and the United States.</p>	<p>themes, turning points, events, consequences, and people in the history of Maine, the United States and various regions of the world.</p> <p>c. Trace and explain the history of <i>democratic ideals</i> and <i>constitutional principles</i> and their importance in the history of the United States and the world.</p> <p>d. Analyze interpretations of <i>historical</i> events that are based on different perspectives and evidence.</p>	<p><i>historical</i> eras, major enduring themes, turning points, events, consequences, and people in the history of the United States and world and the implications for the present and future.</p> <p>c. Trace and critique the roots and evolution of <i>democratic ideals</i> and <i>constitutional principles</i> in the history of the United States and the world using historical sources.</p> <p>d. Analyze and critique varying interpretations of <i>historic</i> people, issues, or events, and explain how evidence is used to support different interpretations.</p>

E2 Individual, Cultural, International, and Global Connections in History

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students understand <i>historical</i> aspects of the uniqueness and commonality of individuals and groups, including Maine Native Americans.</p> <p>a. Explain how individuals, families, and communities share both common and unique aspects of culture, values, and beliefs</p>	<p>Students understand <i>historical</i> aspects of unity and diversity in the community, Maine, and the United States, including Maine Native American communities.</p> <p>a. Describe examples in the history of the United States of diverse and shared values and traditions.</p> <p>b. Describe various cultural traditions</p>	<p>Students understand <i>historical</i> aspects of unity and diversity in Maine, the United States, and various world cultures, including Maine Native Americans.</p> <p>a. Explain how both unity and diversity have had important roles in the history of Maine, the United States, and other nations.</p>	<p>Students understand <i>historical</i> aspects of unity and diversity in the United States and the world, including Native American communities.</p> <p>a. Identify and critique issues characterized by unity and diversity in the history of the United States and other nations,</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>through stories, traditions, religion, celebrations, or the arts.</p> <p>b. Describe traditions of Maine Native Americans and various <i>historical and recent immigrant groups</i> and traditions common to all.</p>	<p>and contributions of Maine Native Americans and various <i>historical and recent immigrant groups</i> in the community, Maine, and the United States.</p>	<p>b. Identify and compare a variety of cultures through time, including comparisons of native and immigrant groups in the United States, and eastern and western societies in the world.</p> <p>c. Describe major turning points and events in the history of Maine Native Americans, various <i>historical and recent immigrant groups</i> in Maine, the United States, and other cultures in the world.</p>	<p>and describe their effects.</p> <p>b. Identify and analyze major turning points and events in the history of Native Americans and various <i>historical and recent immigrant groups</i> in the United States, and other cultures in the world.</p>

## VISUAL AND PERFORMING ARTS

The visual and performing arts are an essential part of every child's education. Engagement in the visual and performing arts deepens students' overall knowledge and skills, as well as their social and emotional development. Research shows that students involved in the visual and performing arts are more successful in school, more involved in their communities, and perform better on standardized tests.

The National Standards for Arts Education includes separate standards for dance, music, theatre, and visual arts. In 1997, the National Assessment of Educational Progress (NAEP) Arts assessment was developed with separate assessments in these disciplines. These four visual and performing arts disciplines are uniquely different from each other in literacy as well as creation and performance. Standards A and B of the Visual and Performing Arts Standards of the Maine *Learning Results* each include four separate strands (dance, music, theatre, and visual arts). In contrast, standards C, D, and E are representative of skills and knowledge in all four disciplines of the visual and performing arts. This format best represents both the unique and common aspects of the visual and performing arts. The decision about the breadth of the programming in the visual and performing arts resides with the School Administrative Units (SAU).

These Visual and Performing Arts Standards outline a comprehensive pathway to enable every high school graduate to exhibit proficiency in one or more of the visual and performing arts disciplines. The key to success is local commitment to the visual and performing arts. Staffing, scheduling, and resources vary from SAU to SAU. Research supports the implementation of a comprehensive visual and performing arts education curriculum to meet the learning needs of all students. Connecting the visual and performing arts with other content areas of the curriculum improves teaching and learning.

This document guides SAUs in developing comprehensive and sequential standards-based visual and performing arts curricula for student learning. The use of these standards may assist in the improvement of instruction generally, and impact student learning, not only in the visual and performing arts but in other content areas, as well.

### OUTLINE OF VISUAL AND PERFORMING ARTS STANDARDS AND PERFORMANCE INDICATOR LABELS

#### A. Disciplinary Literacy

##### Dance:

1. Terminology
2. Space
3. Time
4. Energy
5. Locomotor and Non-Locomotor Movement
6. Compositional Forms

**Music:**

1. Music Difficulty
2. Notation and Terminology
3. Listening and Describing

**Theatre:**

1. Terminology
2. Production

**Visual Arts:**

1. Artist's Purpose
2. Elements of Art and Principles of Design
3. Media, Tools, Techniques, and Processes

**B. Creation, Performance, and Expression****Dance:**

1. Communication
2. Sequencing
3. Solving Challenges
4. Technical Aspects

**Music:**

1. Style/Genre
2. Composition

**Theatre:**

1. Movement
2. Character
3. Improvisation

**Visual Arts:**

1. Media Skills
2. Composition Skills
3. Making Meaning
4. Exhibition

**C. Creative Problem Solving**

1. Application of Creative Process

**D. Aesthetics and Criticism**

## 1. Aesthetics and Criticism

## E. Visual and Performing Arts Connections

1. The Arts and History and World Cultures
2. The Arts and Other Disciplines
3. Goal-Setting
4. Impact of the Arts on Lifestyle and Career
5. Interpersonal Skills

- A. Disciplinary Literacy - Dance: Students show literacy in the discipline through understanding and demonstrating concepts, skills, terminology, and processes.

## A1 Terminology

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify <i>space, time, and energy</i> concepts.</p> <p>a. Identify elements of space: high/low, forward/backward, near/far, and personal space, and wide/narrow and stretched/curled/twisted shape(s).</p> <p>b. Identify elements of <i>time</i>: steady and fast/slow beat.</p> <p>c. Identify elements of energy: hard/soft, light/strong, and resting/moving.</p>	<p>Students identify and describe the dance concepts of <i>space, time, energy, and composition form</i>.</p> <p>a. Identify and describe elements of <i>space</i>: straight/curved/ zig-zag/ spiral pathways, and positive/negative space.</p> <p>b. Identify and describe elements of <i>time</i>: steady beat and tempo changes.</p> <p>c. Identify and describe sustained/abrupt <i>energy</i>.</p> <p>d. Identify and describe patterns of <i>composition form</i>.</p>	<p>Students identify and describe the dance terms of <i>time, composition, and style/tradition</i>.</p> <p>a. Identify and describe <i>time</i>: complex meters.</p> <p>b. Identify and describe <i>composition</i>: phrasing.</p> <p>c. Identify and describe <i>style/tradition</i>: specific dances students learn from different cultures and/or their own.</p>	<p>Students apply accumulated knowledge of dance composition, dynamics, and terminology to describe and perform dances with greater complexity and variation</p>

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## A2 Space

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students demonstrate <i>space</i> concepts including high/low, forward/backward, near/far, and personal space and wide/narrow, and stretched/curled/twisted shape(s).	Students use <i>space</i> concepts to solve movement challenges including straight/curved/zig-zag/spiral pathways and positive/negative space.	Students apply <i>space</i> concepts in a repeatable movement phrase.	Students apply <i>space</i> concepts in an original repeatable, choreographed piece.

## A3 Time

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students replicate tempo change using body movement.	Students identify and replicate a steady beat in varied tempos using body movement.	Students move to complex rhythm patterns and syncopation.	Students identify and move to rhythms of various <i>genres</i> .

## A4 Energy

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students recognize and demonstrate hard/soft, light/strong, and resting/moving movements to show differences in energy qualities.	Students recognize and demonstrate sustained and abrupt movements to show differences in energy qualities.	Students explain and incorporate bound/free, tension/relaxation, indirect/direct movements to show differences in energy qualities.	Students incorporate <i>energy qualities</i> into a choreographed piece as a solo, small group, or ensemble.

## A5 Locomotor and Non-Locomotor Movement

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and demonstrate <i>locomotor</i> and <i>non-locomotor/axial</i> skills.	Students demonstrate expressive combinations of <i>locomotor</i> and <i>non-locomotor/axial</i> skills.	Students combine and demonstrate the technical skills of <i>skeletal alignment</i> , strength, agility, and	Students integrate and demonstrate the technical skills of <i>skeletal alignment</i> , <i>body-part isolation</i> ,

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>a. Identify the difference between a <i>locomotor and non-locomotor/axial</i> skill.</p> <p>b. Demonstrate <i>locomotor</i> patterns using change in direction, level, and pathway.</p> <p>c. Demonstrate <i>non-locomotor/axial</i> skills.</p>	<p>a. Demonstrate combinations of <i>locomotor</i> patterns, with changes in direction, level, and path.</p> <p>b. Demonstrate a combination of <i>locomotor</i> and <i>non-locomotor/axial skills</i> into a pattern that may change direction, level, energy, or pathway.</p> <p>c. Demonstrate combinations of <i>non-locomotor/axial</i> skills.</p>	<p>coordination.</p>	<p>strength, flexibility, agility, and coordination.</p>

#### A6 Compositional Forms

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students replicate, with a partner, the dance <i>composition forms</i> of copying, mirroring, leading, and following.</p>	<p>Students replicate a <i>dance movement</i>.</p>	<p>Students replicate a <i>dance phrase</i>.</p>	<p>Students replicate dance <i>composition forms</i> and themes, including <i>narrative, canon, call and response, ab, aba, rondo, retrograde, palindrome, and theme and variation</i>.</p>

A. **Disciplinary Literacy – Music:** Students show literacy in the discipline by understanding and demonstrating concepts, skills, terminology, and processes.

### A1 Music Difficulty

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students accurately perform a short musical selection, both instrumentally and vocally, while modeling proper posture and <i>technique</i> , alone or with others.	Students accurately perform music in easy keys, <i>meters</i> , and rhythms with limited ranges, both instrumentally and vocally, while modeling proper posture and <i>technique</i> , alone or with others.	Students accurately perform music that includes changes of tempo, key, and <i>meter</i> in modest ranges with moderate technical demands, modeling proper posture and <i>technique</i> , alone or with others.	Students perform music <b>that</b> requires well-developed <i>technical skills</i> , attention to phrasing and interpretation, and the ability to perform various <i>meters</i> and rhythms in a variety of keys while modeling proper posture and <i>technique</i> , alone or with others.

### A2 Notation and Terminology

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and read musical notation, symbols, and terminology of <i>dynamics</i> .  a. Read whole and half notes in 4/4 <i>meter signatures</i> . b. Identify symbols and traditional terms referring to <i>dynamics</i> .	Students identify and read musical notation, symbols, and terminology of <i>dynamics</i> .  a. Read whole, half, dotted half, quarter, and eighth notes and rests in 2/4, 3/4, and 4/4 <i>meter signatures</i> . b. Identify symbols and traditional terms referring to <i>dynamics</i> , tempo, and <i>articulation</i> .	Students apply accumulated knowledge of musical notation, symbols, and terminology to a music performance.  a. Read whole, half, quarter, eighth, sixteenth, and dotted notes and rests in 2/4, 3/4, 4/4, 6/8, and 3/8 meter signatures. b. Read simple melodies in both the treble and bass clefs. c. Apply notation symbols for pitch, rhythm, <i>dynamics</i> , tempo, <i>articulation</i> , and expression.	Students apply accumulated knowledge of musical notation, symbols, and terminology to perform music with greater complexity and variation including sudden <i>dynamic</i> contrasts.

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## A3 Listening and Describing

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students listen to and identify elements of music including <i>meter</i> and simple <i>form</i> and attributes including loud/soft, fast/slow, high/low, and long/short beat and steady/strong beat.	Students listen to and describe simple examples of the elements of music including pitch, rhythm, tempo, <i>dynamics</i> , <i>form</i> , <i>timbre</i> , <i>meter</i> , phrases, style, and major/minor harmony.	Students listen to and compare elements of music, including pitch, rhythm, tempo, <i>dynamics</i> , <i>form</i> , <i>timbre</i> , texture, harmony, style, and <i>compound meter</i> .	Students listen to, analyze, and evaluate music using their understanding of pitch, rhythm, tempo, <i>dynamics</i> , <i>form</i> , <i>timbre</i> , texture, harmony, style and <i>compound meter</i> .

A. Disciplinary Literacy – Theatre: Students show literacy in the art discipline by understanding and demonstrating concepts, skills, terminology, and processes.

## A1 Terminology

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify the “who, what, where, when, and why” of a dramatic performance they have participated in or seen.	Students describe theatre terms including <i>stage directions</i> , rehearsal, plot, gesture, director, motivation, conflict, improvisation, and <i>blocking</i> .	Students identify and explain theatre terms and concepts including <i>stage business</i> , ad-libbing, conflict, action/reaction, focus, and <i>stage directions</i> .	Students identify and define the <i>parts of the stage</i> , and identify and describe the crisis, resolution, and theme of the play.

## A2 Production

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students select or make props, costumes, set pieces, and/or puppets, and practice using them appropriately.	Students select and make props, costumes, set pieces, and/or puppets, and present a rehearsed scene.	Students describe and participate in a performance from pre-show through <i>strike</i> .  a. Identify and explain the roles of production staff.	Students fulfill at least one technical role from pre-show through <i>strike</i> .  a. Apply technical knowledge and skills to collaboratively and safely

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		<ul style="list-style-type: none"> <li>b. Design and select props, costumes and stage pieces, and use them appropriately and safely.</li> <li>c. Build scenic elements or props to fit production design.</li> <li>d. Experiment with lighting, sound, and costume in scene development.</li> <li>e. Direct or stage-manage a scene.</li> <li>f. Describe basic technical needs for a theatre production, including lights, sound, props, makeup, and costumes.</li> </ul>	<ul style="list-style-type: none"> <li>create and use theatre props, costumes, makeup, and stage pieces.</li> <li>b. Direct or stage-manage a scene or full production.</li> <li>c. Develop specific light and sound cues and use them in scene development.</li> <li>d. Participate in the audition process.</li> </ul>

A. Disciplinary Literacy - Visual Arts: Students show literacy in the art discipline by understanding and demonstrating concepts, skills, terminology, and processes.

#### A1 Artist's Purpose

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students recognize a variety of purposes for making art, including telling a story, communicating emotion, or beautifying functional objects.	Students explain purposes for making art in different times and places, and the relationship to cultural traditions, personal expression, and communication of beliefs.	Students explain and compare different purposes of artists and their artwork, in the context of time and place.	Students research and explain how art and artists reflect and influence culture and periods of time.

## A2 Elements of Art and Principles of Design

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify features of <i>composition</i>.</p> <p>a. Identify <i>Elements of Art</i>: color, form, line, shape, space, texture, and value.</p> <p>b. Identify <i>Principles of Design</i> including pattern and balance.</p>	<p>Students describe features of <i>composition</i>.</p> <p>a. Describe <i>Elements of Art</i>: color, form, line, shape, space, texture, and value.</p> <p>b. Describe <i>Principles of Design</i> including balance, contrast, emphasis, movement, and pattern.</p>	<p>Students compare features of <i>composition</i> both within an art work and among art works.</p> <p>a. Compare <i>Elements of Art</i>: color, form, line, shape, space, texture, and value.</p> <p>b. Compare <i>Principles of Design</i> including balance, contrast, emphasis, movement, pattern, rhythm, and unity.</p>	<p>Students evaluate all the features of <i>composition</i>.</p> <p>a. Evaluate <i>Elements of Art</i>: color, form, line, shape, space, texture, and value.</p> <p>b. Evaluate <i>Principles of Design</i> including balance, contrast, emphasis, movement, pattern, rhythm, and unity.</p>

## A3 Media, Tools, Techniques, and Processes

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students name art <i>media</i> and associated <i>tools</i>, for multiple <i>art forms</i> and <i>genres</i>.</p>	<p>Students describe a variety of <i>media</i> and associated <i>tools</i>, <i>techniques</i>, and <i>processes</i>, for multiple <i>art forms</i> and <i>genres</i>.</p>	<p>Students explain the effects of <i>media</i> and their associated <i>tools</i>, <i>techniques</i>, and <i>processes</i>, using <i>elements</i>, <i>principles</i> and expressive qualities in <i>art forms</i> and <i>genres</i>.</p>	<p>Students compare the effects of <i>media</i> and their associated <i>tools</i>, <i>techniques</i>, and <i>processes</i>, using <i>elements</i>, <i>principles</i> and expressive qualities in <i>art forms</i> and <i>genres</i>.</p>

B. Creation, Performance, and Expression – Dance: Students create, perform, and express ideas through the art discipline.

## B1 Communication

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	Students use movement to express	Students use movement to express	Students create an original piece of

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Although no performance indicators are stated students are expected to have instructional experiences that help them to express themselves through movement.	a basic idea and share it with their peers.	and communicate a story, a piece of music, an artwork, or an emotion.	choreography using the elements of dance. a. Improvise new movements. b. Manipulate learned movements.

### B2 Sequencing

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students develop a short dance sequence with a beginning, middle, and end.	Students develop a <i>dance phrase</i> with a beginning, middle, and end, accurately repeating and varying it.	Students create and develop dance sequences. a. Create and develop dance sequences based on personal ideas or <i>concepts</i> from other sources. b. Reproduce a more complex or pre-existing choreographed movement sequence as a solo or in a small group.	Students create both solo and ensemble dance works accurately producing an original or pre-existing complex movement sequence with <i>rhythmic acuity</i> .

### B3 Solving Challenges

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students solve a variety of <i>movement challenges</i> alone or in a group.	Students solve <i>movement challenges</i> involving one or more movement <i>concepts</i> alone or with a partner.	Students use improvisation to discover and invent movement sequences and solve <i>movement challenges with one or more partners</i> .	Students solve increasingly complex <i>movement challenges</i> involving several dance concepts with one or more partners.

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## B4 Technical Aspects

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify possible props or costumes to enhance a short <i>dance phrase</i> .	Students select props or costumes to enhance a <i>dance phrase</i> and explain the choice.	Students identify and select light, costume, or sound changes to enhance a <i>dance phrase</i> .	Students include and explain costume, light, and sound changes in a piece of choreography.

B. Creation, Performance, and Expression – Music: Students create, perform, and express through the art discipline.

## B1 Style/Genre

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students create or perform short musical selections of various styles and <i>genres</i> accurately applying selected knowledge and skills of: proper posture and <i>technique</i> ; notation; symbols; and terminology of <i>dynamics</i> .	Students create or perform music of various styles and <i>genres</i> in easy keys, <i>meters</i> , and rhythms with limited ranges accurately applying the knowledge and skills of: proper posture and <i>technique</i> ; notation; symbols; and terminology of <i>dynamics</i> .	Students perform music of various styles and <i>genres</i> that includes changes of tempo, key, and <i>meter</i> in modest ranges with moderate technical demands accurately applying the accumulated knowledge and skills of: proper posture and <i>technique</i> ; musical notation; symbols; and terminology.	Students perform music of various styles and <i>genres</i> that requires well-developed <i>technical skills</i> , attention to phrasing and interpretation and various <i>meters</i> and rhythms in a variety of keys, accurately applying the accumulated knowledge and skills of: proper posture and <i>technique</i> ; musical notation; symbols; and terminology.

## B2 Composition

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students use knowledge and skills of standard and non-standard <i>notation</i> , symbols, and terminology of <i>dynamics</i> .	Students create their own <i>compositions</i> by applying the knowledge and skills of notation, symbols, and terminology of	Students compare musical ideas expressed in their own <i>compositions</i> or the <i>compositions</i> of others.	Students analyze and evaluate musical ideas expressed in their own <i>compositions</i> or the <i>compositions</i> of others.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	<i>dynamics.</i>		

B. Creation, Performance, and Expression - Theatre: Students create, perform, and express through the art discipline.

### B1 Movement

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students participate in skits, puppet shows, theatre games, and/or show and tell using movement skills.	Students demonstrate <i>blocking</i> in a play by carrying out their assigned stage movements.	Students apply gesture, movement, and <i>stage business</i> in the portrayal of a role.	Students refine gesture and <i>stage business</i> in the portrayal of a role.

### B2 Character

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students demonstrate a character by participating in skits, puppet shows, and/or theatre games.	Students demonstrate the ideas, moods, and/or feelings of a character and demonstrate proper posture and breathing techniques to project voice through the use of script and improvisation based on stories.	Students demonstrate development of a character's attitude and point of view by adjusting voice timing and tone/level and using <i>non-verbal techniques</i> .	Students demonstrate development of a character's attitude and point of view using voice timing, voice tone/level, and <i>physicality</i> to communicate ideas, moods, intentions, and/or feelings.

### B3 Improvisation

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students improvise through theatre games by using plot, setting, and characters.	Students improvise through theatre games by using voice, motivation, and <i>body part isolations</i> .	Students improvise through theatre games by using <i>blocking</i> , relationships, props, and movement.	Students improvise through theatre games or productions to address unforeseen circumstances.

**B. Creation, Performance, and Expression - Visual Arts:** Students create, express, and communicate through the art discipline.

**B1 Media Skills**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students use basic <i>media, tools</i> and <i>techniques</i> to create original art works.	Students use a variety of <i>media, tools, techniques,</i> and <i>processes</i> to create original art works.	Students choose suitable <i>media, tools, techniques,</i> and <i>processes</i> to create original art works.	Students choose multiple suitable <i>media, tools, techniques,</i> and <i>processes</i> to create a variety of original art works.

**B2 Composition Skills**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students use <i>Elements Of Art</i> And <i>Principles Of Design</i> to create original art works.	Students use <i>Elements of Art</i> and <i>Principles of Design</i> to create original art works including paintings, three-dimensional objects, drawings from imagination and real life, and a variety of other <i>media</i> and visual <i>art forms</i> .	Students use <i>Elements of Art</i> and <i>Principles of Design</i> to create original art works that demonstrate different <i>styles</i> in paintings, three-dimensional objects, drawings from imagination and real life, and a variety of other <i>media</i> and visual <i>art forms</i> .	Students use <i>Elements of Art</i> and <i>Principles of Design</i> to create original art works that demonstrate development of personal style in a variety of <i>media</i> and visual <i>art forms</i> .

**B3 Making Meaning**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students create art works that communicate ideas and feelings and demonstrate skill in the use of <i>media, tools, and techniques</i> .	Students create art works that communicate ideas, feelings, and meanings and demonstrate skill in the use of <i>media, tools, techniques,</i> and <i>processes</i> .	Students create art works that communicate an individual point of view. a. Demonstrate skills in the use of <i>media, tools, techniques,</i> and <i>processes</i> .	Students create a body of original art work. a. Demonstrate sophisticated use of <i>media, tools, techniques,</i> and <i>processes</i> . b. Demonstrate knowledge of visual

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		b. Demonstrate knowledge of visual art concepts. c. Communicate a variety of ideas, feelings, and meanings.	art concepts. c. Communicate a variety of ideas, feelings, and meanings.

**B4 Exhibition**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<b>No performance indicator.</b>  Although no performance indicators are stated, students may participate in the preparation of art for display and all students are expected to have instructional experiences that help them to understand how art is prepared for display and why different choices related to preparation may be made.	<b>Students help with the selection and preparation of art works for display in the classroom, school, or other community location.</b>	<b>Students select and prepare art works for display in the classroom, school, or other community location, and articulate an artistic justification for their selection.</b>	<b>Students select, prepare, and help with exhibiting their works in the classroom, school, or other community location, and articulate an artistic justification for their selection.</b>

C. **Creative Problem Solving:** Students approach artistic problem solving using multiple solutions and the creative process.

**C1 Application of Creative Process**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<b>Students identify and demonstrate <i>creative problem solving</i> skills.</b>	<b>Students describe and apply steps of <i>creative problem solving</i>.</b>	<b>Students describe and apply creative-thinking skills that are part of the <i>creative problem solving</i></b>	<b>Students apply and analyze <i>creative problem solving</i> and creative-thinking skills to improve or vary</b>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
a. Improvise to solve problems in the performing arts. b. Imagine and share possible solutions to apply to challenges in creating art.	a. Identify problem. b. Define problem. c. Generate a variety of solutions. d. Implement solution(s). e. Evaluate solution(s).	process. a. <i>Fluency</i> b. <i>Flexibility</i> c. <i>Elaboration</i> d. <i>Originality</i> e. <i>Analysis</i>	their own work and/or the work of others.

D. Aesthetics and Criticism: Students describe analyze, interpret, and evaluate art (dance, music, theatre, and visual arts).

#### D1 Aesthetics and Criticism

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students observe, listen to, describe and ask questions about <i>art forms</i> . a. Describe the <i>art form</i> by applying grade span appropriate arts <i>concepts</i> , terminology, skills, and processes as referenced in <u>Standard A: Disciplinary Literacy</u> . b. Ask questions about the <i>art form</i> to further understand how the <i>artist</i> created/performed the work of art. c. Recognize a variety of purposes for making/performing art works,	Students describe and compare <i>art forms</i> . a. Describe and compare <i>art forms</i> by applying grade span appropriate arts <i>concepts</i> , terminology, skills, and processes as referenced in <u>Standard A: Disciplinary Literacy</u> . b. Ask questions about an <i>art form</i> to further understand the concepts, skills, and processes used to create/perform the work of art. c. Explain purposes for making art in different times and places,	Students compare and analyze <i>art forms</i> . a. Compare and analyze <i>art forms</i> by applying grade span appropriate <i>concepts</i> , vocabulary, skills, and processes as referenced in <u>Standard A: Disciplinary Literacy</u> . b. Compare the quality and effectiveness of art works using multiple criteria from observations, <i>print and/or non-print resources</i> . c. Compare the effectiveness of selected media, techniques, and processes in communicating	Students analyze and evaluate <i>art forms</i> . a. Describe, analyze, interpret, and evaluate <i>art forms</i> by applying grade span appropriate arts <i>concepts</i> , vocabulary, skills, and processes as referenced in <u>Standard A: Disciplinary Literacy</u> . b. Analyze and evaluate varied interpretations of works of art using evidence from observations and a variety of <i>print and/or non-print sources</i> . c. Demonstrate an understanding of

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
including telling a story and communicating emotions and ideas.	including cultural traditions, personal expression, and communication of beliefs.	ideas. d. Explain and compare different purposes of artists and art work in the context of time and place.	the difference between a personal opinion and an informed judgment. d. Research and explain how art and artists reflect and shape their time and culture.

E. **Visual and Performing Arts Connections:** Students understand the relationship among the arts, history and world culture; and they make connections among the arts and to other disciplines, to goal-setting, and to interpersonal interaction.

#### E1 The Arts and History and World Cultures

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify family or community symbols and celebrations in the visual/performing arts from different world cultures.	Students explain that the visual/performing arts help people understand history and/or world cultures.	Students compare products of the visual/performing arts to understand history and/or world cultures.	Students analyze the characteristics and purposes of products of the visual/performing arts to understand history and/or world cultures.

#### E2 The Arts and Other Disciplines

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify connections between and among the arts and other disciplines.	Students describe characteristics shared between and among the arts and other disciplines.	Students explain skills and concepts that are similar across disciplines.	Students analyze skills and concepts that are similar across disciplines.

**E3 Goal-Setting**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify choices that lead to success in the arts.	Students identify and demonstrate choices that will lead to success in the arts including <i>time management</i> , interpersonal interactions, skill development, and goal-setting.	Students set goals related to <i>time management</i> , interpersonal interactions, or skill development that will lead to success in the arts.	Students make short-term and long-term goals based on rigorous criteria and related to <i>time management</i> , interpersonal interactions, or skill development that will lead to success in the arts.

**E4 Impact of the Arts on Lifestyle and Career**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify the arts in life experiences. a. Identify the activities and careers of a visual or performing <i>artist</i> . b. Describe <i>common arts activities</i> . c. Describe the way the arts can make people feel.	Students describe the contribution of the arts on lifestyle and career choices. a. Identify the various roles of, and requirements to become, <i>artists</i> . b. Describe the benefit of participation in the arts on a healthy lifestyle including the use of leisure time.	Students explain the impact of artistic and career choices on self, others, and the natural and <i>man-made environment</i> .	Students explain how their knowledge of the arts relates to <i>school-to-school</i> and <i>school-to-work</i> transitions and other career and life decisions including the recognition that the arts are a means of renewal and recreation.

**E5 Interpersonal Skills**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify positive interpersonal skills that impact the quality of their art and participation in the arts.	Students identify and demonstrate the positive interpersonal skills necessary to get along with others and participate in the arts.	Students demonstrate positive interpersonal skills and analyze how interpersonal skills affect participation in the arts.	Students demonstrate positive interpersonal skills and reflect on the impact of interpersonal skills on personal success in the arts.

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
a. Getting along with others			
b. Respecting differences	b. Respecting differences	b. Respecting differences	b. Respecting differences
c. Working as a team/ensemble			
d. Managing conflict	d. Managing conflict	d. Managing conflict	d. Managing conflict
e. Accepting/giving/using constructive feedback			
f. Accepting responsibility for personal behavior	f. Accepting responsibility for personal behavior	f. Accepting responsibility for personal behavior	f. Accepting responsibility for personal behavior.
g. Demonstrating ethical behavior			
h. Following established rules/etiquette for observing/listening to art	h. Following established rules/etiquette for observing/listening to art	h. Following established rules/etiquette for observing/listening to art	h. Following established rules/etiquette for observing/listening to art
i. Demonstrating safe behavior			

## WORLD LANGUAGES

Language and communication are at the heart of the human experience whether communication occurs face-to-face, in writing, or through the arts and media. Graduates of Maine's publicly supported schools must have the linguistic and cultural skills to communicate successfully in a pluralistic society at home and abroad. The need to understand and communicate with other peoples of the world is more urgent today because of the forces of globalization. All students are expected to develop the level of proficiency defined in the standards and performance indicators at the 9-Diploma grade span in at least one language other than English. To succeed, all students must study language and culture in an integrated fashion beginning in the early elementary grades and extending through their school experience. A PreK-Diploma structure in all schools is foundational to the State vision for world languages.

The major organizing principle in today's world language classrooms is communication. While knowledge of vocabulary and the linguistic system remain essential tools for communication, learning to use a second language in meaningful and appropriate ways is the ultimate goal of world language instruction. In any mode of communication, there are particular links between language usage and knowledge of the associated culture(s). In the study of classical languages such as Latin or ancient Greek, proficiency will emphasize the ability to understand the written language over oral communication and will recognize the linguistic and historical importance of the language and the people who spoke it.

**Differentiation and Commonality Among World Languages** – The World Languages Standards outline both common and unique descriptors for modern and classical languages. Distinctions between modern and classical languages are identified only where necessary to acknowledge significant differences in communication modes and resources. References in the performance indicators and descriptors of modern languages are inclusive of American Sign Language (ASL) except where otherwise noted.

**Multiple Entry Points** - Throughout the World Languages Standards, the sequence of performance indicators is based on a PreK-Diploma course of study of mainly cognate languages (languages that contain words from two languages that are similar in spelling and meaning or sound and meaning). Some students may elect to participate in the study of more than one world language. In these instances, it is important to recognize that the PreK-Diploma grade span represents a continuum of learning. Students who begin a language later in the Pre-K-Diploma sequence of study and students who study a non-cognate language may not be able to reach the highest level performance indicators (9-Diploma) without additional language experiences – instructional or immersion – or a heritage language background. Students beginning additional world languages at grade 9 or above should not be held accountable for performance indicators at this level. Rather, curriculum, instruction, and assessment will need to be aligned to the grade span expectations that reflect the students' level of proficiency and advance from that point to the standards and performance indicators defined in subsequent grade spans.

**Instruction and Support in the Target Language** - All performance indicators for modern languages, with the exception of one (A4), are to be accomplished in the target language (the non-English language being studied by the student). Students engaged in a sequential PreK-Diploma modern language program are expected to develop the knowledge and skills necessary to communicate basic understandings for all performance indicators using target language at a level appropriate to the grade span. Proficiency in the study of classical languages, such as Latin or ancient Greek, emphasizes the

ability to understand written language over oral communication although oral communication remains a component. Accordingly, performance indicators A2, A4, B1, B2, B3, C1, C2, and D1 may be accomplished in the target language or English.

**Level of Discourse** – Standard A outlines grade span proficiencies at grades PreK-2, 3-5, 6-8, and 9-Diploma for communication skills. The document assumes that as students learn the knowledge and skills outlined in Standards B, C, and D, they will do so by developing and using communication skills learned in Standard A, as appropriate to their grade span. By the end of the grade span, students should be able to demonstrate their proficiency of the standards and performance indicators related to Standards B, C, and D using communication skills learned in Standard A, as appropriate for the end of that grade span.

## OUTLINE OF WORLD LANGUAGES STANDARDS AND PERFORMANCE INDICATOR LABELS

### A. Communication

1. Interpersonal
2. Interpretive
3. Presentational
4. Language Comparisons

### B. Cultures

1. Practices and Perspectives
2. Products and Perspectives
3. Comparisons with Own Culture

### C. Connections

1. Knowledge of Other *Learning Results* Content Areas
2. Distinctive Viewpoints

### D. Communities

1. Communities

A. **Communication:** Students communicate in the target language.

## A1 Interpersonal

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students engage in simple interactions to provide and obtain information using single words or learned phrases.</p> <p><u>Modern and Classical</u></p> <p>a. Use <i>culturally-appropriate</i> and age-appropriate <i>courtesy expressions</i>.</p> <p>b. Participate in brief <i>guided exchanges</i> related to likes and dislikes.</p> <p>c. Make age-appropriate introductions of classmates, family members, and friends.</p> <p>d. Ask and answer simple learned questions.</p>	<p>Students engage in simple conversations to provide and obtain information using learned phrases and simple sentences.</p> <p><u>Modern and Classical</u></p> <p>a. Recognize and use <i>appropriate forms of address</i> and <i>courtesy expressions</i> in a variety of situations.</p> <p>b. Ask and answer simple questions regarding familiar activities.</p> <p>c. Give and respond to simple oral/signed directions and commands and make routine requests in the classroom.</p> <p><u>Modern only</u></p> <p>d. Participate in brief guided conversations related to needs, interests, likes, dislikes, and <i>states of being</i>.</p> <p>e. Express basic agreement and disagreement.</p>	<p>Students engage in simple conversations to provide and obtain information and to express feelings and emotions by creating simple sentences and/or strings of sentences. Students of modern languages use pronunciation and <i>intonation</i> patterns or use appropriate <i>non-manual markers</i> (ASL), which are comprehensible to speakers accustomed to interacting with language learners.</p> <p><u>Modern and Classical</u></p> <p>a. Ask and answer a variety of questions on familiar topics, orally or in sign language, and in writing.</p> <p><u>Modern only</u></p> <p>b. Participate in conversations on a variety of everyday topics to meet personal needs.</p> <p>c. Give and respond to directions and commands, orally or in sign language, and in writing.</p> <p><u>Classical only</u></p> <p>d. Exchange information in writing</p>	<p>Students express their own thoughts and opinions about familiar topics and elicit the thoughts and opinions of others by using strings of sentences and/or short paragraphs. Students of modern languages use pronunciation and <i>intonation</i> patterns or use appropriate <i>non-manual markers</i> (ASL), which would be comprehensible to a <i>native speaker</i> accustomed to interacting with language learners.</p> <p><u>Modern only</u></p> <p>a. Interact in a variety of social situations including formal and informal personal exchanges and/or phone inquiries.</p> <p>b. Provide and exchange detailed information on familiar topics, orally or in sign language, and in writing.</p> <p>c. Describe and explain <i>states of being</i>, orally or in sign language, and in writing.</p> <p>d. Express agreement and disagreement, orally or in sign</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		about familiar topics.	language, and in writing, supporting opinions with simple reasoning.  <u>Classical only</u> e. Exchange information in writing on identified topics.

**A2 Interpretive**

For classical languages only, the 6-8 and 9-Diploma indicators may be accomplished in the target language or English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students comprehend and respond to simple spoken/signed language in a classroom setting.</p> <p><u>Modern and Classical</u></p> <p>a. Respond to simple oral/signed directions, commands, and routine requests in the classroom.</p> <p>b. Identify people and objects based on oral/signed descriptions.</p>	<p>Students comprehend and respond to simple spoken/signed and written language in <i>familiar contexts</i>.</p> <p><u>Modern only</u></p> <p>a. Comprehend isolated words, phrases, and simple sentences in familiar print materials.</p> <p>b. Respond to simple written directions.</p> <p>c. Respond to oral/signed directions, commands, and routine requests.</p> <p>d. Identify people and objects based on oral/signed and written descriptions.</p> <p><u>Classical only</u></p>	<p>Students comprehend brief conversations, <i>narratives</i>, and recorded material in <i>familiar contexts</i>.</p> <p><u>Modern only</u></p> <p>a. Identify main ideas, topics, and details from simple oral/signed and written texts.</p> <p><u>Classical only</u></p> <p>b. Identify main ideas, topics, and details from simple written texts.</p>	<p>Students comprehend conversations, <i>narratives</i>, and recorded material in <i>familiar contexts</i> that are longer and/or more complex than those in the 6-8 grade span.</p> <p><u>Modern and Classical</u></p> <p>a. Identify main ideas, topics and specific information in a variety of <i>authentic</i> written/signed <i>materials</i>.</p> <p><u>Modern only</u></p> <p>b. Identify main ideas, topics and specific information in <i>authentic</i> films.</p> <p>c. Identify main ideas, topics and specific information in a variety of</p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	e. Identify people and objects based on written descriptions. f. Demonstrate comprehension of simple texts by identifying people and objects.		<i>authentic</i> oral/signed <i>materials</i> .  Classical only d. Interpret the author's use of <i>literary devices</i> evident in prose and poetry.

**A3 Presentational**

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students use memorized words or phrases and visuals in short oral/signed presentations.  <u>Modern and Classical</u> a. Provide simple descriptions of people, places, and objects.	Students use phrases and simple sentences in rehearsed oral /signed and written presentations on familiar topics.  <u>Modern and Classical</u> a. Write/sign familiar words and phrases, and short messages, descriptions or simple poems.  <u>Modern only</u> b. Provide simple oral/signed and written descriptions of people, places, and objects. c. Present simple short plays/skits and/or simple short written texts.  <u>Classical only</u> d. Read aloud from an <i>adapted text</i> .	Students use simple sentences and strings of simple sentences to produce short oral/signed and written presentations based on familiar topics and including a level of accuracy in form and pronunciation that could be understood by speakers accustomed to interacting with language learners.  <u>Modern only</u> a. Write/sign messages using a prescribed, <i>culturally-appropriate</i> format. b. Produce and present simple creative works orally or in sign language, and in writing. c. Convey personal preferences or information pertaining to everyday	Students express their own thoughts to describe and narrate in oral/signed and written presentations using strings of sentences and/or short paragraphs and with sufficient accuracy in form and pronunciation that could be understood by <i>native speakers</i> accustomed to interacting with language learners.  <u>Modern and Classical</u> a. Read <i>authentic passages</i> aloud with appropriate pronunciation, phrasing, and <i>intonation</i> .  <u>Modern only</u> b. Relate a story about a personal experience or event orally or in sign language. c. Paraphrase and/or summarize

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**Highlighted** = Maine Department of Education Regulation 131

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
		life orally or in sign language, and in writing.  <u>Classical only</u> d. Create written products based on a given topic. e. Read aloud from <i>adapted texts</i> with appropriate <i>intonation</i> and pronunciation.	texts orally or in sign language, and in writing using a <i>presentational format</i> . d. Write/sign brief narrative compositions and expository/informational compositions. e. Give oral/signed presentations on familiar subjects related to a culture(s) in which the <i>target language</i> is spoken.  <u>Classical only</u> f. Paraphrase and/or summarize texts orally or in writing in a <i>presentational format</i> using the <i>target language</i> or English.

**A4 Language Comparisons**

For both modern and classical languages, indicators may be accomplished in the target language or English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences related to similarities and differences between the target language and English.</p>	<p>Students recognize a variety of similarities and differences between the <i>target language</i> and English.</p> <p><u>Modern and Classical</u>                      a. Recognize <i>word borrowings</i> and <i>cognates</i> among languages.</p>	<p>Students compare the <i>target language</i> with English in order to better understand <i>language systems</i>.</p> <p><u>Modern and Classical</u>                      a. Compare basic grammatical structures and <i>syntax</i> between</p>	<p>Students use their understanding of the <i>nature of language</i> to enhance their communication in the <i>target language</i>.</p> <p><u>Modern and Classical</u>                      a. Compare a variety of grammatical structures and <i>syntax</i> between</p>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	b. Recognize differences in the <i>writing systems</i> among languages.* c. Recognize some <i>idiomatic expressions</i> of the <i>target language</i> .	languages. b. Compare <i>idiomatic expressions</i> between languages. c. Compare pronunciation systems between languages. * d. Recognize that there are regional and/or historical variations in spoken/signed language. e. Explain connections between languages through the identification of <i>cognates</i> .	languages. b. Identify examples of vocabulary, in both languages, that do not translate directly from one language to another. c. Use <i>idiomatic expressions</i> and/or proverbs in the <i>target language</i> . d. Identify examples of vocabulary (in English and the <i>target language</i> ) that convey different meanings in different <i>contexts</i> .

\* These descriptors are not appropriate for instruction in ASL.

B. Cultures: Students demonstrate an understanding of a culture(s) in which the target language is spoken.

B1 Practices and Perspectives

For classical languages only, indicators may be accomplished in the target language or English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students identify and imitate basic <i>culturally-appropriate practices</i> of a culture(s) in which the <i>target language</i> is spoken.  <u>Modern and Classical</u> a. Use <i>culturally-appropriate courtesy expressions</i> and	Students identify and demonstrate basic <i>culturally-appropriate practices</i> of daily life within a culture(s) in which the <i>target language</i> is spoken.  <u>Modern and Classical</u> a. Use <i>culturally-appropriate</i> polite	Students describe <i>practices of a culture(s)</i> and <i>perspectives of a culture(s)</i> in which the <i>target language</i> is spoken.  <u>Modern and Classical</u> a. Describe examples of common beliefs of a culture(s) in which the	Students identify and explain how <i>perspectives of a culture(s)</i> are related to cultural <i>practices of a culture(s)</i> in which the <i>target language</i> is spoken.  <u>Modern and Classical</u> a. Identify and explain the reason

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
demonstrate greeting and leave-taking. b. Recognize cultural differences including dress, mealtime practices, gestures, and/or celebrations.	requests and <i>courtesy expressions</i> , and demonstrate greeting and leave-taking behaviors in a variety of age-appropriate social situations. b. Recognize age-appropriate similarities and differences related to <i>practices of a culture(s)</i> in which the <i>target language</i> is spoken.	<i>target language</i> is spoken. b. Describe common attitudes of a culture(s) in which the <i>target language</i> is spoken. c. Describe common similarities and differences related to <i>practices of a culture(s)</i> in which the <i>target language</i> is spoken.	behind significant <i>practices of a culture(s)</i> in which the <i>target language</i> is spoken. b. Describe stereotypes associated with <i>perspectives of a culture(s)</i> in which the <i>target language</i> is spoken. c. Identify differences in <i>cultural practices</i> among peoples that speak the same language.

**B2 Products and Perspectives**

For classical languages only, indicators may be accomplished in the target language or English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.  Although no performance indicators are stated, students are expected to have instructional experiences related to <i>products of a culture(s)</i> in which the <i>target language</i> is spoken.	Students identify common <i>products of a culture(s)</i> in which the <i>target language</i> is spoken.	Students identify and explain the significance of objects used in daily life, works of art, or historical artifacts that reflect the <i>perspectives of a culture(s)</i> in which the <i>target language</i> is spoken.	Students explain how political structures, historical artifacts, literature, and/or visual and performing arts reflect the <i>perspectives of a culture(s)</i> in which the <i>target language</i> is spoken.

**B3 Comparisons with Own Culture**

For classical languages only, indicators may be accomplished in the target language or English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
No performance indicator.	Students compare some common <i>culturally-appropriate products and</i>	Students recognize and compare <i>perspectives</i> related to <i>products</i>	Students explain how <i>products, practices, and perspectives</i> of a

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Although no performance indicators are stated, students are expected to have instructional experiences related to comparison of the <i>target culture</i> with the culture in which the student lives.</p>	<p><i>practices</i> of daily life of a culture(s) in which the <i>target language</i> is spoken to the culture in which the student lives.</p> <p><u>Modern and Classical</u></p> <ol style="list-style-type: none"> <li>Compare daily activities of their own lives to those of individuals in a culture(s) in which the <i>target language</i> is spoken.</li> <li>Compare foods, celebrations, dress, and/or dwellings of a culture(s) in which the <i>target language</i> is spoken with those of the culture in which the student lives.</li> </ol>	<p><i>and practices</i> of a culture(s) in which the <i>target language</i> is spoken to the cultural perspectives of the culture in which the student lives.</p> <p><u>Modern and Classical</u></p> <ol style="list-style-type: none"> <li>Compare verbal and non-verbal communication in a culture(s) in which the <i>target language</i> is spoken to communication in the culture in which the student lives.</li> <li>Recognize contributions of a culture(s) in which the <i>target language</i> is spoken to life in the United States including foods, celebrations, dress, and/or architecture.</li> </ol>	<p>culture(s) in which the <i>target language</i> is spoken contribute to the culture in which the student lives.</p> <p><u>Modern and Classical</u></p> <ol style="list-style-type: none"> <li>Identify and compare influential figures from the two cultures.</li> <li>Explain the reasons for a variety of similarities and differences between the culture in which the student lives and the culture(s) in which the <i>target language</i> is spoken.</li> </ol> <p><u>Modern only</u></p> <ol style="list-style-type: none"> <li>Use the <i>target language</i> in a manner that would be considered appropriate by <i>native speakers</i> and explain what makes it appropriate communication.</li> </ol>

C. **Connections:** Students expand their knowledge by connecting their study of a world language(s) with other content areas.

C1 Knowledge of Other *Learning Results* Content Areas

For classical languages only, indicators may be accomplished in the target language or English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
<p>Students identify basic language connections to other <i>Learning Results</i> content areas.</p> <p><u>Modern and Classical</u></p> <p>a. Identify ways of counting. b. Identify common ways of greeting people.</p>	<p>Students identify connections between other <i>Learning Results</i> content areas and <i>the target language and</i> associated culture(s).</p> <p><u>Modern and Classical</u></p> <p>a. Identify common expressions and traditions. b. Identify examples of the visual/performing arts. c. Identify products important to the livelihood of the people. d. Identify the earth's major geographical features.</p>	<p>Students apply information acquired in other <i>Learning Results</i> content areas to further their knowledge and skills in the <i>target language</i>.</p> <p><u>Modern and Classical</u></p> <p>a. Use the <i>writing process</i> learned in English Language Arts when writing for the <i>target language</i> class.* b. Apply research skills to further knowledge in the <i>target language</i>. c. Apply knowledge from other <i>Learning Results</i> content areas including literature, social studies, science and technology, and/or the visual and performing arts to tasks in the world language classroom.</p>	<p>Students use the <i>target language</i> to enhance their knowledge of other <i>Learning Results</i> content areas.</p> <p><u>Modern and Classical</u></p> <p>a. Provide examples of grammatical knowledge acquired in the <i>target language</i> that are used to achieve a better understanding of grammatical structures in English. b. Provide examples of information gathered through <i>target language</i> resources that are applied in other <i>Learning Results</i> content areas.</p>

\* These descriptors are not appropriate for instruction in ASL.

## C2 Distinctive Viewpoints

For classical languages only, indicators may be accomplished in the target language or English.

## Performance Indicators &amp; Descriptors

Pre-K-2	3-5	6-8	9-Diploma
<p><b>No performance indicator.</b></p> <p>Although no performance indicators are stated, students are expected to have instructional experiences related to a variety of print and non-print materials created in a language other than English.</p>	<p>Students recognize some distinctive viewpoints available <b>only through sources from the <i>target language</i>.</b></p> <p><u>Modern and Classical</u></p> <p>a. Identify examples of simple <i>narrative</i> selections from a culture(s) in which the <i>target language</i> is spoken.</p> <p><u>Classical only</u></p> <p>b. Identify information about the Roman/Greek world by reading passages with culturally <i>authentic settings</i>.</p>	<p>Students locate <i>authentic</i> resources, available only through sources in the target language, and identify ideas about a culture(s) in which the <i>target language</i> is spoken.</p> <p><u>Modern and Classical</u></p> <p>a. Locate media or other <i>authentic sources</i> from the <i>target language</i> and a culture(s) in which the <i>target language</i> is spoken and identify a <i>perspective and/or practice of a culture(s)</i> different from the students' own viewpoints and/or behaviors.</p>	<p>Students locate <i>authentic</i> resources and describe ideas about the <i>target language</i> and associated culture(s) that are available only through sources in the <i>target language</i>.</p> <p><u>Modern and Classical</u></p> <p>a. Interpret short prose, poetry, or plays in the <i>target language</i> that reflect the culture(s) in which the <i>target language</i> is spoken and make connections to the viewpoints of the culture associated with the target language(s).</p> <p>b. Locate selected magazines, newspapers, <i>authentic entertainment media</i> and electronic media in the <i>target language</i> and use these media as the basis for describing the viewpoints of the culture associated with the target language(s).</p> <p>c. Locate selected magazines, newspapers, <i>authentic entertainment media</i> and electronic media in the <i>target</i></p>

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Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
			<i>language</i> and describe viewpoints of a culture(s) in which the <i>target language</i> is spoken.

D. Communities: Students encounter and use the target language both in and beyond the classroom for personal enjoyment and lifelong learning.

D1 Communities

For classical languages only, performance indicators may be accomplished in the target language or in English.

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
Students include family, friends, or peers in activities using the <i>target language</i> .	<p>Students demonstrate understanding and use of the <i>target language</i> and their knowledge of a culture(s) in which the <i>language</i> is spoken through community involvement.</p> <p><u>Modern and Classical</u></p> <ul style="list-style-type: none"> <li>a. Demonstrate use of oral/signed and/or written forms of the <i>target language</i> with family, friends, or peers.</li> <li>b. Participate in activities using the <i>target language</i> which can benefit the school or broader community.</li> <li>c. Ask questions and share knowledge about aspects of a culture(s) in which the <i>target</i></li> </ul>	<p>Students demonstrate an understanding and use their knowledge of the <i>target language</i> to communicate with <i>target language</i> speakers, obtain information on familiar topics, and gain understanding of another culture(s).</p> <p><u>Modern and Classical</u></p> <ul style="list-style-type: none"> <li>a. Participate in and summarize school/community events related to the <i>target language</i> or associated culture(s).</li> <li>b. Identify community and online resources that can be used to gain information about the <i>target language</i> or associated culture(s).</li> </ul>	<p>Students demonstrate an understanding and use their knowledge of the <i>target language</i> to communicate with <i>target language</i> speakers and to understand the importance of culture and language in the 21<sup>st</sup> century.</p> <p><u>Modern and Classical</u></p> <ul style="list-style-type: none"> <li>a. Interact with people, either in the community or online, who use the <i>target language</i> in their professions</li> <li>b. Independently access a variety of <i>target language</i> sources for one's own entertainment or enrichment.</li> <li>c. Explain how personal, educational, and career</li> </ul>

Performance Indicators & Descriptors			
Pre-K-2	3-5	6-8	9-Diploma
	<p><i>language</i> is spoken to demonstrate an interest in the <i>target language</i> and an associated culture(s).</p> <p>d. Access online resources or resources available in the community to understand aspects of a culture(s) in which the <i>target language</i> is spoken.</p>	<p>c. Communicate with students in the <i>target language</i>.</p> <p>d. Describe language skills and cultural insights gained through real or <i>virtual travel</i>.</p>	<p>opportunities are expanded and enhanced by knowledge of the <i>target language</i> and associated culture(s).</p> <p><u>Modern only</u></p> <p>d. Communicate with <i>target language</i> speakers using the <i>target language</i>.</p>