MISSISSIPPI DEPARTMENT OF EDUCATION

Ensuring a bright future for every child

Mississippi
Extended Curriculum Frameworks

Elementary School Version

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

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What do we mean by “reading” for the alternate assessment?	
What do we mean by “writing” for the alternate assessment?	

Introduction

The Mississippi Extended Curriculum Frameworks (MECF) Elementary School Version includes curriculum content that students with significant cognitive disabilities in grades 3 through 5 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. <u>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</u>. 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 13-17).

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 3 – 5		
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.b	Student follows text and demonstrates directionality: left-to-right and top-to-bottom; 1-1 matching of words spoken to words in print.
	R1A.b1	Student locates where to begin reading a text.
	R 1A.c	Student recognizes or locates the key parts of a book: front and back, print, illustrations, title, and author.
	R 1A.d	Student recognizes that sentences in print are made of separate words.
	R 1A.e	Student distinguishes between letters, words, and sentences.
	R1A.e1	Student identifies dialogue in text.
	R1A.e2	Student distinguishes dialogue from text.
	R 1A.f	Student reads high frequency words (e.g., familiar names, personal interests).
	Cluster 1B. Phonological Awareness	
	R1B.a	Student matches letters and sounds.
	R1B.b	Student uses letter-sound relationships to blend phonemes to make words.
	R1B.c	Student recognizes pairs of rhyming words.
	R1B.d	Student recognizes the number of syllables in one- and two-syllable words.
	Cluster 1C. Word Identification, Vocabulary, and Decoding Strategies	
	R1C.a	Student demonstrates comprehension of safety words, symbols, or pictures.
	R1C.b	Student demonstrates an understanding of positional words.
	R1C.c	Student uses pictures for context clues.
	R1C.d	Student demonstrates comprehension of words that depict emotions.
	R1C.e	Student identifies roots and affixes (choose 2: un-, re-, -less, -ful).
	R1C.f	Student uses roots and affixes to decode and understand words (choose 2: un-, re-, -less, -ful).
	R1C.g	Student classifies words as nouns or verbs.
	R1C.h	Student reads simple sentences fluently.
	R1C.i	Student recognizes words that are synonyms and antonyms.
	R1C.j	Student matches print words to objects.
	R1C.k	Student recognizes and reads basic sight words from a recommended word list.
	R1C.l	Student identifies when a word does not make sense in the context used.
	R1C.m	Student determines the correct meaning of a multiple meaning word in a given context.

MAAECF ELA – Grades 3 – 5		
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.	**Cluster 2A. Using Text Features and Text Structures**	
	R2A.a	Student locates or names text features in different texts (e.g., caption, illustrations, key on map, bold text, diagram, glossary).
	R2A.b	Student makes basic inferences from a text using text features (e.g., pictures, illustrations, captions, bar graph).
	R2A.c	Student uses the information found in the text features to answer questions (e.g., caption, illustrations, key on map, bold text, diagram).
	R2A.d	Student identifies correct sequence within a given text (story/narrative text and procedural texts, such as directions).
	R2A.e	Student matches cause with effect from a text, when cause or effect is given.
	Cluster 2B. Reading Comprehension	
	R2B.a	Student matches words or symbols to show understanding of common school and community places or events.
	R2B.b	Student describes or retells story events when presented with a prompt.
	R2B.c	Student composes simple statements on a topic learned about by reading or listening to text read aloud.
	R2B.d	Student identifies main idea from what he/she reads or hears read aloud.
	R2B.e	Student answers who, what, and where questions about a text read or heard read aloud.
	R2B.f	Student identifies literary elements (character, setting, problem, solution) after reading a story or hearing it read aloud.
	R2B.g	Student classifies information from an informational text as fact or opinion.
	R2B.h	Student paraphrases a message read or from text read aloud.
	R2B.i1	Student reads a variety of texts and identifies author's purpose (e.g., inform, entertain, persuade).

MAAECF ELA – Grades 3 – 5		
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 produces purposeful drawing.
	W3A.b	Student completes a graphic organizer to plan and write on a topic.
	W3A.c	Student completes a graphic organizer to plan and write a story.
	W3A.d	Student generates words, simple sentences, pictures, signs, or objects to convey a message or idea.
	Cluster 3B. Audience and Purpose	
	W3B.a	Student describes a personal object or retells a personal event when presented with a prompt.
	W3B.b	Student writes notes to peers, parents, and others for a variety of purposes.
	W3B.c	Student selects appropriate words or phrases to add details to a report or story.
	W3B.d	Student identifies appropriate word choices for particular audiences.
	W3B.e	Student identifies possible purpose for reading or writing.
4. Apply Standard English to communicate.	**Cluster 4A. Writing Mechanics**	
	W4A.a	Student demonstrates understanding of capital letters by matching upper and lower case letters.
	W4A.b	Student composes simple complete sentences.
	W4A.c	Student differentiates punctuation marks (period, question mark, exclamation point) from other letters and symbols.
	W4A.d	Student uses common spelling patterns to make and spell new words (-at, cat, bat).
	W4A.e	Student accurately spells words from a recommended word list.
	W4A.f	Student uses capital letters correctly for people's names and at the beginning of sentences, days, and months.
	W4A.g	Student recognizes punctuation marks by name (period, question mark, exclamation point); and correctly matches punctuation marks with their meaning/use.
	W4A.h	Student correctly uses punctuation marks (period, question mark, exclamation).

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 Facts
Cluster 1C. Money

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 Recognition

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 4C. 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. Calendar and Time

Cluster 4B. Weight and Length

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 3 – 5		
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 rote counts from memory (at minimum) from 0 to 10.
	MN1A.b	Student identifies numerals (at minimum) 0 to 10.
	MN1A.c	Student lists three whole numbers in proper numerical order.
	MN1A.d	Student determines the number of objects in a set.
	MN1A.e	Student demonstrates 1-to-1 correspondence in a variety of contexts.
	MN1A.f	Student determines “first” through “tenth” (ordinal numbers), “next” and “last” positions.
	MN1A.g	Student recognizes place value of ones, tens, and hundreds places.
	MN1A.g1	Student identifies place value of ones and tens.
	MN1A.h	Student composes and decomposes 2- and 3-digit whole numbers using standard expanded form, words, or models.
	MN1A.i	Student rounds two- and three-digit whole numbers to the nearest hundred.
	MN1A.j	Student compares whole numbers using terms and symbols (>, < , =).
	Cluster 1B. Basic Facts	
	MN1B.a	Student adds single-digit numbers.
	MN1B.a1	Student matches sets of 2–4 objects and/or pictures to sets of objects with the equivalent number.
	MN1B.a2	Student will create a fact family with sums equal to or less than 10 using numbers, objects, and/or pictures.
	MN1B.b	Student subtracts single-digit numbers.
	MN1B.b1	Student subtracts single-digit numbers from double-digit numbers using a calculator.
	MN1B.b2	Student subtracts single-digit numbers from double-digit numbers without the use of a calculator.
	MN1B.c	Student adds double-digit numbers.
	MN1B.c1	Student adds double-digit numbers using a calculator.
	MN1B.c2	Student adds three or more numbers using a calculator.
	MN1B.d	Student subtracts double-digit numbers and justifies answer.
	MN1B.e	Student estimates sums and differences of whole numbers.
	MN1B.e1	Student determines whether addition or subtraction has taken place by indicating when an object has been added to or removed from a set of 2–5 objects.
	MN1B.f	Student identifies that 0.50 is equivalent to ½.

MAAECF Mathematics – Grades 3 – 5		
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. (Continued)	**MN1B.f1**	Student distinguishes between whole objects and their parts using models or pictures.
	MN1B.f2	Student identifies or demonstrates that two-halves, three-thirds, and four-fourths equal one whole.
	MN1B.g	Student identifies and models representations of fractions with denominators of 2, 3, 4, 5, 6, 8, and 10.
	MN1B.h	Student models multiplication using arrays, equal-sized groups, area models, or equal-sized moves on the number line, etc.
	MN1B.h1	Student multiplies single- and double-digit numbers using a calculator.
	MN1B.i	Student uses symbols (+, =) and vocabulary (add, plus, sum, total) of addition and symbols (–, =) and vocabulary (subtract, minus, difference) of subtraction.
	MN1B.i1	Student locates and uses the following symbols accurately on a calculator: +, –, X, ***and*** =.
	Cluster 1C. Money	
	MN1C.a	Student identifies different coins and currency by name.
	MN1C.b	Student identifies value of coins and currency.
	MN1C.c	Student adds money amounts up to $5.00.
	MN1C.c1	Student adds the value of 2 or more coins up to $1.
Algebra Strand		
2. Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.	**Cluster 2A. Pattern Recognition**	
	MA2A.a	Student matches a pattern of objects or pictures.
	MA2A.b	Student sorts objects into categories and identifies the rule for sorting (e.g., same color, same shape).
	MA2A.c	Student creates a variety of repeating patterns (e.g., auditory: tap, clap; tactile or visual: XOXO; AABBAABB; numeric: 1, 2, 1, 2).
	MA2A.d	Student uses number patterns to skip count by 2's, 3's, 5's, and 10's.
	MA2A.e	Student models, identifies, and demonstrates inverse relationships between addition and subtraction.
	MA2A.f	Student extends patterns of numbers or symbols and states the rule.

MAAECF Mathematics – Grades 3 – 5		
Geometry Strand		
MECF Mathematics Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
3. Recognize, describe, and compare basic shapes and other geometric and spatial details.	**Cluster 3A. Shape Recognition**	
	MG3A.a	Student identifies basic 2-dimensional shapes (square, triangle, rectangle, and circle).
	MG3A.a1	Student matches 3-dimensional figures to 2-dimensional shapes or common objects.
	MG3A.b	Student sorts basic 2-dimensional shapes into groups (circle, triangle, square, rectangle, rhombus, and trapezoid) by number of sides.
	MG3A.c	Student sorts 2-dimensional shapes into groups and describes the characteristics.
	Cluster 3B. Relational Concepts	
	MG3B.a	Student uses positional words (in, above, below, over, under, and beside) to describe the location of an object.
	MG3B.b	Student uses positional words (in, above, below, over, under, beside, left, and right) to describe the location of an object on a simple map.
	Cluster 3C. Understanding Lines and Angles	
	MG3C.a	Student identifies parallel and intersecting lines and perpendicular lines.
	MG3C.b	Student identifies a right angle, acute angle, and obtuse angle.
Measurement Strand		
4. Understand and use different forms and units of measurement in a variety of contexts.	**Cluster 4A. Calendar and Time**	
	MM4A.a	Student understands basic calendar use.
	MM4A.b	Student tells time to the hour and ½ hour.
	MM4A.c	Student tells time to the ¼ hour and 5 minute intervals.
	Cluster 4B. Weight and Length	
	MM4B.a	Student distinguishes between concepts of more or less in an appropriate context.
	MM4B.b	Student sorts and classifies objects based on size, length, or weight.
	MM4B.c	Student selects appropriate tools and units to accurately measure in a given situation.
	MM4B.c1	Student uses nonstandard units (e.g., paper clips, unifix cubes, paper cutouts, etc.) and standard units (e.g., inches, centimeters) to measure length.
	MM4B.c2	Student compares weight and/or mass of objects using a balance scale with and without nonstandard units.
	MM4B.d	Student measures with a ruler, tape measure, or yardstick.
5. Collect and report data. Read and understand basic charts, graphs, and tables.	**Cluster 5A. Collecting and Reporting Data**	
	MD5A.a	Student creates a table, tally, chart, pictograph, or bar graph to report findings.
	MD5A.a1	Student identifies the title and the labels on a given graph and a table/chart.
	MD5A.b	Student interprets and compares data represented in a graph, table or chart.
	MD5A.c	Student makes a prediction, answers a question, or solves a problem using data from a table, tally, chart, pictograph, line graph, or bar graph.

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 and other objects in space**.

Cluster 2A. Planets
Cluster 2B. Earth's Structure

Competency 3: **Identify and describe weather and weather patterns.**

Cluster 3A. Weather

Life Science Strand

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

Cluster 4A. Plants and Animals
Cluster 4B. Environmental Factors

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 3 – 5		
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 follows a set of simple procedures to answer a testable question (e.g., which car will go faster?).
	SI1A.c	Student collects and records data as part of an experiment (e.g., tally, draw/select and label, measure length, weigh mass, calculate density).
	Cluster 1B. Interprets Data	
	SI1B.a	Student identifies observable features or traits (e.g., shape, texture, size, color, number) of objects and organisms.
	SI1B.b	Student predicts outcomes based on observations or 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 a graph, chart, or other visual representation (e.g., labeled drawing, diagram, model) to communicate the results on an investigation.
	SI1C.c	Student uses multiple sources of information (print and/or other media) to answer science-related questions.
	SI1C.d	Student uses science vocabulary from instruction to ask questions, connect predictions to explanations, and communicate ideas.
Earth & Space Science Strand		
2. Identify and describe features of the Earth and other objects in space.	**Cluster 2A. Planets**	
	SE2A.a	Student identifies the sun as a star and Earth as a planet.
	SE2A.b	Student observes and identifies objects in the sky (e.g., clouds, stars, sun, planets, moon).
	SE2A.c	Student classifies heavenly objects seen in the day and nighttime skies.
	SE2A.d	Student identifies planets other than Earth.
	SE2A.e	Student uses a model to show Earth's rotation on its axis and to show day and night.
	SE2A.f	Student uses a model to show Earth's revolution around the sun and to show to show a year.
	SE2A.g	Student distinguishes between heavenly bodies that radiate light (sun, stars) and those that reflect light (moon, planets).

MAAECF Science – Grades 3 – 5		
Earth & Space Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
2. Identify and describe features of the Earth and other objects in space. (Continued)	**Cluster 2B. Earth's Structure**	
	SE2B.a	Student identifies the three major layers of the Earth (crust, mantle, core) using a model or diagram.
	SE2B.b	Student sorts and classifies rocks and minerals by physical features.
	SE2B.c	Student identifies and compares various land forms (mountain, delta, valley, plateau, plains).
	SE2B.d	Student identifies and compares various bodies of water (lake, river, stream, ocean, fresh and salt water).
3. Identify and describe weather and weather patterns.	**Cluster 3A. Weather**	
	SE3A.a	Student compares and contrasts the seasons.
	SE3A.b	Student distinguishes between and among different forms of precipitation (e.g., rain, snow, sleet, hail).
	SE3A.c	Student makes weather instruments in order to observe and describe how they work (e.g., barometer, wind vane, thermometer, rain gauge).
	SE3A.d	Student identifies different instruments used to collect weather data (thermometer, wind vane, and rain gauge) and uses them to record weather conditions over time.
	SE3A.e	Student uses a variety of media to locate weather information and weather patterns.
	SE3A.f	Student compares Mississippi weather with weather of other regions of the country.
Life Science Strand		
4. Identify and describe animals and plants and their environments.	**Cluster 4A. Plants and Animals**	
	SL4A.a	Student classifies living and non-living entities.
	SL4A.b	Student recognizes that the Sun is the major source of the Earth's energy.
	SL4A.c	Student identifies the parts of a plant (i.e., stem, root, leaves, seeds, flowers).
	SL4A.d	Student groups plants by common observable features (e.g., color, size, habitat).
	SL4A.e	Student groups animals by common observable features (e.g., color, size, habitat).
	SL4A.f	Student classifies plants using given scientific criteria (e.g., with and without seeds; flowering and non-flowering, coniferous and deciduous trees; compound/simple leaves).
	SL4A.g	Student classifies animals using given scientific criteria (e.g., vertebrates – invertebrates; fish/bird/amphibian, reptile, mammal).
	SL4A.h	Student sequences life stages of plants or animals and compares the life stages of different organisms.
	SL4A.i	Student identifies basic needs of plants and animals (i.e., water, food, air, and shelter).
	SL4A.j	Student develops a food chain using pictures or other media.
	SL4A.k	Student uses a food chain model to identify organisms and their roles (producers make food, consumers eat food, and decomposers break down matter).

MAAECF Science – Grades 3 – 5		
Life Science Strand		
MECF Science Competencies	**Rating scale item #**	**MECF Objectives/Rating Scale Items**
4. Identify and describe animals and plants and their environments. (Continued)	**Cluster 4B. Environmental Factors**	
	SL4B.a	Student identifies ways the environment is affected by natural events (i.e., floods, fires, drought, hurricanes).
	SL4B.b	Student explains why recycling is important.
	SL4B.c	Student classifies objects as recyclables or trash.
	SL4B.d	Student identifies reasons that animals or plants might become endangered (e.g., loss of habitat, over hunting or fishing, pollution, climate change, over populating).
5. Identify and describe structures of living systems and their functions.	**Cluster 5A. Structures of Living Systems**	
	SL5A.a	Student identifies the 5 senses.
	SL5A.b	Student matches the body systems (skeletal, respiratory, digestive, circulatory, and excretory) with various functions within the body.
	SL5A.c	Student identifies or matches organs (e.g., heart, lungs, bones/skull, tongue, stomach, intestines, kidneys) with appropriate body system.
	SL5A.c1	Student identifies body organs (e.g., heart, lungs, stomach, eyes, ears, mouth, tongue, esophagus, intestines, kidneys, bones).
	SL5A.c2	Student identifies the functions of organs (e.g., heart, lungs, stomach, eyes, ears, mouth, tongue, esophagus, intestines, kidneys, bones).
Physical Science Strand		
6. Demonstrate an understanding of basic concepts regarding matter, motion, and energy.	**Cluster 6A. Matter and Changes**	
	SP6A.a	Students predict and test predictions about whether objects will sink or float in water.
	SP6A.b	Students recognize that all things are made up of matter.
	SP6A.c	Students classify objects and materials as gases, solids, or liquids.
	SP6A.d	Student identifies activities that involve physical or chemical changes in substances (e.g., physical: squashing, cutting, sharpening, stretching, evaporating; chemical: baking, cooking, burning, rusting).

MAAECF Science – Grades 3 – 5		
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. (Continued)	**Cluster 6B. Force and Motion**	
	SP6B.a	Student identifies activities using force to push or pull objects (e.g., push swing or door, pull door or shade down).
	SP6B.b	Student identifies simple machines in their environment (e.g., lever, pulley, wheel and axle).
	SP6B.c	Student explores, measures, and records the motion of an object.
	Cluster 6C. Forms of Energy	
	SP6C.a	Student identifies and groups objects that will be attracted/not attracted by a magnet.
	SP6C.b	Student identifies uses of electricity/electrical energy in their environment.
	SP6C.c	Student identifies different forms of energy (e.g., sound coming from musical instrument, light from flashlight or sun, heat from hairdryer or sun, electricity).
	SP6C.d	Student identifies examples of kinetic and potential forms of energy.
	SP6C.e	Student creates a simple circuit (using battery, insulated wire, and light or bell) to light a light or ring a bell.

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).

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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.

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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