EXTENDED STANDARDS HANDBOOK

LAA 1

LEAP Alternate Assessment, Level 1

LOUISIANA DEPARTMENT OF EDUCATION

PAUL G. PASTOREK
STATE SUPERINTENDENT OF EDUCATION

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LAA 1 Extended Standards Handbook Overview

INTRODUCTION

In 2001 Louisiana administered the LEAP Alternate Assessment (LAA) for the first time. With the inception of LEAP Alternative Assessment, Level 2 (LAA 2), LAA became LEAP Alternate Assessment, Level 1 (LAA 1). LAA 1 is a performance assessment based on selected Louisiana content standards in English language arts, mathematics, science, and social studies.

In 2003 Louisiana continued to expand its content standards by developing Grade-Level Expectations (GLEs). GLEs identify what *all* students should know or be able to do by the end of a given grade level in these four content areas. Extended Standards (ESs) have been developed for the LAA 1 population in English language arts, mathematics, and science. The Extended Standards capture the essence of the GLEs and provide a way for students with significant cognitive disabilities to access the general education curriculum. The ESs also provide the foundation for the redesigned LAA 1, to be administered for the first time in spring of 2008.

PURPOSES OF THE EXTENDED STANDARDS HANDBOOK

The LAA 1 Extended Standards Handbook includes grade-specific information about the Extended Standards. The handbook includes introductory information for each content area contained within the handbook, a glossary, and tables that map the relationship between the standards and/or strands, benchmarks, Grade-Level Expectations (GLEs), and Extended Standards.

EXTENDED STANDARDS DEVELOPMENT

There is a progression of specificity in the Louisiana content standards. The content standards are broad statements of what students should know and be able to do, benchmarks are more specific, and GLEs state what all students should know and be able to do at the end of a given grade level. Each Extended Standard provides a description of the essence of a content standard and the GLEs appropriate for students who meet the eligibility criteria for LEAP Alternate Assessment, Level 1. Additionally, three levels of academic complexity related to each ES provide instructional access for students with varying academic abilities. Extended Standards have been developed for English language arts and mathematics in grades 3 through 10 based on GLEs. Extended Standards have also been developed for science grades 4, 8, and 11 and are based on benchmarks. Extended Standards for social studies may be developed at a future date. The ESs are organized in four grade spans: 3–4, 5–6, 7–8, and 9–11.

Extended Standards do not represent the entire curriculum for a given grade or content area. Rather, they represent the core academic content considered appropriate for students taking LAA 1 at each grade span. Therefore, only those standards, benchmarks, and categories selected by the development committee are included in the handbook.

For mastery to be achieved at a given level, it may be necessary for those skills to be introduced at an earlier grade. Similarly, skills will need to be maintained after mastery has occurred.

LAA 1 Extended Standards Handbook Overview

The Extended Standards were developed with the following goals in mind:

- to articulate academic learning from one grade to the next for students with significant cognitive disabilities
- to facilitate access to grade level content for students with significant cognitive disabilities
- to move from the concrete to the abstract
- to attend to prerequisite skills and understandings

LAA 1 Extended Standards Handbook Overview

SUMMARY OF EXTENDED STANDARDS DEVELOPMENT PROCESS

In July 2007, the Louisiana Department of Education (LDE) selected Data Recognition Corporation (DRC) as the contractor for the LAA 1 Extended Standards and assessment development project. The steps in the process of developing the Extended Standards for English language arts, mathematics, and science are described below.

1. **Identifying Special Education Consultants—**Louisiana special education consultants with experience working with students who have significant cognitive disabilities were selected to provide their critical perspective to the LAA 1 project.

2. **Identifying GLEs to extend—S**pecial education consultants met in July and drafted a template for the ESs and selected the content standards and GLEs or benchmarks for DRC to extend.

3. **Drafting Extended Standards and Complexity Levels—**In July and August of 2007, DRC special education and content-area specialists drafted extended standards for each of the benchmarks/GLEs identified by the special education consultants as most critical for the LAA 1 student population. In addition, descriptions of three complexity levels were drafted for each Extended Standard to provide student access to the Extended Standard and to guide item development.

4. **Reviewing Initial Drafts—**An initial draft of the Extended Standards and Complexity Levels developed by DRC was then sent to LDE for review and feedback prior to its presentation to the Extended Standards Committee.

5. **Completing Initial drafts—**The draft Extended Standards and Complexity Levels for the three content areas were completed and prepared for further review.

6. **Conducting Teacher Committee Meetings—**In August of 2007, three content-area development committees, each comprised of approximately 10 Louisiana general or special education classroom teachers or supervisors were convened to determine alignment of the Extended Standards and Complexity Levels for English language arts, mathematics, and science with the content standards and GLEs. The committee members were chosen for their knowledge of standards and curriculum and this population.

7. **Completing Final Drafts—**Face-to-face meetings between LDE and DRC were held following the committee meetings to finalize the Extended Standards and Complexity Levels.

8. **Obtaining the State Board of Elementary and Secondary Education (SBESE) Approval of the Extended Standards—**In October 2007, the LDE staff presented the Extended Standards to the Louisiana State Board of Elementary and Secondary Education for review and approval.

9. **Conducting Professional Development Workshops—**Five professional development workshops were conducted at the end of October and the beginning of November 2007. Three were held in Baton Rouge and two in Alexandria. Each district was advised to send two representatives—the District Test Coordinator and the Special Education Supervisor or their designees.

CONCLUSION

Louisiana's content standards, assessments, and accountability have been major components of the Louisiana education reform program for several years. The more recent addition of the GLEs has further defined what Louisiana students are expected to know and do. As an extension of the content standards, benchmarks, and GLEs, the Extended Standards provide links from curriculum to instruction and to assessment for the LAA 1 student population. The primary goal of the Extended Standards Handbook is a common understanding among parents, students, teachers, and the general public about what is expected of Louisiana students with significant cognitive disabilities as they progress in school.

ENGLISH LANGUGE ARTS INTRODUCTION

INTRODUCTION

For students taking LAA 1, the selected Louisiana English language arts content standards for LAA 1 encompass reading, writing, researching, and listening and speaking. Each benchmark within a standard delineates what students should know and be able to do by the end of a grade span. GLEs further define the knowledge and skills students are expected to master by the end of each grade or high school course. The GLEs for each grade are developmentally appropriate and increase in complexity to build the knowledge and skills students need. GLEs appropriate for LAA 1 are extended to capture the essence of the GLEs students with significant cognitive disabilities must know and be able to do and are referred to as Extended Standards (ESs). Three levels of complexity provide students of varying abilities instructional access to grade level academic content. Mastery of an ES is generally indicated by a student performing at level 3.

ELEMENTARY: GRADES 3–4

At the elementary level, third- and fourth-grade students focus on understanding and learning the basics of how to read and write, listening strategies, speaking skills, and skills to acquire and communicate knowledge. Third- and fourth-grade students with significant cognitive disabilities also focus on these ELA skills. ESs and complexity levels provide instructional access; accommodations and assistive technology allow each student to learn and communicate what he or she knows.

MIDDLE SCHOOL: GRADES 5–6 and 7–8

At the middle school level, the focus is on developing an understanding of literary and structural elements found in literature and informational texts. Students develop competence in communicating thoughts and ideas through written expression. For students with significant cognitive disabilities, speaking and listening skills at this grade cluster also focus on effective communication. Students follow multi-step directions, carry out single procedures and routines, and participate in group discussions. Students use a variety of research skills to access information from daily schedules, calendars, and other technological resources.

HIGH SCHOOL: GRADES 9–12

At the high school level, students in grades nine through twelve focus on developing the ability to gain a higher level of understanding of the texts that they read.

Ninth-grade through twelfth-grade students develop competence in using writing processes to craft a wide variety of compositions for academic, as well as real-life purposes.

At this level, students with significant cognitive disabilities fine-tune their speaking and listening skills and learn to follow complex directions. Students participate in group discussions and carry out complex procedures and routines. Research skills at grades nine through twelve include the ability to access information from timelines and other technological resources.

ENGLISH LANGUGE ARTS INTRODUCTION

STANDARDS/BENCHMARKS/GLES/EXTENDED STANDARDS/COMPLEXITY LEVELS

Codes identify standards, benchmarks, and grade clusters from the *Louisiana English Language Arts Content Standards* (see Table 1).

Complexity Level Codes: Three complexity levels (CLs) are described for each extended standard. CLs are coded from three (highest level of complexity) to one (lowest level of complexity). Complexity levels are descriptions of varying opportunities to access the academic content identified by the extended standard. Level 1 describes the least complex application of the extended standard and reflects a student's initial encounter with content related to the extended standard. Level 2 describes a more complex application of the extended standards. Level 3 reflects even more complex learning situations, typically involving comprehension and subsequent processing of discourse, text, and underlying text structure. Mastery of an extended standard is generally indicated by a student performing at level 3.

Benchmark Codes, GLE Numbering, and Extended Standards:

Benchmarks are coded by content area, standard number, and grade cluster. The first part is always ELA, which stands for English language arts. The second part, or term, indicates the standard number. The third term indicates the grade cluster and benchmark number.

Table 1. Explanation of Benchmark Codes

Code(s)	Explanation
ELA-1-E2	English Language Arts, Standard 1, Elementary, Benchmark 2
ELA-4-M1	English Language Arts, Standard 4, Middle School, Benchmark 1
ELA-3-H4	English Language Arts, Standard 3, High School, Benchmark 4

GLEs are numbered consecutively in each grade level in a grade span and grouped by standard in the following order:

Standards 1 and 7—Reading and responding
Standard 2—Writing process
Standard 4—Speaking and listening
Standard 5—Using information resources

Extended Standards Numbering

Extended standards numbering relates to two similar GLEs, one from each grade in the span. For example: In the benchmark coded ELA-1-E4, GLE number 8 is from grade level 3; it is about identifying story elements. In that same benchmark, GLE number 5 is from grade level 4; it is also about identifying story elements. The extended standard, therefore, is coded ES-8/5 and refers to GLE 8 from grade 3 and GLE 5 from grade 4. Refer to the sample and key on page 11.

SAMPLE PAGE AND KEY FOR ENGLISH LANGUAGE ARTS

Standard →

Standard One: Students read, comprehend, and respond to a range of materials, using a variety of strategies for different purposes.

Benchmark →

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-1-E4: recognizing story elements (e.g., setting, plot, character, theme) and literary devices (e.g., simile, dialogue, personification) within a selection	8. Identify story elements, including: • theme • conflict • character traits, feelings, and motivation (ELA-1-E4) 5. Identify a variety of story elements, including: • the impact of setting on character • multiple conflicts • first- and third-person points of view • development of theme (ELA-1-E4)	• ES-8/5: Identify story elements, including: character	3. Identify the main character in a story 2. Identify two characters in a story 1. Identify one character in a story

Complexity Levels (3 is most complex)

GLE from grade 3 (top) and grade 4 (bottom)

Extended Standard:
ES-8/5 refers to GLE 8 from grade 3
ES-8/5 refers to GLE 5 from grade 4

THIRD–FOURTH GRADE SPAN INTRODUCTION

Third–Fourth Grade Span

Extended standards for grades three and four focus on students' development of reading, writing, and speaking and listening skills. Students also learn to access information in electronic and print sources.

GRADES 3–4

ENGLISH LANGUAGE ARTS

Standard One: Students read, comprehend, and respond to a range of materials, using a variety of strategies for different purposes.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-1-E1: gaining meaning from print and building vocabulary using a full range of strategies (e.g., self-monitoring and correcting, searching, cross-checking), evidenced by reading behaviors using phonemic awareness, phonics, sentence structure, and meaning	1. Decode words using knowledge of base words, root words, and common prefixes and suffixes (ELA-1-E1) 1. Use understanding of base words, roots, prefixes, and suffixes to decode more complex words (ELA-1-E1)	ES-1/1: Determine the meaning of base/root words with affixes that indicate negation and plurals, i.e.: • un- • -s • -es	3. Given a word with an affix, determine its meaning 2. Identify a second word with the same affix 1. Identify a word with an affix
ELA-1-E4: recognizing story elements (e.g., setting, plot, character, theme) and literary devices (e.g., simile, dialogue, personification) within a selection	8. Identify story elements, including: • theme • conflict • character traits, feelings, and motivation (ELA-1-E4) 5. Identify a variety of story elements, including: • the impact of setting on character • multiple conflicts • first- and third-person points of view • development of theme (ELA-1-E4)	ES-8/5: Identify story elements, including: character	3. Identify the main character in a story 2. Identify two characters in a story 1. Identify one character in a story

Standard Seven: Students apply reasoning and problem-solving skills to reading, writing, speaking, listening, viewing, and visually representing.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-7-E1: using comprehension strategies (e.g., sequencing, predicting, drawing conclusions, comparing and contrasting, making inferences, determining main ideas) to interpret oral, written, and visual texts	17. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • sequencing events • making predictions using information from texts • making simple inferences and drawing conclusions about information in texts • comparing and contrasting, including story elements (e.g., theme, character, and conflicts) and main points or ideas in informational texts • distinguishing between a main idea and a summary • identifying main ideas of texts (ELA-7-E1)	ES-17/14: Demonstrate understanding of information in texts, including: • identifying main idea • sequencing events	A. Main Idea 3. Identify the main idea in texts 2. Identify two ideas in texts 1. Identify one idea in texts B. Sequence of Events 3. Identify the beginning and end of texts 2. Identify the end of texts 1. Identify the beginning of texts

Benchmarks (continued)	Grade-Level Expectations (continued)	Extended Standards (continued)	Complexity Levels (continued)
	14. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, such as: • sequencing events and steps in a process • explaining how the setting impacts other story elements, including the characters' traits and actions • using specific evidence from a story to describe a character's traits, actions, relationships, and/or motivations • confirming or denying a prediction about information in a text • comparing and contrasting story elements or information within and across texts • identifying stated main ideas and supporting details • making simple inferences (ELA-7-E1)		

ELA-7-E4: using basic reasoning skills to distinguish fact from opinion, skim and scan for facts, determine cause and effect, generate inquiry, and make connections with real-life situations	21. Apply basic reasoning skills, including: • identifying differences between fact and opinion • skimming and scanning texts to locate specific information • identifying multiple causes and/or effects in texts and life situations • raising questions to obtain clarification and/or direct investigation • connecting what is learned to real-life situations (ELA-7-E4) 19. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • supporting differences between fact and opinion with information from texts • skimming and scanning texts for various purposes (e.g., locating information, verifying facts) • identifying cause-effect relationships in texts and real-life situations • generating questions to guide examination of topics in texts and real-life situations • explaining connection between information from texts and real-life experiences (ELA-7-E4)	ES-21/19: Apply basic reasoning skills, including: • skimming and scanning text for specific information	3. Locate, in a field of seven, the text that represents specific information 2. Locate, in a field of five, the text that represents specific information 1. Locate, in a field of three, the text that represents specific information

Standard Two: Students write competently for a variety of purposes and audiences.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-2-E1: drawing, dictating and writing compositions that clearly state or imply a central idea with supporting details in a logical, sequential order (beginning, middle, end)	22. Write compositions of two or more paragraphs that are organized with the following: • a central idea • a logical, sequential order • supporting details that develop ideas • transitional words within and between paragraphs (ELA-2-E1) 20. Write compositions of at least three paragraphs organized with the following: • a clearly stated central idea • an introduction and a conclusion • a middle developed with supporting details • a logical, sequential order • transitional words and phrases that unify points and ideas (ELA-2-E1)	ES-22/20: Write a composition that is organized with: • central idea • logical, sequential order **Note that "write" may include drawing and dictating. See the corresponding benchmark.**	3. Write a sentence or phrase that expresses a central idea and has a logical sequence 2. Write a central idea in a simple sentence or phrase 1. Identify the central idea in a simple sentence or phrase

ELA-2-E6: writing as a response to texts and life experiences (e.g., journals, letters, lists)	27. Write for various purposes, including: • informal letters using appropriate letter format • book reports and informational compositions that include main ideas and significant details from the text (ELA-2-E6) 26. Write for various purposes, including: • formal and informal letters that follow a specific letter format, include relevant information, and use an appropriate closure • informational reports that include facts and examples and that present important details in a logical order • book reports that include an opinion and/or a persuasive viewpoint (ELA-2-E6)	ES-27/26: Write for various purposes, including: • informal letters • lists **Note that "write" may include drawing or dictating.**	3. Write a letter 2. Write a list 1. Sign your name

Standard Four: Students demonstrate competence in speaking and listening as tools for learning and communicating.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-4-E2: giving and following directions/procedures	38. Give and follow precise directions and instructions (ELA-4-E2) 35. Interpret, follow, and give multi-step directions (ELA-4-E2)	ES-38/35: Follow simple directions	3. Follow a two-step direction in familiar context 2. Follow a one-step direction in familiar context (e.g., Put on your coat.) 1. Follow a one-word command (e.g., stop, go)
ELA-4-E5: speaking and listening for a variety of audiences (e.g., classroom, real-life, workplace) and purposes (e.g., awareness, concentration, enjoyment, information, problem solving)	42. Use active listening strategies, including: • asking questions and responding to ideas/opinions • giving oral responses, such as explanations of written and/or spoken texts (ELA-4-E5) 37. Demonstrate active listening strategies, including asking questions, responding to cues, and making eye contact (ELA-4-E5)	ES-42/37: Use listening strategies	3. Respond with two or more words to a question 2. Respond with a one-word answer (other than “yes” or “no”) to a question (e.g., Is milk white or green?) 1. Respond to a “yes” or “no” question (e.g., Is the window open?)

Standard Five: Students locate, select, and synthesize information from a variety of texts, media, references, and technological sources to acquire and communicate knowledge.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-5-E6: recognizing and using graphic organizers (e.g., charts/graphs, tables/schedules, diagrams/maps)	52. Locate information found in graphic organizers such as timelines, charts, graphs, schedules, tables, diagrams, and maps (ELA-5-E6) 50. Read and interpret timelines, charts, graphs, schedules, tables, diagrams, and maps generated from grade-appropriate materials (ELA-5-E6)	ES-52/50: Locate information, including: • daily schedule	3. Sequence all events on a daily schedule 2. Locate "What comes next?" on a daily schedule 1. Locate information on a daily schedule

FIFTH–SIXTH GRADE SPAN INTRODUCTION

Fifth–Sixth Grade Span

Extended standards for grades five and six target reading strategies and skills and vocabulary development. Students learn to identify story elements and ideas in fiction and nonfiction texts. Through the use of a variety of strategies, students use reasoning skills to comprehend text. Writing ability continues to develop. By focusing on improving active listening strategies, students follow multi-step directions and participate in group activities. Students access and apply information found in electronic and print sources.

GRADES 5–6

ENGLISH LANGUAGE ARTS

Standard One: Students read, comprehend, and respond to a range of materials, using a variety of strategies for different purposes.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-1-M1: using knowledge of word meaning and developing basic and technical vocabulary using various strategies (e.g., context clues, idioms, affixes, etymology, multiple-meaning words)	1. Identify word meanings using a variety of strategies, including: • using context clues (e.g., definition, restatement, example, contrast) • using structural analysis (e.g., base words, roots, affixes) • determining word origins (etymology) • using electronic and print dictionaries, thesauruses, glossaries (ELA-1-M1) 1. Identify word meanings using a variety of strategies, including: • using context clues (e.g., definition, restatement, example, contrast) • using structural analysis (e.g., roots, affixes) • determining word origins (etymology) • using knowledge of idioms • explaining word analogies (ELA-1-M1)	ES-1/1: Identify word meanings using context clues **Will not be assessed on the state assessment**	3. Use a homophone correctly 2. Identify the correct meaning of a homophone in a sentence or phrase 1. Identify a multiple-meaning word or a homophone used in text (e.g., fall; sail/sale)

ELA-1-M1: using knowledge of word meaning and developing basic and technical vocabulary using various strategies (e.g., context clues, idioms, affixes, etymology, multiple-meaning words)	4. Develop specific vocabulary (e.g., for reading scientific, geographical, historical, and mathematical texts, as well as news and current events) for various purposes (ELA-1-M1) 3. Develop specific vocabulary (e.g., scientific, content specific, current events) for various purposes (ELA-1-M1)	ES-4/3: Develop a vocabulary of common content-specific words	3. Select the correct content word to complete a simple sentence or phrase 2. Categorize four content-specific words from two content areas 1. Identify a content-specific word
ELA-1-M2: interpreting story elements (e.g., mood, tone, style) and literary devices (e.g., flashback, metaphor, foreshadowing, symbolism) within a selection	5. Identify and explain story elements, including: • theme development • character development • relationship of word choice and mood • plot sequence (e.g., exposition, rising action, climax, falling action, resolution) (ELA-1-M2) 4. Identify and explain story elements, including: • theme development • character development • relationship of word choice and mood • plot sequence (e.g., exposition, rising action, climax, falling action, resolution) (ELA-1-M2)	ES-5/4: Identify story elements, including: • character • character trait	3. Identify a character trait of the main character in a story 2. Identify the main character and a secondary character in a story 1. Identify the main character in a story

Standard Seven: Students apply reasoning and problem-solving skills to reading, writing, speaking, listening, viewing, and visually representing.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-7-M1: using comprehension strategies (e.g., summarizing, recognizing literary devices, paraphrasing) to analyze oral, written, and visual texts	12. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • sequencing events and steps in a process • summarizing and paraphrasing information • identifying stated and implied main ideas and supporting details for each • comparing and contrasting literary elements and ideas • making simple inferences and drawing conclusions • predicting the outcome of a story or situation with reasonable justification • identifying literary devices (ELA-7-M1)	ES-12/11: Demonstrate understanding of information in texts, including: • sequencing events • identifying main idea • making predictions	A. Sequence of events 3. identify the beginning, middle, and end of a text 2. Identify the middle of a text 1. Identify the beginning and end of a text B. Make predictions 3. Identify what happened last and predict what will happen next in a text 2. Predict what will happen next in a text 1. Predict what will happen last in a text

Benchmarks (continued)	Grade-Level Expectations (continued)	Extended Standards (continued)	Complexity Levels (continued)
	11. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • sequencing events and steps in a process • summarizing and paraphrasing information • identifying stated or implied main ideas and supporting details • comparing and contrasting literary elements and ideas • making simple inferences and drawing conclusions • predicting the outcome of a story or situation • identifying literary devices (ELA-7-M1)		

ELA-7-M4: using inductive and deductive reasoning skills across oral, written, and visual texts	17. Analyze grade-appropriate print and nonprint texts using various reasoning skills, including: • identifying cause-effect relationships • raising questions • thinking inductively and deductively • generating a theory or hypothesis • skimming/scanning • distinguishing facts from opinions and probability (ELA-7-M4) 16. Analyze grade-appropriate print and nonprint texts using various reasoning skills, including: • identifying cause-effect relationships • raising questions • reasoning inductively and deductively • generating a theory or hypothesis • skimming/scanning • distinguishing facts from opinions and probability (ELA-7-M4)	ES-17/16: Demonstrate understanding of text by using reasoning skills, including: • skimming and scanning • cause and effect	3. Identify a cause and an effect in text 2. Identify a cause or effect in text 1. Skim or scan text to locate specific information

Standard Two: Students write competently for a variety of purposes and audiences.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-2-M1: writing multi-paragraph compositions (150–200 words) that clearly imply a central idea with supporting details in a logical, sequential order	18. Write multiparagraph compositions on student- or teacher-selected topics organized with the following: • an established central idea • important ideas or events stated in sequential or chronological order • elaboration (e.g., fact, examples, specific details) • transitional words and phrases that unify points and ideas • an overall structure including an introduction, a body/middle, and a concluding paragraph that summarizes important ideas (ELA-2-M1)	ES-18/17: Write a composition that is organized with: • central idea • organization patterns (e.g., logical, sequential, or chronological order) • elaboration (e.g., facts, examples, and/or supporting details) **Note that "write" may include drawing and dictating.**	3. Given a topic, use "first," "then" or "next," and "last" to sequence the events in writing a composition 2. Given a topic, use "first" and "then" or "next" to write one or two sentences 1. Given a topic, use "first" to write a sequence of two events

Benchmarks (continued)	Grade-Level Expectations (continued)	Extended Standards (continued)	Complexity Levels (continued)
	17. Write multiparagraph compositions on student- or teacher-selected topics organized with the following: • an established central idea • organizational patterns (e.g., comparison/contrast, order of importance, chronological order) appropriate to the topic • elaboration (e.g., fact, examples, and/or specific details) • transitional words and phrases that unify ideas and points • an overall structure including an introduction, a body/middle, and a concluding paragraph that summarizes important ideas (ELA-2-M1)		

ELA-2-M6: writing as a response to texts and life experiences (e.g., personal and business letters)	25. Write for various purposes, including: • formal and informal letters that state a purpose, make requests, or give compliments • evaluations of media, such as films, performances, or field trips • explanations of stories and poems using retellings, examples, and text-based evidence (ELA-2-M6) 24. Write for various purposes, including: • business letters that include a heading, inside address, salutation, body, and signature • evaluations, supported with facts and opinions, of newspaper/magazine articles and editorial cartoons • text-supported interpretations of elements of novels, stories, poems, and plays (ELA-2-M6)	ES-25/24: Write for various purposes, including: • informal letter • list • evaluation of media **Note that "write" may include drawing and dictating.**	3. Given a topic, evaluate a medium (e.g., film, performance, field trip) 2. Given a topic, write an informal letter (e.g., thank you) 1. Given a topic, write a list of two items

Standard Four: Students demonstrate competence in speaking and listening as tools for learning and communicating.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-4-M2: giving and following directions/procedures	34. Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions (ELA-4-M2) 33. Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions (ELA-4-M2)	ES-34/33: Follow multi-step directions	3. Follow a three-step direction 2. Follow an unfamiliar two-step direction 1. Follow a familiar two-step direction
ELA-4-M4: speaking and listening for a variety of audiences (e.g., classroom, real-life, workplace) and purposes (e.g., awareness, concentration, enjoyment, information, problem solving)	38. Demonstrate active listening strategies (e.g., asking focused questions, responding to questions, making visual contact) (ELA-4-M4) 37. Demonstrate active listening strategies for various purposes, including: • viewing a video to interpret the meaning of the story, to determine the speaker's/character's attitude using verbal and nonverbal cues, and to draw conclusions about the presentation • summarizing the main points of a speaker's message, including supporting details and their significance (ELA-4-M4)	ES-38/37: Demonstrate active listening strategies	3. Respond with three or more words to a question about a multiple-sentence statement (e.g., large black dog) 2. Respond with two words to a question about a multiple-sentence statement (e.g., large dog) 1. Respond with one word to a question about a multiple-sentence statement (e.g., dog)

ELA-4-M6: participating in a variety of roles in group discussions (e.g., facilitator, recorder)	41. Participate in group and panel discussions, including: • explaining the effectiveness and dynamics of group process • applying agreed-upon rules for formal and informal discussions • assuming a variety of roles (e.g., facilitator, recorder, leader, listener) (ELA-4-M6) 40. Participate in group and panel discussions, including: • explaining the effectiveness and dynamics of group process • applying agreed-upon rules for formal and informal discussions • assuming a variety of roles (e.g., facilitator, recorder, leader, listener) (ELA-4-M6)	ES-41/40: Participate in a group discussion **Will not be on the state assessment**	3. Act as a facilitator in a group discussion (e.g., point to person who has the next turn to speak) 2. Act as a time keeper in a group discussion (e.g., tell para to start clock, stop clock) 1. Participate in a group discussion as a listener (e.g., turn toward or make eye-contact with each speaker, encourage speaker with nod of head)

Standard Five: Students locate, select, and synthesize information from a variety of texts, media, references, and technological sources to acquire and communicate knowledge.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-5-M6: identifying and interpreting graphic organizers (e.g., flowcharts, timelines, tree diagrams)	48. Interpret information from a variety of grade-appropriate sources, including timelines, charts, schedules, tables, diagrams, and maps (ELA-5-M6) 48. Interpret information from a variety of graphic organizers, including timelines, charts, schedules, tables, diagrams, and maps in grade-appropriate sources (ELA-5-M6)	ES-48/48: Locate information, including: • daily schedule • calendar	3. Respond to a question regarding information on a calendar 2. Locate information on a calendar 1. Identify a calendar from other similar items (e.g., a list, a diagram)

SEVENTH–EIGHTH GRADE SPAN INTRODUCTION

Seventh–Eighth Grade Span

Extended standards for grades seven and eight continue to focus on reading, writing, and thinking skills. Students build upon previously learned reading strategies to encounter a wide range of genres. Students' writing becomes more developed. The purposes for writing also increase. Seventh- and eighth-grade students use active listening strategies to follow instructions and carry out procedures or routines, as well as participate in group activities. At this grade span, students increase the amount and type of information they can access in electronic and print sources.

GRADES 7–8

ENGLISH LANGUAGE ARTS

Standard One: Students read, comprehend, and respond to a range of materials, using a variety of strategies for different purposes.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-1-M1: using knowledge of word meaning and developing basic and technical vocabulary using various strategies (e.g., context clues, idioms, affixes, etymology, multiple-meaning words)	1. Develop vocabulary using a variety of strategies, including: • use of connotative and denotative meanings • use of Greek, Latin, and Anglo-Saxon base words, roots, affixes, and word parts (ELA-1-M1) 1. Develop vocabulary using a variety of strategies, including: • use of connotative and denotative meanings • use of Greek, Latin, and Anglo-Saxon roots and word parts (ELA-1-M1)	ES-1/1: Determine the meaning of base/root words with affixes that indicate inflected verbs and nouns, i.e.: • re- • -er	3. Given an inflected verb or noun, determine its meaning from a known root/base word (e.g., reheat from heat; teacher from teach) 2. Identify a second inflected verb or noun with the same affix 1. Identify an inflected verb (paint/repaint) or an inflected noun (paint/painter)

ELA-1-M2: interpreting story elements (e.g., mood, tone, style) and literary devices (e.g., flashback, metaphor, foreshadowing, symbolism) within a selection	2. Explain story elements, including: • the revelation of character motivation through thoughts, words, and actions • plot sequence (e.g., exposition, rising action, climax, falling action, resolution) • conflicts (e.g., man vs. man, nature, society, self) and their effect on plot • effects of first- and third-person points of view • theme development (ELA-1-M2) 2. Interpret story elements, including: • stated and implied themes • development of character types (e.g., flat, round, dynamic, static) • effectiveness of plot sequence and/or subplots • the relationship of conflicts and multiple conflicts (e.g., man vs. man, nature, society, self) to plot • difference in third-person limited and omniscient points of view • how a theme is developed (ELA-1-M2)	ES-2/2: Identify story elements, including: • character • character trait • setting	3. Identify changes in the setting within one or more stories 2. Identify one setting in a story 1. Identify the main character and one of his/her character traits

Standard Seven: Students apply reasoning and problem-solving skills to reading, writing, speaking, listening, viewing, and visually representing.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-7-M1: using comprehension strategies (e.g., summarizing, recognizing literary devices, paraphrasing) to analyze oral, written, and visual texts	9. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • sequencing events and steps in a process • summarizing and paraphrasing information • identifying stated or implied main ideas and explaining how details support ideas • comparing and contrasting literary elements and ideas • making inferences and drawing conclusions • predicting the outcome of a story or situation • identifying literary devices (ELA-7-M1)	ES-9/9: Demonstrate understanding of information in grade appropriate texts, including: • sequencing events • summarizing • identifying main idea • predicting the outcome	3. Predict the outcome of text 2. Identify the main idea of text 1. Identify the sequence of events in text

Benchmarks (continued)	Grade-Level Expectations (continued)	Extended Standards (continued)	Complexity Levels (continued)
	9. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • sequencing events to examine and evaluate information • summarizing and paraphrasing to examine and evaluate information • interpreting stated or implied main ideas • comparing and contrasting literary elements and ideas within and across texts • making inferences and drawing conclusions • predicting the outcome of a story or situation • identifying literary devices (ELA-7-M1)		

ELA-7-M4: using inductive and deductive reasoning skills across oral, written, and visual texts	14. Analyze grade-appropriate print and nonprint texts using various reasoning skills, for example: • identifying cause-effect relationships • raising questions • reasoning inductively and deductively • generating a theory or hypothesis • skimming/scanning (ELA-7-M4) 14. Analyze grade-appropriate print and nonprint texts using various reasoning skills, including: • identifying cause-effect relationships • raising questions • reasoning inductively and deductively • generating a theory or hypothesis • skimming/scanning • distinguishing facts from opinions and probability (ELA-7-M4)	ES-14/14: Demonstrate understanding of text by using reasoning skills, including: • skimming and scanning • cause and effect • generating a theory or hypothesis ("If…then" statement)	3. Complete an "If…then" statement from information found within a given text 2. Identify a cause and effect relationship in text 1. Identify a cause or effect in text

Standard Two: Students write competently for a variety of purposes and audiences.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-2-M1: writing multiparagraph compositions (150–200 words) that clearly imply a central idea with supporting details in a logical, sequential order	15. Write multiparagraph compositions on student- or teacher-selected topics organized with the following: • established central idea • organizational patterns (e.g., comparison/contrast, order of importance, chronological order) appropriate to the topic • elaboration (e.g., fact, examples, and/or specific details) • transitional words and phrases that unify ideas and points • overall structure including an introduction, a body/middle, and a concluding paragraph that summarizes important ideas and details (ELA-2-M1)	ES-15/15: Write a composition that is organized with: • established central idea • organizational patterns (e.g., logical, sequential order, order of importance, chronological order) appropriate to the topic • elaboration (e.g., facts, examples, and or supporting details) • overall structure, including an introduction, a body/middle, and a conclusion **Note that "write" may include drawing and dictating.**	3. Given a topic, write a composition that expresses a central/main idea and is organized with a beginning, body/middle, and conclusion 2. Given a topic, write sentences or phrases that express a main idea and some elaboration 1. Given a topic, write related sentences or phrases that express chronological or sequential order

Benchmarks (continued)	Grade-Level Expectations (continued)	Extended Standards (continued)	Complexity Levels (continued)
	15. Write complex, multiparagraph compositions on student- or teacher-selected topics organized with the following: • a clearly stated focus or central idea • important ideas or events stated in a selected order • organizational patterns (e.g., comparison/contrast, order of importance, chronological order) appropriate to the topic • elaboration (anecdotes, relevant facts, examples, and/or specific details) • transitional words and phrases that unify ideas and points • an overall structure (e.g., introduction, body/middle, and concluding paragraph that summarizes important ideas and details) (ELA-2-M1)		

ELA-2-M6: writing as a response to texts and life experiences (e.g., personal and business letters)	22. Write for various purposes, including: • letters of complaint supported with complete and accurate information and reasons • evaluations of media, such as television, radio, and the arts • text-supported interpretations of elements of grade-appropriate stories, poems, plays, and novels • applications, such as memberships and library cards (ELA-2-M6) 22. Write for a wide variety of purposes, including: • persuasive letters that include appropriate wording and tone and that state an opinion • evaluations of advertisements, political cartoons, and speeches • text-supported interpretations of elements of grade-appropriate stories, poems, plays, and novels (ELA-2-M6)	ES-22/22: Write for various purposes, including: • informal letter • list • evaluations of media • text-supported interpretations of stories, poems, plays, and novels • applications **Note that "write" may include drawing and dictating.**	3. Write an application (e.g., for a library card) 2. Write a letter/note to a friend/parent/teacher 1. Write an evaluation of a medium (e.g., television, radio)

Standard Four: Students demonstrate competence in speaking and listening as tools for learning and communicating.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-4-M2: giving and following directions/procedures	30. Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions (ELA-4-M2) 30. Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions (ELA-4-M2)	ES-30/30: Follow instructions and carry out simple procedures discussion, including: applying agreed /routines	3. Follow a familiar four-step procedure/routine 2. Follow instructions for an unfamiliar, simple procedure/routine 1. Follow a familiar, simple procedure/routine (e.g., three-step recipe in Family/Consumer Science)
ELA-4-M6: participating in a variety of roles in group discussions (e.g., facilitator, recorder)	38. Participate in group and panel discussions, including: • explaining the effectiveness and dynamics of group process • applying agreed-upon rules for formal and informal discussions • assuming a variety of roles (e.g., facilitator, recorder, leader, listener) (ELA-4-M6) 38. Participate in group and panel discussions, including: • explaining the effectiveness and dynamics of group process • applying agreed-upon rules for formal and informal discussions • assuming a variety of roles (e.g., facilitator, recorder, leader, listener) (ELA-4-M6)	ES-38/38: Participate in a group • -upon rules for formal discussions • assuming a variety of roles (e.g., facilitator, time keeper, leader, listener) **Will not be on the state assessment**	3. Act as a leader in a group discussion (e.g., introduce the topic and keep participants on task) 2. Act as a time keeper in a group discussion using a clock to watch the time (e.g., start the clock, stop the clock) 1. Participate in a group discussion (e.g., express opinions and/or concerns about the topic)

Standard Five: Students locate, select, and synthesize information from a variety of texts, media, references, and technological sources to acquire and communicate knowledge.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-5-M6: identifying and interpreting graphic organizers (e.g., flowcharts, timelines, tree diagrams)	46. Interpret information from a variety of graphic organizers including timelines, charts, schedules, tables, diagrams, and maps in grade-appropriate sources (ELA-5-M6) 46. Interpret information from a variety of graphic organizers including timelines, charts, schedules, tables, diagrams, and maps in grade-appropriate sources (ELA-5-M6)	ES-46/46: Locate and use information, including: • daily schedule • calendar	3. Locate given information in a calendar (e.g., holidays, special events, birthdays, weather conditions) 2. Recognize changes in daily schedule 1. Refer to schedule for information about sequence of activities

NINTH–TWELFTH GRADE SPAN INTRODUCTION

Ninth–Twelfth Grade Span

Extended standards for grades nine through twelve (only grades nine through eleven are assessed) focus on strengthening previously acquired reading, writing, and listening strategies and skills. At this level, students identify and analyze elements within and across a variety of texts. Students broaden comprehension of a range of texts. In this grade span, students increase their reasons for writing. In speaking and listening, students follow instructions for increasingly complex procedures and routines and continue to participate in group activities. Students demonstrate an increased skill in accessing and applying information found in electronic and print sources.

GRADES 9–10

ENGLISH LANGUAGE ARTS

Standard One: Students read, comprehend, and respond to a range of materials, using a variety of strategies for different purposes.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-1-H1: using knowledge of word meaning and extending basic and technical vocabulary, employing a variety of strategies (e.g., contexts, connotations and denotations, word derivations, relationships, inferences)	1. Extend basic and technical vocabulary using a variety of strategies, including: • use of context clues • use of knowledge of Greek and Latin roots and affixes • use of denotative and connotative meanings • tracing etymology (ELA-1-H1) 1. Extend basic and technical vocabulary using a variety of strategies, including: • use of context clues • use of knowledge of Greek and Latin roots and affixes • use of denotative and connotative meanings • tracing etymology (ELA-1-H1)	ES-1/1: Determine the meaning of base/root words with affixes that indicate negation and comparative/superlative, i.e.: • dis- • -er • -est	3. Given a word that indicates negation or comparative/superlative, determine its meaning from its root/base 2. Identify a second word with the same affix that indicates negation or comparative/superlative 1. Identify a word that indicates negation or comparative/superlative

ELA-1-H2: analyzing and evaluating the effects of complex elements and complex literary devices (e.g., irony, sarcasm, ambiguity) on the meaning and purpose of a selection	2. Identify and explain story elements, including: • the author's use of direct and indirect characterization • the author's pacing of action and use of plot development, subplots, parallel episodes, and climax to impact the reader • the revelation of character through dialect, dialogue, dramatic monologues, and soliloquies (ELA-1-H2) 2. Analyze the development of story elements, including: • characterization • plot and subplot(s) • theme • mood/atmosphere (ELA-1-H2)	ES-2/2: Identify story elements, including: • character • character trait • setting • main idea	3. Identify the main idea in a selection 2. Identify details/event/idea in a selection 1. Describe the setting of a selection

Standard Seven: Students apply reasoning and problem-solving skills to reading, writing, speaking, listening, viewing, and visually representing.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-7-H1: using comprehension strategies (e.g., synthesizing, critiquing) to evaluate oral, written, and visual texts	11. Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: • summarizing and paraphrasing information and story elements • comparing and contrasting information in texts, including televised news, news magazines, documentaries, and online information • comparing and contrasting complex literary elements, devices, and ideas within and across texts • examining the sequence of information and procedures in order to critique the logic or development of ideas in texts • making inferences and drawing conclusions • making predictions and generalizations (ELA-7-H1)	ES-11/11: Demonstrate understanding of information in texts, including: • summarizing information • comparing and contrasting literary elements and ideas within and among texts • sequencing events or procedures • making inferences • drawing conclusions • making predictions about a story	3. Compare or contrast literary elements (e.g., character, character traits, setting) or ideas either within or among texts 2. Draw a conclusion from information in texts 1. Make an inference from texts

Benchmarks (continued)	Grade-Level Expectations (continued)	Extended Standards (continued)	Complexity Levels (continued)
	11. Demonstrate understanding of information in grade-appropriate texts using a variety of reasoning strategies, including: • summarizing and paraphrasing information and story elements • comparing and contrasting information in various texts (e.g., televised news, news magazines, documentaries, online information) • comparing and contrasting complex literary elements, devices, and ideas within and across texts • examining the sequence of information and procedures in order to critique the logic or development of ideas in texts • making inferences and drawing conclusions • making predictions and generalizations (ELA-7-H1)		

ELA-7-H4: using analytical reasoning skills in a variety of complex oral, written, and visual texts	14. Analyze information within and across grade-appropriate texts using various reasoning skills, including: • identifying cause-effect relationships • raising questions • reasoning inductively and deductively • generating a theory or hypothesis • distinguishing facts from opinions and probability (ELA-7-H4) 15. Analyze information within and across grade-appropriate texts using various reasoning skills, including: • identifying cause-effect relationships • raising questions • reasoning inductively and deductively • generating a theory or hypothesis • distinguishing facts from opinions and probability (ELA-7-H4)	ES-14/15: Demonstrate understanding of texts by using reasoning skills, including: • skimming and scanning • generating a theory or hypothesis • distinguishing fact from opinion • cause and effect	3. Differentiate fact from opinion in texts 2. Identify an opinion in texts 1. Locate a fact in texts

Standard Two: Students write competently for a variety of purposes and audiences.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
ELA-2-H1: writing compositions (250–300 words) that employ specific organizational elements (e.g., spatial order, order of importance, ascending/descending order, chronological order) and clearly imply a central idea with supporting details in a logical, sequential order	16. Develop multiparagraph compositions organized with the following: • a clearly stated central idea or thesis statement • a clear, overall structure that includes an introduction, a body, and an appropriate conclusion • supporting paragraphs appropriate to the topic organized in a logical sequence (e.g., spatial order, order of importance, ascending/descending order, chronological order, parallel construction) • transitional words and phrases that unify throughout (ELA-2-H1)	ES-16/17: Write a composition that is organized with: • a clearly stated central idea • a clear, overall structure that includes an introduction, a body with supporting details, and a conclusion • organizational patterns (e.g., logical spatial order, order of importance, ascending/descending order, chronological order) • transitional words and phrases that unify throughout • **Note that "write" may include drawing and dictating.**	3. Write a composition with a clear introduction, a body with supporting details, and a conclusion 2. Write a composition with a central idea and supporting details 1. Write a composition that clearly states a central idea

	17. Develop multiparagraph compositions organized with the following: • a clearly stated central idea/thesis statement • a clear, overall structure that includes an introduction, a body, and an appropriate conclusion • supporting paragraphs appropriate to the topic organized in a logical sequence (e.g., spatial order, order of importance, ascending/descending order, chronological order, parallel construction) • transitional words and phrases that unify throughout (ELA-2-H1)		

ELA-2-H6: writing as a response to texts and life experiences (e.g., technical writing, resumes)	21. Write for various purposes, including: • formal and business letters, such as letters of complaint and requests for information • letters to the editor • job applications • text-supported interpretations that connect life experiences to works of literature (ELA-2-H6) 24. Write for various purposes, including: • formal and business letters, such as letters of complaint and requests for information • letters to the editor • job applications • text supported interpretations that connect life experiences to works of literature (ELA-2-H6)	ES-21/24: Write for various purposes, including: • informal letter • list • evaluation of media • text-supported interpretation • business letter • job application **Note that "write" may include drawing and dictating.**	3. Write a business letter including addresses, date, two sentences or phrases around a central idea, and closing (e.g., letter of complaint) 2. Write a letter of request (e.g., to the principal) 1. Complete a job application

Standard Four: Students demonstrate competence in speaking and listening as tools for learning and communicating.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-4-H2: giving and following directions/procedures	29. Listen to oral instructions and presentations, speeches, discussions, and carry out procedures, including: • taking accurate notes • writing summaries or responses • forming groups (ELA-4-H2) 32. Listen to detailed oral instructions and presentations and carry out complex procedures, including: • taking accurate notes • writing summaries or responses • forming groups (ELA-4-H2)	ES-29/32: Follow instructions for complex procedures/routines	3. Follow detailed instructions for a complex procedure/routine (e.g., a safety drill) 2. Follow detailed instructions for an unfamiliar procedure/routine 1. Follow detailed instructions for a familiar procedure/routine

ELA-4-H6: participating in a variety of roles in group discussion (e.g., mediator)	35. Participate in group and panel discussions, including: • identifying the strengths and talents of other participants • acting as facilitator, recorder, leader, listener, or mediator • evaluating the effectiveness of participant's performance (ELA-4-H6) 38. Participate in group and panel discussions, including: • identifying the strengths and talents of other participants • acting as facilitator, recorder, leader, listener, or mediator • evaluating the effectiveness of participants' performances (ELA-4-H6)	ES-35/38: Participate in a group discussion, including: • acting as facilitator, time keeper, leader, listener, or mediator • evaluating the effectiveness of participant's performance **Will not be on the state assessment**	3. Act as a facilitator in a group discussion (e.g., point to person who has the next turn to speak) 2. Act as a time keeper in a group discussion (e.g., using a watch, tell each student when to start and stop) 1. Participate in a group discussion as a listener (e.g., turning toward or making eye-contact with each speaker)

Standard Five: Students locate, select, and synthesize information from a variety of texts, media, references, and technological sources to acquire and communicate knowledge.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
ELA-5-H6: analyzing and synthesizing graphic organizers (e.g., organizational charts, concept maps, comparative tables)	43. Analyze information found in a variety of complex graphic organizers, including detailed maps, comparative charts, extended tables, graphs, diagrams, cutaways, overlays, and sidebars to determine usefulness for research (ELA-5-H6) 46. Analyze information found in complex graphic organizers, including detailed maps, comparative charts, extended tables, graphs, diagrams, cutaways, overlays, and sidebars to determine usefulness for research (ELA-5-H6)	ES-43/46: Locate and use: • daily schedule • calendar • timeline	3. Choose appropriate graphic organizer (daily schedule, calendar, or timeline) to locate information 2. Respond to a question regarding information found on a timeline 1. Locate specified information on a timeline

MATHEMATICS INTRODUCTION

INTRODUCTION

GLEs are explicit recommendations for what students should know and be able to do as a result of each level of schooling from prekindergarten through grade 12. This degree of specificity is made with the expectation that all students in Louisiana have access to a high-quality instructional program in mathematics. Instructional programs must provide all students with a solid foundation in mathematics.

Extended Standards define what schools and teachers need to focus on in each year of instruction for students with significant cognitive disabilities.

GLEs appropriate for this population are extended to capture the essence of the GLEs students with significant cognitive disabilities must know and be able to do. Three levels of complexity provide students of varying abilities instructional access to grade-level academic content. Mastery of an ES is generally indicated by a student performing at level 3.

ORGANIZATIONAL PRINCIPLES

There are six mathematics strands: Number and Number Relations; Algebra; Geometry; Measurement; Data Analysis, Probability, and Discrete Math; and Patterns, Relations, and Functions. GLEs, linked across the grade span and appropriate for academic instruction for students with significant cognitive disabilities, are the basis of the extended standards.

MATHEMATICS INTRODUCTION

STANDARDS/BENCHMARKS/GLES/EXTENDED STANDARDS/COMPLEXITY LEVELS

Codes identify standards, benchmarks, and grade clusters from the *Louisiana Mathematics Content Standards* (See Table 2). A GLE and its extended standard may apply to more than one benchmark; as a result, a GLE may have more than one code that also applies to the extended standards.

Benchmark Codes, GLE Numbering, and Extended Standards:

Benchmark Codes: Benchmark codes have 3 parts. The first part in the benchmark code refers to the strand (e.g., Number and Number Relations). The second part refers to the benchmark number. The third part refers to the grade cluster (i.e., E, M, H).

Table 2. Explanation of Benchmark Codes

Code	Explanation
N-1-E	Number and Number Relations, Benchmark 1, Elementary
G-5-M	Geometry, Benchmark 5, Middle School
A-3-H	Algebra, Benchmark 3, High School

Grade-level expectations are numbered consecutively in each grade level in a grade span and grouped by strand in the following order:

N—Number and Number Relations
A—Algebra
M—Measurement
G—Geometry
D—Data Analysis, Probability, Discrete Math
P—Patterns, Relations, and Functions

Extended standards are numbered using the GLE numbers from each related GLE in the grade span.

Extended Standard Numbering: ES indicates an extended standard, which is a further delineation of the GLEs. Extended standards refer to the specific GLEs that are extended, one from each grade in the grade span. For example: In the benchmark coded N-9-E, GLE number 8 is from grade level 3; it is about solving real-life situations/problems. In that same benchmark, GLE number 14 is from grade level 4; it is also about solving real-life situations/problems. The extended standard, therefore, is coded ES-8/14 and refers to GLE 8 from grade 3 and GLE 14 from grade 4. Refer to the sample and key on page 59.

Complexity Levels: Three complexity levels (CLs) are described for each extended standard. CLs are coded from three (most complex) to one (least complex). CLs provide students of varying abilities instructional access to grade-level academic content. Mastery of an extended standard is generally indicated by a student performing at level 3.

MATHEMATICS INTRODUCTION

Each GLE grade-span list opens with concise information about the emphases of that grade span. The emphases at each span and their careful articulation lead to growth in students' abilities to learn and apply mathematics in their jobs, vocational and personal lives.

SAMPLE PAGE AND KEY FOR MATHEMATICS

Standard

Number and Number Relations: In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Benchmark

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
N-9-E: demonstrating the connection of number and number relations to the other strands and to real-life situations	8. Recognize, select, connect, and use operations, operational words, and symbols (i.e., +, –, x, ÷) to solve real-life situations (N-5-E) (N-6-E) (N-9-E) 14. Solve real-life problems, including those in which some information is not given (N-9-E)	ES-8/14: Add and subtract to solve real-life situations	3. Solve real-world problems using addition or subtraction 2. Identify simple addition and subtraction concepts within daily-living problems 1. Count to solve simple problems

Complexity Levels (3 is most complex)

GLE from grade 3 (top) and grade 4 (bottom)

Extended Standard:
ES-8/14 refers to GLE 8 from grade 3
ES-8/14 refers to GLE 14 from grade 4

THIRD–FOURTH GRADE SPAN INTRODUCTION

Third–Fourth Grade Span

Grade 3 and grade 4 students, including those with significant cognitive disabilities, work with concrete models of numbers to help them recognize and identify numbers to a specific place value. Activities with number concepts in this grade span also provide work with number comparisons, concepts of money, and simple addition and subtraction in real-life problems.

In algebra, grade 3 and grade 4 students work with objects or pictures as representations of problems. They work with measurement, which encompasses concepts of length, recognition and application of measurement units or tools used in daily-living activities, and identification of time. In geometry, the students work with two-dimensional shapes and concepts of position and direction.

Grade 3 and grade 4 students work with data to identify events and to predict outcomes. In pattern work, students are introduced to patterns, as well as asked to extend simple patterns.

GRADE 3–4

MATHEMATICS

Number and Number Relations: In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
N-1-E: constructing number meaning and demonstrating that a number can be expressed in many different forms (e.g., standard notation, number words, number lines, geometrical representation, fractions, and decimals)	1. Model, read, and write place value in word, standard, and expanded form for numbers through 9999 (N-1-E) 1. Read and write place value in word, standard, and expanded form through 1,000,000 (N-1-E)	ES-1/1: Read and write place value in word and standard form	3. Read and/or write numbers to a specific place value 2. Identify numbers to a specific place value 1. Count objects to a given number
	2. Read, write, compare, and order whole numbers through 9999 using symbols (i.e., <, =, >) and models (N-1-E) (N-3-E) 2. Read, write, compare, and order whole numbers using place value concepts, standard notation, and models through 1,000,000 (N-1-E) (N-3-E) (A-1-E)	ES-2/2: Read, write, compare, and order whole numbers	3. Order sets of objects with "less than," "more than," "most," and/or "least" 2. Identify a set of objects with "more" 1. Show that equal means "the same as"
N-9-E: demonstrating the connection of number and number relations to the other strands and to real-life situations	8. Recognize, select, connect, and use operations, operational words, and symbols (i.e., +, –, x, ÷) to solve real-life situations (N-5-E) (N-6-E) (N-9-E) 14. Solve real-life problems, including those in which some information is not given (N-9-E)	ES-8/14: Add and subtract to solve real-life situations	3. Solve real-world problems using addition or subtraction 2. Identify simple addition and subtraction concepts within daily-living problems 1. Count to solve simple problems

N-6-E: applying a knowledge of basic math facts and arithmetic operations to real-life situations	10. Calculate the value of a combination of bills and coins and make change up to $5.00 (N-6-E) (M-1-E) (M-5-E) 12. Count money, determine change, and solve simple word problems involving money amounts using decimal notation (N-6-E) (N-9-E) (M-1-E) (M-5-E)	ES-10/12: Identify and use concepts of money	3. Calculate the amount of money for a purchase or activity 2. Sort and/or identify coins and dollars for a purpose 1. Identify the exchange of money to make a purchase

Algebra: In problem-solving investigations, students demonstrate an understanding of concepts and processes that allows them to analyze, represent, and describe relationships among variable quantities and to apply algebraic methods to real-world situations.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
A-2-E: modeling and developing strategies for solving equations and inequalities **A-1-E:** demonstrating a conceptual understanding of variables, expressions, equations, and inequalities (e.g., use letters or boxes to represent values; understand =, ≠ , <, and > symbols)	18. Use letters as variables in mathematical statements that represent real-life problems (e.g., 2 x *n* = 8) (A-2-E) 15. Write number sentences or formulas containing a variable to represent real-life problems (A-1-E)	ES-18/15: Model situations using pictures, objects, or letters	3. Use visual representations or objects to represent a problem 2. Identify a picture sequence that completes a routine task 1. Select pictures or symbols that show a pattern

Measurement: In problem-solving investigations, students demonstrate an understanding of the concepts, processes, and real-life applications of measurement.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
M-1-E: applying (measure or solve measurement problem) the concepts of length (inches, feet, yards, miles, millimeters, centimeters, decimeters, meters, kilometers), area, volume, capacity (cups, liquid pints and quarts, gallons, milliliters, liters), weight (ounces, pounds, tons, grams, kilograms), mass, time (seconds, minutes, hours, days, weeks, months, years), money, and temperature (Celsius and Fahrenheit) to real-world experiences	19. Measure length to the nearest yard, meter, and half-inch (M-1-E) 20. Measure length to the nearest quarter-inch and mm (M-2-E) (M-1-E)	ES-19/20: Measure lengths of objects	3. Measure lengths of objects 2. Distinguish concept of long/short 1. Select objects of the same length

M-2-E: selecting and using appropriate standard and non-standard units of measure (e.g., paper clips and Cuisenaire rods) and tools for measuring length, area, capacity, weight/mass, and time for a given situation by considering the purpose and precision required for the task	25. Select and use the appropriate standard units of measure, abbreviations, and tools to measure length and perimeter (i.e., in., cm, ft., yd., m), area (square inch, square centimeter), capacity (i.e., cup, pint, quart, gallon, liter), and weight/mass (i.e., oz., lb., g, kg, ton) (M-2-E) 22. Select and use the appropriate standard units of measure, abbreviations, and tools to measure length and perimeter (i.e., in., cm, ft., yd., mile, m, km), area (i.e., square inch, square foot, square centimeter), capacity (i.e., fl. oz., cup, pt., qt., gal., l, ml), weight/mass (i.e., oz., lb., g, kg, ton), and volume (i.e., cubic cm, cubic in.) (M-2-E) (M-1-E)	ES-25/22: Select and use appropriate standard units of measure and measurement tools	3. Select appropriate measurement units and/or tools for a given situation 2. Use measurement tools for a specific activity 1. Identify basic measurement tools
M-5-E: demonstrating the connection of measurement to the other strands and to real-life situations	24. Find elapsed time involving hours and minutes, without regrouping, and tell time to the nearest minute (M-1-E) (M-5-E) 23. Set up, solve, and interpret elapsed time problems (M-2-E) (M-5-E)	ES-24/23: Tell time	3. Tell time 2. Use a clock to match times with activities (e.g., 9:00—music, 12:00—lunch) 1. Associate activities with various times of day

Geometry: In problem-solving investigations, students demonstrate an understanding of geometric concepts and applications involving one-, two-, and three-dimensional geometry, and justify their findings.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
G-3-E: making predictions regarding combinations, subdivisions, and transformations (slides, flips, turns) of simple plane geometric shapes	32. Recognize and execute specified flips, turns, and slides of geometric figures using manipulatives and correct terminology (including *clockwise* and *counterclockwise*) (G-3-E) 30. Make and test predictions regarding transformations (i.e., slides, flips, turns) of plane geometric shapes (G-3-E)	ES-32/30: Recognize and apply positional concepts	3. Recognize and apply positional concepts (e.g., front, behind) 2. Follow simple spatial directions (e.g., left, right, up, down) 1. Identify simple directional concepts (e.g., up, down)
G-2-E: identifying, describing, comparing, constructing, and classifying two-dimensional and three-dimensional geometric shapes using a variety of materials	29. Classify and describe 2- and 3-dimensional objects according to given attributes (triangle vs. quadrilateral, parallelogram vs. prism) (G-2-E) (G-1-E) (G-4-E) 29. Identify, describe the properties of, and draw circles and polygons (triangle, quadrilateral, parallelogram, trapezoid, rectangle, square, rhombus, pentagon, hexagon, octagon, and decagon) (G-2-E)	ES-29/29: Construct and identify simple geometric shapes and classify according to properties	3. Construct simple two-dimensional shapes 2. Sort two-dimensional shapes and/or objects with common and/or different attributes 1. Identify two-dimensional shapes

Data Analysis, Probability, and Discrete Math: In problem-solving investigations, students discover trends, formulate conjectures regarding cause-and-effect relationships, and demonstrate critical-thinking skills in order to make informed decisions.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
D-5-E: predicting outcomes based on probability (e.g., make predictions of same chance, more likely, or less likely; determine fair and unfair games)	44. Discuss chance situations in terms of *certain/impossible* and *equally likely* (D-5-E) 40. Determine the total number of possible outcomes for a given experiment using lists, tables, and tree diagrams (e.g., spinning a spinner, tossing 2 coins) (D-4-E) (D-5-E)	ES-44/40: Identify events and make predictions about outcomes	3. Make predictions about outcomes of daily events 2. Identify events as possible/impossible or likely/unlikely 1. Identify the next event in a routine

Patterns, Relations, and Functions: In problem-solving investigations, students demonstrate an understanding of patterns, relations, and functions that represent and explain real-world situations.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
P-1-E: recognizing, describing, extending, and creating a wide variety of numerical (e.g., skip counting of whole numbers), geometrical, and statistical patterns	47. Find patterns to complete tables, state the rule governing the shift between successive terms, and continue the pattern (including growing patterns) (P-1-E) (P-2-E) 43. Identify missing elements in a number pattern (P-1-E)	ES-47/43: Identify and extend patterns in real-life situations	3. Extend a simple pattern 2. Identify a simple pattern 1. Match a simple pattern

FIFTH–SIXTH GRADE SPAN INTRODUCTION

Fifth–Sixth Grade Span

Number and number-relations work at grades 5 and 6 introduces fractions and decimals (i.e., through the study of money). Students continue to work with whole numbers by comparing them and demonstrating addition and subtraction skills. Students also compare fractions. In addition, students are introduced to basic estimation strategies.

By grades 5 and 6, students measure using the U.S. system and recognize models of measurement. They compare and sort items based on weight, length, temperature, time, or capacity. In geometry, the study of shapes now includes recognition of three-dimensional shapes. Students also find locations on maps or grids and paths between locations.

Students in grades 5 and 6 work with graphs, tables, and charts in the data strand. The study of algebra in grades 5 and 6 involves students in a continued study of modeling situations and mathematical problems with objects or pictures. Students also further their understanding of pattern concepts. Students with significant cognitive disabilities access much of the same information and work on many skills through the complexity levels.

GRADE 5–6

MATHEMATICS

Number and Number Relations: In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
N-1-M: demonstrating that a rational number can be expressed in many forms, and selecting an appropriate form for a given situation (e.g., fractions, decimals, and percents)	2. Recognize, explain, and compute equivalent fractions for common fractions (N-1-M) (N-3-M) 4. Recognize and compute equivalent representations of fractions and decimals (i.e., halves, thirds, fourths, fifths, eighths, tenths, hundredths) (N-1-M) (N-3-M)	ES-2/4: Recognize fractions	3. Identify the fraction associated with a given model 2. Match geometric models of fractions with real-life models of fractions (e.g., ½ apple equals ½ circle) 1. Identify the number of parts an object is divided into
N-5-M: applying an understanding of rational numbers and arithmetic operations to real-life situations	8. Use the whole number system (e.g., computational fluency, place value, etc.) to solve problems in real-life and other content areas (N-5-M) 9. Add and subtract fractions and decimals in real-life situations (N-5-M)	ES-8/9: Add and subtract numbers	3. Solve real-life problems using addition or subtraction 2. Identify simple addition and subtraction concepts found in real life 1. Count to solve simple problems
N-2-M: demonstrating number sense and estimation skills to describe, order, and compare rational numbers (e.g., magnitude, integers, fractions, decimals, and percents)	4. Compare positive fractions using number sense, symbols (i.e., <, =, >), and number lines (N-2-M) 6. Compare positive fractions, decimals, and positive and negative integers using symbols (i.e., <, =, >) and number lines (N-2-M)	ES-4/6: Compare and order numbers or fractions	3. Order using “less than,” “ more than,” “ most,” and/or “least” 2. Identify a set of objects with “more” 1. Show that equal means “the same as”

N-3-M: reading, writing, representing, and using rational numbers in a variety of forms (e.g., integers, mixed numbers, and improper fractions)	5. Read, explain, and write a numerical representation for positive improper fractions, mixed numbers, and decimals from a pictorial representation and vice versa (N-3-M) 7. Read and write numerals and words for decimals through ten-thousandths (N-3-M)	ES-5/7: Read, write, and use decimals (e.g., money)	3. Determine a specific amount of bills or coins for a purchase 2. Identify and write/state money amounts 1. Sort and/or identify coins and dollars
N-6-M: constructing, using, and explaining procedures to compute and estimate with rational numbers employing mental math strategies	9. Use mental math and estimation strategies to predict the results of computations (i.e., whole numbers, addition and subtraction of fractions) and to test the reasonableness of solutions (N-6-M) (N-2-M) 10. Use and explain estimation strategies to predict computational results with positive fractions and decimals (N-6-M)	ES-9/10: Use basic estimation strategies	3. Determine if a given number is enough or not enough for a given situation 2. Use “next dollar” strategy to make a purchase 1. Identify a set of objects with “more”

Standards, Benchmarks, GLEs, Extended Standards, and Complexity Levels

Algebra: In problem-solving investigations, students demonstrate an understanding of concepts and processes that allows them to analyze, represent, and describe relationships among variable quantities and to apply algebraic methods to real-world situations.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
A-1-M: demonstrating a conceptual understanding of variables, expressions, equations, and inequalities (e.g., symbolically represent real-world problems as linear terms, equations, or inequalities)	13. Write a number sentence from a given physical model of an equation (e.g., balance scale) (A-2-M) (A-1-M) 15. Match algebraic equations and expressions with verbal statements and vice versa (A-1-M) (A-3-M) (A-5-M) (P-2-M)	ES-13/15: Model situations using pictures, objects, or letters	3. Use visual representations or objects to model a problem or situation 2. Match visual representations or objects to a given problem or situation 1. Identify a picture sequence that completes a routine task

Measurement: In problem-solving investigations, students demonstrate an understanding of the concepts, processes, and real-life applications of measurement.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
M-1-M: applying the concepts of length, area, surface area, volume, capacity, weight, mass, money, time, temperature, and rate to real-world experiences	15. Model, measure, and use the names of all common units in the U.S. and metric systems (M-1-M) 20. Calculate, interpret, and compare rates such as $/lb., mpg, and mph (M-1-M) (A-5-M)	ES-15/20: Apply measurement in real-life situations using the U.S. system	3. Measure in daily-living activities 2. Match models of measurement 1. Select objects of similar measurement
M-2-M: demonstrating an intuitive sense of measurement (e.g., estimating and determining reasonableness of measures)	19. Compare the relative sizes of common units for time, temperature, weight, mass, and length in real-life situations (M-2-M) (M-4-M) 21. Demonstrate an intuitive sense of relative sizes of common units for length and area of familiar objects in real-life problems (e.g., estimate the area of a desktop in square feet, the average adult is between 1.5 and 2 meters tall) (M-2-M) (G-1-M)	ES-19/21: Compare and order sizes of items in real-life situations	3. Order a minimum of three items according to weight, capacity, length, temperature, or time 2. Sort items according to weight, capacity, length, temperature, and/or time 1. Sort items according to one of the following: more/less, long/short, heavy/light, early/late, day/night, hot/cold

Geometry: In problem-solving investigations, students demonstrate an understanding of geometric concepts and applications involving one-, two-, and three-dimensional geometry, and justify their findings.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
G-2-M: identifying, describing, comparing, constructing, and classifying geometric figures and concepts	24. Use mathematical terms to classify and describe the properties of 2-dimensional shapes, including circles, triangles, and polygons (G-2-M) 24. Use mathematical terms to describe the basic properties of 3-dimensional objects (edges, vertices, faces, base, etc.) (G-2-M)	ES-24/24: Identify simple geometric shapes and classify according to properties of shapes	3. Sort shapes according to dimensions (two-dimensions vs. three-dimensions) 2. Sort two-dimensional shapes and/or objects with common and/or different attributes 1. Identify two-dimensional or three-dimensional shapes
G-6-M: demonstrating an understanding of the coordinate system (e.g., locate points, identify coordinates, and graph points in a coordinate plane to represent real-world situations)	27. Identify and plot points on a coordinate grid in the first quadrant (G-6-M) 28. Use a rectangular grid and ordered pairs to plot simple shapes and find horizontal and vertical lengths and area (G-6-M)	ES-27/28: Use and read a map/grid	3. Find the horizontal or vertical length of a path between two points on a grid 2. Select a model of a route from one specific point to another 1. Identify/recognize locations on a map or floor plan

Data Analysis, Probability, and Discrete Math: In problem-solving investigations, students discover trends, formulate conjectures regarding cause-and-effect relationships, and demonstrate critical-thinking skills in order to make informed decisions.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
D-2-M: analyzing, interpreting, evaluating, drawing inferences, and making estimations, predictions, decisions, and convincing arguments based on organized data (e.g., analyze data using concepts of mean, median, mode, range, random samples, sample size, bias, and data extremes)	28. Use various types of charts and graphs, including double bar graphs, to organize, display, and interpret data and discuss patterns verbally and in writing (D-1-M) (D-2-M) (P-3-M) (A-4-M) 30. Describe and analyze trends and patterns observed in graphic displays (D-2-M)	ES-28/30: Organize and interpret data in tables, charts, or graphs	3. Organize and display data using tables, charts, and/or graphs 2. Interpret tables, charts, and/or graphs about daily activities 1. Select pictures or symbols for a chart that represents information

Patterns, Relations, and Functions: In problem-solving investigations, students demonstrate an understanding of patterns, relations, and functions that represent and explain real-world situations.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
P-1-M: describing, extending, analyzing, and creating a wide variety of numerical, geometrical, and statistical patterns (e.g., skip counting of rational numbers and simple exponential number patterns)	33. Fill in missing elements in sequences of designs, number patterns, positioned figures, and quantities of objects (P-1-M) 37. Describe, complete, and apply a pattern of differences found in an input-output table (P-1-M) (P-2-M) (P-3-M)	ES-33/37: Fill in missing elements and extend a pattern	3. Find the missing element in a pattern 2. Extend a pattern 1. Identify a pattern

SEVENTH–EIGHTH GRADE SPAN INTRODUCTION

Seventh–Eighth Grade Span

Grade 7 and grade 8 students carry on their work with whole numbers, fractions, and decimals. This work includes identification and comparison of the different types of numbers. The students also work with manipulatives and concrete models to develop a basic understanding of multiplication.

In algebra, students continue their work with modeling situations using objects, pictures, and letters. The measurement strand has the students ordering or sorting items according to different units of measurement. Grade 7 and grade 8 students continue their work with maps and are introduced to the concept of transformations (i.e., rotations) through the use of models.

Charts, tables, and graphs continue to be studied in grades 7 and 8; this includes comparisons of data and creation of graphs. Predictions of events are also revisited. The study of patterns includes the ability to reproduce a given pattern using different objects or symbols. Students with significant cognitive disabilities access much of the same information and work on many skills through the complexity levels.

GRADE 7–8

MATHEMATICS

Number and Number Relations: In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
N-1-M: demonstrating that a rational number can be expressed in many forms, and selecting an appropriate form for a given situation (e.g., fractions, decimals, and percents) **N-3-M:** reading, writing, representing, and using rational numbers in a variety of forms (e.g., integers, mixed numbers, and improper fractions)	1. Recognize and compute equivalent representations of fractions, decimals, and percents (i.e., halves, thirds, fourths, fifths, eighths, tenths, hundredths) (N-1-M) 4. Read and write numbers in scientific notation with positive exponents (N-3-M)	ES-1/4: Recognize numbers (i.e., whole numbers, fractions, decimals)	3. Identify decimals within the context of a daily-living situation 2. Identify fractions associated with a given model 1. Identify a number as a whole number, fraction, or decimal
N-2-M: demonstrating number sense and estimation skills to describe, order, and compare rational numbers (e.g., magnitude, integers, fractions, decimals, and percents)	2. Compare positive fractions, decimals, percents, and integers using symbols (i.e., <, ≤ , =, ≥ , >) and position on a number line (N-2-M) 1. Compare rational numbers using symbols (i.e., <, ≤ , =, ≥ , >) and position on a number line (N-1-M) (N-2-M)	ES-2/1: Compare and order numbers (i.e., whole numbers, fractions, decimals)	3. Order using “less than,” “more than,” “most,” and/or “least” 2. Identify a set of objects with “more” 1. Show that equal means “the same as”

N-4-M: demonstrating a conceptual understanding of the meaning of the basic arithmetic operations (add, subtract, multiply and divide) and their relationships to each other	3. Solve order of operations problems involving grouping symbols and multiple operations (N-4-M) 5. Simplify expressions involving operations on integers, grouping symbols, and whole number exponents using order of operations (N-4-M)	ES-3/5: Identify and solve simple computation problems	3. Identify a model of a given multiplication problem 2. Solve real-world problems using addition or subtraction 1. Count the objects in a group and the number of groups

Algebra: In problem-solving investigations, students demonstrate an understanding of concepts and processes that allows them to analyze, represent, and describe relationships among variable quantities and to apply algebraic methods to real-world situations.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
A-1-M: demonstrating a conceptual understanding of variables, expressions, equations, and inequalities (e.g., symbolically represent real-world problems as linear terms, equations, or inequalities)	14. Write a real-life meaning of a simple algebraic equation or inequality, and vice versa (A-1-M) (A-5-M) 10. Write real-life meanings of expressions and equations involving rational numbers and variables (A-1-M) (A-5-M)	ES-14/10: Model situations using pictures, objects, and letters	3. Use visual representations or objects to model a situation 2. Match visual representations or objects to a given situation 1. Identify a picture sequence that completes a routine task

Measurement: In problem-solving investigations, students demonstrate an understanding of the concepts, processes, and real-life applications of measurement.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
M-4-M: using intuition and estimation skills to describe, order, and compare formal and informal measures (e.g., ordering cup, pint, quart, gallon; comparing a meter to a yard)	21. Compare and order measurements within and between the U.S. and metric systems in terms of common reference points (e.g., weight/mass and area) (M-4-M) (G-1-M) 21. Compare and estimate measurements of volume and capacity within and between the U.S. and metric systems (M-4-M) (G-1-M)	ES-21/21: Compare and order sizes of items in real-life situations	3. Order a minimum of three items according to weight, capacity, length, temperature, or time 2. Sort items according to weight, capacity, length, temperature, and/or time 1. Sort items according to one of the following: more/less, long/short, heavy/light, early/late, day/night, hot/cold

Geometry: In problem-solving investigations, students demonstrate an understanding of geometric concepts and applications involving one-, two-, and three-dimensional geometry, and justify their findings.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
G-3-M: making predictions regarding transformations of geometric figures (e.g., make predictions regarding translations, reflections, and rotations of common figures)	25. Draw the results of reflections and translations of geometric shapes on a coordinate grid (G-3-M) 25. Predict, draw, and discuss the resulting changes in lengths, orientation, angle measures, and coordinates when figures are translated, reflected across horizontal or vertical lines, and rotated on a grid (G-3-M) (G-6-M)	ES-25/25: Identify a simple transformation (i.e., turn) and apply positional concepts	3. Identify a model of a turn 2. Recognize and apply positional concepts (e.g., front, behind) 1. Follow simple spatial directions (e.g., left, right, up, down)
G-6-M: demonstrating an understanding of the coordinate system (e.g., locate points, identify coordinates, and graph points in a coordinate plane to represent real-world situations)	29. Plot points on a coordinate grid in all 4 quadrants and locate the coordinates of a missing vertex in a parallelogram (G-6-M) (A-5-M) 33. Graph solutions to real-life problems on the coordinate plane (G-6-M)	ES-29/33: Use and read a map/grid	3. Find the horizontal and vertical lengths of a path between two points on a grid 2. Select a model of a route from one specific point to another 1. Identify/recognize locations on a map and/or floor plan

Data Analysis, Probability, and Discrete Math: In problem-solving investigations, students discover trends, formulate conjectures regarding cause-and-effect relationships, and demonstrate critical-thinking skills in order to make informed decisions.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
D-2-M: analyzing, interpreting, evaluating, drawing inferences, and making estimations, predictions, decisions, and convincing arguments based on organized data (e.g., analyze data using concepts of mean, median, mode, range, random samples, sample size, bias, and data extremes) **D-1-M:** systematically collecting, organizing, describing, and displaying data in charts, tables, plots, graphs, and/or spreadsheets	31. Analyze and interpret circle graphs, and determine when a circle graph is the most appropriate type of graph to use (D-2-M) 36. Organize and display data using circle graphs (D-1-M)	ES-31/36: Organize, and interpret data in tables, charts, or graphs	3. Create a chart of information using pictures or symbols 2. Compare data in tables, charts, and/or graphs 1. Use tables, charts, and/or graphs to locate information in daily activities
D-5-M: comparing experimental probability results with theoretical probability (e.g., representing probabilities of concrete situations as common fractions, investigating single-event and multiple-event probability, using sample spaces, geometric figures, tables, and/or graphs)	37. Determine probability from experiments and from data displayed in tables and graphs (D-5-M) 44. Use experimental data presented in tables and graphs to make outcome predictions of independent events (D-5-M)	ES-37/44: Identify events and make predictions about outcomes	3. Make predictions about outcomes of daily events 2. Identify events as possible/impossible or likely/unlikely 1. Identify the next event in a routine

Standards, Benchmarks, GLEs, Extended Standards, and Complexity Levels

Patterns, Relations, and Functions: In problem-solving investigations, students demonstrate an understanding of patterns, relations, and functions that represent and explain real-world situations.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
P-1-M: describing, extending, analyzing, and creating a wide variety of numerical, geometrical, and statistical patterns (e.g., skip counting of rational numbers and simple exponential number patterns)	39. Analyze and describe simple exponential number patterns (e.g., 3, 9, 27 or 3^1, 3^2, 3^3) (P-1-M) 46. Distinguish between and explain when real-life numerical patterns are linear/arithmetic (i.e., grows by addition) or exponential/geometric (i.e., grows by multiplication) (P-1-M) (P-4-M)	ES-39/46: Analyze and extend a pattern	3. Reproduce a pattern 2. Find the missing element in a pattern 1. Extend a pattern

NINTH–TWELFTH GRADE SPAN INTRODUCTION

Ninth–Twelfth Grade Span

In number and number relations, students in grades 9 through 12 (only grades 9 through 11 are assessed) continue to work with numbers to demonstrate computational fluency in addition and subtraction, while developing their understanding of multiplication and division by using manipulatives and concrete models. An introduction to basic concepts of proportional reasoning also occurs during this time.

Algebra continues to be a study of modeling using pictures, objects, and letters, as well as solving simple equations. Students in grades 9 through 12 use their knowledge in the measurement strand to study the concepts of area and perimeter in standard and non-standard units. They also continue to refine their skills in map reading and usage. A second type of transformation, a translation, is introduced to the students, in addition to continuing to apply positional concepts.

Work within the data strand uses students' knowledge of tables, charts, or graphs to make comparisons and interpret data. Students also maintain the skill of predicting outcomes of events. In patterns, the students continue to work with patterns by extending, as well as reproducing patterns. Students with significant cognitive disabilities access much of the same information and work on many skills through the complexity levels.

GRADE 9–12

MATHEMATICS

Number and Number Relations: In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
N-5-H: selecting and using appropriate computational methods and tools for given situations (e.g., estimation, or exact computation using mental arithmetic, calculator, symbolic manipulator, or paper and pencil) **N-2-H:** demonstrating that a number can be expressed in many forms, and selecting an appropriate form for a given situation (e.g., fractions, decimals, percents, and scientific notation)	6. Simplify and perform basic operations on numerical expressions involving radicals (e.g., $2\sqrt{3}+5\sqrt{3}=7\sqrt{3}$) (N-5-H) 1. Simplify and determine the value of radical expressions (N-2-H) (N-7-H)	ES-6/1: Identify and solve simple computation problems	3. Identify a model of a given division problem 2. Identify a model of a given multiplication problem 1. Solve problems using addition or subtraction
N-6-H: applying ratios and proportional thinking in a variety of situations (e.g., finding a missing term of a proportion)	7. Use proportional reasoning to model and solve real-life problems involving direct and inverse variation (N-6-H) 4. Use ratios and proportional reasoning to solve a variety of real-life problems including similar figures and scale drawings (N-6-H) (M-4-H)	ES-7/4: Use basic concepts of proportional reasoning in real-life situations	3. Solve real-life problems using proportional reasoning 2. Determine the number of objects in two comparison groups 1. Identify a model of one-to-one correspondence

Standards, Benchmarks, GLEs, Extended Standards, and Complexity Levels

Algebra: In problem-solving investigations, students demonstrate an understanding of concepts and processes that allows them to analyze, represent, and describe relationships among variable quantities and to apply algebraic methods to real-world situations.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
A-1-H: demonstrating the ability to translate real-world situations (e.g., distance-versus-time relationships, population growth, growth functions for diseases, growth of minimum wage, auto insurance tables) into algebraic expressions, equations, and inequalities and vice versa **A-4-H:** solving algebraic equations and inequalities using a variety of techniques with the appropriate tools (e.g., hand-held manipulatives, graphing calculator, symbolic manipulator, or pencil and paper)	9. Model real-life situations using linear expressions, equations, and inequalities (A-1-H) (D-2-H) (P-5-H) 10. Model and solve problems involving quadratic, polynomial, exponential, logarithmic, step function, rational, and absolute value equations using technology (A-4-H)	ES-9/10: Model and solve equations using pictures, objects, and letters that relate to real-life relationships	3. Use visual representations or objects to solve an equation 2. Use visual representations or objects to model an equation 1. Identify a picture sequence to complete a routine task

Measurement: In problem-solving investigations, students demonstrate an understanding of the concepts, processes, and real-life applications of measurement.			
Benchmarks	**Grade-Level Expectations**	**Extended Standards**	**Complexity Levels**
M-3-H: estimating, computing, and applying physical measurement using suitable units (e.g., calculate perimeter and area of plane figures, surface area and volume of solids presented in real-world situations)	21. Determine appropriate units and scales to use when solving measurement problems (M-2-H) (M-3-H) (M-1-H) 7. Find volume and surface area of pyramids, spheres, and cones (M-3-H) (M-4-H)	ES-21/7: Apply the concepts of area and perimeter to real-world situations	3. Determine the area or perimeter of an object using given standard units 2. Determine the area or perimeter of an object using non-standard units (e.g., to cover an object or to go around an object) 1. Distinguish between the concepts of area and perimeter

Geometry: In problem-solving investigations, students demonstrate an understanding of geometric concepts and applications involving one-, two-, and three-dimensional geometry, and justify their findings.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
G-3-H: solving problems using coordinate methods, as well as synthetic and transformational methods (e.g., transform on a coordinate plane a design found in real-life situations)	23. Use coordinate methods to solve and interpret problems (e.g., slope as rate of change, intercept as initial value, intersection as common solution, midpoint as equidistant) (G-2-H) (G-3-H) 16. Represent and solve problems involving distance on a number line or in the plane (G-3-H)	ES-23/16: Use and read a map/grid	3. Find the horizontal and vertical lengths of a path between two points on a grid 2. Select a model of a route from one specific point to another 1. Identify/recognize locations on a map and/or floor plan
	26. Perform translations and line reflections on the coordinate plane (G-3-H) 14. Develop and apply coordinate rules for translations and reflections of geometric figures (G-3-H)	ES-26/14: Identify a simple transformation (i.e., slide) and apply positional concepts	3. Identify a model of a translation (i.e., slide) 2. Recognize and apply positional concepts (e.g., front, behind) 1. Follow simple spatial directions (e.g., left, right, up, down)

Data Analysis, Probability, and Discrete Math: In problem-solving investigations, students discover trends, formulate conjectures regarding cause-and-effect relationships, and demonstrate critical-thinking skills in order to make informed decisions.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
D-7-H: making inferences from data that are organized in charts, tables, and graphs (e.g., pictograph; bar, line, or circle graph; stem-and-leaf plot or scatter plot)	28. Identify trends in data and support conclusions by using distribution characteristics such as patterns, clusters, and outliers (D-1-H) (D-6-H) (D-7-H) 22. Interpret and summarize a set of experimental data presented in a table, bar graph, line graph, scatter plot, matrix, or circle graph (D-7-H)	ES-28/22: Use data in real-life situations	3. Solve a problem or answer questions using data from a chart or graph 2. Compare data in tables, charts, and/or graphs 1. Use tables, charts, and/or graphs to locate information in daily activities
D-4-H: demonstrating an understanding of the calculation of finite probabilities using permutations, combinations, sample spaces, and geometric figures	32. Compute probabilities using geometric models and basic counting techniques such as combinations and permutations (D-4-H) 21. Determine the probability of conditional and multiple events, including mutually and non-mutually exclusive events (D-4-H) (D-5-H)	ES-32/21: Identify events and make predictions about outcomes	3. Make predictions about outcomes of daily events 2. Identify events as possible/impossible or likely/unlikely 1. Identify the next event in a routine

Patterns, Relations, and Functions: In problem-solving investigations, students demonstrate an understanding of patterns, relations, and functions that represent and explain real-world situations.

Benchmarks	Grade-Level Expectations	Extended Standards	Complexity Levels
P-1-H: modeling the concepts of variables, functions, and relations as they occur in the real world and using the appropriate notation and terminology **P-2-H:** translating between tabular, symbolic, or graphic representations of functions	37. Analyze real-life relationships that can be modeled by linear functions (P-1-H) (P-5-H) 27. Translate among tabular, graphical, and symbolic representations of patterns in real-life situations, with and without technology (P-2-H) (P-3-H) (A-3-H)	ES-37/27: Analyze and extend a pattern	3. Reproduce a pattern 2. Find the missing element in a pattern 1. Extend a pattern

SCIENCE INTRODUCTION

GENERAL DEVELOPMENT PRINCIPLES

Unlike English language arts and mathematics, the science extended standards are based on the science benchmarks and not the GLEs. This is done to be consistent with the design of the LEAP, GEE, and LAA 2 assessments for science. While the content described by the GLEs represents core content to be mastered by the end of a given grade, the benchmarks represent broader curriculum goals, applicable to grade spans, that are to be mastered by the end of the grade span. Science content can be added and enriched as appropriate for a district program, school, or student. For mastery to be attained, most content must be introduced earlier than the grade identified for mastery. Once a particular skill has been identified as an extended standard, the skill should be reinforced in subsequent years, but may not be repeated in the list of expectations for subsequent years.

ELEMENTARY: PREKINDERGARTEN–GRADE 4

Students at the prekindergarten (PreK) through grade 4 levels, including students with significant cognitive disabilities, are learning to observe by using their senses, describing properties of substances, recognizing appropriate terminology, and comparing, sorting, classifying, and learning about the natural world. Science activities and investigations can be used to engage students in a variety of inquiry activities, such as questioning, observing, measuring, calculating, graphing, and communicating that are the essence of science. These skills and concepts are taught through the five strands of science: Science as Inquiry, Physical Science, Life Science, Earth and Space Science, and Science and the Environment.

Table 3. Elementary School Science

Grade	Focus Area
PreK	All Strands
K	All Strands
1	All Strands
2	All Strands
3	All Strands
4	All Strands

MIDDLE SCHOOL: GRADES 5–8

Students in middle school continue to expand their knowledge and understanding of general science, including science inquiry, physical science, life science, Earth and space science, and the environment as discrete or integrated studies.

To develop a deeper understanding of concepts, science content focus areas have been identified for grades 5–8. They are listed in Table 4.

Table 4. Middle School Science Focus Areas

Grade	Focus Area
5	General Science (All Strands)
6	Physical Science
7	Life Science
8	Earth and Space Science

In addition to the designated focus areas, the Science as Inquiry (SI) and Science and the Environment (SE) strands are integrated into each of the middle school grades. Other content may be integrated locally within school districts. While focus areas are stressed at different grades, the extended standards for grade 8 focus on integrated science, which is reinforced by more focused curriculum in grades 6–8.

HIGH SCHOOL: GRADES 9–12

In high school, science instruction becomes more specialized and there are GLEs for six science courses, one each at ninth- and tenth-grade levels and four for the eleventh- and twelfth-grade levels, with the following recommendations in mind (See Table 5):

Table 5. High School Courses

Strand	Course(s)	Recommended Grades
Physical Science	Physical Science	9
	Chemistry I	11–12
	Physics I	11–12
Life Science	Biology I	10
Earth and Space Science	Earth Science	11–12
Science and the Environment	Environmental Science	11–12

Personal preference and district course offerings affect which courses are taken and may determine the order in which courses are taken.

The grade 11 extended standards focus on science as inquiry, physical science, and life science. This is consistent with developing state high school assessment practices in Louisiana and reflects the content of the typical high school science courses completed by students by the time they reach the eleventh grade.

STANDARDS/BENCHMARKS/EXTENDED STANDARDS

The science Extended Standards (ESs) align with the *Louisiana Science Framework* (1997). The science ESs address benchmarks from all five content strands for grades 4 and 8 and three content strands for grade 11 as outlined in the framework document.

The five Louisiana science content standards are broad goals for what all students in Louisiana should know and be able to do in science. In the *Louisiana Science Framework*, standards are based on the five science strands. That is, each standard represents one of the five strands. The strands and their respective abbreviated codes are Science as Inquiry (SI), Physical Science (PS), Life Science (LS), Earth and Space Science (ESS), and Science and the Environment (SE). There is one process strand, Science as Inquiry, and four content strands. This organization into strands does not imply that science must be taught in separate isolated units. In fact, teachers are encouraged to teach integrated, interdisciplinary units of study.

Benchmark Codes: The first term in the benchmark code refers to the strand (i.e., SI, PS, LS, ESS, SE). The second term refers to the grade cluster (i.e., E for elementary, M for middle school, H for high school). The third term refers to the category and benchmark number (e.g., A1, B2, C3).

For most grade clusters, strands are divided into categories or major topical areas. (The SE strand has no category at the PreK–4 and 5–8 grade levels.) Science GLEs have been developed and are organized based on this secondary breakdown. Categories are indicated by the letters in the benchmark code designations. (See Table 6)

Table 6. Explanation of Benchmark Codes

Code(s)	Explanation
SI-E-A5	SI Strand, Elementary Level, Category A, Benchmark 5
PS-M-B4	PS Strand, Middle School Level, Category B, Benchmark 4
SE-H-A6 LS-H-D1	SE Strand, High School Level, Category A, Benchmark 6 *and* LS Strand, High School Level, Category D, Benchmark 1

Extended Standard Numbering: ES indicates an extended standard, which is a further delineation of the benchmark. The second term refers to the specific category and benchmark that is extended. Extended standards numbering relates to each benchmark. (see page 96)

Complexity Levels: Three complexity levels (CLs) are described for each extended standard. CLs are coded from three (most complex) to one (least complex). CLs provide students of varying abilities instructional access to grade level academic content. Mastery of an extended standard is generally indicated by a student performing at level 3.

SAMPLE PAGE AND KEY FOR SCIENCE

Strand: Standard

Science as Inquiry: The students will do science by engaging in partial and full inquiries that are within their developmental capabilities.

Benchmarks	Extended Standards	Complexity Levels
A. The Abilities Necessary to Do Scientific Inquiry		
SI-E-A1: asking appropriate questions about organisms and events in the environment	ES-A1: Ask appropriate questions about organisms and events in the environment	3. Develop appropriate questions based on an organism or events in the environment 2. Select an appropriate question related to a single organism or event 1. Recognize part of an organism or event that is inconsistent with a group
SI-E-A3: communicating that observations are made with one's senses	ES-A3: Use the five senses to make observations	3. Use appropriate sensory descriptions (i.e., see, hear, taste, touch, smell) to communicate about an observation during a simple scientific investigation 2. Select an appropriate sensory organ to be used for observations during a simple scientific investigation 1. Match sensory descriptions or pictures with the correct sensory organ

Category

Benchmark

Complexity Levels (3 is most complex)

Extended Standards

SCIENCE INTRODUCTION

The Science as Inquiry (SI) standard states: *The students will **do** science by engaging in partial and full inquiries that are within their developmental capabilities*. The benchmarks for the SI strand of the science framework are to be embedded in all science courses at every grade level and cannot be considered in isolation from the other strands. The processes and skills in the SI strand are to be integrated with the science content of the other four strands.

Each of the following benchmark and extended standard listings by grade opens with a summary describing the cumulative emphasis of the curriculum preceding and including that grade. These emphases serve to shape and mold the program for that individual grade level, and also indicate how students should be prepared during prior grades.

Extended standards are the product of careful considerations by content specialists and special education teachers to ensure that this content is appropriate for students with significant cognitive disabilities and is the essence of the standard and benchmark. Complexity levels provide students of varying abilities instructional access to grade level academic content.

FOURTH GRADE INTRODUCTION

Fourth Grade

Fourth-grade students, including those with significant cognitive disabilities, evaluate the results of simple scientific investigations and organize information through classification. Students identify and ask questions that are the basis of scientific experimentation and make observations using their senses. They recognize or use common tools safely to accomplish these investigations. While observing their surroundings and their interactions with the world around them, they begin to make basic classifications of matter using physical properties and recognize that common everyday products are made from natural resources. Through these observations and investigations they recognize the connections between life and the physical environment and how conditions can change over time. For example, in the LS strand, students with significant cognitive disabilities match a common animal to its habitat type.

GRADE 4
SCIENCE

Science as Inquiry: The students will do science by engaging in partial and full inquiries that are within their developmental capabilities.

Benchmarks	Extended Standards	Complexity Levels
A. The Abilities Necessary to Do Scientific Inquiry		
SI-E-A1: asking appropriate questions about organisms and events in the environment	ES-A1: Ask appropriate questions about organisms and events in the environment	3. Develop appropriate questions based on an organism or events in the environment 2. Select an appropriate question related to a single organism or event 1. Recognize part of an organism or event that is inconsistent with a group
SI-E-A3: communicating that observations are made with one's senses	ES-A3: Use the five senses to make observations	3. Use appropriate sensory descriptions (i.e., see, hear, taste, touch, smell) to communicate about an observation during a simple scientific investigation 2. Select an appropriate sensory organ to be used for observations during a simple scientific investigation 1. Match descriptions or pictures with the correct sensory organ
SI-E-A4: employing equipment and tools to gather data and extend the sensory observations	ES-A4: Use appropriate tools (i.e., thermometer, scale, magnifying tool, measuring cup, ruler) to extend sensory observations	3. Use an appropriate tool to extend a sensory observation 2. Recognize the correct tool to use to extend a sensory observation 1. Recognize a tool
SI-E-A7: utilizing safety procedures during experiments	ES-A7: Identify or use appropriate safety equipment as needed or directed	3. Identify appropriate safety equipment needed in a specific event 2. Recognize the correct use of safety equipment 1. Recognize safety equipment

Standards, Benchmarks, Extended Standards, and Complexity Levels

Physical Science: Students will develop an understanding of the characteristics and interrelationships of matter and energy in the physical world.		
Benchmarks	**Extended Standards**	**Complexity Levels**
A. Properties of Objects and Materials		
PS-E-A1: observing, describing and classifying objects by properties (size, weight, shape, color, texture, and temperature)	ES-A1: Classify objects based on properties (i.e., size, weight, shape, color)	3. Identify a characteristic for sorting a set of objects 2. Sort objects based on a single characteristic 1. Recognize an object that has characteristics that are different from the group
PS-E-A3: observing and describing the objects by the properties of the materials from which they are made (paper, wood, metal)	ES-A3: Classify objects based on the materials from which they are made (i.e., paper, wood, metal)	3. Identify a material for sorting a set of objects 2. Sort objects based on a single material 1. Recognize an object that is made from a material that is different from the group
PS-E-A4: describing the properties of the different states of matter and identifying the conditions that cause matter to change states	ES-A4: Classify objects based on the different states of matter (i.e., solid, liquid, gas)	3. Identify a state of matter for sorting a set of objects 2. Sort objects based on a single state of matter 1. Recognize an object that is in a state of matter that is different from the group
B. Position and Motion of Objects		
PS-E-B2: exploring and recognizing that the position and motion of objects can be changed by pushing or pulling (force) over time	ES-B2: Change the position of objects using push or pull	3. Select “push” or “pull” to move an object to a specific location 2. Follow directions using “push” or “pull” to move objects 1. Imitate pushing or pulling an object
C. Forms of Energy		
PS-E-C7: exploring and describing the uses of energy at school, home, and play	ES-C7: Recognize common uses of energy (e.g., heating, lighting, transportation, communications) used at school, home, or play	3. Identify uses of energy in different settings (i.e., school, home, play) 2. Sort activities by common uses of energy 1. Recognize a use of energy

Standards, Benchmarks, Extended Standards, and Complexity Levels

Life Science: The students will become aware of the characteristics and life cycles of organisms and understand their relationships to each other and to their environment.

Benchmarks	Extended Standards	Complexity Levels
A. Characteristics of Organisms		
LS-E-A1: identifying the needs of plants and animals based on age-appropriate recorded observations	ES-A1: Identify the basic needs (i.e., food, air, water, shelter) of plants and animals	3. Select basic needs that are common to both plants and animals 2. Select more than one basic need of plants or animals 1. Select a basic need of plants or animals
LS-E-A3: locating and comparing major plant and animal structures and their functions	ES-A3: Identify basic structures and their functions in common plants (i.e., flowers, leaves, stems, roots)	3. Match plant parts to their functions 2. Identify the same plant part on different plants 1. Recognize a plant part
LS-E-A5: locating major human body organs and describing their functions	ES-A5: Identify basic structures and their functions of the human skeletal system	3. Match parts of the skeletal system to their functions 2. Match parts of the skeletal system to their location in the human body 1. Recognize a part of the human skeletal system
B. Life Cycles of Organisms		
LS-E-B1: observing and describing the life cycles of some plants and animals	ES-B1: Understand the life cycle of a bean plant	3. Sequence the stages of the life cycle of a bean plant 2. Recognize the correct sequence of the life cycle of a bean plant 1. Recognize a part of the life cycle of a bean plant
LS-E-B4: observing, recording, and graphing student growth over time using a variety of quantitative measures (height, weight, linear measure of feet and hands, etc.)	ES-B4: Describe students growth (i.e., height, weight) over time	3. Identify a typical human growth chart for the period from birth to adulthood 2. Recognize the general relationship between human growth and age 1. Recognize that persons of the same age grow at different rates
C. Organisms and Their Environments		
LS-E-C1: examining the habitats of plants and animals and determining how basic needs are met within each habitat	ES-C1: Match common animals to their habitat type (i.e., water, land)	3. Match common animals to different habitat types 2. Match more than one common animal to a habitat type 1. Match a common animal to a habitat type

Standards, Benchmarks, Extended Standards, and Complexity Levels

Earth and Space Science: The students will develop an understanding of the properties of earth materials, the structure of Earth's system, Earth's history, and Earth's place in the universe.		
Benchmarks	**Extended Standards**	**Complexity Levels**
A. Properties of Earth Materials		
ESS-E-A4: investigating, observing, measuring and describing changes in daily weather patterns and phenomena	ES-A4: Identify basic weather conditions and identify appropriate clothing for specific weather conditions	3. Select appropriate clothing for a change in weather conditions 2. Sort appropriate clothing by basic weather conditions 1. Recognize a change in basic weather conditions
B. Objects in the Sky		
ESS-E-B4: modeling changes that occur because of the rotation of the Earth (alternation of night and day) and the revolution of the Earth around the Sun	ES-B4: Identify differences between times of day, day/night, and seasons of the year	3. Identify differences in representations of spring, summer, fall, and winter 2. Sequence representations of morning, noon, and night 1. Select representations of day time and night time

Standards, Benchmarks, Extended Standards, and Complexity Levels

Science and the Environment: In learning environmental science, students will develop an appreciation of the natural environment, learn the importance of environmental quality, and acquire a sense of stewardship. As consumers and citizens, they will be able to recognize how our personal, professional, and political actions affect the natural world.		
Benchmarks	**Extended Standards**	**Complexity Levels**
SE-E-A4: understanding that the original sources of all material goods are natural resources and that the conserving and recycling of natural resources is a form of stewardship	ES-A4: Identify natural resources that are the original source of common products (i.e., paper, pencils, bricks, cotton cloth)	3. Match more than one human-made item with the natural resource from which they were made 2. Sort human-made items by the natural resources from which they are made 1. Recognize common items that are human-made among natural resources

EIGHTH GRADE INTRODUCTION

Eighth Grade

The focus at the eighth-grade level is integrated science, building on the foundation developed during earlier grades. Physical (PS) and life (LS) sciences are again the focus with expanded studies in Earth and space science (ESS) concepts. Students develop additional inquiry skills through observations and investigations designed to expand comprehension of Earth and space, as well as related physical and environmental science topics. Earth and space science topics include exploring varying weather conditions and Earth's place in the solar system. Students with significant cognitive disabilities access much of the same information and work on many skills through the complexity levels.

GRADE 8
SCIENCE

Science as Inquiry: The students will do science by engaging in partial and full inquiries that are within their developmental capabilities.

Benchmarks	Extended Standards	Complexity Levels
A. The Abilities Necessary to do Scientific Inquiry		
SI-M-A2: designing and conducting a scientific investigation	ES-A2: Identify a process to solve a science problem	3. Select two or more steps in proper sequence to solve a science problem 2. Select two or more steps to solve a science problem 1. Recognize a step that helps solve a simple science problem
SI-M-A3: using mathematics and appropriate tools and techniques to gather, analyze, and interpret data	ES-A3: Identify significant differences in length, weight, and temperature using appropriate tools	3. Recognize the highest or lowest example of varying conditions (hot-cold, long-short, heavy-light) by using a measurement tool 2. Match correctly recorded measurements of length, weight, and/or temperature 1. Recognize appropriate measurement tools
SI-M-A4: developing descriptions, explanations, and graphs using data	ES-A4: Interpret simple situations using data	3. Identify a simple graph that represents a specific situation 2. Select a description supported by data 1. Recognize significant differences in data
SI-M-A5: developing models and predictions using the relationships between data and explanations	ES-A5: Predict patterns based on a given set of data	3. Sequence the steps of a pattern based on a scenario 2. Complete the next step in a pattern 1. Match similar patterns in a given dataset
SI-M-A8: utilizing safety procedures during scientific investigations	ES-A8: Perform common science tasks safely	3. Identify hazardous situations in a simulation 2. Select appropriate ways to complete science tasks safely 1. Recognize a safety procedure

B. Understanding Scientific Inquiry		
SI-M-B7: understanding that scientific development/ technology is driven by societal needs and funding	ES-B7: Use technology for daily living tasks	3. Match appropriate technology to common tasks 2. Recognize the appropriate use of technology 1. Recognize technology

Standards, Benchmarks, Extended Standards, and Complexity Levels

Physical Science: Students will develop an understanding of the characteristics and interrelationship of matter and energy in the physical world.		
Benchmarks	**Extended Standards**	**Complexity Levels**
A. Properties and Changes of Properties in Matter		
PS-M-A5: investigating the relationships among temperature, molecular motion, phase changes, and physical properties of matter	ES-A5: Identify how changes in temperature can effect the state of water (i.e., solid, liquid, gas)	3. Describe how the state of water changes under varying temperature conditions 2. Match water in solid, liquid, and gaseous states to different temperature conditions 1. Recognize that water has three states
B. Motions and Force		
PS-M-B5: understanding that unbalanced forces will cause changes in the speed or direction of an object's motion	ES-B5: Identify how to change the speed or direction of a moving or stationary object	3. Match different actions to corresponding changes in the motion of objects 2. Select an action that results in an increase in speed or change in direction of a moving object 1. Identify ways to stop or slow the motion of objects
C. Transformations of Energy		
PS-M-C5: investigating and describing the movement of heat and the effects of heat in objects and systems	ES-C5: Recognize that heat moves in different ways	3. Identify changes in an object's temperature as it is subjected to different temperatures 2. Recognize that heat can transfer from one object to another 1. Sort objects that are being heated or cooled

Standards, Benchmarks, Extended Standards, and Complexity Levels

Life Science: The students will become aware of the characteristics and life cycles of organisms and understand their relationships to each other and to their environment.

Benchmarks	Extended Standards	Complexity Levels
A. Structure and Function in Living Systems		
LS-M-A5: locating major human body organs and describing their functions	ES-A5: Identify basic structures (i.e., mouth, esophagus, stomach, intestines) and functions of the human digestive system	3. Sequence how food travels from one organ to another in the human digestive system 2. Locate where basic organs in the digestive system are found in the human body 1. Recognize a basic organ in the human digestive system
LS-M-A6: describing how the human body changes with age and listing factors that affect the length and quality of life	ES-A6: Identify various stages in the human life span (e.g., baby, child, teenager, adult)	3. Recognize individuals based on features that identify them as being in a specific stage of their life span (e.g., baby, child, teenager, or adult) 2. Recognize a correct sequence of stages in the human life span (i.e., baby, child, teenager, adult) 1. Sort individuals according to life-span stages
LS-M-A7: describing communicable and noncommunicable diseases	ES-A7: Identify and implement procedures to prevent common disease/germ transmission	3. Identify different ways to prevent disease transmission 2. Identify that germs may be transmitted **directly** (person to person) or **indirectly** (person to an object and then from that object to another person) 1. Recognize that common diseases are caused by germs
B. Reproduction and Heredity		
LS-M-B3: describing how heredity allows parents to pass certain traits to offspring	ES-B3: Recognize that offspring resemble their parents and parents' species	3. Identify familiar human traits that children and their parents may have in common (e.g., hair color, eye color, height) 2. Sort animals by common traits 1. Recognize an animal that has characteristics that differ from a group of the same kind of animal

C. Populations and Ecosystems		
LS-M-C3: investigating major ecosystems and recognizing physical properties and organisms within each	ES-C3: Recognize that different types of familiar animals are suited to different habitats (i.e., ocean, lake/river, forest, grassland, desert)	3. Identify examples of several animals that live in the same habitat (e.g., whales, sharks, and sea turtles live in the ocean) 2. Match familiar animals to their appropriate habitats 1. Recognize that different types of animals live in different types of places
D. Adaptations of Organisms		
LS-M-D1: describing the importance of plant and animal adaptation, including local examples	ES-D2: Identify adaptations that help plants or animals live in Louisiana	3. Identify an adaptation that helps a plant or animal live in a specific Louisiana habitat 2. Match adaptation (e.g., method of movement) to habitats 1. Recognize that animals have different physical adaptations (e.g., animals move in different ways using different body parts—wings, fins, bellies, legs)

Standards, Benchmarks, Extended Standards, and Complexity Levels

Earth and Space Science: The students will develop an understanding of the properties of earth materials, the structure of the Earth system, the Earth's history, and the Earth's place in the universe.		
Benchmarks	**Extended Standards**	**Complexity Levels**
A. Structure of Earth		
ESS-M-A12: predicting weather patterns through use of a weather map	ES-A12: Use basic weather symbols on maps or charts to demonstrate weather predictions	3. Modify an activity based on a changing sequence of weather symbols 2. Match weather symbols to descriptions of different weather conditions 1. Recognize that symbols are used to represent different weather conditions
C. Earth in the Solar System		
ESS-M-C2: comparing and contrasting the celestial bodies in our solar system	ES-C2: Identify basic parts of our solar system (i.e., Earth, Moon, Sun)	3. Identify basic characteristics of Earth, the Moon, and the Sun 2. Recognize that there are differences between Earth, the Moon, and the Sun 1. Recognize representations of Earth, the Moon, and the Sun

Standards, Benchmarks, Extended Standards, and Complexity Levels

Science and the Environment: In learning environmental science, students will develop an appreciation of the natural environment, learn the importance of environmental quality, and acquire a sense of stewardship. As consumers and citizens, they will be able to recognize how our personal, professional, and political actions affect the natural world.		
Benchmarks	**Extended Standards**	**Complexity Levels**
SE-M-A3: defining the concept of pollutant and describing the effects of various pollutants on ecosystems	ES-A3: Identify air and water pollutants and how they harm the environment in different ways	3. Recognize the cause of a polluted area (i.e., air, water) 2. Sort polluted and unpolluted areas (i.e., air, water) 1. Recognize a polluted area (i.e., air, water)

ELEVENTH GRADE INTRODUCTION

Eleventh Grade

The focus in high school is physical science and life science reflecting the key science courses taken by most high school students by eleventh grade. Again, the foundations covered during earlier grades related to the properties of matter, forces and motion, and interactions of energy and matter are addressed using more complex situations. In life science, the focus is on basic understandings related to heredity, food chains, and more complex biological systems compared to those explored during earlier grades. A key life science emphasis is on personal and community health and safety. Science inquiry continues to be the foundational mechanism used to integrate the science curriculum with a focus on scientific investigations, use of data, and the role technology can play in expanding human observations. Students with significant cognitive disabilities access much of the same information and work on many skills through the complexity levels.

GRADE 11
SCIENCE

Science as Inquiry: The students will do science by engaging in partial and full inquiries that are within their developmental capabilities.

Benchmarks	Extended Standards	Complexity Levels
A. The Abilities Necessary to do Scientific Inquiry		
SI-H-A2: designing and conducting scientific investigations	ES-A2: Identify an appropriate process to complete a scientific investigation	3. Identify more than one procedure necessary to complete a given scientific investigation 2. Match a procedure with an appropriate scientific investigation 1. Recognize a scientific procedure
SI-H-A3: using technology and mathematics to improve investigations and communications	ES-A3: Interpret situations using data	3. Make an appropriate selection based on data 2. Compare situations using data 1. Match data to a specific situation
SI-H-A7: utilizing science safety procedures during scientific investigations	ES-A7: Perform simple multi-step scientific processes safely	3. Identify that performing processes in their proper order affects safety 2. Select safe ways to complete steps in a simple scientific investigation 1. Recognize safety procedures
B. Understanding Scientific Inquiry		
SI-H-B3: communicating that scientists rely on technology to enhance the gathering and manipulation of data	ES-B3: Identify how scientists use technology to improve information gathering	3. Identify how technology can improve information gathering 2. Sort technology by the kind of information that it can improve 1. Match a scientist to the kind of technology he/she uses (e.g., doctor—stethoscope)

Standards, Benchmarks, Extended Standards, and Complexity Levels

Physical Science: Students will develop an understanding of the characteristics and interrelationship of matter and energy in the physical world.		
Benchmarks	**Extended Standards**	**Complexity Levels**
C. The Structure and Properties of Matter		
PS-H-C1: distinguishing among elements, compounds, and/or mixtures	ES-C1: Identify that there are substances that can be put together and can't be returned to their original parts (compounds), while there are other substances that can be put together and returned to their original parts (mixtures)	3. Identify the difference between mixtures and compounds 2. Sort substances as mixtures or compounds 1. Recognize that some common substances are composed of different substances
PS-H-C4: separating mixtures based upon the physical properties of their components	ES-C4: Separate mixtures by using common physical properties of matter (i.e., magnetism, density, color, shape, size)	3. Identify how objects in a given mixture having similar properties of color, shape, and size can be easily separated by using their magnetic properties or relative densities (sink or float in water) 2. Sort objects in a mixture based on color, shape, or size 1. Recognize that an object can have different physical properties compared to a group of similar objects
E. Forces and Motion		
PS-H-E1: recognizing the characteristics and relative strengths of the forces of nature (gravitational, electrical, magnetic, nuclear)	ES-E1: Identify the impact of different forces in everyday situations (i.e., gravity, magnetic, friction)	3. Match how the motion of an object on a level surface changes as the surface texture varies due to the use of different common surface materials 2. Match how the motion of an object on a smooth incline changes as the angle of incline increases, decreases, or changes direction 1. Recognize two different ways that a magnet may move when another magnet is moved towards it
G. Interactions of Energy and Matter		
PS-H-G4: explaining the possible hazards of exposure to various forms and amounts of energy	ES-G4: Identify the presence of hazards from the exposure to or use of energy (i.e., light, heat, electrical)	3. Identify the presence of hazardous situations involving different uses of energy 2. Sort hazardous and non-hazardous exposures to heat, light, or electricity 1. Recognize that in certain circumstances light, heat, and electricity can be hazardous

Standards, Benchmarks, Extended Standards, and Complexity Levels

Life Science: The students will become aware of the characteristics and life cycles of organisms and understand their relationships to each other and to their environment.		
Benchmarks	**Extended Standards**	**Complexity Levels**
C. Biological Evolution		
LS-H-C6: comparing and contrasting life cycles of organisms	ES-C6: Compare the life cycles of common organisms (i.e., frogs, humans, other mammals)	3. Compare the life cycles of a frog and a given mammal 2. Compare the life cycles of a human and a given mammal 1. Recognize the life cycles of different common organisms
D. Interdependence of Organisms		
LS-H-D2: describing trophic levels and energy flows	ES-D2: Identify a basic food chain	3. Assemble a basic food chain 2. Recognize basic food chains 1. Recognize what different common animals eat
F. Systems and the Behavior of Organisms		
LS-H-F1: identifying the structure and functions of organ systems.	ES-F1: Identify basic structures and functions of the human circulatory system (e.g., heart, blood vessels, blood)	3. Identify structural relationships between the parts of the circulatory system and the functions of each part 2. Identify where parts of the circulatory system are located in the human body 1. Recognize parts of the human circulatory system

G. Personal and Community Health		
LS-H-G1: relating fitness and health to longevity	ES-G1: Identify how fitness activities improve health	3. Identify how fitness activities improve one's health 2. Match a fitness activity to a health improvement 1. Recognize fitness activities
LS-H-G3: explaining the role of the immune system in fighting disease	ES-G3: Identify that healthy human body systems assist the body in fighting diseases	3. Compare different healthy and unhealthy activities/diets to a person's susceptibility to becoming ill 2. Sort healthy and unhealthy activities and diets 1. Recognize that certain actions help the body, while others harm the body
LS-H-G4: exploring current research on the major diseases with regard to cause, symptoms, treatment, prevention, and cure	ES-G4: Identify physical conditions that may signal illness	3. Identify early warning symptoms of common illnesses that signal the need to get help 2. Match symptoms to common illnesses 1. Recognize that the body changes during an illness

Glossary

ASSESSMENT VERBS FOR LAA 1

analyze	To examine methodically by separating into parts and studying their interrelations
apply	To put to or adapt for a special use (e.g., apply positional concepts)
assemble	To put parts together in a prescribed manner (e.g., assemble a puzzle)
compare	To examine in order to note the similarities or differences (e.g., compare this story to that story)
complete	To make whole, with all necessary elements or parts (e.g., complete this sentence)
compose	In relation to writing: the combination of separate parts of a thought to create a whole (e.g., a phrase or a sentence)
demonstrate	To show clearly and deliberately (e.g., demonstrate the main idea)
describe	To represent orally, in writing, in pictures, or in symbols (e.g., describe this character)
determine	To decide (e.g., determine what you will do next)
extend	To expand or continue (e.g., extend this pattern)
find	To come upon, to discover (e.g., find the horizontal length between two points)
follow directions	To complete a task based on written, visual, or oral instructions
identify	To know or recognize from past experience (e.g., identify the first step)
imitate	To repeat specified actions
locate	To find by searching; to determine the position of (e.g., locate your desk)
match	To connect two items/ideas with similar qualities (e.g., match these cards)
modify	To change in form or character (e.g., modify a recipe)

Glossary

recognize	To know or identify from past experience (e.g., recognize that this is a ruler)
reproduce	To produce again or recreate (e.g., reproduce this pattern)
respond	To answer or to reply (e.g., respond with an eye gaze)
select	To choose or to identify something from options
sequence	To place in the order in which events/ideas/processes took place (e.g., sequence these pictures)
solve	To work out a problem which leads to a correct solution (e.g., solve this math task)
sort	To arrange according to one or more characteristics (e.g., sort these coins)
use	To put into service or apply for a purpose (e.g., use this cup)
write	To combine words to convey an idea (e.g., write an informal letter)

Glossary

ENGLISH LANGUAGE ARTS GLOSSARY

affix	A letter or group of letters attached to the beginning and/or end of a root word that changes its meaning or function, such as the prefix *un-* and the suffix *-er* (e.g., unknown; teacher).
climax	In a story or play, the turning point or highest point of interest in the action of the plot. (See plot sequence.)
connotative	The emotional, implied, or suggested meaning attached to a word that goes beyond its literal meaning.
deductive reasoning	The process of logical reasoning that proceeds from the more general to the more specific; reasoning from whole to parts.
denotative	The literal meaning or dictionary definition of a word.
dialect	The social or regional variation of a language as it differs from the standard language.
etymology	The study of words—their origins, history, and meanings.
fiction	Literary writing whose content comes from the imagination and is not necessarily based on fact but is designed to entertain; specifically, a type of literature, especially prose (novels, short stories, and forms of folklore).
foreshadowing	The technique of arranging events and information in a narrative so that later events are set up beforehand.
graphic organizer	A representation of information in forms such as maps, charts, graphs (including pie charts and bar graphs), or tables, which visually organize information to identify patterns and relationships.
homonym	One of two or more words that have the same sound and often the same spelling but that differ in meaning, such as bay (a body of water) and bay (part of a window).
idiom	A verbal expression that does not mean what it literally says and which may not be understood without local knowledge of the given language. For example, *You're barking up the wrong tree* is the equivalent to arriving at the wrong conclusion.

Glossary

inference	Process of drawing a conclusion or making a logical judgment based on prior conclusions or evidence but without direct observation.
irony	A literary technique for implying, through words, plot, or character development, that the actual comments or situation is quite different from what is asserted. The author's use of tone, exaggeration, or understatement often suggests the opposite of the literal meaning of the words used.
literary devices	Rhetorical elements (such as metaphor, foreshadowing, flashback, allusion, symbolism, irony, hyperbole, etc.) used to create a desired mood or tone in a piece of writing.
metaphor	A figure of speech that makes an implied comparison between two things, such as *Her hair is coal black*.
mood	The emotional state expressed in a literary work.
nonfiction	A genre of writing designed to explain, argue, or describe a real event rather than to tell an invented story. A type of prose other than fiction but including biography and autobiography.
personification	A metaphorical figure of speech in which nonhumans (plants, animals, objects, or concepts) are given human qualities (e.g., The dish ran away with the spoon.).
phonemic awareness	An understanding of the sounds (phonemes) that make up syllables and spoken words.
phonics	The application of sound-symbol relationships to read and write words.
plot sequence	The structure of the actions of a narrative or drama. The classic plot sequence is as follows: (1) exposition, (2) rising action, (3) climax, and (4) falling action leading to (5) resolution.
prefix	An affix (a letter or group of letters) that comes before a base or root word, such as *re* at the start of *reheat*.
resolution	The part of a story following the climax in which the conflict is resolved.
rising action	The part of a story in which the plot becomes increasingly complicated and introduces the conflict. Rising action generally leads to the climax of the story.

simile	A comparison of two things that is apparently dissimilar, usually using the words *like* or *as*, for example, *feet as cold as ice*.
story elements	Typical components that make up a story's structure and can be discussed individually, such as plot, characters, setting, theme, conflict, and outcome.
style	An author's distinctive manner of using language that suits his or her ideas and purpose in writing. An author's style often reflects his or her personality and beliefs and appears through each writer's characteristic ways of arranging ideas and use of diction, sentence structures, rhythm, figures of speech, and other elements of composition.
suffix	An affix (a letter or group of letters) that comes at the end of a base or root word that changes the meaning or grammatical function of the word, such as *-s* at the end of *teachers* or *asks*.
symbol and symbolism	Symbol: a word or a set of words that signifies an object or event which itself signifies something else. Scales, for example, symbolize justice; a dove, peace; the lion, strength and courage. Symbolism: the use of a concrete image to express an emotion or an abstract idea, such as the white whale representing the concept of evil in *Moby Dick*.
theme	A main idea or central idea that may be stated directly or indirectly. A theme may be profound, difficult to understand, or even moralistic. Generally a theme can be extracted as the reader explores a text.
thesis statement	The main point or argument of which an author or speaker tries to convince an audience through writing or speech.
tone	The reflections of an author's attitude toward the topic and the audience as suggested by his or her word choices and stylistic efforts, for example, using a *formal* or *informal* tone. The tone of a text may also indicate the message or reaction that an author hopes for from the audience. (*See voice*.)
visual texts	Information conveyed with images, or with meaningful patterns or sequences. Visual texts range from diagrams to documentaries. Other examples include tables, flowcharts, storyboards, picture glossaries, maps, and movies.

Glossary

MATHEMATICS GLOSSARY

combinations	Sets containing a certain number of objects selected from another set. The combinations of three items from the set $\{a,b,c,d\}$ are: $\{a,b,c\},\{a,b,d\},\{a,c,d\},\{b,c,d\}$. {a, b, c} and {b, a, c} are considered to be the same set.
computational fluency	The level of skill reached when a person is able to execute an algorithm or procedure efficiently and correctly.
coordinate systems	Systems used to locate points using lines or points.
expanded form	The form of a number written as a sum to show place value. For example, the expanded form of 367 is 300 + 60 + 7.
independent events	Events that have no influence on each other. For example, flipping "tails" with a coin and rolling a four with a die are independent events.
manipulatives	Concrete, physical objects used to help illustrate mathematical concepts.
mental math	Computations and estimations performed without the aid of paper and pencil.
model	Simulation of a real object that has explanatory power but that typically differs in size, scale, and/or detail; examples include plan, scheme, structure, or mathematical equation.
mutually exclusive events	Two or more events, each of which precludes all the others. For example, the people voting in a presidential election and the people who are celebrating their 15th birthday on that election day are mutually exclusive events.
outcomes	Results that are possible from an experiment or simulation. For example, the possible outcomes of rolling a six-sided number cube are rolls of 1, 2, 3, 4, 5, and 6.
permutations	The ordered arrangements of the elements of a set. For example, the permutations of the list $\{A,B,C\}$ are (1) $\{A,B,C\}$, (2) $\{A,C,B\}$, (3) $\{B,A,C\}$, (4) $\{B,C,A\}$, (5) $\{C,A,B\}$,and (6) $\{C,B,A\}$.

Glossary

pictographs	A visual representation of statistical data that uses pictures to indicate value or quantity.
picture graph	(See pictograph)
polynomial expression	A mathematical expression that is the sum of terms, each of which is the product of a constant and a non-negative power of a variable or variables. For example, the expression $5x^7 + 11x^2 + 7x + (-3)$ is a polynomial expression.
precision	The degree of specificity to which a measurement/value/quantity is determined. For example, "The measurement is precise to the nearest millimeter."
probability	A number between 0 and 1, inclusive, which indicates the likelihood of an event occurring. For example, the probability of rolling a 1 on a fair, six-sided number cube is 1/6.
range	The absolute difference between the greatest and least value in a set of data. For example, the range of the data set $\{7, 8, 12, 17, 23\}$ is $16(23-7)$.
rational number	Any number that can be written as a fraction in which both the numerator is an integer and the denominator is a natural number. For example, 3/7 is a rational number since it can be written as a fraction.
scatter plot	A two-dimensional graph of a collection of points.
standard form	The form in which numbers are traditionally written. For example, 367 is in standard form.
symbolic representation	A representation that uses symbols to model a situation or event. For example, the circumference of a circle is found by multiplying the diameter by pi. The symbolic representation that models this calculation is $C = \pi d$.

Glossary

SCIENCE GLOSSARY

celestial	Of or related to the sky or universe, as the planets and stars.
communicable disease	Disease that is transmittable between persons or species; contagious disease.
data	Numerical or descriptive, factual information, especially that which is derived from scientific observations or experiments, organized for analysis.
habitat	Specific environment or part of an ecosystem where an organism lives (e.g., woods, desert).
hypothesis	Rational explanation of a single event or phenomenon based upon what has been observed but not proven. A tentative explanation for the cause of an observed phenomenon.
inference	Process of drawing a conclusion or making a logical judgment based on prior conclusions or evidence but without direct observation.
inquiry	Systematic process of using knowledge and skills to acquire and/or apply new knowledge and skills.
metric system units of measurement	Decimal system of weights and measurements that includes units of Standard International or SI units measurement
model	Simulation of a real object that has explanatory power but that typically differs in size, scale, and/or detail; examples include plan, scheme, structure, or mathematical equation.
pollution	The contamination of soil, water, or the atmosphere by harmful substances.
revolution	The motion of a body or object around another body or object, for example, the revolution of Earth around the Sun.
rotation	The spinning of a planet such as Earth or other object on its axis.

Glossary

standard international (SI) units of measurement	More complete, coherent version of the metric system of International measurement; basic units of the SI system include the centimeter (SI) units of or meter, gram or kilogram, and second. measurement
standard tools	Instruments such as meter sticks, pan balances, graduated cylinders, or thermometers used for systematic measurement.
testable question	A query that can be answered through experimentation or research.

LAA 1

LEAP Alternate Assessment, Level 1

Louisiana Department of Education
Office of Student and School Performance
Division of Standards, Assessments, and Accountability