TABE 11/12 Blueprints Crosswalk

Reading Level L

Domain: Phonological Awareness

National Standard	NC Standard(s)
K.RF.2: Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Recognize and produce rhyming words. b. Distinguish long from short vowel sounds in spoken single-syllable words. c. Count, pronounce, blend, and segment syllables in spoken words. d. Blend and segment onsets and rimes of single-syllable spoken words. e. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.	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.1.1.4: Identify vowels (long, short, *r*-controlled, and vowel combinations) and their sounds. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. 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.

Domain: Phonics and Word Recognition

National Standard	NC Standard(s)
1.RF.3: Know and apply grade-level phonics and word analysis skills in decoding words. a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant. b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. c. Know the spelling-sound correspondences for common consonant diagraphs. d. Decode regularly spelled one-syllable words. e. Distinguish between similarly spelled words by identifying the sounds of the letters that differ. f. Know final –*e* and common vowel team conventions for representing long vowel sounds. g. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.	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.1.1.5: Identify two-letter consonant blends and diagraphs in initial and final word positions and use these to decode one- and two-syllable words.

Domain: Key Ideas and Details

National Standard	NC Standard(s)
1.RL.1: Ask and answer questions about key details in a text.	R.3.1.1: Locate pertinent information in simple, familiar materials and ask and answer questions about the key details.
1.RI.2: Identify the main topic and retell key details of a text.	R.5.1.1: Retell stories, including key details and main topic, and demonstrate understanding of their central message or lesson.
1.RI.3: Describe the connection between two individuals, events, ideas, or pieces of information in a text.	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.

Domain: Craft and Structure

National Standard	NC Standard(s)
1.RI.4: Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	R.3.1.4: Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
1.RI.5: 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.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.

Domain: Integration of Knowledge and Ideas

National Standard	NC Standard(s)
1.RI.7: Use the illustrations and details in a text to describe its key ideas.	R.3.1.3: Interpret and follow very simple visual illustrations 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).
1.RI.8: Identify the reasons an author gives to support points in a text.	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.

Reading Level E

Domain: Integration of Knowledge and Ideas

National Standard	NC Standard(s)
3.RI.7: Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).	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).
2.RI.8: Describe how reasons support specific points the author makes in a text.	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.

Domain: Phonics and Word Recognition

National Standard	NC Standard(s)
2.RF.3/3.RF.3: Know and apply grade-level phonics and word analysis skills in decoding words. a. Distinguish long and short vowels when reading regularly spelled one- and two-syllable words. b. Know spelling-sound correspondences for additional common vowel teams. c. Identify and know the meaning of the most common prefixes and derivational suffixes. d/e. Identify words with inconsistent but common spelling-sound correspondences. f. Decode words with common Latin suffixes.	R.1.2.1: Identify diphthongs (e.g., ou, aw, ay) and use to decode one-syllable words. R.1.2.2: Identify the schwa sound (e.g., away) and use to decode simple words. R.1.2.3: Identify and use silent consonants (e.g., kn, gh). 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.1.2.8: Use decoding strategies (letter-sound correspondences, syllabication patterns, and morphology) to read accurately unfamiliar multisyllabic words in context and out of context. 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.

Domain: Key Ideas and Details

National Standard	NC Standard
2.RI.1: Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.	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.
3.RI.2: Determine the main idea of a text; recount the key details and explain how they support the main idea.	R.3.3.1: Identify the main idea of a text and explain how it is supported by key details; summarize the text.
3.RI.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: 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.

Domain: Craft and Structure

National Standard	NC Standard
3.RI.4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.	R.5.2.4: Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
- 2.RI.5: Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. - 3.RI.5: Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.	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.
2.RI.6: Identify the main purpose of a text, including what the author wants to answer, explain, or describe.	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.
3.RI.6: Distinguish their own point of view from that of the author of a text.	R.5.2.6: Distinguish their own point of view from that of the characters in a story or author of a story/text.

Reading Level M

Domain: Key Ideas and Details

National Standard(s)	NC Standard
4.RL.1/4.RI.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	R.5.1.1: Retell stories, including key details and main topic, and demonstrate understanding of their central message or lesson.
5.RL.1/5.RI.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	R.5.3.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
4.RL.2: Determine the theme of a story, drama, or poem from details in the text; summarize the text.	R.5.3.2: Determine the 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.
4.RI.2: Determine the main idea of a text and explain how it is supported by key details; summarize the text.	R.3.3.1: Identify the main idea of a text and explain how it is supported by key details; summarize the text.
4.RI.3: 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: 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.

Domain: Craft and Structure

National Standard(s)	NC Standard
5.RL.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: Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
5.RI.4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.	R.2.3.4: Build vocabulary of tier 2 words including general academic words and phrases.
4.RI.5: Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text. 5.RI.5: Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.	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.
5.RL.6: Describe how a narrator's or speaker's point of view influences how events are described. 5.RI.6: Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.	R.5.3.6: Understand and analyze different points of view. For example, describe how a narrator's or speaker's point of view influences how events are described or analyze multiple accounts of the same event or topic, noting important similarities and

	differences in the point of view they represent.

Domain: Integration of Knowledge and Ideas

National Standard	NC Standard
4.RI.7: Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.	R.3.3.4: Evaluate information from simple graphic materials such as charts, pictures, maps, signs, diagrams, tables, or graphs.
5.RI.8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).	R.5.3.8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).

Reading Level D

Domain: Key Ideas and Details

National Standard(s)	NC Standard
7.RL.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. 7.RI.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. 6-8.RH.1: Cite specific textual evidence to support analysis of primary and secondary sources. 6-8.RST.1: Cite specific textual evidence to support analysis of science and technical texts.	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.

6.RL.2: 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 judgment. 6.RI.2: Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgment. 6-8.RST.2: Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	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 judgment.
8.RI.3: Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).	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.
6-8.RH.3: Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes a law, how interest rates are raised or lowered). 6-8.RST.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	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.

Domain: Craft and Structure

National Standard	NC Standard
6.RL.4: Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone. 6.RI.4: Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.	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.

National Standard(s)	NC Standard
6.RL.5: Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot. 7.RI.5: Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.	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.
8.RI.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: 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.
6-8.RH.6: Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).	R.3.4.8: Determine the meaning of persuasive language and propaganda used in functional text.

Domain: Integration of Knowledge and Ideas

National Standard(s)	NC Standard

6.RI.7: 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. 6-8.RST.7: Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	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.
8.RI.8: 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: 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.

Reading Level A

Domain: Key Ideas and Details

National Standard	NC Standard
9-10.RL.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	LA.3.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
9-10.RH.1: Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	LA.4.1 (Reading Historical/Social Studies Text Application): Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
9-10.RI.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	LA.4.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
9-10.RST.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	LA.4.1 (Reading Scientific and Technical Text Application): Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
9-10.RL.2: Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	LA.3.2: Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
9-10.RI.2: Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	LA.4.2: Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

11-12.RST.2: Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.	LA.4.2 (Reading Scientific and Technical Text Application): Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
11-12.RI.3: Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.	LA.4.3: Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
9-10.RH.3: Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	LA.4.3 (Reading Historical/Social Studies Text Application): Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
9-10.RST.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.	LA.4.3 (Reading Scientific and Technical Text Application): Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

Domain: Craft and Structure

National Standard	NC Standard
9-10.RL.4: Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	LA.3.3: Determine the meaning of words and phrases as they are used in the text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
9-10.RI.4: Determine the meaning of words and phrases as they are used in the text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	LA.4.4: Determine the meaning of words and phrases as they are used in the text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
9-10.RST.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.	LA.4.4 (Reading Scientific and Technical Text Application): Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context.
9-10.RI.5: Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	LA.4.5: Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).
11-12.RI.5: Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the	LA.4.5: Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the

structure makes points clear, convincing, and engaging.	structure makes points clear, convincing, and engaging.
9-10.RL.6: Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.	LA.3.4 (Application): Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.
11-12.RL.6: Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).	LA.3.4: Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).
9-10.RI.6: Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	LA.4.6: Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
9-10.RH.6: Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	LA.4.6 (Reading Historical/Social Studies Text Application): Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

Domain: Integration of Knowledge and Ideas

National Standard	NC Standard
9-10.RI.8: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.	LA.4.8: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

Math Level L

Domain: Number and Operations in Base Ten

National Standard	NC Standard
1.NBT.2: Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as 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, four, five, six, seven, eight, or nine ones. c. 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: Understand place value. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as 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, four, five, six, seven, eight, or nine ones. c. 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).
1.NBT.3: Compare two 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: 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 <.
1.NBT.4: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit 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	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 two-digit 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

adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	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.
1.NBT.5: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.NBT.6: Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (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: 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 10-90 from multiples of 10 in the range 10-90 (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.

Domain: Operations and Algebraic Thinking

National Standard	NC Standard
1.OA.2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	M.5.1.6: Represent and solve problems involving addition and subtraction. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20. Apply commutative property of addition and associative property of addition to add. Understand subtraction as an unknown-addend problem.
1.OA.3: Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)	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.
1.OA.4: Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.	M.5.1.2: Understand subtraction as an unknown-addend problem.

1.OA.5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). 1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction with 10. Use strategies such as counting on; making 10 (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 that 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: 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 10 (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 that 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).
1.OA.7: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 − 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.	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.
1.OA.8: Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = [box] − 3, 6 + 6 = [box].	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.

Domain: Geometry

National Standard	NC Standard
1.G.2: Compose two-dimensional shapes (rectangles, squares, trapezoids, half-circles, 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: Reason with shapes and their attributes. Compose two-dimensional shapes (rectangles, squares, trapezoids, half-circles, 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.
K.G.4: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using information 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: Analyze, compare, create, and compose shapes. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using information 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).

Domain: Measurement and Data

National Standard	NC Standard
1.MD.2: 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 same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.	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 same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.
1.MD.4: 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 in another.	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 in another.

Math Level E

Domain: Number and Operations in Base Ten

National Standard	NC Standard
2.NBT.1: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens- called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	M.1.2.1: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens- called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
3.NBT.1: Use place value understanding to round whole numbers to the nearest 10 or 100.	M.1.2.9.a: Use place value understanding to round whole numbers to the nearest 10 or 100.
2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.	M.1.2.2: Count within 1000; skip-count by 5s, 10s, and 100s.
3.NBT.2: 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.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.
2.NBT.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	M.1.2.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
3.NBT.3: Multiply one-digit whole numbers by multiples of 10 in the	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.	range 10-90 (e.g., 9 x 80, 5 X 60) using strategies based on place value and properties of operations.
2.NBT.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	M.1.2.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.	M.1.2.5: Add up to four two-digit numbers using strategies based on place value and properties of operations.
2.NBT.7: 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, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	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, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Domain: Number and Operations – Fractions

National Standard	NC Standard
3.NF.1: 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: 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*.
3.NF.2: 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: 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.
3.NF.3: 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 a number line.	M.1.2.13: Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. c. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. 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, e.g., by using a visual fraction model.	d. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. e. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. f. 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, e.g., by using a visual fraction model.

Domain: Operations and Algebraic Thinking

National Standard	NC Standard
2.OA.1: 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, with 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: 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, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
3.OA.1: Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 x 7.	M.5.2.2.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.
3.OA.2: 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. For example, describe a context in which a number of shares or a number of groups can be expressed as 56/8.	M.5.2.2.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.

3.OA.3: 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.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.
3.OA.4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 x ? = 48, 5 = [box]/3, 6 x 6 = ?	M.5.2.4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
3.OA.5: Apply properties of operations as strategies to multiply and divide. Examples: If 6 x 4 = 24 is known, then 4 x 6 = 24 is also known. (Commutative property of multiplication.) 3 x 5 x 2 can be found by 3 x 5 = 15, then 15 x 2 = 30. (Associative property of multiplication.) Knowing that 8 x 5 = 40 and 8 x 2 = 16, one can find 8 x 7 as 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56. (Distributive property.)	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.
3.OA.6: Understand division as an unknown-factor problem. For example, find 32/8 by finding the number that makes 32 when multiplied by 8.	M.5.2.6: Understand division as an unknown-factor problem.
3.OA.7: 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. By the end of Grade 3,	M.5.2.3.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. By the end of Grade 3,

know from memory all products of two one-digit numbers.	know from memory all products of two one-digit numbers.
3.OA.8: 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: 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.
3.OA.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	M.5.2.8: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Domain: Geometry

National Standard	NC Standard
2.G.1: 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: 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.
3.G.1: 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: 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.
3.G.2: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as ¼ of the area of the shape.	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.

National Standard	NC Standard
2.G.3: 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: 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.

Domain: Measurement and Data

National Standard	NC Standard
3.MD.1: Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	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.
2.MD.2: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. 2.MD.3: Estimate lengths using units of inches, feet, centimeters, and meters. 2.MD.4: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. 3.MD.4: Generate measurement data by measuring lengths using rulers	M.2.2.1: Measure and estimate lengths in standard units. Estimate lengths 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 unit length.

marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters.	
3.MD.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (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: 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), kilograms (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.
3.MD.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step how many more and how many less problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.	M.4.2.2: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. M.4.2.3: Solve one- and two-step how many more and how many less problems using information presented in scaled bar graphs.
3.MD.5: Recognize area as an attribute of plane figures and understand concepts of area measurement. - A plane figure which can be covered without gaps or overlays by *n* unit squares is said to have an area of *n* square units.	M.2.2.5: Geometric measurement: Understand concepts of area and relate to area of multiplication and addition. Recognize area as an attribute of plane figures and understand concepts of area measurement. b. A plane figure which can be covered without gaps or overlays by *n* unit

	squares is said to have an area of n square units.
2.MD.6: 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: 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.
3.MD.7: Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. 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. c. 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 $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	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 $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

3.MD.8: 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: 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.
2.MD.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.	M.4.2.1: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories.

Math Level M

Domain: Measurement and Data

National Standard	NC Standard
5.MD.1: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	M.2.3.3: Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world, and mathematical problems.
5.MD.2: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	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.

5.MD.4: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	M.2.3.6.c: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
4.MD.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	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. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
5.MD.5: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ 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. c. Recognize volume as additive. Find volumes of solid figures composed of	M.2.3.6: Geometric measurement: Understand concepts of volume and relate volume to multiplication and 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.

National Standard	NC Standard
two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.	
4.MD.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	M.2.3.5.c: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.MD.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping 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: Recognize angle measure as additive. When an angle is decomposed into non-overlapping 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 (by using an equation with a symbol for the unknown angle measure).

Domain: Number and Operations – Fractions

National Standard	NC Standard
4.NF.1: 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: Extend understanding of fraction equivalence and ordering. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ 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.
5.NF.2: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by	M.1.3.21: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike

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. For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.	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.
4.NF.3: 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. c. 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. d. 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.1.3.14: 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.1.3.15: 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.1.3.16: 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.
5.NF.3: 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. For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

5.NF.4: Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. | 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 ($a/b = a \div b$). 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 a whole number by a fraction. |
| 4.NF.4: 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 | 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.	number, e.g., by using visual fraction models and equations to represent the problem.
5.NF.5: Interpret multiplication as scaling (resizing) by: 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 = $(n \times a) / (n \times b)$ to the effect of multiplying a/b by 1.	M.1.3.23: Interpret multiplication as scaling (resizing) by: 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 = $(n \times a) / (n \times b)$ to the effect of multiplying a/b by 1.
5.NF.6: 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: Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
4.NF.7: 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: 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.
5.NF.7: Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.	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.	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.

Domain: Statistics and Probability

National Standard	NC Standard
6.SP.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, How old am I? is not a statistical question, but How old are the students in my school? is a statistical question because one anticipates variability in students' ages.	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. ***For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.***

6.SP.2: Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	M.4.3.2: Develop understanding of statistical variability. Understand that a set of data collected to answer a statistical question 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.
6.SP.4: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	M.4.3.3: Summarize and describe distributions. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

Domain: Number and Operations in Base Ten

National Standard	NC Standard
4.NBT.1: 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. For example, recognize that 700 / 7 = 10 by applying concepts of place value and division.	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.
4.NBT.3: Use place value understanding to round multi-digit whole numbers to any place.	M.1.3.3: Use place value understanding to round multi-digit whole numbers to any place.

5.NBT.3: Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base ten numerals, number name, 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: Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base ten numerals, number name, 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.
4.NBT.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.	M.1.3.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.
5.NBT.4: Use place value understanding to round decimals to any place.	M.1.3.9: Use place value understanding to round decimals to any place.
4.NBT.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: 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.
5.NBT.5: Fluently multiply multi-digit whole numbers using the standard algorithm.	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.
4.NBT.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	M.1.3.11: 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.

calculation by using equations, rectangular arrays, and/or area models.	Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.7: 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.	M.1.4.1: 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.

Domain: Operations and Algebraic Thinking

National Standard	NC Standard
4.OA.1: 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: 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.

5.OA.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	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.
4.OA.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: 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.
4.OA.3: Solve multistep 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: Solve multistep 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.
4.OA.4: Find all factor pairs for a while number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. 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.5.3.4: Gain familiarity with factors and multiples. Find all factor pairs for a while number in the range 1-100. Recognize that a whole number is a multiple of each of its factors.

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.
4.OA.5: 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. For example, given the rule Add 3 and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.	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.

Domain: Geometry

National Standard	NC Standard
4.G.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	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 two-dimensional figures.
5.G.1: 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 (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	M.3.3.2: Graph points on the coordinate plane to solve real-world 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 (e.g., x-axis and x-coordinate, y-axis and y-coordinate). 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.
5.G.3: Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.	M.3.3.3: Classify two-dimensional 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.
6.G.4: Represent three-dimensional figures using nets made up of rectangles and triangles, and use the	M.3.3.4.c: Represent three-dimensional figures using nets made up of rectangles and triangles, and use

nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.	the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Domain: Expressions and Equations

National Standard	NC Standard
6.EE.7: 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: 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.

6.EE.8: 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: 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.
6.EE.9: Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one 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. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.	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 one 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.
6.EE.2: 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.	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).	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).
6.EE.3: Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.	M.5.3.10: Apply the properties of operations to generate equivalent expressions.
6.EE.4: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.	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).
6.EE.5: 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: 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.
6.EE.6: 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: 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.

Domain: Ratios and Proportional Relationships

National Standard	NC Standard
6.RP.2: Understand the concept of a unit rate a/b associated with a ratio a:b with b not equal to 0, and use rate language in the context of a ratio relationship. For example, this recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar. We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.	M.1.3.13: Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is a 3/4 cup ration of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."

Domain: The Number System

National Standard	NC Standard
6.NS.1: Interpret and compute quotients of fractions, and solve word	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. For example, create a story context for (2/3) / (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) / (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) / (c/d) = ad/bc.) How much chocolate will each person get if 3 people share ½ lb. of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi. and area 1 square mi.?	problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.
6.NS.2: Fluently divide multi-digit numbers using the standard algorithm.	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.
6.NS.4: 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 factor. For example, express 36 + 8 as 4(9 + 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 factor. *For example, express 36 + 8 as 4(9 + 2).*

Math Level D

Domain: Geometry

National Standard	NC Standard
7.G.1: 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: 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.
8.G.2: 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, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	M.3.4.3.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, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
7.G.4: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	M.3.4.2.a: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
8.G.4: 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.	M.3.4.3.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.
7.G.5: 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.	M.3.4.2.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.

National Standard	NC Standard
7.G.6: 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.c: 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.
8.G.7: Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. 8.G.8: Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	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.

Domain: Expressions and Equations

National Standard	NC Standard

8.EE.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 3^2 x 3^-5 = 3^-3 = 1*-/3^3 = 1/27.	M.5.4.5: Work with radicals and integer exponents. Know and apply the properties of integer exponents to generate equivalent numerical expressions.
7.EE.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. For example, a + 0.05a = 1.05a means that the increase by 5% is the same as multiplying by 1.05.	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.
8.EE.2: 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 sqrt(2) is irrational.	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 $\sqrt{2}$ is irrational.
7.EE.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. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $250. If you want to place a towel bar 9 3/4 inches long in the	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.

center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	
8.EE.3: 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. For example, estimate the population of the United States as 3 x 10^8 and the population of the world as 7 x 10^9, and determine that the world population is more than 20 times larger.	M.5.4.7.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.
7.EE.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: 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.

8.EE. 5: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	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.
8.EE.8: 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 variable algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. c. Solve real-world and mathematical problems leading to two linear equations in two variables.	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 variable algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. c. Solve real-world and mathematical problems leading to two linear equations in two variables.

Domain: Ratios and Proportional Relationships

National Standard	NC Standard
7.RP.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2)/(1/4) miles per hour, equivalently 2 miles per hour.	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.
7.RP.2: 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: 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.
6.RP.3: Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape	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

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 (e.g., 30% of a quantity means 30/100 times the quantity); 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.	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 (e.g., 30% of a quantity means 30/100 times the quantity); 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.
7.RP.3: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	M.1.4.17: Use proportional relationships to solve multistep ratio and percent problems.

Domain: Statistics and Probability

National Standard	NC Standard
8.SP.1: 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.	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.
7.SP.2: 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. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	M.4.4.6.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.
8.SP.2: 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.	M.4.4.4.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.
8.SP.3: Use the equation of a linear model to solve problems in the	M.4.4.4.b: Use the equation of a linear model to solve problems in the context

context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm./hr. as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm. in mature plant height.	of bivariate measurement data, interpreting the slope and intercept.
7.SP.4: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.	M.4.4.7.b: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
8.SP.4: 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 rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?	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 rows or columns to describe possible association between the two variables.

6.SP.5: Summarize numerical data sets in relation to their context, such as by: d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	M.4.4.1: Summarize and describe distributions. Summarize numerical data sets in relation to their context, such as by: d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
7.SP.5: Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	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.
7.SP.7: 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 chance process.	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 chance process.
7.SP.8: Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	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

a. 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. b. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	which the compound event occurs. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams.

Domain: The Number System

National Standard	NC Standard
6.NS.5: Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	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 (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
6.NS.6: 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.	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.	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.
6.NS.7: 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: 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.
6.NS.8: 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	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.	same first coordinate or the same second coordinate.
7.NS.1: 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. d. Apply properties of operations as strategies to add and subtract rational numbers.	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. d. Apply properties of operations as strategies to add and subtract rational numbers.
7.NS.2: 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	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 zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. 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.	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 zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. 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.
8.NS.2: 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., pi^2). For example, by truncating the decimal expansion of sqrt(2), show that sqrt(2) is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	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).

Domain: Functions

National Standard	NC Standard
8.F.3: 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. For example, the function A = s^2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4), and (3,9), which are not on a straight line.	M.5.4.11.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.
8.F.4: 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.	M.5.4.12.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.
8.F.5: Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g.,	M.5.4.12.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.	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.

Math Level A

Domain: Geometry

National Standard	NC Standard
G.CO.1: Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	MA.4.1.1: Experiment with transformations in a plane. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
G.SRT.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	MA.4.1.2: Prove theorems involving similarity. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
G.GMD.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.	MA.4.2.1: Explain perimeter, area, and volume formulas and use them to solve problems involving two- and three-dimensional shapes.
G.MG.2: Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	MA.4.2.2: Apply geometric concepts in modeling of density based on area and volume in modeling situations (e.g.,

	persons per square mile, BTUs per cubic foot).

Domain: Numbers and Quantity

National Standard	NC Standard
N.RN.2: Rewrite expressions involving radicals and rational exponents using the properties of exponents.	MA.1.1.1: Rewrite expressions involving radicals and rational exponents using the properties of exponents.
N.Q.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	MA.1.1.2: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
N.Q.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	MA.1.1.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Domain: Algebra

National Standard	NC Standard
A.SSE.1a: Interpret parts of an expression, such as terms, factors, and coefficients.	MA.1.2.1: Interpret expressions that represent a quantity in terms of its context. Interpret parts of an expression, such as terms, factors, and coefficients.
A.SSE.2: Use the structure of an expression to identify ways to rewrite it. For example, see x4 – y4 as (x2)2 – (y2)2, thus recognizing it as a difference of squares that can be factored as (x2 – y2)(x2 + y2).	MA.1.2.2: Use the structure of an expression to identify ways to rewrite it.
A.SSE.3a: Factor a quadratic expression to reveal the zeroes of the function it defines.	MA.1.2.3: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. Factor a quadratic expression to reveal the zeroes of the function it defines.

A.APR.1: Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	MA.1.3.1: Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
A.CED.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	MA.2.1.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
A.CED.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	MA.2.1.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A.CED.3: Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	MA.1.2.3: Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.
A.REI.1: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	MA.2.2.1: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
A.REI.3: Solve linear equations and inequalities in on variable, including	MA.2.2.3: Solve linear equations and inequalities in on variable, including

National Standard	NC Standard
equations with coefficients represented by letters.	equations with coefficients represented by letters.
A.REI.4: Solve quadratic equations in one variable.	MA.2.2.4: Solve quadratic equations with one variable.
A.REI.6: Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	MA.2.2.5: Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
A.REI.10: Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	MA.2.2.6: Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Domain: Functions

National Standard	NC Standard
F.IF.1: Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	MA.3.1.1: Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
F.IF.2: Use function notation, evaluate functions for inputs in their domains, and interpret statements that use	MA.3.1.2: Use function notation, evaluate functions for inputs in their domains, and interpret statements

function notation in terms of a context.	that use function notation in terms of a context.
F.IF.4: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. For example, for a quadratic function modeling a projectile in motion, interpret the intercepts and the vertex of the function in the context of the problem.	MA.3.1.3: Interpret functions that arise in application in terms of the context. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.
F.IF.6: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	MA.3.1.5: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
F.IF.7: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	MA.3.1.6: Analyze functions in different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
F.IF.8b: Use properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in an exponential function and the classify it as representing exponential growth or decay.	MA.3.1.7: Use properties of exponents to interpret expressions for exponential functions.
F.IF.9: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example,	MA.3.1.8: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

given a linear function represented by an algebraic expression, determine which function has the greater rate of change.	
F.BF.1: Write a function that describes a relationship between two quantities.	MA.3.2.1: Write a function that describes a relationship between two quantities.
F.LE.1c: Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	MA.3.3.1: Distinguish between situations that can be modeled with linear functions and with exponential functions.
F.LE.5: Interpret the parameters in a linear or exponential function in terms of a context.	MA.3.3.2: Interpret the parameters in a linear or exponential function in terms of a context.

Domain: Statistics and Probability

National Standard	NC Standard
S.ID.1: Represent data with plots on the real number line (dot plots, histograms, and box plots).	MA.4.3.1: Represent data with plots on the real number line (dot plots, histograms, and box plots).
S.ID.3: Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	MA.4.3.2: Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
S.ID.5: Summarize categorical data for two categories in two-way frequency	MA.4.3.3: Summarize categorical data for two categories in two-way

National Standard	NC Standard
tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
S.ID.7: Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	MA.4.3.4: Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
S.ID.9: Distinguish between correlation and causation.	MA.4.3.5: Distinguish between correlation and causation.

Language Level L

Domain: Conventions of Standard English

National Standard	NC Standard
K.L.1/1.L.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Print all upper- and lower-case letters. b. Use common, proper, and possessive nouns.	W.1.1.3: From memory write the 26 uppercase and 26 lowercase letters. W.3.1.1: Identify the differences between singular and plural nouns and pronouns.

c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop.*). d. Use personal, possessive, and indefinite pronouns (e.g., *I, me, my; they, them, their; anyone, everything*). e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home*; *Today I walk home*; *Tomorrow I will walk home*). f. Use frequently occurring adjectives. g. Use frequently occurring nouns and verbs. h. Use frequently occurring conjunctions (e.g., *and, but, or, so, because*). i. Use determiners (e.g., articles, demonstratives). j. Use frequently occurring prepositions (e.g., *during, beyond, toward*).	W.3.1.2: Use personal, possessive, and indefinite pronouns. W.3.1.4: Identify proper subject and verb agreement in a sentence. W.4.1.1: Identify and distinguish between nouns, pronouns, and verbs in simple sentences. W.4.1.2: Distinguish between past and present tense in sentences. W.4.1.3: Compose simple sentences in both present and past tenses.
K.L.2/1.L.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize the first word in a sentence and the pronoun *I*. b. Capitalize dates and names of people. c. Recognize and name end punctuation. d. Use end punctuation for sentences. e. Use commas in dates and to separate single words in a series.	W.2.1.1: Correctly capitalize simple sentences. W.2.1.2: Correctly capitalize the pronoun "*I*." W.2.1.3: Capitalize proper nouns, e.g., names, titles, places, and abbreviations. W.2.1.5: Correctly punctuate simple sentences with end punctuation including periods, question marks, and exclamation points.

	W.2.1.7: Correctly punctuate dates within sentences.
	W.2.2.5: Use commas to correctly punctuate items in a series, dates, and addresses.

Domain: Vocabulary Acquisition and Use

National Standard	NC Standard
1.L.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies.	R.1.2.4: Identify words with inflectional endings (e.g., *s*, *es*, *ed*, *ing*, *er*, *est*)
	R.2.2.3: Use structural analysis (familiar word parts: base words,

a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Use frequently occurring affixes as a clue to the meaning of a word. c. Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks, looked, looking*).	prefixes, and suffixes) and/or context clues to determine the meaning of an unknown word.
1.L.5: With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. b. Define words by category and by one or more key attributes (e.g., a *duck* is a bird that swims; a *tiger* is a large cat with stripes). c. Identify real-life connections between words and their use (e.g., note places at home that are *cozy*). d. Distinguish shades of meaning among verbs differing in manner (e.g., *look, peek, glance, stare, glare, scowl*) and adjectives differing in intensity (e.g., *large*, *gigantic*) by defining or choosing them or by acting out the meanings.	R.2.2.2: Recognize the correct meaning of words with multiple meanings when presented in text.

Language Level E

Domain: Conventions of Standard English

National Standard	NC Standard
2.L.1/3.L.1: Demonstrate command of the conventions of standard English	W.3.1.4: Identify proper subject and verb agreement in a sentence.

grammar and usage when writing or speaking.	W.3.2.4: Identify and use modifiers in sentences.
a. Use collective nouns (e.g., *group*).	
b. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.	W.4.2.1: Correctly identify the singular and plural forms of nouns.
c. Form and use regular and irregular plural nouns.	W.4.2.3: Identify the appropriate forms of common regular and irregular verbs.
d. Use reflexive pronouns (e.g., *myself*, *ourselves*).	W.4.2.4: Make pronouns and antecedents agree in number and gender.
e. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat*, *hid*, *told*).	
f. Use abstract nouns (e.g., *childhood*).	W.4.3.3: Distinguish present tense, past tense, and future tense of common verbs.
g. Form and use regular and irregular verbs.	
h. Form and use the simple (e.g., *I walked*; *I walk*; *I will walk*) verb tenses.	
i. Ensure subject-verb and pronoun-antecedent agreement.	
2.L.2/3.L.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	W.2.2.1: Capitalize the inside address, salutation, and closing of personal and business letters.
a. Capitalize holidays, product names, and geographic names.	W.2.2.2: Capitalize proper nouns including days of the week, months of the year, holidays, continents, countries, states, and cities.
b. Capitalize appropriate words in titles.	
c. Use commas in greetings and closings of letters.	W.2.2.5: Use commas to correctly punctuate items in a series, dates, and addresses.
d. Use commas in addresses.	
e. Use commas and quotation marks in dialogue.	
f. Use an apostrophe to form contractions and frequently occurring possessives.	W.2.2.7: Use apostrophes to form contractions and show possessives.

g. Form and use possessives.	W.2.3.1: Capitalize titles of books, magazines, poems, songs, television shows, movies, etc.

Domain: Vocabulary Acquisition and Use

National Standard	NC Standard
2.L.4: Determine or clarify the meaning of unknown and multiple-meaning	R.1.2.5: Identify and use compound words.

words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy*, *tell/retell*). c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*). d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse*, *lighthouse*, *housefly*; *bookshelf*, *notebook*, *bookmark*). e. Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meanings of words and phrases.	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.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.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.
3.L.5: Demonstrate understanding of word relationships and nuances in word meanings. a. Distinguish the literal and non-literal meanings of words and phrases in context (e.g., *take steps*). b. Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*). c. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., *knew*, *believed*, *suspected*, *heard*, *wondered*).	R.5.2.4: Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.

2.L.6: Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).	W.1.2.1: Write short sentences from memory and dictation.
3.L.6: Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them).	R.2.3.4: Build vocabulary of tier 2 words including general academic words and phrases.

Domain: Text Types and Purposes

National Standard	NC Standard

3.W.1: Write opinion pieces on topics or texts, supporting a point of view with reasons. a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons. b. Provide reasons that support the opinion. c. Use linking words and phrases (e.g., *because*, *therefore*, *since*, *for example*) to connect opinion and reasons. d. Provide a concluding statement or section.	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 an opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.
3.W.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. b. Develop the topic with facts, definitions, and details. c. Use linking words and phrases (e.g., *also*, *another*, *and*, *more*, *but*) to connect ideas within categories of information. d. Provide a concluding statement or section.	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.

Language Level M

Domain: Conventions of Standard English

National Standard	NC Standard
4.L.1/5.L.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. b. Use relative pronouns (*who, whose, whom, which, that*) and relative adverbs (*where, when, why*). c. Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses. d. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions. e. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses. f. Use verb tense to convey various times, sequences, states, and conditions. g. Recognize and correct inappropriate shifts in verb tense.	W.4.3.1: Identify nouns, verbs, pronouns, adjectives, adverbs, conjunctions, prepositions, and interjections. W.4.3.2: Write the appropriate forms of common regular and irregular verbs, past, present, and past participle. W.4.3.3: Distinguish present tense, past tense, and future tense of common verbs.
4.L.2/5.L.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use correct capitalization. b. Use commas and quotation marks to mark direct speech and quotations from a text. c. Use punctuation to separate items in a series.	W.2.3.1: Capitalize titles of books, magazines, poems, songs, television shows, movies, etc. W.2.3.2: Correctly use commas in writing, e.g., conjunction in complex sentences, set off proper names in direct address, set off an appositive, etc.

d. Use a comma to separate an introductory element from the rest of the sentence. e. Use a comma to set off the words *yes* and *no* (e.g., *Yes, thank you*) to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).	

Domain: Knowledge of Language

National Standard	NC Standard
5.L.3: Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose words and phrases to convey ideas precisely. b. Choose punctuation for effect.	W.5.3.2.d: Use concrete words and phrases and sensory details to convey experiences and events precisely.

Domain: Vocabulary Acquisition and Use

National Standard	NC Standard
4.L.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., definitions, examples, restatements, cause/effect relationships, and comparisons in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, autograph, photograph, photosynthesis*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.	R.2.3.1: Use prefixes, suffixes, root words, antonyms, and synonyms to determine the meaning of unfamiliar words. 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.4.3.2: Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
4.L.6: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation). 5.L.6: Acquire and use accurately grade-appropriate general academic and domain-specific words and	R.2.3.4: Build vocabulary of tier 2 words including general academic words and phrases.

phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).	

Domain: Text Types and Purposes

National Standard	NC Standard
5.W.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. b. Provide logically ordered reasons that are supported by facts and details. c. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently*, *specifically*). d. Provide a concluding statement or section related to the opinion presented.	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.
4.W.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly and group related information in paragraphs and sections; including formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within categories of information using words and phrases	W.5.3.1: Write informative and explanatory texts to examine a topic and convey ideas and information clearly. 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*). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.	(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.

Language Level D

Domain: Conventions of Standard English

National Standard	NC Standard
6.L.1/7.L.1/8.L.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Ensure that pronouns are in the proper case (subjective, objective, possessive). b. Use intensive pronouns. c. Recognize and correct inappropriate shifts in pronoun number and person. d. Recognize and correct vague or unclear pronouns. e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.	W.4.2.4: Make pronouns and antecedents agree in number and gender. W.4.3.4: Correctly use the nominative and objective cases of pronouns, i.e., she/her.
6.L.2/7.L.2/8.L.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (commas, parentheses, ellipsis, dashes) to set off nonrestrictive/parenthetical elements. b. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*).	W.2.4.1: Appropriately use all forms of capitalization and punctuation including colons, semicolons, commas, dashes, and end punctuation.

c. Use an ellipsis to indicate an omission.	

Domain: Knowledge of Language

National Standard	NC Standard
6.L.3/7.L.3: Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Vary sentence patterns for meaning, reader/listener interest, and style. b. Maintain consistency in style and tone.	W.4.4.5: Establish and maintain tense in a writing piece. W.5.4.7: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Domain: Vocabulary Acquisition and Use

National Standard	NC Standard
6.L.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience, auditory, audible*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	R.2.3.1: Use prefixes, suffixes, root words, antonyms, and synonyms to determine meaning of unfamiliar words. 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.4.4.1: Read instructional level text orally, with fluency and accuracy and with appropriate pacing, intonation, and expression with understanding and purpose. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
8.L.6: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge	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.
when considering a word or phrase important to comprehension or expression.	R.2.4.4: Increase vocabulary of tier 2 words including academic terms and phrases.

Domain: Text Types and Purposes

National Standard	NC Standard
7.W.1: Write arguments to support claims with clear reasons and relevant evidence. 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 word, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.	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 word, 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.
6-8.WHST.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.	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 aiding 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 a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	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 aiding 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 f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Language Level A

Domain: Vocabulary Acquisition and Use

National Standard	NC Standard
11-12.L.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11-12 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology or its standard usage.	LA.1.7: Acquire and use accurately general academic and domain-specific words and phrases at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable).

d. Verify the preliminary determination of the meaning of a word or phrase (e.g. by checking the inferred meaning in context or in a dictionary). 11-12.L.6: Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g. by checking the inferred meaning in context or in a dictionary).

Domain: Conventions of Standard English

National Standard	NC Standard
9-10.L.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. 9-10.L.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	LA.1.6: 9-10.L.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. c. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.

a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. b. Use a colon to introduce a list or quotation. c. Spell correctly.	d. Use a colon to introduce a list or quotation. e. Spell correctly.

Domain: Text Types and Purposes

National Standard	NC Standard
9-10.W.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. 9-10.WHST.1: Write arguments focused on discipline-specific content. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the	LA.2.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and

relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.	evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.
9-10.W.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. 9-10.WHST.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.	LA.1.1: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic and organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

| c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
d. Use precise language and domain-specific vocabulary to manage the complexity of the topic.
e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). | d. Use precise language and domain-specific vocabulary to manage the complexity of the topic.
e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). |