Mississippi
Extended Curriculum Frameworks

Middle School Version

Language Arts, Mathematics, & Science
for
Students with Significant Cognitive Disabilities

***Revised August 2012 by Mississippi Educators in collaboration with the Office of Student Assessment and Measured Progress**

Table of Contents

Introduction

The Mississippi Extended Curriculum Frameworks (MECF) Middle School Version includes curriculum content that students with significant cognitive disabilities in grades 6 through 8 are expected to access and learn during the course of their instructional programs. The primary purpose of this document is to share the prioritized academic content with teachers, family members, and other educational stakeholders, and to guide the development of high-quality alternate assessments that assess the knowledge and skills representative of these extended standards.

Teachers should use this document to plan instruction and collect student work samples (e.g., documented teacher observations, student work products, recorded media) that can be used to establish a baseline about what students know and can do at the beginning of the school year and to measure progress on the same skills and concepts on the final assessment later in the school year. These student work samples can then be used as part of the submission for the Mississippi Alternate Assessment of Extended Curriculum Frameworks (MAAECF).

Designed specifically for students with significant cognitive disabilities, the MAAECF is a portfolio assessment that is aligned with the Mississippi Extended Curriculum Frameworks for Language Arts (Reading and Writing), Mathematics, and Science. The assessment measures student performance based on alternate achievement standards.

The MAAECF portfolio is a collection of student work from throughout the school year. Teachers select appropriate objectives for assessing students. Students are initially assessed on these objectives through baseline activities developed by the teacher. The teacher then provides instruction on the selected objectives throughout the school year. The teacher assesses these same objectives through final activities that he or she has developed. Student work samples from both the baseline and final activities are submitted in the student's portfolio. This student work is utilized to determine the student's performance level and the level of complexity at which the student is working.

This document provides the curriculum frameworks that bring the prioritized grade-level content standards to life for language arts, mathematics, and science instruction. It is expected that teachers working with students with significant cognitive disabilities will incorporate instruction of all identified competencies at every grade level in the grade span. The alternate assessment tasks will be drawn from clusters and objectives most appropriate for specific individual students and their learning strengths and needs based upon the Data Collection Requirements document that outlines the allowable assessment objectives at each grade level. The learning objectives within each cluster were developed to provide a range of breadth and complexity, so that all students can access and demonstrate learning of each grade-level competency.

There is an overview of the competencies and clusters for each content area at the beginning of each section of this document:

- Language Arts (pages 4-7),
- Mathematics (pages 8-12), and
- Science (pages 13-16).

LANGUAGE ARTS
EXTENDED CURRICULUM FRAMEWORKS

Reading Strand: Students use reading skills and strategies to decode and interpret symbols, words, and larger blocks of text. Students demonstrate the ability to use reading to acquire new information, refine perspectives, respond to the needs and demands of society and the workplace, and provide for personal fulfillment.

Competency 1: **Use word recognition and vocabulary (word meaning) skills and strategies to communicate.**
- Cluster 1A. Concepts of Print
- Cluster 1B. Phonological Awareness
- Cluster 1C. Word Identification, Vocabulary, and Decoding Strategies

Competency 2: Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts.
- Cluster 2A. Using Text Features and Text Structures
- Cluster 2B. Reading Comprehension

Writing Strand: Students develop a working knowledge of language as well as grammatical structures, diction and usage, punctuation, spelling, layout, and presentation. Students develop the ability to express personal ideas, understandings, desires, and needs in writing.

Competency 3: Express, communicate, evaluate, or exchange ideas effectively.
- Cluster 3A. The Writing Process
- Cluster 3B. Audience and Purpose

Competency 4: Apply Standard English to communicate.
- Cluster 4A. Writing Mechanics

MAAECF ELA – Grades 6 - 8		
Reading Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
1. Use word recognition and vocabulary (word meaning) skills and strategies to communicate.	**Cluster 1A. Concepts of Print**	
	R1A.a	Student locates print and interprets the message/meaning (common symbols and signage, environmental print).
	R1A.b1	Student identifies or locates where to begin reading a variety of texts (e.g., books, stories, articles, letters).
	Cluster 1B. Phonological Awareness	
	R1B.a	Student uses letter-sound relationships to blend phonemes to make words.
	R1B.b	Student deletes phonemes in one-syllable words (e.g., Say crust. Say crust without the c.).
	R1B.c1	Student identifies the number of syllables in words with more than two syllables.
	Cluster 1C. Word Identification, Vocabulary, and Decoding Strategies	
	R1C.a	Student identifies when a word does not make sense in the context used.
	R1C.b	Student uses pictures for context clues.
	R1C.c	Student recognizes and uses affixes, base words, and roots to determine the meaning of words (choose from under-, sub-, ex-, -or/-er, -ist, -ance).
	R1C.c1	Student recognizes regular plural endings (-s, -es, -ies) and applies them to make words.
	R1C.c2	Student recognizes regular past tense endings (-d, -ed) and applies them to make past tense words.
	R1C.d	Student identifies and uses synonyms and antonyms appropriately.
	R1C.e	Student recognizes and reads basic sight words and simple sentences.
	R1C.f	Student uses grade-appropriate content vocabulary to sort words by categories, observable features, or function.
	R1C.g	Student identifies homonyms (e.g., to, two, too; no, know) and their correct uses.
	R1C.h	Student interprets intended meanings of new words using semantic context cues, such as restatement, example, or contrast.
	R1C.i	Student interprets and organizes words having shades of meaning.
2. Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts.	**Cluster 2A. Using Text Features and Text Structures**	
	R2A.a	Student uses text features for identifying key ideas in text or general meaning (e.g., uses illustrations, titles, subheadings, key word searches, bold print).
	R2A.b	Student uses text features to answer questions after reading informational texts (e.g., schedules, charts, maps, magazine article, news story).
	R2A.c	Student reads a variety of texts and identifies author's purpose.
	R2A.d	Student identifies the conflict and solution in a literary text.
	R2A.e	Student sequences main parts of a story using transition cues and key words.
	R2A.f	Student matches cause with effect from literary and informational texts.

MAAECF ELA – Grades 6 - 8		
Reading Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
2. Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts. (Continued)	**Cluster 2B. Reading Comprehension**	
	R2B.a	Student answers appropriately to comprehension questions from both literary and informational text.
	R2B.b	Student predicts logical events from what he/she read or has heard and confirms predictions after reading or listening.
	R2B.c	Student identifies character, plot, and setting of a story.
	R2B.d	Student describes the emotions and motivation of characters in a text.
	R2B.e	Student makes basic inferences from literary and informational text.
	R2B.f	Student identifies the main idea and supporting details within a text.
	R2B.g	Student classifies information from an informational text as fact or opinion.
	R2B.h	Student identifies the figurative and literal meaning of idioms.
	R2B.i	Student interprets print and non-print media to determine the type of propaganda technique being used.

MAAECF ELA – Grades 6 - 8		
Writing Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
3. Express, communicate, evaluate, or exchange ideas effectively.	**Cluster 3A. The Writing Process**	
	W3A.a	Student uses grade-appropriate reference materials to use new words in their writing (e.g., thesaurus, glossary – dictionary).
	W3A.b	Student uses words, pictures, signs, objects, or sentences to create a text.
	W3A.c	Student composes a friendly letter.
	W3A.d	Student develops a message or focused text which incorporates a clear beginning, middle, and end and important details.
	W3A.e	Student outlines ideas for composing a text.
	W3A.f	Student revises text using a writer's checklist.
	Cluster 3B. Audience and Purpose	
	W3B.a	Student uses formal and informal language based on audience and purpose.
	W3B.b	Student gathers and organizes relevant information on a topic to answer specific questions of interest.
	W3B.c	Student presents information using pictures, texts, or other media on a researched topic.
	W3B.d	Student communicates for a variety of purposes: inform, request information, entertain, persuade.
	W3B.e	Student shares personal interest or knowledge including supporting details.
4. Apply Standard English to communicate.	**Cluster 4A. Writing Mechanics**	
	W4A.a	Student accurately spells grade-appropriate high-frequency words.
	W4A.b	Student applies rule and edits for capitalizations for proper nouns and initial words of a sentence.
	W4A.c	Student recognizes contractions in isolation and in connected text.
	W4A.d	Student correctly uses and edits for basic punctuation marks: end marks, quotations, abbreviations.
	W4A.e	Student understands and uses contractions.
	W4A.f	Student composes a variety of simple and compound sentences on a given topic by combining words and phrases.
	W4A.g	Student edits a variety of simple and compound sentences on a given topic applying basic capitalization, punctuation, grammar, or spelling rules.

MATHEMATICS
EXTENDED CURRICULUM FRAMEWORKS

Number and Operations Strand: Students recognize, represent, understand, and apply mathematical concepts and processes to situations within and outside of school. The definition of Number and Operations includes a range of skills including: rote counting; using pictures, objects, and symbols to denote meaning from numbers and quantities; and demonstrating an understanding of numbers as quantities that can be added, subtracted, multiplied, and divided.

Competency 1: **Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.**

Cluster 1A. Counting and Numbers
Cluster 1B. Basic Operations
Cluster 1C. Fractions, Decimals, and Percentages

Algebra Strand: Students will use symbolic forms to represent, model, and demonstrate understanding of mathematical situations and apply mathematical concepts and processes to situations within and outside of school. Patterns, Functions, and Algebra include such skills as discrimination, sorting, matching, and sequencing.

Competency 2: **Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.**

Cluster 2A. Pattern Analysis
Cluster 2B. Functions and Relationships

Geometry Strand: Students will use representation, visualization, spatial reasoning, and symmetry to solve problems. Geometry and Spatial Relations includes demonstrated understanding of size, shape, and location, applied for a variety of purposes and to a variety of situations.

Competency 3: **Recognize, describe, and compare basic shapes and other geometric and spatial details.**

Cluster 3A. Shape Recognition
Cluster 3B. Relational Concepts
Cluster 3C. Understanding Lines and Angles

Measurement Strand: Students use a variety of tools and techniques of measurement to problem solve. Measurement includes a demonstrated understanding of such concepts as time, distance, area and volume, applied for a variety of purposes and to a variety of situations. At a lower level, measurement is being broadly defined to include the concept of more than, less than, and other comparatives.

Competency 4: **Understand and use different forms and units of measurement in a variety of contexts.**
Cluster 4A. Time
Cluster 4B. Measuring Objects and Using Information

Data Analysis and Probability Strand: Students will interpret data and make predictions using methods of exploratory data analysis and basic notions of probability. Data Analysis and Probability includes categorization, making choices, and logical reasoning about events or situations.

Competency 5: **Collect and report data. Read and understand basic charts, graphs, and tables.**
Cluster 5A. Collecting and Reporting Data

MAAECF Mathematics – Grades 6 – 8		
Numbers and Operations Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
1. Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.	**Cluster 1A. Counting and Numbers**	
	MN1A.a	Student identifies place value of ones, tens, and hundreds.
	MN1A.b	Student identifies place value of decimals to the hundredths.
	MN1A.c	Student lists three rational numbers in proper numerical order.
	MN1A.d	Student compares and orders rational numbers using symbols (>, <, =).
	Cluster 1B. Basic Operations	
	MN1B.a	Student adds double-digit numbers with or without regrouping.
	MN1B.a1	Student uses a calculator to solve addition problems involving two or three double-digit numbers and regrouping.
	MN1B.b	Student subtracts double-digit numbers with or without regrouping.
	MN1B.b1	Student uses a calculator to subtract double-digit numbers with or without regrouping.
	MN1B.b2	Student uses a calculator to subtract double- and triple-digit numbers and uses a calculator to justify the answer.
	MN1B.c	Student applies the basic operations of addition and subtraction in problem solving (e.g., word problems; authentic tasks).
	MN1B.d	Student solves problems involving multiplication or division.
	MN1B.d1	Student solves multiplication and division word problems using a calculator.
	MN1B.d2	Student describes or models (using objects or pictures) the multiplication/division inverse relationship.
	MN1B.e	Student completes problem-solving activities in real-life situations using (+, -) or (x, ÷).
	Cluster 1C. Fractions, Decimals, and Percentages	
	MN1C.a	Student identifies and models improper and mixed fractions.
	MN1C.a1	Student compares fractions with denominators 2–10 using models, pictures, or fraction numerals.
	MN1C.a2	Student orders fractions with denominators 2–10 using models, pictures, or fraction numerals.
	MN1C.b	Student identifies and models percents appropriately.
	MN1C.c	Student identifies equivalent fractions and percents.
	MN1C.d	Student uses money appropriately in real-life activities (making change, determining sales tax, determining unit price).

MAAECF Mathematics – Grades 6 – 8		
Algebra Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
2. Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.	**Cluster 2A. Pattern Analysis**	
	MA2A.a	Student creates, describes, and extends a growing pattern.
	MA2A.b	Student identifies and extends numeric patterns when presented with a task.
	MA2A.c	Student completes input/output function table when given the rule.
	Cluster 2B. Functions and Relationships	
	MA2B.a	Student completes and creates number sentences to demonstrate understanding of multiplication.
	MA2B.b	Student completes and creates number sentences to demonstrate understanding of division.
	MA2B.c	Student applies the commutative and associative properties of addition and multiplication to solve problems.
	MA2B.c1	Student describes or models the commutative property of addition using objects, pictures, numbers, or letters.
	MA2B.c2	Student describes or models the associative property of addition using objects, pictures, numbers, or letters.
	MA2B.c3	Student applies the commutative and associative properties of addition to solve problems.
	MA2B.c4	Student describes or models the commutative property of multiplication using objects, pictures, numbers, or letters.
	MA2B.c5	Student describes or models the associative property of multiplication using objects, pictures, numbers, or letters.
	MA2B.c6	Student applies the commutative and associative properties of multiplication to solve problems.
Geometry Strand		
3. Recognize, describe, and compare basic shapes and other geometric and spatial details.	**Cluster 3A. Shape Recognition**	
	MG3A.a	Student identifies 2-dimensional and 3-dimensional objects/shapes.
	MG3A.a1	Student uses manipulatives or pictures to compose 2-dimensional or 3-dimensional shapes.
	MG3A.a2	Student recognizes and identifies at least 5 of the following polygons (rhombus, square, triangle, trapezoid, rectangle, pentagon, hexagon, and/or octagon) according to number of sides and/or number of angles.
	MG3A.b	Student identifies and explains how shapes are congruent or symmetrical.
	Cluster 3B. Relational Concepts	
	MG3B.a	Student identifies and locates elements of a coordinate plane.
	MG3B.b	Student identifies circumference, diameter, and radius of a circle.
	Cluster 3C. Understanding Lines and Angles	
	MG3C.a	Student identifies angles (right, acute, and obtuse) in everyday objects.
	MG3C.a1	Student uses a protractor to measure angles from 0 to 180 degrees.
	MG3C.b	Student identifies perpendicular, parallel and intersecting lines in everyday objects (e.g., maps, patterns in clothing, furniture).

MAAECF Mathematics – Grades 6 – 8		
Measurement Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
4. Understand and use different forms and units of measurement in a variety of contexts.	**Cluster 4A. Time**	
	MM4A.a	Student applies time-related terms and concepts (responds to questions, estimates) in relation to real-life situations and problem solving.
	Cluster 4B. Measuring Objects and Using Information	
	MM4B.a	Student measures an object to the nearest inch, foot, yard, or centimeter using the appropriate tool.
	MM4B.b	Student reads a thermometer and uses the information to make practical decisions.
	MM4B.c	Student uses appropriate tools to compare lengths, weights, or temperature, of common objects and materials.
	MM4B.d	Student identifies basic units of measurement in customary and metric systems.
	MM4B.e	Student measures fluids using customary and metric system units of measure.
	MM4B.e1	Student compares the capacity of various containers in standard units (e.g., ounce, cup, pint, quart, gallon, and/or liter, etc.).
	MM4B.e2	Student sorts and classifies containers based on capacity.
Data Analysis and Probability Strand		
5. Collect and report data. Read and understand basic charts, graphs, and tables.	**Cluster 5A. Collecting and Reporting Data**	
	MD5A.a	Student constructs and labels a pie graph from data on a table and chart.
	MD5A.b	Student identifies the mean, median, mode, and range of a set of data.
	MD5A.c	Student predicts and models the number of different combinations of 2 or more objects.
	MD5A.d	Student constructs, interprets, and explains data using a graph, table, or chart.
	MD5A.e	Student uses basic probability concepts to make predictions about an event.
	MD5A.e1	Student identifies whether an outcome of an event is “more likely” or “less likely” to occur.

SCIENCE
EXTENDED CURRICULUM FRAMEWORKS

Inquiry Strand

Competency 1: **Use tools and instruments to plan, conduct, and evaluate simple science experiments.**

Cluster 1A. Conducts Experiment
Cluster 1B. Interprets Data
Cluster 1C. Communicates Findings

Earth and Space Systems Strand

Competency 2: Identify and describe features of the Earth, the Earth's structure, and other objects in space.

Cluster 2A. Planets and the Solar System
Cluster 2B. Earth's Structure

Competency 3: Identify and describe living and nonliving factors that affect the environment.

Cluster 3A. Factors Affecting the Environment

Life Science Strand

Competency 4: Identify and describe animals and plants and their environments.

Cluster 4A. Plants and Animals

Competency 5: Identify and describe structures of living systems and their functions.

Cluster 5A. Structures of Living Systems

Physical Sciences Strand

Competency 6: **Demonstrate an understanding of basic concepts regarding matter, energy, motion.**

Cluster 6A. Matter and Changes
Cluster 6B. Force and Motion
Cluster 6C. Forms of Energy

MAAECF Science – Grades 6 - 8		
Inquiry Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
1. Use tools and instruments to plan, conduct, and evaluate simple science experiments.	**Cluster 1A. Conducts Experiment**	
	SI1A.a	Student recognizes safety rules for science experiment and/or laboratory (e.g., wear goggles, wash hands after handling materials, do not taste unknown materials).
	SI1A.b	Student chooses appropriate tools for completing a task (e.g., simple measuring devices metric and standard units, balance scale, spring scale, dissecting microscope, telescope).
	SI1A.c	Given a testable question, student chooses a plan or plans steps to investigate the question.
	SI1A.d	Student conducts a simple experiment to address a question or problem.
	Cluster 1B. Interprets Data	
	SI1B.a	Student identifies observable features or traits (e.g., shape, texture, size, color, number) of objects and organisms.
	SI1B.a1	Student sorts or sequences objects and organisms based on given criteria.
	SI1B.b	Student predicts outcomes based on observations and previous experience.
	SI1B.c	Student interprets data collected as part of an experiment (e.g., makes an accurate statement based on data; identifies a trend or result).
	Cluster 1C. Communicates Findings	
	SI1C.a	Student communicates understanding of concepts or results by choosing correct or appropriate outcome/summary.
	SI1C.b	Student develops graphs, charts, or other visual representations to communicate the results on an investigation.
Earth & Space Science Strand		
2. Identify and describe features of the Earth and other objects in space.	**Cluster 2A. Planets and the Solar System**	
	SE2A.a	Student identifies features of the solar system, including the Earth, sun, other planets, and asteroid belt.
	SE2A.b	Student demonstrates Earth's orbit around the Sun and the Moon's orbit around the Earth.
	SE2A.c	Student distinguishes between heavenly bodies that radiate light (sun, stars) and those that reflect light (moon, planets).
	SE2A.d	Student identifies objects seen in the day and nighttime skies, including different phases of the moon.
	Cluster 2B. Earth's Structure	
	SE2B.a	Student classifies rocks, gems, and minerals according to their characteristics (color, luster, cleavage, streak, hardness).
	SE2B.b	Student identifies and describes how erosion affects the earth.
	SE2B.c	Student identifies the three major layers of the earth (crust, mantle, core) and the atmosphere using a model or diagram.
	SE2B.d	Student examines fossils and identifies whether they are from plants or animals.
	SE2B.e	Student observes and describes teacher demonstration of how rock types are formed (e.g., heat, pressure, or both heat and pressure to form new rocks).
	SE2B.f	Student classifies resources as renewable or non-renewable, including energy sources.

MAAECF Science – Grades 6 - 8		
Earth & Space Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
3. Identify and describe living and nonliving factors that affect the environment.	**Cluster 3A. Factors that Affect the Environment**	
	SE3A.a	Student uses visuals to identify tornados and hurricanes and describe their effects.
	SE3A.b	Student observes teacher designed water cycle activity and describes or orders pictures showing what happened.
	SE3A.c	Student identifies ways in which humans affect living and nonliving things in the environment.
	SE3A.d	Student identifies reasons that animals or plants might become threatened, endangered, or extinct (e.g., loss of habitat, over hunting or fishing, pollution, climate change, over populating).
Life Science Strand		
4. Identify and describe animals and plants and their environments.	**Cluster 4A. Plants and Animals: Living Organisms and Adaptation**	
	SL4A.a	Student recognizes that the Sun is the major source of the Earth's energy.
	SL4A.b	Student recognizes that all living things are made up of cells.
	SL4A.c	Student identifies the parts of a plant (stem, root, leaves, seeds, flowers) and describes their functions.
	SL4A.d	Student compares and contrasts characteristics of living organisms (e.g., compare parts of plant cells and animal cells).
	SL4A.e	Student explains adaptations (changes that resulted over time) of animals and plants that allow them to survive in their habitats.
	SL4A.f	Student identifies how plants and animals meet their basic needs for water, food, air, and shelter.
	SL4A.g	Student describes characteristics of different aquatic and land ecosystems.
	SL4A.h	Student identifies what plants need in order to make their own food (photosynthesis).
	SL4A.i	Student develops a food web using pictures or other media.
	SL4A.j	Student uses a food web model to identify organisms and their roles (producers make food and consumers eat food, and decomposers break down matter).
	SL4A.k	Student recognizes what carnivores, herbivores, and omnivores eat.
	SL4A.l	Student classifies animals using given criteria (e.g., carnivores, herbivores, and omnivores; cold- or warm-blooded; vertebrate-invertebrate).
5. Identify and describe structures of living systems and their functions.	**Cluster 5A. Structures of Living Systems**	
	SL5A.a	Student matches the body systems (skeletal, respiratory, circulatory, muscular, nervous, and skin) with various functions within the body.
	SL5A.a1	Student identifies body systems that work together or describes the process for how body systems work together to perform a given action.
	SL5A.b	Student identifies or matches organs (e.g., heart, lungs, brain, spinal cord, skin) with appropriate body system.
	SL5A.c	Student identifies habits that promote good health (e.g., eating healthy foods, exercise, non use of tobacco, drugs, or alcohol).
	SL5A.d	Student recognizes different diseases or illnesses associated with various body systems (e.g., heart disease, lung cancer, asthma, diabetes).

MAAECF Science – Grades 6 - 8		
Physical Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
6. Demonstrate an understanding of basic concepts regarding matter, motion, and energy.	**Cluster 6A. Matter and Changes**	
	SP6A.a	Student classifies objects and materials as gases, solids, or liquids.
	SP6A.b	Student identifies activities that involve physical or chemical changes in substances (e.g., physical: squashing, cutting, sharpening, stretching, evaporating; chemical: baking, cooking, burning, rusting).
	SP6A.b1	Student recognizes that the total mass does not change during physical and/or chemical changes.
	SP6A.c	Students identifies the effects of stirring, shaking, or warming up objects in order to dissolve them in water (e.g., will it dissolve faster if I shake it?).
	Cluster 6B. Force and Motion	
	SP6B.a	Student follows simple directions to make and use a simple machine (e.g., pulley, lever, wedge, inclined plane).
	SP6B.b	Student explores, measures, and records the motion of an object (e.g., how amount of force can affect distance or speed of object).
	SP6B.c	Student explores and identifies how different forces affect objects (e.g., equal and opposite forces cause no change in motion; unbalanced forces cause change).
	SP6B.d	Student describes the effect of friction or resistance on an object's motion.
	Cluster 6C. Forms of Energy	
	SP6C.a	Student identifies objects that will be attracted by a magnet, including electromagnets.
	SP6C.b	Student investigates different forms of energy (heat, sound, light, electricity) and describes what happened.
	SP6C.b1	Student identifies properties of light (i.e., reflection, refraction, and absorption).

References

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 *et seq., as amended by* the Individuals with Disabilities Education Act Amendments of 1997, Pub. L. No. 105-17, 111 Stat. 37 (1997).

Flowers, C., Browder, D., Wakeman, S., & Karvonen, M. (2007). "Links for Academic Learning: The Conceptual Framework." National Alternate Assessment Center (NAAC) and the University of North Carolina at Charlotte.

McDonnell, L. M, McLaughlin, M. J., & Morison, P. (Eds.). (1997). *Educating one and all: Students with disabilities and standards-based reform.* Washington, DC: National Academy Press.

No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).

Thompson, S.J., Johnstone, C.J., & Thurlow, M.L. (2002). *Universal design applied to large-scale assessments (Synthesis Report 44)*. Minneapolis, MN: University of Minnesota, National Center for Educational Outcomes.

Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education* (NISE Research Monograph No. 6). Madison: University of Wisconsin-Madison, National Institute for Science Education.

Additional Resources for Alternate Assessments & Making Materials More Accessible

DC CAS Alt/District of Columbia Alternate Assessment. [Online] Available: http://www.ihdi.uky.edu/ilssa/dc-cas-alt/ or http://www.ihdi.uky.edu/ilssa/dc-cas-alt/teacherResources/Default.asp *(online alternate assessment resources for teachers and parents)*

Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing, and Presenting. Human Development Institute. University of Kentucky. [Online] Available: http://www.ihdi.uky.edu/IEI/Files/Pathways%20to%20learning%20document.pdf *(ideas for expressive and receptive adaptations to accommodate diverse learning styles)*

Fichleay, K. and Dubuske, S. (2003). Adapting Books Assistive Technology Continuum. Boston Public Schools Access Technology Center. [Online] Available: http://www.boston.k12.ma.us/teach/technology/emmanuel/ATAdaptBks.pdf (*ideas for adapting text to accommodate diverse learning styles)*

GA Alternate Assessment. [Online] Available: http://www.georgiastandards.org/impairment.aspx - *(Teacher Resource Guide, sample modified texts for ELA, sample assessment activities for mathematics, ELA, science, and social studies)*

Hess, K. (2008). "Tools & Strategies for Developing and Using Learning Progressions." Presentation at the FAST-SCASS meeting, Atlanta, GA 2/6/08 [online] PowerPoint and article available: www.nciea.org

Hess, K. (2008). "Teaching and Assessing Understanding of Text Structures across Grades." [online] available: www.nciea.org

MA Alternate Assessment Teacher Resource Guide. [Online] Available: http://www.doe.mass.edu/mcas/alt/resources.html *(online alternate assessment resources for teachers)*

NJ Alternate Assessment/APA. [Online] Available: http://pem.ncspearson.com/nj/apa *(online alternate assessment resources for teachers)*

Pro Teacher website for Hands-on Science Activities. [Online] Available: http://www.proteacher.com/cgi-bin/outsidesite.cgi?id=274&external=http://www.energyquest.ca.gov/projects/index.html&original=http://www.proteacher.com/110053.shtml&title=Energy%20Science%20Projects *(online resources for teaching science)*

Science Saurus: A Student Handbook **–** teacher or student resource for looking up science concepts, examples, and diagrams**.** Great Source Education Group, Houghton Mifflin Company ISBN# 0-669-48192-0 6/8

The Internet Picture Dictionary. (2003). [Online] Available: www.pdictionary.com (*picture dictionary available in several languages which can be used to make worksheets, games, etc.)*

Texas School for the Blind. (undated). Functional Academics and Functional Skills Department. [Online] Available: http://www.tsbvi.edu (*ideas and materials for adapting academic content for students with visual impairments*)

Utah State University. (2003). National Library of Virtual Manipulatives [Online] Available: http://www.matti.usu.edu/nlvm/nav/topic_t_2.html (*virtual manipulatives that can be arranged online to solve or illustrate math problems – includes measurement, geometry ,and algebra)*

What do we mean by "reading" for the MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, "reading" may be defined as follows:

Student listens *and follows* along with text	Romeo and Juliet fell in love.	http://bookbuilder.cast.org/
Student listens *and follows* along with pictures		http://www.ric.edu/sherlockcenter/dsi/romeo.pdf
Student listens *and follows* along with objects	Romeo and Juliet fell in love. 	Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing and Presenting. Interdisciplinary Human Development Institute, University of Kentucky. [Online] Available: http://www.ihdi.uky.edu/IEI/
Student listens *and follows* along with tactile cues	 Romeo and Juliet fell in love.	http://www.tsbvi.edu/Education/vmi/images/love.jpg

The grade-appropriate texts may be adapted by:

- Condensing information
- Shortening the text
- Presenting a synopsis of the text
- Highlighting important information
- Pairing text with pictures, objects, or tactile cues
    - When pairing text with pictures it may be a one-to-one correspondence (one picture for each word) or it may be one picture that summarizes the text
- Translating the text to Braille
- Chunking relevant information
- Creating a story bag that corresponds to the text (using representative objects for main characters/ideas from the text)
- Rewriting using different vocabulary

What do we mean by “writing” for MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, “writing” may be defined as the ordering of information and representing a complete thought. For some students, representing a complete thought is done on a word-by-word basis; for other students, it may be represented more holistically by an object or picture. Students may write by:

- Using stamps
- Using pictures
- Using objects
- Using written words
- Using Braille
- Using tactile cues
- Using a voice output device or other augmentative communication devices (e.g., to complete a cloze sentence, choose main ideas and/or supporting details to write a text)
- Ordering sentences (words, objects, pictures, tactile cues) into an essay
- Completing cloze sentences
- Using a computer with writing software (speech to text, picture writing, etc.)
- Using a pen, pencil, or other writing utensil

Mississippi
Extended Curriculum Frameworks
Middle School Version

Language Arts, Mathematics, & Science
for
Students with Significant Cognitive Disabilities

Revised August 2012 by ~~Mississippi Educators~~ [SA1] in collaboration with the Office of Student Assessment and Measured Progress.

Table of Contents

Introduction

The Mississippi Extended Curriculum Frameworks (MECF) Middle School Version includes curriculum content that students with significant cognitive disabilities in grades 6 through 8 are expected to access and learn during the course of their instructional programs. The primary purpose of this document is to share the prioritized academic content with teachers, family members, and other educational stakeholders, and to guide the development of high-quality alternate assessments that assess the knowledge and skills representative of these extended standards.

Teachers should use this document to plan instruction and collect student work samples (e.g., documented teacher observations, student work products, recorded media) that can be used to establish a baseline about what students know and can do at the beginning of the school year and to measure progress on the same skills and concepts on the final assessment later in the school year. These student work samples can then be used as part of the submission for the Mississippi Alternate Assessment of Extended Curriculum Frameworks (MAAECF).

Designed specifically for students with significant cognitive disabilities, the MAAECF is a portfolio assessment that is aligned with the Mississippi Extended Curriculum Frameworks for Language Arts (Reading and Writing), Mathematics, and Science. The assessment measures student performance based on alternate achievement standards.

The MAAECF portfolio is a collection of student work from throughout the school year. Teachers select appropriate objectives for assessing students. Students are initially assessed on these objectives through baseline activities developed by the teacher. The teacher then provides instruction on the selected objectives throughout the school year. The teacher assesses these same objectives through final activities that he or she has developed. Student work samples from both the baseline and final activities are submitted in the student's portfolio. This student work is utilized to determine the student's performance level and the level of complexity at which the student is working.

This document provides the curriculum frameworks that bring the prioritized grade-level content standards to life for language arts, mathematics, and science instruction. It is expected that teachers working with students with significant cognitive disabilities will incorporate instruction of all identified competencies at every grade level in the grade span. The alternate assessment tasks will be drawn from clusters and objectives most appropriate for specific individual students and their learning strengths and needs based upon the Data Collection Requirements document that outlines the allowable assessment objectives at each grade level. The learning objectives within each cluster were developed to provide a range of breadth and complexity, so that all students can access and demonstrate learning of each grade-level competency.

There is an overview of the competencies and clusters for each content area at the beginning of each section of this document:

- Language Arts (pages 4-7),
- Mathematics (pages 8-12), and
- Science (pages 13-16).

~~*Introduction*~~

~~The Mississippi Extended Curriculum Frameworks (MECF) Middle School Version includes curriculum content that students with significant cognitive disabilities in grades 6 through 8 are expected to access and learn during the course of their instructional programs. The primary purpose of this document is to share the prioritized academic content with teachers, family members, and other educational stakeholders, and to guide the development of high-quality alternate assessments that assess the knowledge and skills representative of these extended standards. In this document, we provide: (a) a rationale for alternate assessment content standards; (b) the curriculum frameworks that bring these content standards to life for language arts, mathematics, and science instruction; and (c) some resources to support implementation in classrooms across Mississippi. This revised version of the MECF also includes additional guidance for teachers by including a number of sample "age-appropriate" classroom activities and possible support skills that can be used to plan classroom instruction that stimulates the development and use of the desired academic knowledge and skills.~~

~~**Revised guidelines and protocols for collecting high quality evidence to support MAAECF ratings are still under development by the state at this time**; however, teachers can begin to use this document to plan instruction and collect student work samples (e.g., documented teacher observations, student work products, recorded media) that can be used to establish a baseline about what students know and can do now (at the beginning of the school year) and to measure progress on the same skills and concepts later in the school year. It is anticipated that rating scales and data collection protocols *could be* revised in the following ways:~~

- ~~Currently, one rating scale is used in the Mississippi Alternate Assessment of Extended Curriculum Frameworks (MAAECF) to evaluate student performance. It combines accuracy and independence into the same scale. The revised rating scales will likely include two separate rating scales in order to assess accuracy and independence separately on each assessment task. This is an approach currently used by many states' alternate assessments and has been found to be a much more reliable and valid way to interpret student performance and to measure student progress across the school year. Teachers should begin to document both aspects – accuracy achieved on the task and level of independence in completing the task – when collecting assessment evidence.~~
- ~~Currently, the same content objectives are being taught and assessed each year within the same grade span and sometimes even across grade spans. Beginning in 2008-2009, teachers will be focusing their instruction and assessment on different content objectives each year, so that exactly the same content is not being taught year after year. In some cases, such as learning safety rules for science investigations or answering comprehension questions in reading, the same content objective might be required; however, other clusters and specific content objectives will likely be different grade to grade. This change will encourage teachers to focus more instructional time on fewer objectives across the school year and to build on learning from the prior year. Differentiation of content across grades for students with significant disabilities can mean changing depth, breadth, or complexity of content as well new content introduced at later grade levels.~~
- ~~Multiple data collections during the school year will be used to establish a baseline and measure progress on the same content objectives. After a careful review of other states' data collection practices, the state will issue more specific guidelines on the number of data collections required for each content objective within a cluster. It is likely that it will be at least three data collections: one in the fall to establish a baseline for learning, and *at least* one more in the winter and the spring.~~

~~*Legal and Policy Context for Extended Content Standards and Assessments*~~

Three main federal initiatives have significantly influenced special education practices (McDonnell, McLaughlin, & Morison, 1997): the Individuals with Disabilities Education Act (IDEA) in 1997, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (ADA). The 1997 IDEA reauthorization mandates that students with disabilities be held to the same educational standards as students without disabilities. These policies converge on two main points: (1) Students with disabilities have the right to a free and appropriate public education, and (2) students with disabilities must be held accountable to the same educational standards as students without disabilities. Educational policies, however, are not often prescriptive as to how students with disabilities are to be provided an education comparable to that of their general education counterparts. Furthermore, since one of the main philosophies of special education is to provide an individualized education program for each student, it is often unclear to what degree students with disabilities should be held to the same educational standards as general education students (McDonnell, et al. 1997).

For the majority of students with disabilities, participation in state and district assessments involves taking existing standardized tests with testing accommodations. A small percentage of students (an estimated 1%), however, have disabilities that make their participation in general state- and district-wide tests impractical—and likely to result in inaccurate measures of their academic achievement. Alternate assessments are intended for use with students who are unable to participate in general state and district assessment systems even with accommodations. As an important element of each state's assessment system, alternate assessments are required to meet the federal regulations outlined in Title I of the Elementary and Secondary Education Act. Title I mandates that "state assessment shall be aligned with the state's challenging content and student performance standards and provide coherent information about student attainment of such standards" (§1111[b][3][B]).

In 2002, the No Child Left Behind Act (NCLB) increased the federal government's emphasis on assessment and accountability systems to include requirements for annual statewide assessments of all students in Grades 3-8 and high school in reading/language arts, mathematics, and (by 2007) science. In addition, NCLB requires a disaggregated annual reporting of students' performance to insure that all groups (including students with disabilities) are making adequate progress toward the goal of having all students declared "proficient" on statewide assessments within the next 12 years. Recent interpretations of NCLB requirements by the United States Department of Education (USDOE, 2003) also allow that up to 1% of students in states and school districts may be counted as "proficient" toward federal accountability goals through participation in statewide alternate assessment.

The development and implementation of standards-based alternate assessments represents a promising strategy for increasing the inclusion and achievement of students with significant disabilities; however, it is not without challenges. The first critical challenge facing the state of Mississippi in once again redesigning its alternate assessment system was to ensure that the academic content to be included as language arts, mathematics, and science content was indeed academic and aligned to Mississippi's grade-level content standards. Academic content has been underrepresented in past instruction and research with students with significant cognitive disabilities; therefore extended curriculum frameworks in these curricular areas needed close analysis and revision. According to the National Alternate Assessment Center/NAAC, "to be inclusive of students with the most significant disabilities, states sometimes target Foundational Skills for assessment. These skills are commonly embedded in academic instruction and *are important and appropriate* to capture early academic achievement; but these skills are *not* aligned to academic content, because they are outside the general education construct (NAAC, 2007). Only a small portion of the overall extended curriculum frameworks should include foundational skills. Using the NAAC definition, Foundational Skills are skills that are *the assumed competence at all grade levels* specific to an academic context, such as orienting a book or turning a page as precursors to learning to

read; or learning to follow a direction as a precursor to conducting a science investigation.

Defining What Content Alternate Assessments Should Measure

IDEA 1997 clearly states that students with disabilities should have access to the general education curriculum and academic standards. Moreover, this legislation requires that all students have opportunities and instruction allowing them to make progress in acquiring and mastering the skills and concepts included in state and district academic standards. This emphasis on attaining academic achievement represents a change from the previous focus on curriculum and inclusion practices traditionally provided to many students with significant disabilities. Although the law still maintains the right of each student with disabilities to an individually referenced curriculum, outcomes linked to the general education program have become the optimal target. It is no longer enough for students with disabilities to be present in a general education classroom. Students with significant disabilities also must have instruction, modifications, and accommodations that promote their progress toward the educational expectations of the larger student population.

A related concern has been the focus of each state's alternate assessment processes and protocols. Specifically, test developers and policymakers must establish that assessments for students who are unable to take the general assessment: use age-appropriate contexts (e.g., modified grade-level texts or materials), provide flexibility when applying accommodations or modifications so that students with a range of disabilities can demonstrate what they have learned, and should be accessible to students who have not yet fully developed symbolic communication. If alternate assessments are intended to be part of a larger accountability system and to measure progress towards the same educational expectations as desired of the larger student population, then a state's general education academic standards should form the foundation for the alternate assessment. This is the case in Mississippi.

Planning Instruction Using the Extended Content Standards

As previously stated, this document provides the curriculum frameworks that bring the prioritized grade-level content standards to life for language arts, mathematics, and science instruction; suggested resources to support implementation in classrooms; and additional guidance for teachers by including a number of sample "age-appropriate" classroom activities and possible support skills that can be used to plan instruction that stimulates the development and use of the desired academic knowledge and skills. It is expected that teachers working with students with significant cognitive disabilities will incorporate instruction of all identified competencies at every grade level in the grade span. The alternate assessment tasks will be drawn from clusters and objectives most appropriate for specific individual students and their learning strengths and needs. The learning objectives within each cluster were developed to provide a range of breadth and complexity, so that all students can access and demonstrate learning of each grade-level competency.

There is an overview of the competencies and clusters for each content area at the beginning of each section of this document: Language Arts (page 7), Mathematics (pages 16-17), and science (page 25). It is expected that teachers will include several objectives from each cluster when planning instruction and provide opportunities for students to use skills they are working on in one content area to other content areas and other learning goals. For example, students working on data collection and measurement in mathematics will benefit from

~~applying those skills to science inquiry tasks. Students developing their reading comprehension skills and breadth of vocabulary can apply that learning to mathematics, science, and other everyday learning tasks.~~

LANGUAGE ARTS
EXTENDED CURRICULUM FRAMEWORKS

Language Arts Extended Curriculum Frameworks

Reading Strand: Students use reading skills and strategies to decode and interpret symbols, words, and larger blocks of text. Students demonstrate the ability to use reading to acquire new information, refine perspectives, respond to the needs and demands of society and the workplace, and provide for personal fulfillment.

Competency 1: **Use word recognition and vocabulary (word meaning) skills and strategies to communicate.**

Cluster 1A. Concepts of Print

Cluster 1B. Phonological Awareness

Cluster 1C Word Identification, Vocabulary, and Decoding Strategies

Competency 2: Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts.

Cluster 2A Using Text Features and Text Structures

Cluster 2B Reading Comprehension

Writing Strand: Students develop a working knowledge of language as well as grammatical structures, diction and usage, punctuation, spelling, layout, and presentation. Students develop the ability to express personal ideas, understandings, desires, and needs in writing.

Competency 3: Express, communicate, evaluate, or exchange ideas effectively.

Cluster 3A The Writing Process

Cluster 3B Audience and Purpose

Competency 4: Apply Standard English to communicate.

Cluster 4A Writing Mechanics

MAAECF ELA – Grades 6 - 8		
Reading Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
1. Use word recognition and vocabulary (word meaning) skills and strategies to communicate	**Cluster 1A. Concepts of Print**	
	R1A.a	Student locates print and interprets the message/ meaning (common symbols and signage, environmental print) ~~Student finds common symbols and signs around the community and matches their message~~ ~~Student matches a common symbol or sign to its word (e.g., McDonald's) or meaning (e.g., food)~~ ~~Student follows a picture schedule~~ ~~Student can identify weather on a chart by choosing the appropriate symbol (clouds, sun)~~ ~~Augmentative communication device~~ ~~Visual discrimination~~
	R1A.b1	Student identifies or locates where to begin reading a variety of texts (e.g., books, stories, articles, letters).
	Cluster 1B. Phonological Awareness	
	R1B.a	Student uses letter-sound relationships to blend phonemes to make words ~~Student uses letter tiles to sound out new words~~ ~~Student uses word tiles to say sounds (sh, th, ph, etc.) and move them together to make new words~~ ~~Student uses phonics cards to make new words~~ ~~Student deletes phonemes in one syllable words (e.g., Say crust. Say crust without the c.)~~ ~~Student uses letter tiles to sound out new words~~ ~~Student uses phonics cards to make new words~~ ~~Sight word recognition~~ ~~Visual and auditory discrimination~~
	R1B.b	Student deletes phonemes in one syllable words (e.g., Say crust. Say crust without the c.).
	R1B.c1	Student identifies the number of syllables in words with more than two syllables.
	Cluster 1C Word Identification, Vocabulary, and Decoding Strategies	
1. Use word recognition and vocabulary (word meaning)	**R1C.a**	Student identifies when a word does not make sense in the context used ~~Student selects from two words or objects that makes a statement true or logical.~~ ~~Student reads a story with rebus/pictogram cues to support decoding of more difficult words~~ ~~Student uses pictures for context clues.~~ ~~Student chooses the picture that goes with a text heard or read.~~ ~~Student uses pictures in familiar text to remind him/her of the words.~~ ~~Student recognizes and uses affixes, base words, and roots to determine the meaning of words (choose from under-, sub-, ex-, -or/-er, -ist, -ance)~~ ~~Student will match words with prefix or suffix to a picture/object representing the meaning of that word~~ ~~Student will combine base word and affix cards to make new words (can be done with objects/pictures/words/tactile cues)~~ ~~Student identifies and uses synonyms and antonyms appropriately.~~ ~~Student matches pictures that are synonyms or antonyms~~ ~~Student plays bingo matching a synonym to an announced antonym~~

MAAECF ELA – Grades 6 - 8		
Reading Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
skills and strategies to communicate (continued) **1. Use word recognition and vocabulary (word meaning) skills and strategies to communicate** (continued)		~~Student replaces words in writing with a synonym using a teacher made thesaurus~~ ~~Student recognizes and reads basic sight words and simple sentences.~~ ~~Student plays sight word bingo~~ ~~Student has a "reading bee" with classmates where each team tries to read the most words presented by the teacher~~ ~~Student uses grade-appropriate content vocabulary to sort words by categories, observable features, or function.~~ ~~Student labels scientific, math, or social studies models/diagrams with appropriate terms~~ ~~Student completes sentences using content vocabulary (objects, pictures, words, etc.)~~ ~~Student uses augmentative communication device to give the correct vocabulary word when the teacher presents an example, category, or function (e.g., tools = category)~~ ~~Student identifies homonyms (e.g., to, two, too; no, know) and their correct uses.~~ ~~Student completes cloze sentences with correct word.~~ ~~Student interprets intended meanings of new words using semantic context cues, such as restatement, example, or contrast.~~ ~~Given "The boy was furious. He yelled and screamed." The student answers "Was the boy happy, sad, or mad?"~~ ~~Given "The river rapids were scary. The water moves very fast." The student defines rapids by circling the correct answer: fast water, slow water, a river~~ ~~Given "She was exhausted. Not like George who has lots of energy." The student defines exhausted.~~ ~~Student interprets and organizes words having shades of meaning.~~ ~~Student uses tiles with words of similar shades of meaning and places them on "ladder steps" to show changing meaning (e.g., cool-cold-freezing; talk-shout-scream).~~ ~~Following directions~~ ~~Using an augmentative communication device~~ ~~One-to-one correspondence~~ ~~Vocabulary development~~
	R1C.b	Student uses pictures for context clues.
	R1C.c	Student recognizes and uses affixes, base words, and roots to determine the meaning of words (choose from under-, sub-, ex-, -or/-er, -ist, -ance).
	R1C.c1	Student recognizes **regular** plural endings **(-s, -es, -ies)** ***and*** applies them to make words.
	R1C.c2	Student recognizes **regular** past tense endings **(-d, -ed)** ***and*** applies them to make past tense words.
	R1C.d	Student identifies and uses synonyms and antonyms appropriately.
	R1C.e	Student recognizes and reads basic sight words and simple sentences.

MAAECF ELA – Grades 6 - 8		
Reading Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
	R1C.f	Student uses grade-appropriate content vocabulary to sort words by categories, observable features, or function.
	R1C.g	Student identifies homonyms (e.g., to, two, too; no, know) and their correct uses.
	R1C.h	Student interprets intended meanings of new words using semantic context cues, such as restatement, example, or contrast.
	R1C.i	Student interprets and organizes words having shades of meaning.

MAAECF ELA – Grades 6 - 8		
Reading Strand		
MECF ELA Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
2. Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts	**Cluster 2A Using Text Features and Text Structures**	
	R2A.a	Student uses text features for identifying key ideas in text or general meaning (e.g., uses Illustrations, titles, subheadings, key word searches, bold print). ~~Student uses headings to help determine the main idea of a text~~ ~~Student uses illustrations to determine the meaning of new words~~ ~~Student uses key word searches to find information and answer questions~~ ~~Student uses headings and subheadings to research specific questions about a topic~~ ~~Student uses text features to answer questions after reading informational texts (e.g., schedules, charts, maps, magazine article, news story).~~ ~~Student answers questions about a biography using the text and a timeline (e.g., Was Martin Luther King born in 1980?~~ ~~Student uses eye gaze or VOD to answer yes/no)~~ ~~Student uses legends to answer questions about a text Using a brochure that includes average temperatures chart, student answers questions about the best time to visit (can be teacher made brochure that uses pictures, objects or tactile cues)~~ ~~Student reads a variety of texts and identifies author's purpose.~~ ~~Student uses a graphic organizer to sort text as "to inform", "to entertain", or "to persuade"~~ ~~Student answers yes/no questions to determine if a text was to inform or entertain (e.g., Did I learn something new? Was the author trying to teach me something?)~~ ~~Student points to or uses eye gaze to indicate picture of laughing (to entertain) or pointing a finger (to inform)~~ ~~Student identifies the conflict and solution in a literary text.~~ ~~Student chooses the conflict/solution from a choice of pictures~~ ~~Student chooses the conflict/solution from a choice of objects/tactile cues~~ ~~Student completes a graphic organizer that outlines the conflict and solution~~ ~~Student sequences main parts of a story using transition cues and key words.~~ ~~Student orders sentences that summarize the story~~

		~~Student uses transition words to complete sentences sequencing the main parts of a story~~ ~~Given 3 picture cards with sentences and 3 cards with key words, the student places the key words with the appropriate sentences~~ ~~Student matches cause with effect from literary and informational texts.~~ ~~Student uses picture cards to match cause and effect from a text~~ ~~Student completes a graphic organizer with cause and effect from a text (e.g., using pictures, words, tactile cues, objects)~~ ~~Communication system/device~~ ~~Visual discrimination~~ ~~Activate a switch~~ ~~Turn the pages of a book~~ ~~Sight word recognition~~ ~~Follow directions~~ ~~Making choices~~
	R2A.b	Student uses text features to answer questions after reading informational texts (e.g., schedules, charts, maps, magazine article, news story).
	R2A.c	Student reads a variety of texts and identifies author's purpose.
	R2A.d	Student identifies the conflict and solution in a literary text.
	R2A.e	Student sequences main parts of a story using transition cues and key words.
	R2A.f	Student matches cause with effect from literary and informational texts.
	Cluster 2B Reading Comprehension	
	R2B.a	Student answers appropriately to comprehension questions from both literary and informational text. ~~Student reads a non-fiction text (adapted) to learn about a science topic and then answers questions about it~~ ~~Student answers cause/effect questions from an adapted novel~~ ~~Student will complete a story map after reading a text (e.g., by places objects from the text in the correct places on the map)~~ ~~Student answers questions about major news events after reading an article (can be modified)~~ ~~Student will select the picture that best illustrates the problem, solution, and character's actions from a text~~ ~~Student predicts logical events from what he/she read or has heard and confirms predictions after reading or listening.~~ ~~Student identifies what he/she thinks will happen next and then points to the place in the text that proved him/her right or wrong.~~ ~~Student draws a picture of what he/she thinks will happen next and then draws a picture of what actually happened~~ ~~Student identifies character, plot, and setting of a story.~~ ~~Student completes a story map with character, plot and setting (using pictures, objects, or words).~~ ~~Student looks at the correct object when asked to identify the main character.~~

		~~Student describes the emotions and motivation of characters in a text.~~ ~~Student matches emotion picture card to a character~~ ~~Student answers questions to determine the characters motivation (why did Johnny save the child from the fire? He wanted to help, he wanted to hide from the police, he wanted to be a hero)~~ ~~Student makes basic inferences from literary and informational text.~~ ~~Student chooses the most logical (best supported in text) inference from a choice of 3.~~ ~~Given text and graphs from an informational text, student will make inferences about a topic.~~ ~~Student identifies the main idea and supporting details within a text.~~ ~~Student put an "X" on details not found in the text~~ ~~Student highlights main idea and details from a text~~ ~~Student classifies information from an informational text as fact or opinion.~~ ~~Using a T-Chart, student sorts information as fact or opinion.~~ ~~Student identifies key words that signal opinion (like, think, believe, etc.)~~ ~~Student places an "F" next to facts and an "O" next to opinions~~ ~~Student identifies the figurative and literal meaning of idioms.~~ ~~Student matches pictures of literal and figurative meanings to an idiom (e.g., shake a leg)~~ ~~Student uses a graphic organizer to draw pictures of literal and figurative meanings of idioms~~ ~~Student interprets print and non-print media to determine the type of propaganda technique being used.~~ ~~Student identifies common words that indicate propaganda (e.g., all, everyone, always = bandwagon propaganda; "redistributors", "war monger" = name calling; free gifts = free bargain; using data [3 out of 5 people say] = scientific approach; famous person says to buy this = testimonial)~~ ~~Student identifies shock tactics and fear (e.g., pictures of wrecked cars to illustrate the dangers of drunk driving)~~
	R2B.b	Student predicts logical events from what he/she read or has heard and confirms predictions after reading or listening.
	R2B.c	Student identifies character, plot, and setting of a story.
	R2B.d	Student describes the emotions and motivation of characters in a text.
	R 2B.e	Student makes basic inferences from literary and informational text.
	R 2B.f	Student identifies the main idea and supporting details within a text.
	R2B.g	Student classifies information from an informational text as fact or opinion.
	R2B.h	Student identifies the figurative and literal meaning of idioms.
	R2B.i	Student interprets print and non-print media to determine the type of propaganda technique being used.

MAAECF ELA – Grades 6 - 8		
Writing Strand		
3. Express, communicate, evaluate, or exchange ideas effectively.	**Cluster 3A The Writing Process**	
	W3A.a	Student uses grade- appropriate reference materials to use new words in their writing (e.g., thesaurus, glossary – dictionary) ~~Student uses teacher-made thesaurus to find synonyms for their own writing.~~ ~~Student uses an object dictionary to define new words~~ ~~Student uses a glossary to look up new content vocabulary words~~ ~~Student uses words, pictures, signs, objects, or sentences to create a text.~~ ~~Student uses objects to summarize a story (e.g., "carnivores eat" could be represented as a lion or other carnivore and teeth to represent eat)~~ ~~Student creates a poster on the dangers of drug use~~ ~~Student composes a friendly letter.~~ ~~Student places pictures/objects/words into a template for a friendly letter~~ ~~Student writes to a pen pal in another country/state~~ ~~Student develops a message or focused text which incorporates a clear beginning, middle, and end and important details.~~ ~~Student sends an email to an organization requesting information about a product or service~~ ~~Student writes a science report~~ ~~Student writes a social studies report~~ ~~Student outlines ideas for composing a text.~~ ~~Student completes a graphic organizer as a pre-writing activity (e.g., given a choice of 3 pictures/objects, student will choose one to write about and then choose the appropriate picture/object details relating to that topic)~~ ~~Student revises text using a writer's checklist.~~ ~~Student reviews a peer's paper using a writing checklist (e.g., complete sentences, easy to read, appropriate grammar, add descriptive words, better order)~~ ~~Communication system~~ ~~Using a computer/switch~~ ~~Making choices~~ ~~Social interactions~~ ~~Turning pages of a book~~ ~~Activating a switch~~ ~~Fine motor skills~~ ~~Computer programs~~

		W 3A.b	Student uses words, pictures, signs, objects, or sentences to create a text.
		W 3A.c	Student composes a friendly letter.
		W 3A.d	Student develops a message or focused text which incorporates a clear beginning, middle, and end and important details.
		W 3A.e	Student outlines ideas for composing a text.
		W 3A.f	Student revises text using a writer's checklist.
		Cluster 3B Audience and Purpose	
		W 3B.a	Student uses formal and informal language based on audience and purpose. ~~Student identifies contractions as informal language and finds it in texts (e.g., comic strip, story, jokes)~~ ~~Student edits a business letter for non use of contractions and formal language (e.g., use of "Mr.", no slang)~~ ~~Student writes/edits a friendly letter to a pen pal and identifies use of informal language (e.g., slang or contractions).~~ ~~Student gives a speech (using VOD, augmentative communication device, words or signs) to the class making the choice to use formal or informal language depending on the topic.~~ ~~Student gathers and organizes relevant information on a topic to answer specific questions of interest.~~ ~~Student completes a web quest to answer questions about a country and then uses a graphic organizer to display the data.~~ ~~Student presents information using pictures, texts, or other media on a researched topic.~~ ~~Student interviews a family member about a specific historical event and then presents the information to the class (e.g., poster, essay, Power Point)~~ ~~Student communicates for a variety of purposes: inform, request information, entertain, persuade.~~ ~~Student participates in a debate on a controversial issue (e.g. mandatory helmet law).~~ ~~Student writes an advertisement for a new product (e.g., by choosing the appropriate descriptors from a choice)~~ ~~Student writes a letter to inform his/her family where and when Family night will be~~ ~~Student writes to a business to request a refund on a faulty product (e.g., by choosing picture sentences that match his/her intent and details)~~ ~~Student shares personal interest or knowledge including supporting details.~~ ~~Student creates a poster and presentation on a hobby (e.g., student presents using an augmentative communication device)~~ ~~Student outlines the sequence of events from a personal experience and includes details (e.g., tells what was learned or enjoyed about an event or movie)~~ ~~Augmentative communication device~~ ~~Making choices~~ ~~Fine/gross motor skills~~ ~~Turn taking~~ ~~Using a switch~~ ~~Use computer computer/stamper~~

		~~Use organizing strategies~~
	W 3B.b	Student gathers and organizes relevant information on a topic to answer specific questions of interest.
	W 3B.c	Student presents information using pictures, texts, or other media on a researched topic.
	W 3B.d	Student communicates for a variety of purposes: inform, request information, entertain, persuade.
	W 3B.e	Student shares personal interest or knowledge including supporting details.
4. Apply Standard English to Communicate	**Cluster 4A Writing Mechanics**	
	W4A.a	Student accurately spells grade-appropriate high- frequency words. ~~Student chooses the correct letter tile or card to complete a word (e.g., _____at).~~ ~~Student participates in a spelling bee~~ ~~Student completes a spelling test using tiles, stamps, keyboard, pencil/paper, finger spelling~~ ~~Student applies rule and edits for capitalizations for proper nouns and initial words of a sentence.~~ ~~Student uses a writer's checklist to review work for capital letters on proper nouns and initial words~~ ~~Student corrects work on the board.~~ ~~Student types sentences on the computer and edits to ensure correct capital letters~~ ~~Student recognizes contractions in isolation and in connected text.~~ ~~Student highlights/points to/looks at/touches contractions in a text.~~ ~~Student sorts word cards into contractions and non-contractions~~ ~~Student correctly uses and edits for basic punctuation marks: end marks, quotations, abbreviations.~~ ~~Student points to show where period, etc. should go.~~ ~~Student writes a short script, comic strip, or play~~ ~~Student edits a peer's work for quotations, abbreviations and end marks~~ ~~Student uses comic strip to locate words that should be in quotation marks if written as a story.~~ ~~Student understands and uses contractions.~~ ~~Student matches contractions to the fully written words~~ ~~Given a sentence with full words, student revises them to make contractions~~ ~~Student composes a variety of simple and compound sentences on a given topic by combining words and phrases.~~ ~~Student will complete cloze sentences using pictures, objects or words and proper subject/verb agreement~~ ~~Student arranges pictures/words into compound sentences with proper subject/verb agreement~~ ~~Student edits a variety of simple and compound sentences on a given topic applying basic capitalization, punctuation, grammar, or spelling rules.~~ ~~Student replaces picture/words/objects to revise sentence subject/verb agreement~~ ~~Student uses spell check to fix spelling~~ ~~Student fixes capitalization and punctuation in a text~~
	W4A.b	Student applies rule and edits for capitalizations for proper nouns and initial words of a sentence.
	W4A.c	Student recognizes contractions in isolation and in connected text.
	W4A.d	Student correctly uses and edits for basic punctuation marks: end marks, quotations, abbreviations.
	W4A.e	Student understands and uses contractions.
	W4A.f	Student composes a variety of simple and compound sentences on a given topic by combining words and phrases.
	W4A.g	Student edits a variety of simple and compound sentences on a given topic applying basic capitalization, punctuation, grammar, or spelling rules.

MATHEMATICS

EXTENDED CURRICULUM FRAMEWORKS

Mathematics Extended Curriculum Frameworks

Number and Operations Strand: Students recognize, represent, understand, and apply mathematical concepts and processes to situations within and outside of school. The definition of Number and Operations includes a range of skills including: rote counting; using pictures, objects, and symbols to denote meaning from numbers and quantities; and demonstrating an understanding of numbers as quantities that can be added, subtracted, multiplied, and divided.

Competency 1: **Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.**

Cluster 1A Counting and Numbers
Cluster 1B Basic Operations
Cluster 1C Fractions, Decimals, and Percentages

Algebra Strand: Students will use symbolic forms to represent, model, and demonstrate understanding of mathematical situations and apply mathematical concepts and processes to situations within and outside of school. Patterns, Functions, and Algebra include such skills as discrimination, sorting, matching, and sequencing.

Competency 2: **Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.**

Cluster 2A Pattern Analysis
Cluster 2B Functions and Relationships

Geometry Strand: Students will use representation, visualization, spatial reasoning, and symmetry to solve problems. Geometry and Spatial Relations includes demonstrated understanding of size, shape, and location, applied for a variety of purposes and to a variety of situations.

Competency 3: **Recognize, describe, and compare basic shapes and other geometric and spatial details.**

Cluster 3A Shape Recognition
Cluster 3B Relational Concepts
Cluster 3C Understanding Lines and Angles

Measurement Strand: Students use a variety of tools and techniques of measurement to problem solve. Measurement includes a demonstrated understanding of such concepts as time, distance, area and volume, applied for a variety of purposes and to a variety of situations. At a lower level, measurement is being broadly defined to include the concept of more than, less than, and other comparatives.

Competency 4: **Understand and use different forms and units of measurement in a variety of contexts.**

Cluster 4A Time

Cluster 4B Measuring Objects and Using Information

Data Analysis and Probability Strand: Students will interpret data and make predictions using methods of exploratory data analysis and basic notions of probability. Data Analysis and Probability includes categorization, making choices, and logical reasoning about events or situations.

Competency 5: **Collect and report data. Read and understand basic charts, graphs, and tables.**

Cluster 5A Collecting and Reporting Data

MAAECF Mathematics – Grades 6 – 8		
Numbers and Operations Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
1. Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.	**Cluster 1A. Counting and Numbers**	
	MN1A.a	Student identifies place value of ones, tens, and hundreds. ~~Student uses a flip book or flashcards to construct a given number.~~ ~~Student identifies the numeral in the ones, tens, or hundreds place in a given number.~~ ~~Student identifies the number that corresponds with the amount displayed using base ten blocks.~~ ~~Student identifies place value of decimals to the hundredths.~~ ~~Student uses a flip book or flashcards to construct a given number.~~ ~~Student identifies the numeral in the ones, tenths, or hundredths place in a given money amount (e.g. $1.25).~~ ~~Student identifies the number that corresponds with the amount displayed using manipulatives (base ten blocks; money; etc.).~~ ~~Student lists three rational numbers in proper numerical order.~~ ~~Given three rational numbers on flashcards, the student places the numbers in order~~ ~~Given a rational number, the student will respond with the next three numbers in a sequence~~ ~~Given a rational number, student identifies the number that comes before and after~~
	MN1A.b	Student identifies place value of decimals to the hundredths.
	MN1A.c	Student lists three rational numbers in proper numerical order.
	MN1A.d	Student compares and orders rational numbers using symbols (>, <, =).
	Cluster 1B. Basic Operations	
	MN1B.a	Student adds double-digit numbers with or without regrouping. ~~Student uses base ten blocks to add double-digit numbers~~ ~~Student subtracts double-digit numbers with or without regrouping.~~ ~~Student uses base ten blocks to subtract double-digit numbers~~ ~~Student applies the basic operations of addition and subtraction in problem solving (e.g., word problems; authentic tasks).~~ ~~Given a word problem or situation, student will determine whether to add or subtract and solve the problem.~~ ~~Student adds and subtracts to balance checkbook.~~ ~~Student solves problems involving multiplication or division.~~ ~~Student uses a multiplication table to multiply and divide problems.~~ ~~Given a word problem or situation, student determines whether to multiply or divide and solves the problem.~~ ~~Student completes problem solving activities in real-life situations using (+, -) or (x, ÷).~~ ~~Given a situation or word problem, student identifies words that indicate whether to add, subtract, multiply, or divide and then solves the problem.~~
	MN1B.a1	Student uses a calculator to solve addition problems involving two ***or*** three double-digit numbers ***and***

		regrouping.
	MN1B.b	Student subtracts double-digit numbers with or without regrouping.
	MN1B.b1	Student uses a calculator to subtract double-digit numbers with or without regrouping.
	MN1B.b2	Student uses a calculator to subtract double- ***and*** triple-digit numbers ***and*** uses a calculator to justify the answer.
	MN1B.c	Student applies the basic operations of addition and subtraction in problem solving (e.g., word problems; authentic tasks).
	MN1B.d	Student solves problems involving multiplication or division.
	MN1B.d1	Student solves multiplication ***and*** division word problems using a calculator.
	MN1B.d2	Student describes ***or*** models **(using objects *or* pictures)** the multiplication/division inverse relationship.
	MN1B.e	Student completes problem solving activities in real-life situations using (+, -) or (x, ÷).
	Cluster 1 C. Fractions, Decimals, and Percentages	
	MN1C.a	Student identifies and models improper and mixed fractions. ~~Student uses manipulatives (area model, set models, number line) to model improper and mixed fractions, then sorts using a graphic organizer.~~ ~~Student identifies and models percents appropriately.~~ ~~Student uses manipulatives (area model, set model) to show 50%, 100%, 25%, etc.~~ ~~Student identifies equivalent fractions and percents.~~ ~~Student will match fractions to appropriate percents using manipulatives (base ten blocks, hand-drawn models, etc.)~~ ~~Student will match fraction to appropriate percent using a graphic organizer~~
	MN1C.a1	Student compares fractions with denominators 2–10 using models, pictures, ***or*** fraction numerals.
	MN1C.a2	Student orders fractions with denominators 2–10 using models, pictures, ***or*** fraction numerals.
	MN1C.b	Student identifies and models percents appropriately.
	MN1C.c	Student identifies equivalent fractions and percents.
	MN1C.d	Student uses money appropriately in real-life activities (making change, determining sales tax, determining unit price).

MAAECF Mathematics – Grades 6 – 8		
Algebra Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
2. Explain, analyze, and generate patterns, relationships,	**Cluster 2 A. Pattern Analysis**	
	MA2A.a	Student creates, describes, and extends a growing pattern. ~~Given manipulatives, student creates a growing pattern (, ,) identifies the rule (+1) and extends the patter~~△ △△ △△△ △ ~~Given a number, student creates a growing pattern (given 2, student creates 2, 5, 8, 11, etc.) states the rule (+3) and extends the pattern.~~

MAAECF Mathematics – Grades 6 – 8		
Algebra Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
and functions using numerals, symbols, words, and/or manipulatives.		~~Student identifies and extends numeric patterns when presented with a task.~~ ~~Student will identify the differences between two given patterns (e.g., 3,6, 9, 12 vs. 2, 4, 6, 8; the first pattern is +3 and the second pattern is +2)~~ ~~Student completes input/output function table when given the rule.~~ ~~Given a partially completed input/output table, student will model the number pattern using manipulatives, and continue the pattern with manipulatives to complete the table~~ ~~Number recognition~~ ~~Basic counting~~ ~~Basic computation~~ ~~Skip counting~~ ~~Shape recognition~~ ~~Communication~~
	MA2A.b	Student identifies and extends numeric patterns when presented with a task.
	MA2A.c	Student completes input/output function table when given the rule.
	Cluster 2 B. Functions and Relationships	
	MA2B.a	Student completes and creates number sentences to demonstrate understanding of multiplication. ~~Given a model of a multiplication problem using manipulative (multiplication area, sets of numbers/objects, etc.) the student will create the number problem for multiplication and solve it~~ ~~Student will use a multiplication table to create and solve multiplication problems~~ ~~Student completes and creates number sentences to demonstrate understanding of division.~~ ~~Given an even number of objects, student will separate the objects into equal groups, create the number problem for division and solve it~~ ~~Student applies the commutative and associative properties of addition and multiplication to solve problems.~~ ~~Use students in class to represent addition or multiplication problems and the totals/sums, then use same students to represent the commutative or associative properties~~ ~~Reach/grasp/release~~ ~~Counting~~ ~~Number recognition~~

MAAECF Mathematics – Grades 6 – 8		
Algebra Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~Follow Directions~~ ~~Work with others~~
	MA2B.b	Student completes and creates number sentences to demonstrate understanding of division.
	MA2B.c	Student applies the commutative and associative properties of addition and multiplication to solve problems.
	MA2B.c1	Student describes ***or*** models the commutative property of addition using objects, pictures, numbers ***or*** letters.
	MA2B.c2	Student describes ***or*** models the associative property of addition using objects, pictures, numbers ***or*** letters.
	MA2B.c3	Student applies the commutative ***and*** associative properties of addition to solve problems.
	MA2B.c4	Student describes ***or*** models the commutative property of multiplication using objects, pictures, numbers ***or*** letters.
	MA2B.c5	Student describes ***or*** models the associative property of multiplication using objects, pictures, numbers ***or*** letters.
	MA2B.c6	Student applies the commutative ***and*** associative properties of multiplication to solve problems.

MAAECF Mathematics – Grades 6 – 8		
Geometry Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
3. Recognize, describe, and compare basic shapes and other geometric and spatial details.	**Cluster 3A. Shape Recognition**	
	MG3A.a	Student identifies 2-dimensional and 3-dimensional objects/shapes. ~~Students match 2-dimensional and 3-dimensional pictures of objects to pictures of real life examples (square to a picture frame, cone to an ice cream cone, cylinder to a can of pop, etc.)~~ ~~Student identifies and explains how shapes are congruent or symmetrical.~~ ~~When shown three shapes, identify the congruent or symmetrical figures (concrete or pictorial)~~
	MG3A.a1	Student uses manipulatives ***or*** pictures to compose two-dimensional ***or*** three-dimensional shapes.
	MG3A.a2	Student recognizes ***and*** identifies ***at least 5 of the following*** polygons **(rhombus, square, triangle, trapezoid, rectangle, pentagon, hexagon *and/or* octagon)** according to number of sides ***and/or*** number of angles.
	MG3A.b	Student identifies and explains how shapes are congruent or symmetrical.
	Cluster 3B. Relational concepts	
	MG3B.a	Student identifies and locates elements of a coordinate plane. ~~Student uses a number line to place a picture or object on a given point.~~ ~~Student places an object or picture on a given point on a grid~~ ~~Student locates an item or object on a map, given its coordinate points~~

MAAECF Mathematics – Grades 6 – 8		
Algebra Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~Number recognition~~ ~~Follow directions~~ ~~Student identifies circumference, diameter, and radius of a circle.~~ ~~Given a circle with the diameter, radius and circumference included, student will label the parts of a circle.~~ ~~Student will point to the parts of a circle when named.~~
	MG3B.b	Student identifies circumference, diameter, and radius of a circle.
	Cluster 3 C. Understanding Lines and Angles	
	MG3C.a	Student identifies angles (right, acute, and obtuse) in everyday objects. ~~Student identifies angles of street corners/intersections found on a map~~ ~~Student identifies angles found on a house/building (right angles in doorways, windows, angles found in roof pitch, etc.~~ ~~Student identifies perpendicular, parallel and intersecting lines in everyday objects (e.g., maps, patterns in clothing, furniture)~~ ~~Student identifies parallel streets, intersections (intersecting), and t-intersections (perpendicular) found on a map~~ ~~Student identifies parallel and intersecting lines found in the environment (e.g., table legs - parallel~~ ~~Follow Directions~~
	MG3C.b	Student identifies perpendicular, parallel and intersecting lines in everyday objects (e.g., maps, patterns in clothing, furniture).
	MG3C.b1	Student uses a protractor to measure angles from 0 to 180 degrees.

MAAECF Mathematics – Grades 6 – 8		
Measurement Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
4. *Understand and use different forms and units of measurement in a variety of contexts.*	**Cluster 4A. Time**	
	MM4A.a	Student applies time-related terms and concepts (responds to questions, estimates) in relation to real-life situations and problem solving. ~~Student uses a daily schedule to keep track of classes and extra curricular activities~~ ~~Student estimates approximate times (e.g., hour, half hour) for daily activities using clock or schedule.~~ ~~Follow Directions~~ ~~Embed mode of communication~~
	Cluster 4 B. Measuring Objects and Using Information	

MAAECF Mathematics – Grades 6 – 8		
Measurement Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
	MM4B.a	Student measures an object to the nearest inch, foot, yard, or centimeter using the appropriate tool. ~~Given items of specified measurements, determine which one will fit through the door, in a locker, etc. by measuring to the nearest appropriate unit (inch, foot, centimeter, etc.)~~ ~~Student reads a thermometer and uses the information to make practical decisions.~~ ~~Student reads and records daily temperatures and makes predictions of what the temperature may be~~ ~~Student matches a weather picture to a temperature~~ ~~Student uses appropriate tools to compare lengths, weights, or temperature, of common objects and materials.~~ ~~Given a situation, choose the appropriate tool to compare measurements (choose a tape measure to compare heights of two students; choose a scale to compare weights of two objects, etc.)~~ ~~Student identifies basic units of measurement in customary and metric systems.~~ ~~Student identifies in, ft, yd, cm, m for length.~~ ~~Student identifies ounces, pounds, grams, kilograms, etc. for measures of weight.~~ ~~Student identifies ounces, cups, pints, gallons, milliliter, liters, etc. for measuring volume.~~ ~~Student measures fluids using customary and metric system units of measure.~~ ~~Student uses customary units to measure in cooking class and metric systems to measure in science experiments.~~ ~~Make choices~~ ~~Identify numbers~~ ~~Manipulate objects~~ ~~Follow directions~~
	MM4B.b	Student reads a thermometer and uses the information to make practical decisions.
	MM4B.c	Student uses appropriate tools to compare lengths, weights, or temperature, of common objects and materials.
	MM4B.d	Student identifies basic units of measurement in customary and metric systems.
	MM4B.e	Student measures fluids using customary and metric system units of measure.
	MM4B.e1	Student compares the capacity of various containers in standard units (e.g., ounce, cup, pint, quart, gallon, ***and/or*** liter, etc.).
	MM4B.e2	Student sorts ***and*** classifies containers based on capacity.

MAAECF Mathematics – Grades 6 – 8		
Data Analysis and Probability Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
5. Collect and report data. Read and understand basic charts, graphs, and tables.	**Cluster 5 A. Collecting and Reporting Data**	
	MD5A.a	Student constructs and labels a pie graph from data on a table and chart. ~~Given data on favorite pizza toppings, the student will use tactile representations to label and fill in the correct proportions of each section of the pie chart.~~ ~~Student identifies the mean, median, mode, and range of a set of data.~~ ~~Given a set of data student will point to the largest and smallest numbers to identify the range, group the same numbers together and determine which one shows up the most to identify mode, average the numbers for mean, and sequence the numbers to determine the middle number to identify median.~~ ~~Student uses data recoded about plant heights to identify the range (smallest height to greatest height), the median (sequence the heights to determine the middle height), etc.~~ ~~Student predicts and models the number of different combinations of 2 or more objects.~~ ~~Given 2 pairs of pants and 4 shirts, student predicts the number of different outfits that can be made and confirms or refutes the prediction by modeling all possible combinations.~~ ~~Student constructs, interprets, and explains data using a graph, table or chart.~~ ~~Student will conduct a survey (using a voice output device), display the results in a table, graph, or chart (using bingo stamper, IntelliTools and Intellisuites, etc.) and answer questions about the data.~~ ~~Student records data from a simple science investigation and uses the data to explain results (e.g. uses a switch to answer yes/no or true/false to statements provided about science data or results)~~ ~~Student uses basic probability concepts to make predictions about an event.~~ ~~Given the probability that heads will come up 1 out of 2 opportunities, predict how many times it will come up if a coin is flipped 10 times.~~ ~~Follow directions~~ ~~Find same~~ ~~Identify numbers~~ ~~Use a calculator~~ ~~Identify most/least~~ ~~Embed mode of communication~~
	MD5A.b	Student identifies the mean, median, mode, and range of a set of data.
	MD5A.c	Student predicts and models the number of different combinations of 2 or more objects.
	MD5A.d	Student constructs, interprets, and explains data using a graph, table or chart.

MAAECF Mathematics – Grades 6 – 8		
Data Analysis and Probability Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
	MD5A.e	Student uses basic probability concepts to make predictions about an event.
	MD5A.e1	Student identifies whether an outcome of an event is "more likely" ***or*** "less likely" to occur.

SCIENCE

EXTENDED CURRICULUM FRAMEWORKS

Science Extended Curriculum Frameworks

Inquiry Strand

Competency 1: **Use tools and instruments to plan, conduct, and evaluate simple science experiments.**

Cluster 1A Conducts Experiment
Cluster 1B Interprets Data
Cluster 1C Communicates Findings

Earth and Space Systems Strand

Competency 2: Identify and describe features of the Earth, the Earth's structure, and other objects in space.

Cluster 2A Planets and the Solar System
Cluster 2B Earth's Structure

Competency 3: Identify and describe living and nonliving factors that affect the environment.

Cluster 3A Factors Affecting the Environment

Life Science Strand

Competency 4: Identify and describe animals and plants and their environments.

Cluster 4A Plants and Animals

Competency 5: Identify and describe structures of living systems and their functions.

Cluster 5A Structures of Living Systems

Physical Sciences Strand

Competency 6: **Demonstrate an understanding of basic concepts regarding matter, energy, motion.**

Cluster 6A Matter and Changes
Cluster 6B Force and Motion
Cluster 6C. Forms of Energy

MAAECF Science – Grades 6 - 8		
Inquiry Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
1. Use tools and instruments to plan, conduct, and evaluate simple science experiments.	**Cluster 1A. Conducts Experiment**	
	SI1A.a	Student recognizes safety rules for science experiment and/or laboratory (e.g., wear goggles, wash hands after handling materials, do not taste unknown materials) ~~Student gestures (yes/no) when asked or shown, "is this a safe way to work with materials?"~~ ~~Student sorts pictures into ☺ or ☹ piles to show safe or not safe practices~~ ~~Student selects pictures that show safe or not safe practices~~ ~~Student models appropriate safety.~~ ~~Student chooses appropriate tools for completing a task (e.g., simple measuring devices metric and standard units, balance scale, spring scale, dissecting microscope, telescope)~~ ~~Student moves hand towards correct tool when asked which one can be used to find weight, length, etc.~~ ~~Student uses yes/no cards to match correct tool when asked which one can be used to find weight, length, etc.~~ ~~Student selects correct tool when asked which one can be used to find weight, length, etc.~~ ~~Given a testable question, student chooses a plan or plans steps to investigate the question~~ ~~Given a choice of two plans (e.g., which should we measure to answer the question; will these steps help us to answer the question), the student will select a plan (yes-no) that will answer the question using investigation~~ ~~Student conducts a simple experiment to address a question or problem.~~ ~~Labeled photo series of student following simple steps to measure, record, test objects, etc.~~ ~~Demonstrate a simple science experiment and ask him/her to repeat procedures~~ ~~Teacher observation documents student collecting and recording data~~ ~~Embed mode of communication~~ ~~Following directions~~ ~~Apply rules~~ ~~Motor skills~~ ~~Reach, grasp, and release~~ ~~Cross midline~~ ~~Basic counting~~ ~~Using organizing strategies~~

MAAECF Science – Grades 6 - 8		
Inquiry Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
	SI1A.b	Student chooses appropriate tools for completing a task (e.g., simple measuring devices metric and standard units, balance scale, spring scale, dissecting microscope, telescope)
	SI1A.c	Given a testable question, student chooses a plan or plans steps to investigate the question
	SI1A.d	Student conducts a simple experiment to address a question or problem.
	Cluster 1B. Interprets Data	
	SI1B.a	Student identifies observable features or traits (e.g., shape, texture, size, color, number) of objects and organisms. ~~Student gestures which items are soft/hard, etc.~~ ~~Student uses Boardmaker pictures with appropriate terms to describe features~~ ~~Student sorts of objects by color, texture, shape, size, and purpose.~~ ~~Student predicts outcomes based on observations and previous experience.~~ ~~Student selects picture of expected outcome after exploration with materials~~ ~~Student draws picture of predicted outcome~~ ~~Student interprets data collected as part of an experiment (e.g., makes an accurate statement based on data; identifies a trend or result)~~ ~~Student uses a switch to answer yes/no or true/false to statements provided about data or results~~ ~~Using "Boardmaker," create pictures to Velcro to a felt board.~~ ~~Watch a science experiment/video and have student describe what he or she observes.~~ ~~Sorting/classifying~~ ~~Visual discrimination~~ ~~Tolerate touching different textures~~
	SI1B.a1	Student sorts ***or*** sequences objects ***and*** organisms based on given criteria.
	SI1B.b	Student predicts outcomes based on observations and previous experience.
	SI1B.c	Student interprets data collected as part of an experiment (e.g., makes an accurate statement based on data; identifies a trend or result)
1. Use tools and	**Cluster 1C. Communicates Findings**	
	SI1C.a	Student communicates understanding of concepts or results by choosing correct or appropriate

MAAECF Science – Grades 6 - 8		
Inquiry Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
instruments to plan, conduct, and evaluate simple science experiments. (continued)		outcome/summary ~~Student uses a switch to answer yes/no or true/false to statements provided~~ ~~Student uses graphic organizer and objects or pictures to show results~~ ~~Using "Boardmaker," create pictures to Velcro to a felt board.~~ ~~Student creates comic strip to show the sequence of steps in an experiment.~~ ~~Student develops graphs, charts, or other visual representations to communicate the results on an investigation.~~ ~~Student creates a pictograph (e.g., using pictures of suns, clouds, rain) to label and then report the weather data.~~ ~~Student creates a bar graph based on data (e.g., numbers counted)~~ ~~Student uses stamp to mark table with tally.~~ ~~Embed mode of communication~~ ~~Increase content vocabulary~~
	SI1C.b	Student develops graphs, charts, or other visual representations to communicate the results on an investigation.

MAAECF Science – Grades 6 - 8		
Earth & Space Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
2. Identify and describe features of the Earth and other objects in space.	**Cluster 2A. Planets and the Solar System**	
	SE2A.a	Student identifies features of the solar system, including the Earth, sun, other planets, and asteroid belt. ~~Student uses art materials (e.g., clay, Styrofoam balls) to make and label model of solar system~~ ~~Student identifies pictures of Earth, sun, other planets, and asteroid belt.~~ ~~Student demonstrates Earth's orbit around the Sun and the Moon's orbit around the Earth.~~ ~~Using a globe, student demonstrates how the moon moves around Earth and Earth around the sun~~ ~~Video of student playing role of moon and then of how moon moves around Earth and Earth around the sun~~ ~~Student distinguishes between heavenly bodies that radiate light (sun, stars) and those that reflect light (moon, planets).~~ ~~Student sorts pictures into 2 groups~~ ~~Student uses Boardmaker pictures to make poster or PowerPoint of heavenly bodies that radiate light (sun, stars) and those that reflect light (moon, planets)~~ ~~Student identifies objects seen in the day and nighttime skies, including different phases of the moon.~~ ~~Student records objects observed in the sky using picture symbols~~ ~~Student creates T-chart using picture symbols~~

MAAECF Science – Grades 6 - 8		
Earth & Space Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~Embed mode of communication~~ ~~Motor skills~~ ~~Increase content vocabulary~~ ~~Classifying~~ ~~Visual discrimination~~
	SE2A.b	Student demonstrates Earth's orbit around the Sun and the Moon's orbit around the Earth.
	SE2A.c	Student distinguishes between heavenly bodies that radiate light (sun, stars) and those that reflect light (moon, planets).
	SE2A.d	Student identifies objects seen in the day and nighttime skies, including different phases of the moon.
	Cluster 2B. Earth's Structure	
	SE2B.a	Student classifies rocks, gems, and minerals according to their characteristics (color, luster, cleavage, streak, hardness). ~~Given two boxes, student will put _____ in one box and _____ in another box. (Criteria: luster = reflects light; cleavage = how it breaks; streak=color when scratched across streak plate; hardness=does it resist being scratched)~~ ~~Tolerate touching different textures~~ ~~Embed mode of communication~~ ~~Classifying~~ ~~Increase content vocabulary~~ ~~Student identifies and describes how erosion affects the earth.~~ ~~Student observes water table investigations and nature videos and selects pictures showing results of erosion~~ ~~Student identifies the three major layers of the earth (crust, mantle, core) and the atmosphere using a model or diagram~~ ~~Student uses simple model of Earth's layers to label the layers + atmosphere~~ ~~Use various fruits to show 3 layers (peel=crust; meat=mantel; seed/center = core) + atmosphere~~ ~~Student examines fossils and identifies whether they are from plants or animals.~~ ~~Student makes simulated fossils of plants of animals~~ ~~Student matches fossils or fossil models and pictures to plant or animal examples~~ ~~Student observes and describes teacher demonstration of how rock are types are formed (e.g., heat, pressure, or~~

MAAECF Science – Grades 6 - 8		
Earth & Space Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~both heat and pressure to form new rocks)~~ ~~Teacher demonstration: using crayon shavings of different colors in foil: sedimentary/ pressed (stepped on to apply pressure); igneous/ heated (heated in foil with hair dryer); metamorphic/ pressure + super heated (crock pot or oven) to get total different color mix) (activity source: AIMS, Inc.)~~ ~~Student classifies resources as renewable or non-renewable, including energy sources~~ ~~Student sorts pictures of renewable (e.g., lumber from trees, food from plants or animals, heat from the sun, wind energy, water) or non-renewable resources (e.g., coal, natural gas, petroleum take millions of years to produce)~~
	SE2B.b	Student identifies and describes how erosion affects the earth.
	SE2B.c	Student identifies the three major layers of the earth (crust, mantle, core) and the atmosphere using a model or diagram
	SE2B.d	Student examines fossils and identifies whether they are from plants or animals.
	SE2B.e	Student observes and describes teacher demonstration of how rock are types are formed (e.g., heat, pressure, or both heat and pressure to form new rocks)
	SE2B.f	Student classifies resources as renewable or non-renewable, including energy sources.
3. Identify and describe living and nonliving factors that affect the environment.	**Cluster 3A. Factors that Affect the Environment**	
	SE3A.a	Student uses visuals to identify tornados and hurricanes and describe their effects ~~Student matches visuals tornados and hurricanes (pictures, video) with what they are called and examples of their effects.~~ ~~Student observes teacher designed water cycle activity and describes or orders pictures showing what happened~~ ~~Teacher demonstrates heating water to evaporate it and cooling steam to create condensation (rain). Student labels and orders pictures to show water cycle.~~ ~~Student uses a switch to answer yes/no or true/false to statements provided about the water cycle (e.g., when water is heated by the sun it evaporates/becomes a gas/turns into water vapor)~~ ~~Student identifies ways in which humans affect living and nonliving things in the environment~~ ~~Student organizes pictures to describe a "walking" field trip to identify places in the school yard or community where humans (e.g., litter or trash cans for litter) and non living things (e.g., erosion from heavy rain) have changed the environment in some way.~~ ~~Student identifies reasons that animals or plants might become threatened, endangered, or extinct (e.g., loss of habitat, over hunting or fishing, pollution, climate change, over populating)~~ ~~Student uses a switch to answer yes/no or true/false to statements provided~~ ~~Student selects pictures to describe what might happen to plants or animals if…~~ ~~Embed mode of communication~~ ~~Increase content vocabulary~~ ~~Visual discrimination~~
	SE3A.b	Student observes teacher designed water cycle activity and describes or orders pictures showing what happened

MAAECF Science – Grades 6 - 8		
Earth & Space Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
3. Identify and describe living and nonliving factors that affect the environment. (continued)	**SE3A.c**	Student identifies ways in which humans affect living and nonliving things in the environment
	SE3A.d	Student identifies reasons that animals or plants might become threatened, endangered, or extinct (e.g., loss of habitat, over hunting or fishing, pollution, climate change, over populating)

MAAECF Science – Grades 6 - 8		
Life Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
4. Identify and describe animals and plants and their environments.	**Cluster 4A. Plants and Animals: Living Organisms and Adaptation**	
	SL4A.a	Student recognizes that the Sun is the major source of the Earth's energy. ~~Student uses a switch to answer yes/no or true/false to statements provided~~ ~~Student completes cloze statement by choosing from two possibilities~~ ~~Student recognizes that all living things are made up of cells~~ ~~Student uses a switch to answer yes/no or true/false to statements provided~~ ~~Student completes cloze statement~~ ~~Student identifies the parts of a plant (stem, root, leaves, seeds, flowers) and describes their functions.~~ ~~Student matches parts of real plants to a diagram and labels their functions (e.g., leaves make food and breathe for the plant; roots bring in water, etc.)~~ ~~Student compares and contrasts characteristics of living organisms (e.g., compare parts of plant cells and animal cells).~~ ~~Student observes plant and animal cells under dissecting microscope and then labels diagram.~~ ~~Student uses Venn diagram to show parts of cells that are the same (e.g., both have nucleus, cytoplasm, and cell membrane) and parts that are different (e.g., plant cells have chloroplasts and cell walls)~~ ~~Student makes models of plant & animals cells~~ ~~Student explains adaptations (changes that resulted over time) of animals and plants that allow them to survive in their habitats.~~ ~~Student uses library, Internet resources, or observation to locate examples to make bulletin board display or PowerPoint (e.g., show how different bird beaks allow them to eat different kinds of foods specific to their habitat; or protective coloration)~~ ~~Student identifies how plants and animals meet their basic needs for water, food, air, and shelter.~~ ~~Student uses pictures or objects to complete a table showing specific organisms and how they meet needs for food, shelter, air, and water, including self~~

MAAECF Science – Grades 6 - 8		
Life Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~Student describes characteristics of different aquatic and land ecosystems.~~ ~~Use library and Internet resources to look up and complete T-chart or table with examples~~ ~~Make models of land and water ecosystems~~ ~~Student identifies what plants need in order to make their own food (photosynthesis).~~ ~~Student uses a simple completed diagram to explain parts of photosynthesis: sunlight comes into leaf, water and air combine with sun's energy to make food (sugar) + oxygen~~ ~~Student develops a food web using pictures or other media.~~ ~~Student uses a switch to answer yes/no or true/false to statements about what living things need~~ ~~Care for living organisms over time and use "daily jobs" to list what they need.~~ ~~Select pictures of plants and animals showing which did/did not get what they need~~ ~~Student uses a food web model to identify organisms and their roles (producers make food and consumers eat food, and decomposers break down matter).~~ ~~Use pictures and strings to make a food web to show more relationships of than one animal with sun and plants at the start~~ ~~Student recognizes what carnivores, herbivores, and omnivores eat.~~ ~~Use library and Internet resources to look up and complete T-chart or table with examples~~ ~~Student classifies animals using given criteria (e.g., carnivores, herbivores, and omnivores; cold- or warm-blooded; vertebrate-invertebrate).~~ ~~Use library and Internet resources to look up and complete T-chart or table with examples~~ ~~Embed mode of communication~~ ~~Following directions~~ ~~Motor skills~~ ~~Reach, grasp, and release~~ ~~Cross midline~~ ~~Basic counting~~ ~~Sorting/classifying~~ ~~Visual discrimination~~ ~~Tolerate touching different textures~~

MAAECF Science – Grades 6 - 8		
Life Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~Sorting/classifying~~ ~~Sequencing~~ ~~Organizing information~~
	SL4A.b	Student recognizes that all living things are made up of cells
	SL4A.c	Student identifies the parts of a plant (stem, root, leaves, seeds, flowers) and describes their functions.
	SL4A.d	Student compares and contrasts characteristics of living organisms (e.g., compare parts of plant cells and animal cells).
	SL4A.e	Student explains adaptations (changes that resulted over time) of animals and plants that allow them to survive in their habitats.
	SL4A.f	Student identifies how plants and animals meet their basic needs for water, food, air, and shelter.
	SL4A.g	Student describes characteristics of different aquatic and land ecosystems.
4. Identify and describe animals and plants and their environments. (continued)	**SL4A.h**	Student identifies what plants need in order to make their own food (photosynthesis).
	SL4A.i	Student develops a food web using pictures or other media.
	SL4A.j	Student uses a food web model to identify organisms and their roles (producers make food and consumers eat food, and decomposers break down matter).
	SL4A.k	Student recognizes what carnivores, herbivores, and omnivores eat.
	SL4A.l	Student classifies animals using given criteria (e.g., carnivores, herbivores, and omnivores; cold- or warm-blooded; vertebrate-invertebrate).
5. Identify and describe structures of living systems and their functions.	**Cluster 5A. Structures of Living Systems**	
	SL5A.a	Student matches the body systems (skeletal, respiratory, circulatory, muscular, nervous, and skin) with various functions within the body. ~~Student plays game to match functions with systems~~ ~~Student's body is traced to make shape and pictures of body parts are added to show where they are located and what they do~~ ~~Student identifies or matches organs (e.g., heart, lungs, brain, spinal cord, skin) with appropriate body system.~~ ~~Point to body parts as directed by teacher~~ ~~Student points to the picture or body part that represents each organ (e.g. where is your heart? Where is your brain?)~~ ~~Student identifies habits that promote good health (e.g., eating healthy foods, exercise, non use of tobacco,~~

MAAECF Science – Grades 6 - 8		
Life Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~drugs, or alcohol).~~ ~~Student gestures (yes/no) when asked or shown, "is this good for your health?"~~ ~~Student sorts pictures into 😊 or ☹ piles to show habits that are good/not good for health~~ ~~Student selects pictures that show habits that are good/not good for health~~ ~~Keep a personal "health habits" journal~~ ~~Student recognizes different diseases or illnesses associated with various body systems (e.g., heart disease, lung cancer, asthma, diabetes).~~ ~~Student interviews school nurse or peers (using a voice output device) to find answers to questions about common illnesses or diseases.~~ ~~Embed mode of communication~~ ~~Increase content vocabulary~~ ~~Motor skills~~ ~~Work with others~~
	SL5A.a1	Student identifies body systems that work together ***or*** describes the process for how body systems work together to perform a given action.
	SL5A.b	Student identifies or matches organs (e.g., heart, lungs, brain, spinal cord, skin) with appropriate body system.
	SL5A.c	Student identifies habits that promote good health (e.g., eating healthy foods, exercise, non use of tobacco, drugs, or alcohol).
	SL5A.d	Student recognizes different diseases or illnesses associated with various body systems (e.g., heart disease, lung cancer, asthma, diabetes).

MAAECF Science – Grades 6 - 8		
Physical Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
6. Demonstrate	**Cluster 6A. Matter and Changes**	
	SP6A.a	Student classifies objects and materials as gases, solids, or liquids. ~~Student charts or sorts common household products (e.g., solid and aerosol/ gas deodorants, shampoo,~~

MAAECF Science – Grades 6 - 8		
Physical Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
an understanding of basic concepts regarding matter, motion, and energy.		~~soaps, etc.) as S-L-G.~~ ~~Student identifies activities that involve physical or chemical changes in substances (e.g., physical: squashing, cutting, sharpening, stretching, evaporating; chemical: baking, cooking, burning, rusting).~~ ~~Students cook simple foods to show how they change due to chemical change; students also cut, break, and stretch foods to show physical changes~~ ~~Students identifies the effects of stirring, shaking, warming up objects in order to dissolve them in water (e.g., will it dissolve faster if I shake it?).~~ ~~Student observes teacher demonstration or works with partner to find out what happens when ___; and records results.~~ ~~Embed mode of communication~~ ~~Following directions~~ ~~Motor skills~~ ~~Reach, grasp, and release~~
	SP6A.b	Student identifies activities that involve physical or chemical changes in substances (e.g., physical: squashing, cutting, sharpening, stretching, evaporating; chemical: baking, cooking, burning, rusting).
	SP6A.b 1	Student recognizes that the total mass does not change during physical ***and/or*** chemical changes.
	SP6A.c	Students identifies the effects of stirring, shaking, warming up objects in order to dissolve them in water (e.g., will it dissolve faster if I shake it?).
	Cluster 6B Force and Motion	
	SP6B.a	Student follows simple directions to make and use a simple machine (e.g., pulley, lever, wedge, inclined plane). ~~Student completes a task with and without using a simple machine and compares result (e.g., harder/easier to lift, took longer to drag it than to put onto wheeled cart)~~ ~~Make door stopper (wedge) and explain how /why it works~~ ~~Student explores, measures, and records the motion of an object (e.g., how amount of force can affect distance or speed of object).~~ ~~Student matches picture of common object with each simple machine (e.g., Lever – handles; Pulleys – Paper towel holder, etc.)~~ ~~Student constructs and uses simple machines~~ ~~Student explores and identifies how different forces affect objects (e.g., equal and opposite forces cause no change in motion; unbalanced forces cause change).~~

MAAECF Science – Grades 6 - 8		
Physical Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
		~~Student uses wind-up toys to describe how they move (e.g., first fast, then slower; zig-zag path; straight forward, etc.)~~ ~~Student describes the effect of friction or resistance on an object's motion.~~ ~~Student works with partner to record how far or how fast an object travels when the surface changes (e.g., rug, floor, soil)~~ ~~Sorting/classifying~~ ~~Visual discrimination~~ ~~Reach, grasp, release~~ ~~Motor skills~~ ~~Increase vocabulary~~
	SP6B.b	Student explores, measures, and records the motion of an object (e.g., how amount of force can affect distance or speed of object).
	SP6B.c	Student explores and identifies how different forces affect objects (e.g., equal and opposite forces cause no change in motion; unbalanced forces cause change).
	SP6B.d	Student describes the effect of friction or resistance on an object's motion.
6. Demonstrate an understanding of basic concepts regarding matter, motion, and energy. (continued)	**Cluster 6C Forms of Energy**	
	SP6C.a	Student identifies objects that will be attracted by a magnet, including electromagnets. ~~Student uses stamp to mark table with tally.~~ ~~Student manipulates a magnet or electromagnet to determine which objects it will attract and places them into a box.~~ ~~Student investigates different forms of energy (heat, sound light, electricity) and describes what happened.~~ ~~Labeled photo series of student producing sound of differing pitch or loudness~~ ~~Observe and draw what happens when light passes through a prism.~~ ~~Investigate sound using water in bottles, flashlight beams or prisms for light; simple circuits; observe heat transfer using different colored warm and cold water.~~ ~~Embed mode of communication~~ ~~Increase content vocabulary~~ ~~Reach, grasp, and release~~

MAAECF Science – Grades 6 - 8		
Physical Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items** ~~**Possible classroom learning activities/resources**~~ ~~**Possible support skills to integrate with academic instruction**~~
	SP6C.b	Student investigates different forms of energy (heat, sound light, electricity) and describes what happened.
	SP6C.b1	Student identifies properties of light **(i.e., reflection, refraction, and absorption)**.

References

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 *et seq., as amended by* the Individuals with Disabilities Education Act Amendments of 1997, Pub. L. No. 105-17, 111 Stat. 37 (1997).

Flowers, C., Browder, D., Wakeman, S., & Karvonen, M. (2007). "Links for Academic Learning: The Conceptual Framework." National Alternate Assessment Center (NAAC) and the University of North Carolina at Charlotte.

McDonnell, L. M, McLaughlin, M. J., & Morison, P. (Eds.). (1997). *Educating one and all: Students with disabilities and standards-based reform.* Washington, DC: National Academy Press.

No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).

Thompson, S.J., Johnstone, C.J., & Thurlow, M.L. (2002). *Universal design applied to large-scale assessments (Synthesis Report 44)*. Minneapolis, MN: University of Minnesota, National Center for Educational Outcomes.

Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education* (NISE Research Monograph No. 6). Madison: University of Wisconsin-Madison, National Institute for Science Education.

Additional Resources for Alternate Assessments & Making Materials More Accessible

DC CAS Alt/District of Columbia Alternate Assessment. [Online] Available: http://www.ihdi.uky.edu/ilssa/dc-cas-alt/ or http://www.ihdi.uky.edu/ilssa/dc-cas-alt/teacherResources/Default.asp *(online alternate assessment resources for teachers and parents)*

Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing, and Presenting. Human Development Institute. University of Kentucky. [Online] Available: http://www.ihdi.uky.edu/IEI/Files/Pathways%20to%20learning%20document.pdf *(ideas for expressive and receptive adaptations to accommodate diverse learning styles)*

Fichleay, K. and Dubuske, S. (2003). Adapting Books Assistive Technology Continuum. Boston Public Schools Access Technology Center. [Online] Available: http://www.boston.k12.ma.us/teach/technology/emmanuel/ATAdaptBks.pdf (*ideas for adapting text to accommodate diverse learning styles)*

GA Alternate Assessment. [Online] Available: http://www.georgiastandards.org/impairment.aspx - *(Teacher Resource Guide, sample modified texts for ELA, sample assessment activities for mathematics, ELA, science, and social studies)*

Hess, K. (2008). "Tools & Strategies for Developing and Using Learning Progressions." Presentation at the FAST-SCASS meeting, Atlanta, GA 2/6/08 [online] PowerPoint and article available: www.nciea.org

Hess, K. (2008). "Teaching and Assessing Understanding of Text Structures across Grades." [online] available: www.nciea.org

MA Alternate Assessment Teacher Resource Guide. [Online] Available: http://www.doe.mass.edu/mcas/alt/resources.html *(online alternate assessment resources for teachers)*

NJ Alternate Assessment/APA. [Online] Available: http://pem.ncspearson.com/nj/apa *(online alternate assessment resources for teachers)*

Pro Teacher website for Hands-on Science Activities. [Online] Available: http://www.proteacher.com/cgi-bin/outsidesite.cgi?id=274&external=http://www.energyquest.ca.gov/projects/index.html&original=http://www.proteacher.com/110053.shtml&title=Energy%20Science%20Projects *(online resources for teaching science)*

Science Saurus: A Student Handbook **–** teacher or student resource for looking up science concepts, examples, and diagrams**.** Great Source Education Group, Houghton Mifflin Company ISBN# 0-669-48192-0 6/8

The Internet Picture Dictionary. (2003). [Online] Available: www.pdictionary.com (*picture dictionary available in several languages which can be used to make worksheets, games, etc.)*

Texas School for the Blind. (undated). Functional Academics and Functional Skills Department. [Online] Available: http://www.tsbvi.edu (*ideas and materials for adapting academic content for students with visual impairments*)

Utah State University. (2003). National Library of Virtual Manipulatives [Online] Available: http://www.matti.usu.edu/nlvm/nav/topic_t_2.html (*virtual manipulatives that can be arranged online to solve or illustrate math problems – includes measurement, geometry ,and algebra)*

What do we mean by reading for the MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, "reading" may be defined as follows:

Student listens *and follows* along with text	Romeo and Juliet fell in love.	http://bookbuilder.cast.org/
Student listens *and follows* along with pictures		http://www.ric.edu/sherlockcenter/dsi/romeo.pdf
Student listens *and follows* along with objects	Romeo and Juliet fell in love. 	Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing and Presenting. Interdisciplinary Human Development Institute, University of Kentucky. [Online] Available: http://www.ihdi.uky.edu/IEI/
Student listens *and follows* along with tactile cues	 Romeo and Juliet fell in love.	http://www.tsbvi.edu/Education/vmi/images/love.jpg

The grade appropriate texts may be adapted by

- Condensing information
- Shortening the text
- Presenting a synopsis of the text
- Highlighting important information
- Pairing text with pictures, objects or tactile cues

    - When pairing text with pictures it may be a one-to-one correspondence (one picture for each word) or it may be one picture that summarizes the text
- Translating the text to Braille
- Chunking relevant information
- Creating a story bag that corresponds to the text (using representative objects for main characters/ideas from the text)
- Rewriting using different vocabulary

What do we mean by writing for MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, "writing" may be defined as the ordering of information and representing a complete thought. For some students representing a complete thought is done on a word by word basis, for other students it may be represented more holistically by an object or picture. Students may write by:

- Using stamps
- Using pictures
- Using objects
- Using written words
- Using Braille
- Using tactile cues
- Using a voice output device or other augmentative communication devices (e.g., to complete a cloze sentence, choose main ideas and/or supporting details to write a text)
- Ordering sentences (words, objects, pictures, tactile cues) into an essay
- Completing cloze sentences
- Using a computer with writing software (speech to text, picture writing, etc.)
- Using a pen, pencil or other writing utensil