North Carolina ABE/ASE Content Standards

Adult Basic Education Content Standards Levels 1-4, Grade Levels 0.0 - 8.9

Reading Content Standards with Benchmarks	Reading Content Standards with Benchmarks
Print Concepts / Phonemic Awareness / Word Analysis: The student will develop and demonstrate knowledge of print concepts and phonemic awareness, word analysis, and decoding strategies to pronounce and derive meaning of words. R.1	**R.1 Print Concepts / Phonemic Awareness / Word Analysis: The student will develop and demonstrate knowledge of print concepts and phonemic awareness, word analysis, and decoding strategies to pronounce and derive meaning of words.** R.1
Grade Level 0.0 - 1.9 R.1.1	**R.1.1.1 Recognize the concepts of print (left to right, top to bottom, front to back, return sweep). Understand that words are separated by spaces in print. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).** R.1.1.1
	R.1.1.2 Recognize and discriminate among lowercase and uppercase letters and their corresponding sounds. Recognize that spoken words are represented in written language by specific sequences of letters. R.1.1.2
	R.1.1.3 Identify single consonants / sounds in initial, middle, and final word positions and manipulate initial sounds to recognize, create, and use rhyming words. R.1.1.3
	R.1.1.4 Identify vowels (short, long, r-controlled, and vowel combinations) and their sounds. Use knowledge that every syllable must have a vowel sound to determine the number or syllables in a printed word. R.1.1.4
	R.1.1.5 Identify two-letter consonant blends and digraphs in initial and final word positions and use these to decode one and two syllable words. R.1.1.5

	R.1.1.6 Segment spoken one-syllable words into their complete sequence of individual sounds (phonemes) and then substitute individual sounds to make new words. R.1.1.6
Grade Level 2.0 - 3.9 R.1.2	**R.1.2.1** Identify dipthongs (e.g., ou, aw, sy) and use to decode one-syllable words. R.1.2.1
	R.1.2.2 Identify the shwa sound (e.g., away) and use to decode simple words. R.1.2.2
	R.1.2.3 Identify and use silent consonants (e.g., kn, gh). R.1.2.3
	R.1.2.4 Identify words with inflectional endings (e.g., s, es, ed, ing, er, est). R.1.2.4
	R.1.2.5 Identify and use compound words. R.1.2.5
	R.1.2.6 Identify and use contractions and be able to match them to the two words being replaced (e.g., I'm for I am). R.1.2.6
	R.1.2.7 Identify and know the meaning of the most common root words, prefixes, and suffixes and use them to decode multi-syllable words. R.1.2.7
	R.1.2.8 Use decoding strategies (letter-sound correspondences, syllabication patterns, and morphology) to read accurately unfamiliar multisyllabic words in context and out of context. R.1.2.8
Vocabulary: The student will develop and demonstrate knowledge of vocabulary skills that include analyzing word structure, determining the meaning or words from context, sorting words into groups by meaning and relationships among words, and applying vocabulary skills in order to understand a wide and varied vocabulary that enhances comprehension of literary, functional, and informational text. R.2	**R.2** Vocabulary: The student will develop and demonstrate knowledge of vocabulary skills that include analyzing word structure, determining the meaning or words from context, sorting words into groups by meaning and relationships among words, and applying vocabulary skills in order to understand a wide and varied vocabulary that enhances comprehension of literary, functional, and informational text. R.2
Grade Level 0.0 - 1.9 R.2.1	**R.2.1.1** Demonstrate ability to read personal information (name, address, zip code, phone number, age). R.2.1.1

	R.2.1.2 Read common high-frequency words by sight (ex. the, of, to, you, she, my, is, are, do, does). R.2.1.2
	R.2.1.3 Identify common functional and survival signs and labels with one word or symbol. R.2.1.3
	R.2.1.4 Read common numbers, symbols and abbreviations (e.g., clock time, prices, sizes, dollar sign) in isolated words and phrases in familiar contexts. R.2.1.4
Grade Level 2.0 - 3.9 R.2.2	**R.2.2.1** Recognize synonyms, antonyms, homonyms, and homophones for identified vocabulary words presented in isolation or within a group of words. R.2.2.1
	R.2.2.2 Recognize the correct meaning of words with multiple meanings when presented in text. R.2.2.2
	R.2.2.3 Use structural analysis (familiar word parts: base words, prefixes, and suffixes) and / or context clues to determine the meaning of an unknown word. R.2.2.3
Grade Level 4.0 - 5.9 R.2.3	**R.2.3.1** Use prefixes, suffixes, root words, antonyms, and synonyms to determine meaning of unfamiliar words. R.2.3.1
	R.2.3.2 Identify the meaning of frequently used synonyms, antonyms, homographs, and homonyms. R.2.3.2
	R.2.3.3 Recognize and understand clipped and shortened words. R.2.3.3
	R.2.3.4 Build vocabulary of tier 2 words including general academic words and phrases. R.2.3.4
Grade Level 6.0 - 8.9 R.2.4	**R.2.4.1** Recognize and comprehend the meaning of moderately complex occupational, technical, and content-specific vocabulary using word, sentence, and paragraph clues to determine meaning. R.2.4.1
	R.2.4.2 Use a dictionary to locate the meaning of words used in a statement and a thesaurus to find words with the same meaning. R.2.4.2
	R.2.4.3 Identify and interpret basic figurative language and idioms used in everyday life and in text. R.2.4.3
	R.2.4.4 Increase vocabulary of tier 2 words including academic terms and phrases. R.2.4.4
Comprehension: The student will develop and demonstrate knowledge of a variety of	**R.3** Comprehension: The student will develop and demonstrate knowledge of a variety of comprehension strategies to derive meaning from literary, functional, and informational text. R.3

comprehension strategies to derive meaning from literary, functional, and informational text. R.3

Grade Level 0.0 - 1.9 R.3.1

- **R.3.1.1** Locate pertinent information in simple, familiar materials and ask and answer questions about the key details. R.3.1.1
- **R.3.1.2** Respond to instructional level text by identifying sequence and making predictions. R.3.1.2
- **R.3.1.3** Interpret and follow very simple visual instructions that utilize pictures and diagrams. With prompting and support, describe the relationship between illustrations and the story in which they appear (ex. what moment in a story an illustration depicts). R.3.1.3
- **R.3.1.4** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. R.3.1.4
- **R.3.1.5** Know and use various text features (ex. headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text. R.3.1.5
- **R.3.1.6** Closely read a text to determine what the text says, make logical inferences from it, and cite evidence from the text to support claims. R.3.1.6
- **R.3.1.7** Demonstrate self-monitoring strategies. R.3.1.7

Grade Level 2.0 - 3.9 R.3.2

- **R.3.2.1** Locate explicitly stated information in functional reading. Ask and answer questions such as who, what, where, when, why and how to demonstrate understanding of key ideas in a text. R.3.2.1
- **R.3.2.2** Respond to instructional level text by distinguishing between fact and opinion and by comparing and contrasting ideas. R.3.2.2
- **R.3.2.3** Evaluate information from simple charts, graphs, labels, and payroll stubs to answer questions. R.3.2.3
- **R.3.2.4** Use text features (captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to efficiently locate key facts or information in a text. R.3.2.4
- **R.3.2.5** Determine the sequence of events in a story and make predictions about the events. R.3.2.5
- **R.3.2.6** Use graphic organizers to determine meaning in texts written for this instructional level. R.3.2.6

	R.3.2.7 Closely read a complex text at the appropriate instructional level to determine what the text says, make logical inferences from it, and cite evidence from the text to support claims. R.3.2.7
	R.3.2.8 Self monitor and clearly identify specific words or phrases that cause comprehension difficulties. R.3.2.8
Grade Level 4.0 - 5.9 R.3.3	**R.3.3.1** Identify the main idea of a text and explain how it is supported by key details; summarize the text. R.3.3.1
	R.3.3.2 Read, interpret diagrams and follow multi-step instructions in policies / procedures written at this level. R.3.3.2
	R.3.3.3 Locate pertinent information in print materials and apply it to answer a question. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. R.3.3.3
	R.3.3.4 Evaluate information from simple graphic materials such as charts, pictures, maps, signs, diagrams, tables, or graphs. R.3.3.4
	R.3.3.5 Draw conclusions and make inferences about short passages. R.3.3.5
	R.3.3.6 Retell, summarize or describe sequence of events in previously read text. R.3.3.6
	R.3.3.7 Determine the appropriate reading strategy to acquire specific information or aid comprehension. R.3.3.7
Grade Level 6.0 - 8.9 R.3.4	**R.3.4.1** Read and interpret information in common manuals and other functional readings. R.3.4.1
	R.3.4.2 Read and interpret expository writing on common topics in newspapers, periodicals, and non-technical journals. R.3.4.2
	R.3.4.3 Gather information from at least three reference materials and evaluate which information best serves the student's purpose. R.3.4.3
	R.3.4.4 Identify the implied main idea and supporting details from an instructional-level passage. R.3.4.4
	R.3.4.5 Predict probable outcomes from knowledge of events obtained from a reading selection. R.3.4.5
	R.3.4.6 Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints. R.3.4.6

	R.3.4.7 Distinguish factual information from opinion or fiction. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced. R.3.4.7
	R.3.4.8 Determine the meaning of persuasive language and propaganda used in functional text. R.3.4.8
	R.3.4.9 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. R.3.4.9
	R.3.4.10 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone. R.3.4.10
	R.3.4.11 Identify and use the structural features of newspapers, magazines, and editorials to gain meaning from text. R.3.4.11
	R.3.4.12 Clarify understanding of non-fictional passages by creating outlines, graphic organizers, logical notes, summaries, or reports. R.3.4.12
Fluency: The student will develop and demonstrate knowledge of different reading strategies to read a variety of literary, functional, and informational text with accuracy and speed. R.4	**R.4** Fluency: The student will develop and demonstrate knowledge of different reading strategies to read a variety of literary, functional, and informational text with accuracy and speed. R.4
Grade Level 0.0 - 1.9 R.4.1	**R.4.1.1** Read instructional level text orally, with fluency and accuracy and with appropriate pacing, intonation and expression with understanding and purpose. Use content to confirm or self-correct word recognition and understanding, rereading as necessary. R.4.1.1
	R.4.1.2 Use context to confirm or self-correct word recognition and understanding, rereading as necessary. R.4.1.2
Grade Level 2.0 - 3.9 R.4.2	**R.4.2.1** Read instructional level text orally, with fluency and accuracy and with appropriate pacing, intonation and expression with understanding and purpose. Use content to confirm or self-correct word recognition and understanding, rereading as necessary. R.4.2.1
	R.4.2.2 Use context to confirm or self-correct word recognition and understanding, rereading as necessary. R.4.2.2

Grade Level 4.0 - 5.9 R.4.3	**R.4.3.1** Reading instructional level text, prose, and poetry orally, with fluency and accuracy and with appropriate pacing, intonation and expression. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. R.4.3.1
	R.4.3.2 Use context to confirm or self-correct word recognition and understanding, rereading as necessary. R.4.3.2
Grade Level 6.0 - 8.9 R.4.4	**R.4.4.1** Read instructional level text orally, with fluency and accuracy and with appropriate pacing, intonation and expression with understanding and purpose. Use content to confirm or self-correct word recognition and understanding, rereading as necessary. R.4.4.1
Literature and Informational Text: The student will develop and demonstrate knowledge of a range of increasingly complex literature and informational texts. R.5	**R.5** Literature and Informational Text: The student will develop and demonstrate knowledge of a range of increasingly complex literature and informational texts. R.5
Grade Level 0.0 - 1.9 R.5.1	**R.5.1.1** Retell stories, including key details and main topic, and demonstrate understanding of their central message or lesson. R.5.1.1
	R.5.1.2 Describe characters, settings, and major events in a story, using key details. Describe the connection between two individuals, events, ideas, or pieces of information in a text. R.5.1.2
	R.5.1.3 Identify words and phrases in stories or poems that suggest feelings or appeal to the senses and be able to clarify the meaning of words and phrases. R.5.1.3
	R.5.1.4 Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text. R.5.1.4
	R.5.1.5 Identify who is telling the story at various points in a text. R.5.1.5
	R.5.1.6 With support, compare and contrast the adventures and experiences of characters in familiar stories and identify major events and settings in a story. R.5.1.6
	R.5.1.7 Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). R.5.1.7
	R.5.1.8 Read appropriately complex informational text, prose, and poetry for current reading level. R.5.1.8

Grade Level 2.0 - 3.9 R.5.2

R.5.2.1 Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text. R.5.2.1

R.5.2.2 Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. R.5.2.2

R.5.2.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause / effect. R.5.2.3

R.5.2.4 Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language. R.5.2.4

R.5.2.5 Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections. R.5.2.5

R.5.2.6 Distinguish their own point of view from that of the characters in a story or author of a story / text. R.5.2.6

R.5.2.7 Explain how specific images and illustrations contribute to or clarify a story (e.g., create mood, emphasize particular aspects of characters or settings). R.5.2.7

R.5.2.8 Compare and contrast the themes, settings, and plots of of stories written by the same author about the same or similar characters (e.g., in books from a series) or compare and contrast the most important points and key details presented in two texts on the same topic. R.5.2.8

R.5.2.9 Read and comprehend informational texts (historical, scientific) and literature (stories, dramas), for the current level, independently and proficiently. R.5.2.9

Grade Level 4.0 - 5.9 R.5.3

R.5.3.1 Quotes accurately from the text when explaining what the text says explicitly and when drawing inferences from the text. R.5.3.1

R.5.3.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text, including main ideas. R.5.3.2

R.5.3.3 Compare and contrast two or more characters, settings, or events in a story or drama drawing on specific details in the text (e.g., how characters interact). Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. R.5.3.3

R.5.3.4 Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. R.5.3.4

R.5.3.5 Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem. Compare and contrast the organizational structure of events, ideas, concepts, or information (e.g., chronology, comparison, cause / effect, problem / solution) in two or more texts. R.5.3.5

R.5.3.6 Understand and analyze different points of view. R.5.3.6

R.5.3.7 Analyze how visual and multimedia elements in conjunction with words contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction). R.5.3.7

R.5.3.8 Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence supports which point(s). R.5.3.8

R.5.3.9 Read and comprehend informational texts (historical, scientific, and technical texts) and literature (stories, dramas, and poetry), for the current level, independently and proficiently. R.5.3.9

R.5.3.10 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. R.5.3.10

Grade Level 6.0 - 8.9 R.5.4

R.5.4.1 Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot). R.5.4.1

R.5.4.2 Analyze how a drama's or poem's form or structure (e.g. sonnet, soliloquy) contributes to its meaning. R.5.4.2

R.5.4.3 Compare and contrast the experience of reading a text to experiencing an audio, video, or multimedia version of it, analyzing the text's portrayal in each medium (e.g., how the delivery of a speech affects the impact of the words). R.5.4.3

R.5.4.4 Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation. R.5.4.4

R.5.4.5 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. R.5.4.5

R.5.4.6 Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. R.5.4.6

	R.5.4.7 Analyze the structure (sentence, paragraph, chapter, or section) an author uses to organize a text including how it fits into the overall structure of a text and contributes to the development of the ideas. R.5.4.7
	R.5.4.8 Read and comprehend literature, including stories, dramas, and poetry, as well as nonfiction, for the current level, independently and proficiently. R.5.4.8
Writing Content Standards with Benchmarks	**Writing Content Standards with Benchmarks**
Readability / Accuracy: The student will develop and apply knowledge of the basic written English language. W.1	**W.1** Readability / Accuracy: The student will develop and apply knowledge of the basic written English language. W.1
Grade Level 0.0 - 1.9 W.1.1	**W.1.1.1** Recognize and copy letters and numbers. W.1.1.1
	W.1.1.2 From memory, write the numerals from 0 to 20. W.1.1.2
	W.1.1.3 From memory, write the 26 uppercase and 26 lowercase letters. W.1.1.3
	W.1.1.4 Write personal information and dates on a form. W.1.1.4
	W.1.1.5 Accurately space words to form simple sentences. W.1.1.5
Grade Level 3.0 - 3.9 W.1.2	**W.1.2.1** Write short sentences from memory and dictation. W.1.2.1
	W.1.2.2 Recognize and copy both capital and lowercase cursive letters of the alphabet. W.1.2.2
	W.1.2.3 Recognize and write common symbols and abbreviations. W.1.2.3
	W.1.2.4 Write words identifying objects in the classroom, home, or workplace. W.1.2.4
	W.1.2.5 Write short sentences from memory and dictation. W.1.2.5
Capitalization, Punctuation, & Spelling: The student will develop and apply knowledge of the rules for capitalization, punctuation, and	**W.2** Capitalization, Punctuation, & Spelling: The student will develop and apply knowledge of the rules for capitalization, punctuation, and spelling to complete a variety of writing tasks. W.2

spelling to complete a variety of writing tasks. W.2

Grade Level 0.0 - 1.9 W.2.1	**W.2.1.1**	**Correctly capitalize simple sentences.** W.2.1.1
	W.2.1.2	**Correctly capitalize the pronoun "I."** W.2.1.2
	W.2.1.3	**Capitalize proper nouns, e.g., names, titles, places, and abbreviations.** W.2.1.3
	W.2.1.4	**Distinguish between declarative, imperative, interrogative, and exclamatory sentences when presented orally by the instructor.** W.2.1.4
	W.2.1.5	**Correctly punctuate simple sentences with end punctuation including periods, question marks, and exclamation points.** W.2.1.5
	W.2.1.6	**Correctly punctuate abbreviations of common titles.** W.2.1.6
Grade Level 2.0 - 3.9 W.2.2	**W.2.2.1**	**Capitalize the inside address, salutation, and closing of personal and business letters.** W.2.2.1
	W.2.2.2	**Capitalize proper nouns including days of the week, months of the year, holidays, continents, countries, states, and cities.** W.2.2.2
	W.2.2.3	**Spell the months of the year, days of the week, and numbers from 1 to 121.** W.2.2.3
	W.2.2.4	**Spell 98% of the words on the pre-primer through third grade list on the Dolch word list.** W.2.2.4
	W.2.2.5	**Use commas to correctly punctuate items in a series, dates, and addresses.** W.2.2.5
	W.2.2.6	**Use commas to correctly punctuate the salutation and closing of a personal letter.** W.2.2.6
	W.2.2.7	**Use apostrophes to form contractions and show possession.** W.2.2.7
Grade Level 4.0 - 5.9 W.2.3	**W.2.3.1**	**Capitalize titles of books, magazines, poems, songs, television shows, movies, etc.** W.2.3.1
	W.2.3.2	**Correctly use commas in writing, e.g. conjunction in complex sentences, set off proper names of direct address, set off an appositive, etc.** W.2.3.2
Grade Level 6.0 - 8.9 W.2.4	**W.2.4.1**	**Appropriately use all forms of capitalization and punctuation including colons, semicolons, commas, dashes, and end punctuation.** W.2.4.1
	W.2.4.2	**Correctly spell all words in a written text.** W.2.4.2

Grammatical Concepts / Sentence Structure: The student will develop and apply knowledge of grammatical concepts and sentence structure to complete a variety of writing tasks. W.3	**W.3 Grammatical Concepts / Sentence Structure: The student will develop and apply knowledge of grammatical concepts and sentence structure to complete a variety of writing tasks.** W.3
Grade Level 0.0 - 1.9 W.3.1	**W.3.1.1 Identify the differences between singular and plural nouns and pronouns.** W.3.1.1
	W.3.1.2 Use personal, possessive and infinite pronouns. W.3.1.2
	W.3.1.3 Identify the simple subject and simple predicate in a simple sentence. W.3.1.3
	W.3.1.4 Identify proper subject and verb agreement in a sentence. W.3.1.4
	W.3.1.5 Write related sentences using correct capitalization, punctuation, and grammar. W.3.1.5
Grade Level 2.0 - 3.9 W.3.2	**W.3.2.1 Correctly indent paragraphs.** W.3.2.1
	W.3.2.2 Use irregular plural forms of nouns correctly. W.3.2.2
	W.3.2.3 Identify and use objective and demonstrative pronouns. W.3.2.3
	W.3.2.4 Identify and use modifiers in sentences. W.3.2.4
	W.3.2.5 Change fragments and run-ons to complete sentences. W.3.2.5
	W.3.2.6 Combine simple sentences to form compound sentences using commas and conjunctions. W.3.2.6
Grade Level 4.0 - 5.9 W.3.3	**W.3.3.1 Identify complete subjects and complete predicates in sentences.** W.3.3.1
	W.3.3.2 Identify compound subjects and predicates in sentences. W.3.3.2
	W.3.3.3 Identify the understood subject of a command. W.3.3.3
	W.3.3.4 Identify phrases and independent clauses. W.3.3.4
Grade Level 6.0 - 8.9 W.3.4	**W.3.4.1 Recognize how parts of a sentence are used to manipulate meaning in sentences (independent clauses, introductory clauses, and phrases, etc.).** W.3.4.1
	W.3.4.2 Write paragraphs with stated or implied topic sentences. W.3.4.2

	W.3.4.3 Write paragraphs with clear connections and transitions between sentences. W.3.4.3
	W.3.4.4 Develop appropriate tense use throughout a multiple paragraph text. W.3.4.4
	W.3.4.5 Sustain a consistent point of view throughout a multiple paragraph text. W.3.4.5
Parts of Speech, Verb Tense, and Usage: The student will apply knowledge of parts of speech, verb tense, and usage to complete a variety of writing tasks. W.4	**W.4** Parts of Speech, Verb Tense, and Usage: The student will apply knowledge of parts of speech, verb tense, and usage to complete a variety of writing tasks. W.4
Grade Level 0.0 - 1.9 W.4.1	**W.4.1.1** Identify and distinguish between nouns, pronouns, and verbs in simple sentences. W.4.1.1
	W.4.1.2 Distinguish between past and present tense in sentences. W.4.1.2
	W.4.1.3 Compose simple sentences in both present and past tense. W.4.1.3
Grade Level 2.0 - 3.9 W.4.2	**W.4.2.1** Correctly identify the singular and plural forms of nouns. W.4.2.1
	W.4.2.2 Distinguish between correct use of verbs in affirmative and negative forms in simple sentences. W.4.2.2
	W.4.2.3 Identify the appropriate forms of common regular and irregular verbs. W.4.2.3
	W.4.2.4 Make pronouns and antecedents agree in number and gender. W.4.2.4
Grade Level 4.0 - 5.9 W.4.3	**W.4.3.1** Identify nouns, verbs, pronouns, adjectives, adverbs, conjunctions, prepositions, and interjections. W.4.3.1
	W.4.3.2 Write the appropriate forms of common regular and irregular verbs, past, present, and past participle. W.4.3.2
	W.4.3.3 Distinguish present tense, past tense, and future tense of common verbs. W.4.3.3
	W.4.3.4 Correctly use the nominative and objective cases of pronouns, i.e., she / her. W.4.3.4

Grade Level 6.0 - 8.9 W.4.4	**W.4.4.1** Identify all parts of speech, including nouns, verbs, adjectives, adverbs, conjunctions, prepositions, interjections, and verbals (verbs used as nouns, adjectives, or adverbs such as infinitives, participles, and gerunds). W.4.4.1
	W.4.4.2 Identify how parts of speech work in a particular sentence, i.e., noun used as an object instead of a subject. W.4.4.2
	W.4.4.3 Identify passive voice. W.4.4.3
	W.4.4.4 Demonstrate mastery of past and present tense. W.4.4.4
	W.4.4.5 Establish and maintain tense in a writing piece. W.4.4.5
Composition: The student will develop and apply the writing process to communicate in writing for a variety of purposes. W.5	**W.5** Composition: The student will develop and apply the writing process to communicate in writing for a variety of purposes. W.5
Grade Level 0.0 - 1.9 W.5.1	**W.5.1.1** Use a combination of drawing, dictating, and writing to compose informative or explanatory texts in which they name a topic, provide some facts, and provide some sense of closure. W.5.1.1
	W.5.1.2 Use a combination of drawing, dictating, and writing to narrate an event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. W.5.1.2
	W.5.1.3 Focus on a topic, respond to questions and suggestions from peers and add details to strengthen writing as needed. W.5.1.3
	W.5.1.4 Recall information from experiences or gather information from provided sources to answer a question. W.5.1.4
	W.5.1.5 Use a variety of digital tools to produce and publish writing, including in collaboration with peers. W.5.1.5
Grade Level 2.0 - 3.9 W.5.2	**W.5.2.1** Write informative or explanatory text in which they introduce a topic, use facts and definitions to develop points, use linking words and phrases to connect ideas with categories of information, and provide a concluding statement or section. W.5.2.1
	W.5.2.2 Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. W.5.2.2

W.5.2.3 Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons and provide a concluding statement for section. W.5.2.3

W.5.2.4 Gather information from print and digital resources; take brief notes on sources and sort evidence into provided categories. W.5.2.4

W.5.2.5 Use technology to produce and publish writing as well as interact and collaborate with others. W.5.2.5

W.5.2.6 Conduct short research projects that build knowledge about a topic. W.5.2.6

W.5.2.7 Produce writing in which the development and organization are appropriate to task and purpose. W.5.2.7

W.5.2.8 Develop and strengthen writing as needed by planning, revising, and editing. W.5.2.8

Grade Level 4.0 - 5.9 W.5.3

W.5.3.1 Write informative and explanatory texts to examine a topic and convey ideas and information clear. The text should: a) Introduce the topic clearly, group related information in paragraphs and sections, and include formatting, illustrations and multimedia when useful to aid comprehension; b) Develop the topic with facts, definitions, concrete details, quotations, or other information and examples; c) Link ideas within categories of information using words and phrases (e.g., another, for example, also, because) and use precise language and domain-specific vocabulary to inform about or explain the topic; and d) Provide a concluding statement or section related to the information / explanation presented. W.5.3.1

W.5.3.2 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear even sequences. The narratives should: a) Orient the reader by establishing a situation and introducing a narrator and / or characters and organize an event sequence that unfolds naturally; b) Use dialogue and description to develop experiences and events or show the responses of characters to situations; c) Use a variety of transitional words and phrases to manage the sequence of events; d) Use concrete words and phrases and sensory details to convey experiences and events precisely; and e) Provide a conclusion that follows from the narrated experiences or events. W.5.3.2

W.5.3.3 **Write opinion pieces on topics or texts, supporting a point of view with reasons and information. The pieces should: a) Introduce a topic or text, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose; b) Provide logical reasons that are supported by facts / details; c) Link opinion and reasons using words, clauses, and phrases (e.g., for instance, in order to, in addition, consequently, specifically); and d) Provide a concluding statement or section related to the opinion presented.** W.5.3.3

W.5.3.4 **Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, ad provide a list of sources.** W.5.3.4

W.5.3.5 **Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.** W.5.3.5

W.5.3.6 **Conduct short research projects that use several sources to build knowledge through investigation or different aspects of a topic.** W.5.3.6

W.5.3.7 **Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.** W.5.3.7

W.5.3.8 **Draw evidence from literary or information texts to support analysis, reflection, and research. The evidence should a) Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text (e.g., how the characters interacted); b) Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which points;** W.5.3.8

W.5.3.9 **Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.** W.5.3.9

Grade Level 6.0 - 8.9 W.5.4

W.5.4.1 **Write informative and explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. The texts should: a) Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison / contrast, and cause / effect, include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aid comprehension; b) Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples; c) Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts; d) Use precise language and domain-specific vocabulary to inform about or explain the topic. e) Establish and maintain style; and concluding statement or section that follow from and supports the information or explanation presented.** W.5.4.1

W.5.4.2 **Write arguments to support claims with clear reasons and relevant evidence. The argument should: a) Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically; b) Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text; c) Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence; d) Establish and maintain a formal style; and e) Provide a concluding statement or section that follows from and supports the argument presented** W.5.4.2

W.5.4.3 **Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have bee addressed.** W.5.4.3

W.5.4.4 **Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.** W.5.4.4

W.5.4.5 **Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.** W.5.4.5

W.5.4.6 **Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.** W.5.4.6

W.5.4.7 **Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.** W.5.4.7

W.5.4.8 **Draw evidence from literary or informational texts to support analysis, reflection, and research by applying reading standards to literature and literary nonfiction.** W.5.4.8

Speaking and Listening Content Standards with Benchmarks	Speaking and Listening Content Standards with Benchmarks
Comprehension and Collaboration: The student will develop and apply skills to demonstrate comprehension and collaboration of oral and aural information. S.1	**S.1 Comprehension and Collaboration: The student will develop and apply skills to demonstrate comprehension and collaboration of oral and aural information.** S.1
Grade Level 0.0 - 1.9 S.1.1	**S.1.1.1 Participate in collaborative conversations in small and larger groups.** S.1.1.1
	S.1.1.2 Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). S.1.1.2
	S.1.1.3 Build on others' talk in conversations by responding to the comments of others through multiple exchanges. S.1.1.3
	S.1.1.4 Ask questions to clear up any confusion about the topics and texts under discussion. S.1.1.4
	S.1.1.5 Demonstrate understanding of written texts presented orally by asking and answering questions about key details and restating key elements. S.1.1.5
	S.1.1.6 Ask and answer questions about what a speaker says in order to seek help, gather additional information or clarify something that is not understood. S.1.1.6
Grade Level -- 2.0 - 3.9 S.1.2	**S.1.2.1 Engage effectively in a range of collaborative discussions (one-on-one and in groups) building on others' ideas and expressing their own clearly.** S.1.2.1
	S.1.2.2 Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). S.1.2.2
	S.1.2.3 Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. S.1.2.3
	S.1.2.4 Explain their own ideas and understanding in light of the discussion. S.1.2.4
	S.1.2.5 Identify the main ideas and supporting details of written texts read aloud or information presented graphically, orally, visually, or multimodally. S.1.2.5

	S.1.2.6 Ask and answer questions about what a speaker says to clarify comprehension, gather additional information, or deepen understanding. Offer appropriate elaboration and detail about what a speaker says. S.1.2.6
Grade Level 4.0 - 5.9 S.1.3	**S.1.3.1** Engage effectively in a range of collaborative discussions (one-on-one and in groups), building on others' ideas and expressing their own clearly. S.1.3.1
	S.1.3.2 Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. S.1.3.2
	S.1.3.3 Follow agreed-upon rules for discussions and carry out assigned roles. S.1.3.3
	S.1.3.4 Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. S.1.3.4
	S.1.3.5 Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. S.1.3.5
	S.1.3.6 Summarize written texts read aloud or information presented graphically, orally, visually, or multimodally. S.1.3.6
	S.1.3.7 Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence. S.1.3.7
Grade Level 6.0 - 8.9 S.1.4	**S.1.4.1** Engage effectively in a range of collaborative discussions (one-on-one and in groups) building on others' ideas and expressing their own clearly. S.1.4.1
	S.1.4.2 Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence to probe and reflect on ideas under discussion. S.1.4.2
	S.1.4.3 Work with peers to set rules for discussions. S.1.4.3
	S.1.4.4 Pose questions that connect the ideas of several speakers and elicit elaboration. Respond to others' questions and comments with relevant evidence, observations, and ideas. S.1.4.4
	S.1.4.5 Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. S.1.4.5
	S.1.4.6 Analyze the main ideas and supporting details to determine the purpose of information in graphical, oral, visual, or multimodal formats; evaluate the motives (e.g., social, commercial, political) behind its presentation. S.1.4.6
	S.1.4.7 Delineate a speaker's argument and specific claims, evaluating the validity of the reasoning and sufficiency of the evidence. S.1.4.7

Presentation of Knowledge and Ideas: The student will develop and apply skills to demonstrate presentation of knowledge and ideas of oral and aural information. S.2	**S.2 Presentation of Knowledge and Ideas: The student will develop and apply skills to demonstrate presentation of knowledge and ideas of oral and aural information.** S.2
Grade Level 0.0 - 1.9 S.2.1	**S.2.1.1 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.** S.2.1.1
	S.2.1.2 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. S.2.1.2
	S.2.1.3 Speak audibly and express thoughts, feelings, and ideas clearly. Produce complete sentences appropriate to task and situation. S.2.1.3
Grade Level 2.0 - 3.9 S.2.2	**S.2.2.1 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.** S.2.2.1
	S.2.2.2 Create engaging audio recordings of stories or poems that demonstrate fluent reading; add visual displays when appropriate to enhance certain facts or details. S.2.2.2
	S.2.2.3 Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. S.2.2.3
Grade Level 4.0 - 5.9 S.2.3.	**S.2.3.1 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.** S.2.3.1
	S.2.3.2 Use multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. S.2.3.2
	S.2.3.3 Know contexts that call for formal (e.g., presenting ideas) versus informal (e.g., small-group discussion) English; use formal English when appropriate. S.2.3.3
Grade Level 6.0 - 8.9 S.2.4	**S.2.4.1 Present claims and findings, emphasizing important points in a focused, coherent manner with relevant evidence, sound reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.** S.2.4.1

	S.2.4.2 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. S.2.4.2
	S.2.4.3 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. S.2.4.3
Mathematics Content Standards with Benchmarks	**Mathematics Content Standards with Benchmarks**
Number Sense and Operations: Students will develop and apply concepts of number sense and operations to explore, analyze, and solve a variety of mathematical and real-life problems. M.1	**M.1** Number Sense and Operations: Students will develop and apply concepts of number sense and operations to explore, analyze, and solve a variety of mathematical and real-life problems. M.1
Grade Level 0.0 - 1.9 M.1.1	**M.1.1.1** Understand place value. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following special cases: a. 10 can be thought of as a bundle of ten ones – called a "ten."; b. The numbers from 11 to 19 are composed of a ten and one, two, three, … eight, or nine ones. The numbers 10, 20, 30, 40, 50, 60, 70, 80 90 refer to one, two three, four, five, six, seven, eight, or nine tens (and 0 ones). M.1.1.1
	M.1.1.2 Understand place value. Compare two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. M.1.1.2
	M.1.1.3 Use place value understanding and the properties of operations to add and subtract. Add within 100, including adding a two-digit number and a one-digit number, and adding a twodigit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. M.1.1.3

M.1.1.4 Use properties of operations to add and subtract. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. Subtract multiples of 10 in the range of 10-90 from multiples of 10 in the range of 10-9 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. M.1.1.4

Grade Level 2.0 - 3.9 M.1.2

M.1.2.1 Understand that the three digits of a three-digit number represents amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following special cases: a. 100 can be thought of as a bundle of ten tens – called a "hundred."; b. The numbers 100, 200, ... 900 refer to one, two, ... nine hundreds (and 0 tens and 0 ones). M.1.2.1

M.1.2.2 Count within 1000; skip-count by 5s, 10s, and 100s. M.1.2.2

M.1.2.3 Read and write numbers to 1000 using baseten numerals, number names, and expanded form. M.1.2.3

M.1.2.4 Compare two threedigit numbers based on meanings of hundreds, tens, and ones digits, using >, =, < symbols to record the results of comparisons. M.1.2.4

M.1.2.5 Add up to four twodigit numbers using strategies based on place value and properties of operations. M.1.2.5

M.1.2.6 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, and ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. M.1.2.6

M.1.2.7 Use place value understanding and properties of operations to add and subtract. Mentally add 10 or 100 to a given number 100- 900, and mentally subtract 10 or 100 from a given number 100-900. M.1.2.7

M.1.2.8 Use place value understanding and properties of operations to add and subtract. Explain why addition and subtraction strategies work, using place value and the properties of operations. M.1.2.8

M.1.2.9 Use place value understanding and properties of operations to perform multidigit arithmetic. a. Use place value understanding to round whole numbers to the nearest 10 or 100. b. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations and/or the relationship between addition and subtraction. M.1.2.9

M.1.2.10 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 x 80, 5 x 60) using strategies based on place value and properties of operations. M.1.2.10

M.1.2.11 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. M.1.2.11

M.1.2.12 Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. M.1.2.12

M.1.2.13 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on the number line. b. Recognize and generate simple equivalent fractions. Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions. M.1.2.13

Grade Level 4.0 - 5.9 M.1.3

M.1.3.1 Generalize place value understanding for multi-digit whole numbers. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right and 1/10 of what it represents in the place to its left. M.1.3.1

M.1.3.2 Read and write multidigit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. M.1.3.2

M.1.3.3 Use place value understanding to round multidigit whole numbers to any place. M.1.3.3

M.1.3.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm. M.1.3.4

M.1.3.5 **Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.** M.1.3.5

M.1.3.6 **Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.** M.1.3.6

M.1.3.7 **Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use wholenumber exponents to denote powers of 10.** M.1.3.7

M.1.3.8 **Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.** M.1.3.8

M.1.3.9 **Use place value understanding to round decimals to any place.** M.1.3.9

M.1.3.10 **Perform operations with multi-digit whole numbers and with decimals to hundredths. Fluently multiply multi-digit whole numbers using the standard algorithm.** M.1.3.10

M.1.3.11 **Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.** M.1.3.11

M.1.3.12 **Extend understanding of fraction equivalence and ordering. Explain why a fraction a / b is equivalent to a fraction (n x a) (n x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.** M.1.3.12

M.1.3.13 **Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1 / 2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.** M.1.3.13

M.1.3.14 **Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers. Understand a fraction a / b with a > 1 as a sum of fractions 1 / b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model.** M.1.3.14

M.1.3.15 **Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.** M.1.3.15

M.1.3.16 **Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.** M.1.3.16

M.1.3.17 **Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a / b as a multiple of 1 / b . b. Understand a multiple of a / b as a multiple of 1 / b, and use this understanding to multiply a fraction by a whole number. c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.** M.1.3.17

M.1.3.18 **Understand decimal notation for fractions, and compare decimal fractions. Use decimal notation for fractions with denominators 10 or 100.** M.1.3.18

M.1.3.19 **Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.** M.1.3.19

M.1.3.20 **Use equivalent fractions as strategy to add and subtract fractions. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.** M.1.3.20

M.1.3.21 **Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.** M.1.3.21

M.1.3.22 Apply and extend previous understanding of multiplication and division to multiply and divide fractions. Interpret a fraction as division of the numerator by the denominator (a / b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. M.1.3.22

M.1.3.23 Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n×a)/(n×b) to the effect of multiplying a/b by 1. M.1.3.23

M.1.3.24 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. M.1.3.24

M.1.3.25 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non -zero whole number, and compute such quotients. b. Interpret division of a whole number by a unit fraction, and compute such quotients. c. Solve real world problems involving division of unit fractions by non -zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. M.1.3.24

Grade Level 6.0 - 8.9 M.1.4

M.1.4.1 Fluently add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. [Note: Applications involving financial literacy should be used.] M.1.4.1

M.1.4.2 Compute fluently with multi-digit numbers and find common factors and multiples. Fluently divide multi-digit numbers using the standard algorithm. M.1.4.2

M.1.4.3 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factors. M.1.4.3

M.1.4.4 **Apply and extend previous understandings of numbers to the system of rational numbers. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.** M.1.4.4

M.1.4.5 **Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., – (– 3) = 3, and that 0 is its own opposite. b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.** M.1.4.5

M.1.4.6 **Understand ordering and absolute value of rational numbers. a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. d. Distinguish comparisons of absolute value from statements about order.** M.1.4.6

M.1.4.7 **Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.** M.1.4.7

M.1.4.8 **Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. b. Understand p + q as the number located a distance | q | from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + – q) . Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. Apply properties of operations as strategies to add and subtract rational numbers.** M.1.4.8

M.1.4.9 **Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not 0, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, –(p/q) = (– p)/ q= p/(q). Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.** M.1.4.9

M.1.4.10 **Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.** M.1.4.10

M.1.4.11 **Solve real-world and mathematical problems involving the four operations with rational numbers.** M.1.4.11

M.1.4.12 **Know that there are numbers that are not rational, and approximate them by rational numbers. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π 2).** M.1.4.12

M.1.4.13 **Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0.** M.1.4.13

M.1.4.14 **Understand ratio concepts and use ratio reasoning to solve problems. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. b. Solve unit rate problems including those involving unit pricing and constant speed. c. Find a percent of a quantity as a rate per 100, solve problems involving finding the whole, given a part and the percent. d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.** M.1.4.14

M.1.4.15 **Analyze proportional relationships and use them to solve real -world and mathematical problems. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.** M.1.4.15

	M.1.4.16 Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. M.1.4.16
	M.1.4.17 Use proportional relationships to solve multistep ratio and percent problems. M.1.4.17
Measurement: Students will develop and apply concepts of standard measurements and use measurement tools to explore, analyze, and solve mathematical and real-life problems. M.2	**M.2** Measurement: Students will develop and apply concepts of standard measurements and use measurement tools to explore, analyze, and solve mathematical and real-life problems. M.2
Grade Level 0.0 - 1.9 M.2.1	**M.2.1.1** Measure lengths indirectly and by iterating length units. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of samesize length units that span it with no gaps or overlaps. M.2.1.1
	M.2.1.2 Measure the length of an object twice, using length units of different lengths for the two measurements and describe how the two measurements relate to the size of the unit chosen. M.2.1.2
Grade Level 2.0 - 3.9 M.2.2	**M.2.2.1** Measure and estimate lengths in standard units. Estimate length units using units of inches, feet, centimeters, and meters. Measure to determine how much longer one object is than another, expressing the length difference in terms of standard length unit. M.2.2.1
	M.2.2.2 Relate addition and subtraction to length. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1,, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. M.2.2.2
	M.2.2.3 Solve problems involving measurement and estimation of intervals of time. Tell and write time to the nearest minute and measure time intervals in minutes. M.2.2.3

M.2.2.4 Solve problems involving measurement and estimation of liquid volumes and masses of objects. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilogram (kg), and liters (l). Add, subtract, multiply or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. M.2.2.4

M.2.2.5 Geometric measurement: Understand concepts of area and relate to area of multiplication and addition. Recognize area as an attribute of plan figures and understand concepts of area measurement. a. A square with a side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. c. Measure areas by counting unit squares (square cm, square m, square ft and improvised units). M.2.2.5

M.2.2.6 Geometric measurement: Relate area to the operations of multiplication and addition. a. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real- world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. b. Use tiling to show in a concrete case that the area of a rectangle with whole number side lengths a and b+c is the sum of a x b and a x c. Use area models to represent the distributive property of mathematical reasoning. M.2.2.6

M.2.2.7 Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. M.2.2.7

Grade Level 4.0 - 5.9 M.2.3

M.2.3.1 Recognize angle measure as additive. When an angle is decomposed into nonoverlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. M.2.3.1

M.2.3.2 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. M.2.3.2

M.2.3.3 Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurements system and use these conversions in solving multistep, real world and mathematical problems. M.2.3.3

M.2.3.4 **Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.** M.2.3.4

M.2.3.5 **Geometric measurement: Understand concepts of angle and measure angles. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the pints where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle" and can be used to measure angles. b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees. c. Measure angles in whole number degrees using a protractor. Sketch angles of specified measure.** M.2.3.5

M.2.3.6 **Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition. Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. c. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.** M.2.3.6

Grade Level 6.0 - 8.9 M.2.4

M.2.4.1 **Geometric measurement: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real-world and mathematical problems. b. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.** M.2.4.1

M.2.4.2 **Measure common three-dimensional shapes (e.g., a room, window, box, etc.) and represent the information as a scale drawing. Interpret and use scale drawings to solve real world and mathematical problems.** M.2.4.2

M.2.4.3 **Calculate the perimeter and area of basic irregular or composite shapes, i.e., shapes formed by a combination of rectangles and triangles using formulas provided.** M.2.4.3

Geometry: Students will develop and apply concepts of geometric properties, relationships, and methods to explore, analyze, and solve mathematical and real-life problems. M.3	**M.3** Geometry: Students will develop and apply concepts of geometric properties, relationships, and methods to explore, analyze, and solve mathematical and real-life problems. M.3
Grade Level 0.0 - 1.9 M.3.1	**M.3.1.1** Analyze, compare, create, and compose shapes. Analyze and compare two- and three-dimensional shapes, in different sizes and orientation, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/ ”corners”) and other attributes (e.g., having sides of equal length). M.3.1.1
	M.3.1.2 Reason with shapes and their attributes. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, halfcircles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. M.3.1.2
Grade Level 2.0 - 3.9 M.3.2	**M.3.2.1** Reason with shapes and their attributes. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. M.3.2.1
	M.3.2.2 Reason with shapes and their attributes. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc, and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. M.3.2.2
	M.3.2.3 Reason with shapes and their attributes. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. M.3.2.3
	M.3.2.4 Reason with shapes and their attributes. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. M.3.2.4
Grade Level 4.0 - 5.9 M.3.3	**M.3.3.1** Draw and identify lines and angles, and classify shapes by properties of their lines and angles. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in twodimensional figures. M.3.3.1

M.3.3.2 Graph points on the coordinate plane to solve realworld and mathematical problems. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. M.3.3.2

M.3.3.3 Classify twodimensional figures into categories based on their properties. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. M.3.3.3

M.3.3.4 Solve real-world and mathematical problems involving area, surface area, and volume. a. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. b. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. c. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. M.3.3.4

Grade Level 6.0 - 8.9 M.3.4

M.3.4.1 Draw, construct and describe geometrical figures and describe the relationships between them. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. M.3.4.1

M.3.4.2 Solve real-world and mathematical problems involving angle, measure, area, surface area, and volume. a. Know the formulas for the area and circumference of a circle and use them to solve problems; given an informal derivation of the relationship between the circumference and area of a circle. b. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. M.3.4.2

	M.3.4.3 Understand congruence and similarity using physical models, transparencies, or geometry software. a. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two congruent figures, describe a sequence that exhibits the congruence between them. b. Understand that a two dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. c. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. M.3.4.3
	M.3.4.4 Understand and apply the Pythagorean Theorem to find the distance between two points in a coordinate system and to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. M.3.4.4
Data Analysis, Statistics, and Probability: Students will develop and apply concepts of data analysis, statistics, and probability to explore, analyze, and solve mathematical and real-life problems. M.4	**M.4** Data Analysis, Statistics, and Probability: Students will develop and apply concepts of data analysis, statistics, and probability to explore, analyze, and solve mathematical and real-life problems. M.4
Grade Level 0.0 - 1.9 M.4.1	**M.4.1.1** Identify and name various simple visual data (graphs, charts, tables) found in authentic publications. M.4.1.1
	M.4.1.2 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than another. M.4.1.2
Grade Level 2.0 - 3.9 M.4.2	**M.4.2.1** Draw a picture graph and a bar graph (with singleunit scale) to represent a data set with up to four categories. M.4.2.1
	M.4.2.2 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. M.4.2.2
	M.4.2.3 Solve one- and twostep problems “how many more” and “how many less” problems using information presented in scaled bar graphs. M.4.2.3

Grade Level 4.0 - 5.9 M.4.3

M.4.3.1 Develop understanding of statistical variability. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. M.4.3.1

M.4.3.2 Develop understanding of statistical variability. Understand that a set of data collected to answer statistical questions has a distribution which can be described by its center, spread, and overall shape and recognize that a measure of variation describes how its values vary with a single number. M.4.3.2

M.4.3.3 Summarize and describe distributions. Display numerical data in plots on a number line, including dot plots, histograms, and box plots. M.4.3.3

M.4.3.4 Represent and Interpret data. Make a line plot to display a data set including data sets involving fractions. Solve problems involving information presented in line plots. M.4.3.4

M.4.3.5 Investigate chance processes. Develop an understanding of events as certain, impossible, likely, or unlikely to occur. Understand that probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. M.4.3.5

M.4.3.6 Investigate chance processes. Determine the probability of basic events (e.g., in the results of tossing a coin, rolling a die, or drawing cards from a deck of cards, chance of baby being born on a certain day of week, etc.) and express the likelihood of an occurrence as a ratio, fraction, or percent. M.4.3.6

Grade Level 6.0 - 8.9 M.4.4

M.4.4.1 Summarize and describe distributions. Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurements. c. Giving quantitative measures of center (median and/or mean) variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distributions and the context in which the data was gathered. M.4.4.1

M.4.4.2 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a change process. M.4.4.2

M.4.4.3 Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. Represent sample spaces for compound events using methods such as lists, tables and tree diagrams. M.4.4.3

M.4.4.4 Investigate patterns of association in bivariate data. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. a. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. b. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. M.4.4.4

M.4.4.5 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two -way table. Construct and interpret a two -way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for row or columns to describe possible association between two variables. M.4.4.5

M.4.4.6 Use random sampling to draw inferences about a population. a. Understand that statistics can be used to gain information about a population by examining a sample of the population. Understand that random sampling tends to produce representative samples and support valid inferences. b. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. M.4.4.6

M.4.4.7 Draw informal comparative inferences about two populations. a. Informally assess the degree of visual overlap of two numerical data distributions with similar variability, measuring the difference between the centers by expressing it as a multiple of a measure of variability. b. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. M.4.4.7

Students will develop and apply concepts of basic algebra, patterns, relationships, expressions, equations, and functions to explore, analyze, and solve mathematical and real-life problems. M.5

M.5 Students will develop and apply concepts of basic algebra, patterns, relationships, expressions, equations, and functions to explore, analyze, and solve mathematical and real-life problems. M.5

Grade Level 0.0 - 1.9 M.5.1

M.5.1.1 Understand and apply properties of operations and the relationship between addition and subtraction. Apply properties of operations as strategies to add and subtract. M.5.1.1

M.5.1.2 Understand subtraction as an unknownaddend problem. M.5.1.2

M.5.1.3 Add and subtract with 20. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). Add and subtract within 20, demonstrating fluency for addition and subtraction with 10. Use strategies such as counting on: making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). M.5.1.3

M.5.1.4 Work with addition and subtraction. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. M.5.1.4

M.5.1.5 Work with addition and subtraction. Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. M.5.1.5

M.5.1.6 Represent and solve problems involving addition and subtraction. Solve word problems that call for addition and subtraction of whole numbers less than or equal to 20. Apply commutative property of addition and associative property of addition to add. Understand subtraction as an unknownaddend problem. M.5.1.6

Grade Level 2.0 - 3.9 M.5.2

M.5.2.1 Represent and solve problems involving addition and subtraction. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, wit unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. M.5.2.1

M.5.2.2 Represent and solve problems involving multiplication and division. a. Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. b. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. M.5.2.2

M.5.2.3 Multiply and divide within 100. a. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. Know from memory all products of two one-digit numbers. b. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. M.5.2.3

M.5.2.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. M.5.2.4

M.5.2.5 Understand properties of multiplication and the relationship between multiplication and division. Apply properties of operations as strategies to multiply and divide. Note: Students need not use formal terms for these properties. M.5.2.5

M.5.2.6 Understand division as an unknown-factor problem. M.5.2.6

M.5.2.7 Solve problems involving the four operations, and identify and explain patterns in arithmetic. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. M.5.2.7

M.5.2.8 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. M.5.2.8

Grade Level 4.0 - 5.9 M.5.3

M.5.3.1 Use the four operations with whole numbers to solve problems. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. M.5.3.1

M.5.3.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. M.5.3.2

M.5.3.3 Solve multi-step word problems posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. M.5.3.3

M.5.3.4 Gain familiarity with factors and multiples. Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. M.5.3.4

M.5.3.5 Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1- 100 is prime or composite. M.5.3.5

M.5.3.6 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. M.5.3.6

M.5.3.7 Write and interpret numerical expressions. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. M.5.3.7

M.5.3.8 Apply and extend previous understandings of arithmetic to algebraic expressions. Write and evaluate numerical expressions involving whole-number exponents, i.e., 4(4) = 42 = 16 and 2(2)(2)= 23 = 8. Understand that exponents are used to represent repeated multiplication. M.5.3.8

M.5.3.9 Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real -world problems. Perform arithmetic operations, including those involving whole -number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). M.5.3.9

M.5.3.10 Apply the properties of operations to generate equivalent expressions. M.5.3.10

M.5.3.11 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). M.5.3.11

M.5.3.12 Reason about and solve one -variable equations and inequalities. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. M.5.3.12

M.5.3.13 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. M.5.3.13

M.5.3.14 Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers. M.5.3.14

M.5.3.15 Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams. M.5.3.15

M.5.3.16 Represent and analyze quantitative relationships between dependent and independent variables. Use variables to represent two quantities in a real world problem that change in relationship to one another; write an equation to express a quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. M.5.3.16

Grade Level 6.0 - 8.9 M.5.4

M.5.4.1 Use properties of operations to generate equivalent expressions. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. M.5.4.1

M.5.4.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. M.5.4.2

M.5.4.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. M.5.4.3

M.5.4.4 **Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p (x + q) r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.** M.5.4.4

M.5.4.5 **Work with radicals and integer exponents. Know and apply the properties of integer exponents to generate equivalent numerical expressions.** M.5.4.5

M.5.4.6 **Use square root and cube root symbols to represent solutions to equations of the form x 2 = p and x 3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √ 2 is irrational.** M.5.4.6

M.5.4.7 **Use scientific notation. a. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.** M.5.4.7

M.5.4.8 **Understand the connections between proportional relationships, lines, and linear equations. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.** M.5.4.8

M.5.4.9 **Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.** M.5.4.9

	M.5.4.10 Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. c. Solve real -world and mathematical problems leading to two linear equations in two variables. See example. M.5.4.10
	M.5.4.11 Define, evaluate, and compare functions. a. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. b. Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. M.5.4.11
	M.5.4.12 Use functions to model relationships between quantities a. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. b. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. M.5.4.12
Technology / Computer Literacy with Benchmarks	**Technology / Computer Literacy with Benchmarks**
Technology & Society: The student will demonstrate knowledge of important issues of a technology-based society and exhibit ethical behaviors related to the use of computers, digital resources, and other technologies. T.1	**T.1** Technology & Society: The student will demonstrate knowledge of important issues of a technology-based society and exhibit ethical behaviors related to the use of computers, digital resources, and other technologies. T.1
Grade Level 0.0 - 1.9 T.1.1	**T.1.1.1** Identify the computer as a machine that helps people communicate, work, and play. T.1.1.1
	T.1.1.2 Recognize, discuss, and model correct use of common computer terms. T.1.1.2

	T.1.1.3 Identify and discuss common features and functions of computer software and devices. T.1.1.3
	T.1.1.4 Identify and discuss correct and responsible use and care of technology resources. T.1.1.4
	T.1.1.5 Identify and discuss the uses of and changes in technology devices and the impact technological changes have had on business, transportation, communications, industry, and agriculture in the student's local community and society in general. T.1.1.5
	T.1.1.6 Investigate computer/technology-related careers and occupations from the past, present, and future. T.1.1.6
	T.1.1.7 Identify and discuss technology skills needed for the workplace now and in the future and how they impact the student as an adult learner today. T.1.1.7
Grade Level 2.0 - 3.9 T.1.2	**T.1.2.1** Recognize and discuss the rights of ownership of computer-created and online work. T.1.2.1
	T.1.2.2 Recognize, discuss, and model appropriate, responsible, ethical, and safe use of computers, mobile phones, wireless networks, LANs, and digital information (e.g., security, privacy, passwords, personal information), and recognize possible consequences of unethical behavior. T.1.2.2
	T.1.2.3 Recognize and discuss how Copyright Laws and Fair Use Guidelines protect ownership of individual's, group's, and companies' intellectual property and creative works and the importance of citing sources. T.1.2.3
	T.1.2.4 Recognize and discuss consequences of misuse of copyrighted property and establish ethical guidelines for use of personal and copyrighted media, especially as related to use during class and for class projects and assignments. T.1.2.4
Grade Level 4.0 - 5.9 T.1.3	**T.1.3.1** Recognize, discuss, and use terms and concepts related to networks and protection of computers, networks, and information. T.1.3.1
	T.1.3.2 Investigate, recognize, and discuss why computers, networks, and information must be protected from viruses, vandalism, and intrusion, both malicious and mischievous; discuss appropriate technology tools (virus software) used to protect them. T.1.3.2
	T.1.3.3 Identify and discuss the benefits of non-networked and networked computers. T.1.3.3
Grade Level 6.0 - 8.9 T.1.4	**T.1.4.1** Recognize, discuss, and use multi-tasking concepts. T.1.4.1

	T.1.4.2 Recognize and discuss strategies for identifying, solving, and preventing minor hardware and software problems. T.1.4.2
Databases: The student will demonstrate an understanding of databases and ability to create databases. T.2	**T.2** Databases: The student will demonstrate an understanding of databases and ability to create databases. T.2
Grade Level 0.0 - 1.9 T.2.1	**T.2.1.1** Identify and discuss print (e.g., phone book) and electronic databases (e.g., automated circulation system, CD-ROM encyclopedias) as a way to collect, organize, and display data. T.2.1.1
	T.2.1.2 Identify and discuss how and why databases are used in an information-intensive society [e.g., in education, government, business, community (grocery, pharmacy, and home)]. T.2.1.2
	T.2.1.3 Identify and discuss database terms and concepts (e.g., sort, search, filter, keyword, data entry, field, record, list) using print and/or electronic databases to demonstrate. T.2.1.3
Grade Level 2.0 - 3.9 T.2.2	**T.2.2.1** Plan, discuss, and use keyword searches or filters using one criterion in prepared electronic databases (e.g., automated circulation, encyclopedia, etc.). T.2.2.1
	T.2.2.2 Use prepared databases to sort alphabetically/numerically in ascending/descending order T.2.2.2
	T.2.2.3 Modify prepared databases to enter/edit additional information and cite the source. T.2.2.3
	T.2.2.4 Modify databases to organize, analyze, interpret data, and create reports (e.g., documents, multimedia project, web pages). T.2.2.4
Grade Level 4.0 - 5.9 T.2.3	**T.2.3.1** Use simple databases to locate, organize, analyze, evaluate, compare, and present information, citing sources of information. T.2.3.1
	T.2.3.2 Using a prepared database, apply sort and search/filter functions to organize, analyze, interpret, and evaluate findings. T.2.3.2
Grade Level 6.0 - 8.9 T.2.4	**T.2.4.1** Develop and use search strategies with two or more criteria to solve problems, make decisions, and report findings. T.2.4.1
	T.2.4.2 Plan and develop a simple database to enter, edit, collect, organize, and display data. T.2.4.2

	T.2.4.3 Use knowledge of database terms, concepts, functions, and operations to explain strategies used to plan and develop a simple database. T.2.4.3
	T.2.4.4 Plan and develop database reports to organize data, create reports, and present findings, citing sources. T.2.4.4
	T.2.4.5 Select and use appropriate database features and functions to collect, organize information, and create reports for use in other projects or media (e.g., documents, multimedia project, web pages), citing sources. T.2.4.5
Spreadsheets: The student will demonstrate an understanding of the ability to create, extract information from, and interpret spreadsheets T.3	**T.3** Spreadsheets: The student will demonstrate an understanding of the ability to create, extract information from, and interpret spreadsheets T.3
Grade Level 0.0 - 1.9 T.3.1	**T.3.1.1** Identify spreadsheets as a tool for organizing information. T.3.1.1
	T.3.1.2 Recognize, discuss, and investigate how spreadsheets are used to process information (e.g., organize, calculate, graph data, solve problems, make predictions, and present data) in a variety of settings (e.g., schools, government, business, industry, communications, transportation, mathematics, science). T.3.1.2
	T.3.1.3 Identify and discuss spreadsheet terms and concepts (e.g., collect, organize, classify, graph, etc.) T.3.1.3
Grade Level 2.0 - 3.9 T.3.2	**T.3.2.1** Modify data in a prepared spreadsheet and observe the changes that occur to make predictions. T.3.2.1
	T.3.2.2 Use spreadsheet software to enter, display, and identify types (text and numeric) of data. T.3.2.2
	T.3.2.3 Recognize, discuss, and use graphs to display and interpret data in prepared spreadsheets. T.3.2.3
Grade Level 4.0 - 5.9 T.3.3	**T.3.3.1** Modify or create and use spreadsheets to solve problems by performing calculations using simple formulas and functions (e.g., +, -, *, /, sum, average) and display data graphically. T.3.3.1
	T.3.3.2 Use spreadsheet concepts and functions (e.g., median, range, mode) to calculate, represent, and explain data. T.3.3.2

Grade Level 6.0 - 8.9 T.3.4.	**T.3.4.1** Modify or create a spreadsheet by using the features and functions previously learned to analyze and interpret information, solve problems, make decisions, and support, display, and present findings, citing sources. T.3.4.1
	T.3.4.2 Modify or create and use spreadsheets to calculate and graph data to incorporate into other documents or projects (e.g., word processing, multimedia, and web pages), citing sources. T.3.4.2
Desktop Publishing: The student will demonstrate knowledge and skills in keyboarding, word processing, and desktop publishing. T.4	**T.4** Desktop Publishing: The student will demonstrate knowledge and skills in keyboarding, word processing, and desktop publishing. T.4
Grade Level 0.0 - 1.9 T.4.1	**T.4.1.1** Identify basic word processing terms. T.4.1.1
	T.4.1.2 Identify, locate, and use letters, numbers, and special keys (e.g., arrow keys, space bar, shift, insert, enter/return, backspace, delete) on the keyboard. T.4.1.2
	T.4.1.3 Identify, discuss, and use word processing as a tool to enter letters, numbers, words, and phrases. T.4.1.3
	T.4.1.4 With a simple document, identify, discuss, and use menu/tool bar functions in word processing applications. T.4.1.4
	T.4.1.5 Demonstrate correct finger placement for home row keys. T.4.1.5
Grade Level 2.0 - 3.9 T.4.2	**T.4.2.1** Recognize and explain the advantages and disadvantages of using word processing to create documents. T.4.2.1
	T.4.2.2 Identify, discuss, and use word processing as a tool to open, edit, print, and save documents. T.4.2.2
	T.4.2.3 Identify and use basic word processing terms and concepts (e.g., desktop, menu, tool bar, document, text, line spacing, margins, and spell check). T.4.2.3
	T.4.2.4 Use the formatting toolbar to format and change the appearance of word processing documents. T.4.2.4
	T.4.2.5 Use word processing as a tool to write, edit, and publish sentences, paragraphs, and stories. T.4.2.5

Grade Level 4.0 - 5.9 T.4.3	**T.4.3.1** Use published documents (e.g., letter, memo, newspaper) to identify and discuss document design and layout as a class. T.4.3.1
	T.4.3.2 Recognize and use menu and tool bar features to edit and make corrections to documents T.4.3.2
	T.4.3.3 Demonstrate knowledge of WP/DTP tools to develop documents, which include data imported from a spreadsheet or database. T.4.3.3
	T.4.3.4 Identify, discuss, and use WP/DTP menu and tool bar terms and concepts (e.g., import, portrait, landscape, copy and paste between two documents, clipboard) to describe documents. T.4.3.4
	T.4.3.5 Select and use WP/DTP menu and tool bar features to revise and change existing documents. T.4.3.5
Grade Level 6.0 - 8.9 T.4.4	**T.4.4.1** Recognize, discuss, select, and use WP/DTP terms, concepts, features, and functions (e.g., minimize document, resize document, toggle between two open documents on the desktop, columns, tables, headers/footers, and using multiple files and/or applications) to develop (e.g., design, format, layout), edit/revise, and publish documents for a specific audience and purpose. T.4.4.1
	T.4.4.2 Demonstrate knowledge of the advantages and disadvantages of using word processing to develop, publish, and present information to a variety of audiences. T.4.4.2
	T.4.4.3 Demonstrate appropriate use of copyrighted materials in word processing documents. T.4.4.3
	T.4.4.4 Use instructor-prepared rubrics to evaluate the quality of published documents/projects for content, design, and appropriate use of resources T.4.4.4
	T.4.4.5 Use proper keyboarding techniques to improve accuracy, speed, and general efficiency in computer operation. T.4.4.5
Multimedia: The student will demonstrate an understanding of multimedia and the ability to create multimedia presentations. T.5	**T.5** Multimedia: The student will demonstrate an understanding of multimedia and the ability to create multimedia presentations. T.5
Grade Level 0.0 - 1.9 T.5.1	**T.5.1.1** Identify and discuss components of multimedia. T.5.1.1
	T.5.1.2 Use multimedia software to illustrate words, phrases, concepts, numbers, and symbols. T.5.1.2

	T.5.1.3 Recognize and explain the advantages and disadvantages of using multimedia to develop products. T.5.1.3
Grade Level 2.0 - 3.9 T.5.2	**T.5.2.1** Identify, discuss, and use common multimedia terms and concepts. T.5.2.1
	T.5.2.2 Identify and discuss issues (e.g., personal information, images, content, language, and, appropriateness and accuracy of information) and guidelines to consider in selection and use of materials for multimedia projects. T.5.2.2
	T.5.2.3 Identify, discuss, and use multimedia tools (e.g., insert, import, create, edit, publish) to combine text and graphics. T.5.2.3
	T.5.2.4 Demonstrate knowledge of multimedia tools and concepts used by media (e.g., games, video, radio/TV broadcasts, and websites) to entertain, sell, and influence ideas and opinions. T.5.2.4
Grade Level 4.0 - 5.9 T.5.3	**T.5.3.1** Identify, discuss, and cite various types of resources. T.5.3.1
	T.5.3.2 Modify an existing multimedia story to include student narration. T.5.3.2
	T.5.3.3 Use storyboards, menus, and branching to modify or create non-linear products, citing sources. T.5.3.3
Grade Level 6.0 - 8.9 T.5.4	**T.5.4.1** Demonstrate knowledge of the advantages and disadvantages of using multimedia to develop, publish, and present information to a variety of audiences. T.5.4.1
	T.5.4.2 Use menu and tool bar features to edit, modify, and revise multimedia projects to present information for a different audience or purpose than the original document intended. T.5.4.2
	T.5.4.3 Plan, design, and develop a multimedia product using data (e.g., graphs, charts, database reports) to present information in the most effective way, citing sources T.5.4.3
	T.5.4.4 Create or modify and use rubrics to evaluate multimedia presentations for elements (e.g., organization, content, design, accuracy, purpose, appropriateness for target audience, presentation, effectiveness, ethical use of resources, citation). T.5.4.4
Internet and Telecommunications: The student will demonstrate an ability to utilize Internet and other	**T.6** Internet and Telecommunications: The student will demonstrate an ability to utilize Internet and other telecommunication resources T.6

telecommunication resources T.6		
Grade Level 0.0 - 1.9 T.6.1	T.6.1.1	Identify and discuss the Internet as a source of information at school and home. T.6.1.1
	T.6.1.2	Discuss the origin of the Internet. T.6.1.2
	T.6.1.3	Explore Internet resources and information and discuss the variety and types of information found. T.6.1.3
	T.6.1.4	Identify, discuss, and chart elements that make an online resource useful, appropriate, and safe. T.6.1.4
Grade Level 2.0 - 3.9 T.6.2	T.6.2.1	Identify, discuss, and use common terms/concepts used with the Internet, e.g., online, browser, World Wide Web, digital information, URL, keyword, search engine, navigation, resources, web address, web page, hyperlinks/links, bookmarks/favorites, webmaster, etc. T.6.2.1
	T.6.2.2	Identify online resources as the work of individuals/groups/companies and discuss why citing resources is necessary. T.6.2.2
	T.6.2.3	Identify and discuss Internet telecommunications as a tool for communication and collaboration (e.g., email, messaging, and videoconferencing). T.6.2.3
	T.6.2.4	Use Internet resources to locate information, then discuss and compare findings for usefulness. T.6.2.4
	T.6.2.5	Cite sources of information (print and non-print) for a project. T.6.2.5
Grade Level 4.0 - 5.9 T.6.3	T.6.3.1	Plan, discuss, and use search strategies with two or more criteria to find information online. T.6.3.1
	T.6.3.2	Identify, discuss, and use online collaborative tools (e.g., email, surveys, videoconferencing, wikis, documents) to collect and present data. T.6.3.2
	T.6.3.3	Locate, select, organize, and present information from the Internet for a specific purpose and audience, citing sources. T.6.3.3
	T.6.3.4	Recognize, discuss, and use email, videoconferencing, and/or web conferencing as a means of interactive communication. T.6.3.4
Grade Level 6.0 - 8.9 T.6.4	T.6.4.1	Recognize, discuss, and use terms and concepts associated with safe, effective, and efficient use of telecommunications, Internet, and networks (e.g., password, firewalls, Spam, security, Fair Use, AUP/IUP's, IP address, Intranet, private networks, discussion forum, threaded discussion, LANS, WANs, netiquette, child predators, scammers, hackers. T.6.4.1

T.6.4.2 **Select and justify use of appropriate collaborative tools (e.g., surveys, email, discussion forums, web pages, wikis, online videoconferencing, documents, etc.) to survey, collect, share, present, and communicate information for the intended audience and purpose.** T.6.4.2

T.6.4.3 **Plan, select, evaluate, interpret, and use information from a variety of digital resources to develop assignment, project, or presentation.** T.6.4.3

T.6.4.4 **Use evaluation tools as a guide to select and evaluate Internet resources and information for content and usefulness for intended audience and purpose.** T.6.4.4

Performance Indicator: Students should be able to evaluate if an Internet resource or product is correct and reliable. Students should realize that webmasters have target audiences. T.6.4.4.PI

Sample Activities: With the infomercials created in standard T.6.4.1 or with the wiki pages created in standard T.6.3.2, have students use a prepared rubric to evaluate each other's work. T.6.4.SA