Part III

The Alliance Recommendations

For the Grade Level Placement
Of the Common Core Standards
In a Waldorf-Inspired Public School Program

Kindergarten through Grade Eight

English Language Arts & Literacy
in History/Social Studies, Science, and Technical Subjects

Mathematics

First Edition, September 2013

Introduction to the Alliance Recommendations

Part Three presents the Alliance Recommendations for the Placement of the Common Core Standards in a Waldorf-Inspired Public School Program. This portion of the document reflects the results of the Alliance review process, including all of the Common Core Standards in ELA/Literacy and Mathematics—now re-organized to reflect the grade levels identified as appropriate for students in a Waldorf Program—as indicated in the placements recorded in the Tables in Part II.

For example, in Part III, the movement of student academic achievement standards in reading and mathematics from Kindergarten in the Common Core to Grades 1 and 2 in the Waldorf program (as represented in Part II, above) is reflected in the structure of and placement in the Alliance Recommendations.

Every Common Core Standard (K-8) is included in Part III. None has been omitted. Part III simply reorganizes the CC standards—placing them in their appropriate Waldorf Grade Level in a summary format. The Alliance anticipates that Waldorf graduates from K-8 Waldorf-Inspired Public Schools will have achieved the common Core standards (K-8) and be fully prepared for success in any high school curriculum aligned to the Common Core Standards for Grades 9-12.

The standards in the Recommendations are numbered consecutively at the beginning of the each standard, and, for reference and ease of comparison, each standard is followed by its original Common Core identifier.

As in the Common Core Standards, the numbers begin again as the standards enter a new Strand (within ELA) or Domain (within Mathematics)—but each standard has a unique identifier by grade, strand or domain, and number. For Instance, within the content area English Language Arts, (1 RL 1) indicates Grade 1, Reading Literature, Standard 1. This organizing pattern will become apparent and provide clarity upon review.

Parts I and III (providing introductions to Waldorf education and the Common Core Standards—and the Alliance Recommendations) may prove to be of most interest to parents, school boards, district administrators, public school educators and officials, and the general public--all of whom may want to learn more about the Waldorf approach to education and its relationship to the Common Core Standards.

Pats II and IV are more directly useful to Waldorf-Inspired Public Schools and Waldorf class teachers who will find these parts of practical value as they consider the significance of the Common Core Standards in their own curriculum and instructional programs, in the design of their student learning activities, and in considering their grade level academic expectations for their students.

The Common Core Standards are not "Waldorf Standards," --in that they do not truly represent the core or the essential outcomes of Waldorf Education. They do not reflect the scope, breadth, or depth of the developing human being, nor of the Waldorf curriculum. They do not address its fundamental model of human development, and the breadth, fullness, and variety of the healthy student capacities that are its goals. This dedication to the developing human being in his or her fullness is at the core of the vision, principles, and practical decisions that constitute the richness of Waldorf education--and which broaden its goals for each student. (*See Part 1 and the grade level curriculum summaries in Part II for an initial introduction to these educational goals and the Waldorf curriculum that addresses them.)*

This Alliance document is intended to provide assistance to Waldorf schools and teachers, but its Recommendations are only advisory. They are a first attempt to find common ground, across schools, but we wish to make clear that schools and teachers in Waldorf schools work out of their own insights and in response to their own students' needs. It is anticipated that this document will begin an ongoing conversation and that it will grow organically, through dialogue and discussion, based on new insights and refinements provided by classroom teachers and developed in their work together in the Waldorf community.

Although this document addresses the placement of the Common Core Standards in the Waldorf program, it raises a deeper concern about and interest in further exploration of the Waldorf developmental model and the corresponding Waldorf curriculum and instructional programs. The current document only refers to these topics in summary form, but the Alliance is aware that additional projects, developed by and shared among Waldorf-Inspired Public Schools, would expand and inspire additional Waldorf programs throughout the nation.

These additional projects would continue to work to provide guidance to Waldorf schools and teachers, but would remain advisory in content and form—intended to inspire and support the spread and effectiveness of Waldorf education.

One Sample Project Proposal

One example of such a project, which comes directly out of our work on this document is related to instructional "spiraling" in the Waldorf curriculum and the Common Core concept of standards-based student achievement. In Mathematics, from grades six through eight, many topics are introduced, and then re-presented in the instructional program—with the students gaining in knowledge and skill throughout the three grades. Both the instruction and the levels of student achievement spiral upward over this span of grades. Yet, in the Common Core Mathematics Standards, the full student attainment of each standard appears only once--and only at its point of completion. Thus, it appears that a limited number of mathematics standards are attained at grade 6, somewhat more at grade 7, and

many, many more attained at grade 8. This creates the impression that the mathematics program is much smaller at Grade 6 and growing wildly, with impossible student goals, at Grade 8.

In Part II of this current document, reviewers often added the note that a standard was “Introduced at” an earlier grade level. But, the standards placements are reserved for the grade level at which the student fully attains each standard.

In light of this “apparent” anomaly, the Alliance is proposing a curriculum project with its member schools to describe this spiraling of the mathematics program from grades six though eight. Such a project would serve two valuable purposes: first, to describe for all stakeholders how the Waldorf program works to reach the stated goals; second, to consciously clarify and describe and share with others, including new teachers and schools, the components of this coordinated, spiraling, cross-year curriculum and instructional program in middle-grades mathematics.

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards In a Waldorf-Inspired Public School Program

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

Recommendations for Kindergarten through Grade Eight

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Kindergarten

Writing

Research to Build and Present Knowledge

K W 1. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (K, W 8) (oral sources, oral responses, foundational for writing)

Speaking and Listening

Comprehension and Collaboration

K SL 1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. (K SL 1)

K SL 1a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). (K SL 1a)

K SL 1b. Continue a conversation through multiple exchanges. (K SL 1b)

K SL 2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. (K SL 2)

K SL 2 a. **Understand and follow one- and two- step oral directions. (CA)** (K SL 2a)

K SL 3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K SL 3)

Presentation of Knowledge and Ideas

K SL 4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail. (K SL 4)

K SL 5. Add drawings or other visual displays to descriptions as desired to provide additional detail. (K SL 5)

K SL 6. Speak audibly and express thoughts, feelings, and ideas clearly. (K SL 6)

Language

Conventions of Standard English

K L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (K L 1)

K L 1a. Use frequently occurring nouns and verbs. (K L 1b)

K L 1b. Form regular plural nouns orally by adding /s/ or /es/ (e.g., dog, dogs; wish, wishes). (K L 1c)

K L 1c. Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how). (K L 1d)

K L 1d. Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with). (K L 1e)

K L 1e. Produce and expand complete sentences in shared language activities. (K L 1f)

Vocabulary Acquisition and Use

K L 2. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. (K L 5a)

K L 3. Use words and phrases acquired through conversations, reading and being read to, and responding to texts. (K L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade 1

Reading Literature

Key Ideas and Details

1 RL 1. Retell stories, including key details, and demonstrate understanding of their central message or lesson. (1 RL 2) (K RL 2)

1 RL 2**.** Describe characters, settings, and major events in a story, using key details. (1 RL 3) (K RL 3)

1 RL 3. With prompting and support, ask and answer questions about key details in a text. (K RL 1)

Range of Reading and Level of Text Complexity

1 RL 4. With prompting and support, read prose and poetry of appropriate complexity for Grade 1. (1 RL 10)

Reading Foundational Skills

Print Concepts

1 RF 1. Demonstrate understanding of the organization and basic features of print. (1 RF 1) (K RF 1)

1 RF 1a. Follow words from left to right, top to bottom, and page by page. (K RF 1a)

1 RF 1b. Recognize that spoken words are represented in written language by specific sequences of letters. (K RF 1b)

1 RF 1c. Understand that words are separated by spaces in print. (K RF 1c)

1 RF 1d. Recognize and name all upper- and lowercase letters of the alphabet. (K RF 1d)

1 RF 1e. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation). (1 RF 1a)

Phonological Awareness

1 RF 2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).(1 RF 2) (K RF 2)

1 RF 2a. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. (1 RF 2b)

1 RF 2b. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. (1 RF 2c)

1 RF 2c. Recognize and produce rhyming words. (K RF 2a)

1 RF 2d. Count, pronounce, blend, and segment syllables in spoken words. (K RF 2b)

1 RF 2e. Blend and segment onsets and rhymes of single-syllable spoken words. (K RF 2c)

1 RF 2f. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.1 (This does not include CVCs ending with /l/, /r/, or /x/.) (K RF 2d)

1 RF 2g. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words. (K RF 2e)

1 RF 2h. **Blend two or three phonemes into recognizable words. (CA)** (K RF 2f)

Phonics and Word Recognition

1 RF 3. Demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant. (K RF 3a)

1 RF 4. Know the spelling-sound correspondences for common consonant digraphs. (1 RF 3a)

1 RF 5. Decode regularly spelled one-syllable words. (1 RF 3b)

Fluency

1 RF 6. Read with sufficient accuracy and fluency to support comprehension. (1 RF 4)

Writing

Research to Build and Present Knowledge

1 W 1. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1 W 8)

Speaking and Listening

Comprehension and Collaboration

1 SL 1. Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups. (1 SL 1)

1 SL 1a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). (1 SL 1a)

1 SL 1b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. (1 SL 1b)

1 SL 1c. Ask questions to clear up any confusion about the topics and texts under discussion. (1 SL 1c)

1 SL 2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media. (1 SL 2)

1 SL 3. **Give, restate, and follow simple two-step directions. CA** (1 SL 2a)

1 SL 4. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. (1 SL 3)

Presentation of Knowledge and Ideas

1 SL 5. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. (I SL 4)

1 SL 6. **Memorize and recite poems, rhymes, and songs with expression. CA** (1 SL 4a)

1 SL 7. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, ` thoughts, and feelings. (1 SL 5)

1 SL 8. Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 for specific expectations. (1 SL 6)

Language

Conventions of Standard English

1 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (1 L 1)

1 L 1a. Print all upper- and lowercase letters. (1 L 1a) (K L 1a)

1 L 1b. Use common, proper, and possessive nouns. (1 L 1b)

1 L 1c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop*) (1 L 1c).

1 L 1d. Use personal **(subject, object)**, possessive, and indefinite pronouns (e.g., *I, me, my; they, them, their; anyone, everything*). **CA** (1 L 1d)

1 L 1e. Use verbs to convey a sense of past, present, and future (e.g., Y*esterday I walked home; Today I walk home; Tomorrow I will walk home*). (1 L 1e)

1 L 1f. Use frequently occurring adjectives. (1 L 1f)

1 L 1g. Use frequently occurring conjunctions (e.g., *and, but, or, so, because*). (1L 1g)

1 L 1h. Use determiners (e.g., articles, demonstratives). (1 l 1h)

1 L 1i. Use frequently occurring prepositions (e.g., *during, beyond, toward*). (1 L 1i)

1 L 1j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. (1.L 1j)

1 L 2. Capitalize the first word in a sentence and the pronoun I. K L 2a)

1 L 2a. Capitalize dates and names of people. (1 L 2a)

1 L 3. Recognize and name end punctuation. (K L 2b)

1 L 3a. Use end punctuation for sentences. (1 L 2b)

1 L 4. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. (1 L 2d)

1 L 5. Write a letter or letters for most consonant and short-vowel sounds (phonemes). (K L 2c)

1 L 6. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. (1 L 2e) (K L 2d)

Vocabulary Acquisition and Use

1 L 7. Use sentence-level context as a clue to the meaning of a word or phrase. (1 L 4a)

1 L 8. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. (1 l 5) (K L 5)

1 L 9. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. (1 L 5a)

1 L 10. 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). (1 L 5b)

1 L 11. Identify real-life connections between words and their use (e.g., note places at home that are *cozy*). (1 L 5c) (K L 5c)

1 L 12. Distinguish shades of meaning among verbs describing the same general action (e.g., walk, march, strut, prance) by acting out the meanings. (K L 5d)

1 L 13. 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. (1 L 5d)

1 L 14. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). (1 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade 2

Reading Literature

Key Ideas and Details

2 RL 1. Ask and answer such questions as *who, what, where, when, why*, and *how* to demonstrate understanding of key details in a text. (2 RL 1) (Incorporates 1 RL 1)

2 RL 2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral. (2 RL 2)

2 RL 3. Describe how characters in a story respond to major events and challenges. (2 RL 3)

Craft and Structure

2 RL 4. Ask and answer questions about unknown words in a text. (K RL 4)

2 RL 5. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action. (2 RL 5)

2 RL 6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud. (2 RL 6)

2 RL 7. Identify the front cover, back cover, and title page of a book. (K RI 5)

2 RL 7a. Use illustrations and details in a story to describe its characters, setting, or events. (1 RJ 7)

2 RL 8. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story. (K RL 6)

Integration of Knowledge and Ideas

2 RL 9. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts.) (K RL 7)

Range of Reading and Level of Text Complexity

2 RL 10. Actively engage in group reading activities with purpose and understanding. (K RL 10)

2 RL 10a. **Activate prior knowledge related to the information and events in texts. (CA)** (K RL 10a) (1 RL 10a)

2 RL 10b**. Use illustrations and context to make predictions about text. (CA)** (K RL 10b)

2 RL 10c. **Confirm predictions about what will happen next in a text, (CA)** (1 RL 10b)

Reading Foundational Skills

Phonics and Word Recognition

2 RF 1. Know and apply grade-level phonics and word analysis skills in decoding words **both in isolation and in text**. **CA** (2 RF 3)(K RF 3) (1 RF 3)

2 RF 1a. Associate the long and short sounds with the common spellings (graphemes) for the five major vowels. **(Identify which letters represent the five major vowels (Aa, Ee, Ii, Oo, and Uu) and know the long and short sound of each vowel. More complex long vowel graphemes and spellings are targeted in the Grade 1 phonics standards.) (CA)** (K RF 3b)

2 RF 1b. Distinguish long and short vowels when reading regularly spelled one-syllable words. (2 RF 3a)

2 RF 1c). Distinguish long from short vowel sounds in spoken single-syllable words. (1 RF 2a)

2 RF 1d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonems). (1 RF 2d)

2 RF 1e. Know spelling-sound correspondences for additional common vowel teams. (2 RF 2b)

2 RF 1f. Decode regularly spelled two-syllable words with long vowels. (2 RF 3c)

2 RF 2. Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does). (K RF 3c)

2 RF 3. Distinguish between similarly spelled words by identifying the sounds of the letters that differ. (K RF 3d)

Fluency

2 RF 4. Read emergent-reader texts with purpose and understanding. (K RF 4)

2 RF 4a. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. (1 RF 4c)

Writing

Text Types and Purposes

2 W 1. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K W 2)

2 W 2. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. (K W 3)

2 W 3. Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. (2 W 3)

Production and Distribution of Writing

2 W 4. With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. (2 W 5)

2 W 5. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (K W 8)

Speaking and Listening

Comprehension and Collaboration

2 SL 1. Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups. (2 SL 1)

2 SL 1a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). (2 SL 1a)

2 SL 1b. Build on others' talk in conversations by linking their comments to the remarks of others. (2 SL 1b)

2 SL 1c. Ask for clarification and further explanation as needed about the topics and texts under discussion. (2SL 1c)

2 SL 2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (2 SL 2)

2 SL 3. **Give and follow three- and four-step oral directions. CA** (2 SL 2a)

2 SL 4. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. (2 SL 3)

Presentation of Knowledge and Ideas

2 SL 5. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences. (2 SL 4)

2 SL 6. Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (Audios at Gr. 7) (2 SL 5)

2 SL 7. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 for specific expectations.) (2 SL 6)

Language

Conventions of Standard English

2 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (2 L 1)

2 L 1a. Use collective nouns (e.g., *group*). (2 L 1a)

2 L 1b. Form and use frequently occurring irregular plural nouns (e.g., *feet, children, teeth, mice, fish*). (2 l 1b)

2 L 1c. Use reflexive pronouns (e.g., *myself, ourselves*). (2 l 1c)

2 L 1d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat, hid, told*). (2 L 1d)

2 L 1e. Use adjectives and adverbs, and choose between them depending on what is to be modified. (2 L 1e)

2 L 1f. Produce, expand, and rearrange complete simple and compound sentences (e.g., *The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy*). (2 L 1f)

2 L 1g. **Create readable documents with legible print. CA** (2 L 1g)

2 L 2 Demonstrate the command of the conventions of standard English capitalization, punctuation, and spelling when writing. (K L 2) (1 L 2)

2 L 2a. Capitalize holidays, product names, and geographic names. (2 L 2a)

Knowledge of Language

2 L 3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. (2 L 3)

Vocabulary Acquisition and Use

2 L 4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 2 reading and content*, choosing flexibly from an array of strategies. (2 L 4) (K L 4)

2 L 4a. Use sentence-level context as a clue to the meaning of a word or phrase. (2 L 4a)

2 L 4b. Identify new meanings for familiar words and apply them accurately (e.g., knowing duck is a bird and learning the verb to duck). (K L 4a)

2 L 4c. Use the most frequently occurring inflections and affixes (e.g., -ed, -s, re-, un-, pre-, -ful, -less) as a clue to the meaning of an unknown word. (K L 4b) (1 L 4b)

2 L 4d. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy*, *tell/retell*). (2 l 4b)

2 L 4e. Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks, looked, looking*). (1 L 4c)

2 L 4f. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*). (2 L 4c)

2 L 4g. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse, lighthouse, housefly; bookshelf, notebook, bookmark*). (2 L 4d)

2 L 5. Demonstrate understanding of word relationships and nuances in word meanings. (2 L 5)

2 L 5a. Identify real-life connections between words and their use (e.g., describe foods that are *spicy* or *juicy*). (2 L 5a)

2 L 5b. Distinguish shades of meaning among closely related verbs (e.g., *toss, throw, hurl*) and closely related adjectives (e.g., *thin, slender, skinny, scrawny*). (2 L 5b)

2 L 5c. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). (K L 5b)

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*). (2 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade Three

Reading Literature

Key Ideas and Details

3 RL 1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3 RL 1)

3 RL 1a. Ask and answer such questions as *who, what, where, when, why*, and *how* to demonstrate understanding of key details in a text. (2 RL 1)

3 RL 2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text. (3 RL 2)

3 RL 3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. (3 RL 3)

Craft and Structure

3 RL 4. Recognize common types of texts (e.g., storybooks, poems**, fantasy, realistic text) (CA).** (K RL 5)

3 RL 5. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song. **(See grade 2 Language standards 4-6 for additional expectations.) CA** (2 RL 4)

3 RL 6. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses. ***(See grade 2 Language standards 4-6 for additional expectations.) (CA)*** *(1 RL 4)*

3 RL 7. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types. (1 RL 5)

3 RL 8. Identify who is telling a story at various points in a text. (1 RL 6)

Integration of Knowledge and Ideas

3 RL 9. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot. (2 RL 7)

3 RL 10. Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting). (3 RL 7)

Range of Reading and Level of Text Complexity

3 RL 11. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficiently. (3 RL 10) (Incorporates 2 RL 10)

Reading Informational Text

Key Ideas and Details

RI 1. Ask and answer questions about key details in a text. (1 RI 1)(K RI 1)

RI 2. Identify the main topic and retell key details of a text. (1 RI 20(K RI 2)

RI 3. Describe the connection between two individuals, events, ideas, or pieces of information in a text. (1 RI 3) (K RI 3)

Craft and Structure

3 RI 4. Ask and answer questions to help determine or clarify the meaning of words or phrases in a text. (2 RI 4)(1 RI 4)(K RI 4)

3 RI 5. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text. (1 RI 6)

3 RI 6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text. (K RI 6)

Integration of Knowledge and Ideas

3 RI 7. Use the illustrations and details in a text to describe its key ideas. (1 RI 7) (Incorporates K RI 7)

3 RI 8. 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). (3 RI 7)

3 RI 9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). (1 RI 9)

Range of Reading and Level of Text Complexity

3 RI 10. Actively engage in group reading activities with purpose and understanding. (K RI 10)

3 RI 10a. With prompting and support, read informational texts appropriately complex for the grade level. (1 RI 10)

3 RI 10b. **Activate prior knowledge related to the information and events in texts. (CA)** (1 RI 10a) (K RI 10a**)**

3 RI 10 c. Make and ***confirm predictions about what will happen next in a text. CA*** (1 RL 10b(K RI 10b))

Reading Foundational Skills

Phonics and Word Recognition

3 RF 1. Know and apply grade-level phonics and word analysis skills in decoding words **both in isolation and in text**. **CA** (3 RF 3)

3 RF 1a. Decode multi-syllable words. (3 RF 3c)

3 RF 1b. Decode words with common prefixes and suffixes. (2 RF 3d)

3 RF 1c. Identify words with inconsistent but common spelling-sound correspondences. (2 RF 3e)

3 RF 1d. Read grade-appropriate irregularly spelled words. (3 RF 3d) (2 RF 3f)

Fluency

3 RF 2. Read with sufficient accuracy and fluency to support comprehension. (3 RF 4)

3 RF 2a. Read on-level text with purpose and understanding. (3 RF 4a) (1 RF 4a)

3 RF 2b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. (3 RF 4b) (1 RF 4b)

3 RF 2c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. (3 RF 4c)

3 RF 3. Read with sufficient accuracy and fluency to support comprehension. (2 RF 4)

3 RF 3a. Read on-level text with purpose and understanding. (2 RF 4a)

3 RF 3b. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. (2 RF 4b)

3 RF 3c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. (2 RF 4c)

Writing

Text Types and Purposes

3 W 1. **Write informative/explanatory texts** to examine a topic and convey ideas and information clearly. (3 W 2)

3 W 1a. Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. (2 W 2)

3 W 1b. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. (3 W 2a)

3 W 1c. Develop the topic with facts, definitions, and details. (3 W 2b)

3 W 1d. Use linking words and phrases (e.g., *also, another, and, more, but*) to connect ideas within categories of information. (3 W 2c)

3 W 1e. Provide a concluding statement or section. (3 W 2d)

3 W 2. **Write narratives** to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (3 W 3)

3 W 2a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. (3 W 3a)

3 W 2b. Use temporal words and phrases to signal event order. (3 W 3c)

3 W 2c. Provide a sense of closure. (3 W 3d)

Production and Distribution of Writing

3 W 3. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.) (3 W 4)

Research to Build and Present Knowledge

3 W 4. Recall information from experiences or gather information from provided sources to answer a question. (2 W 8)

3 W 5. Conduct short research projects that build knowledge about a topic. (3 W 7)

Speaking and Listening

Comprehension and Collaboration

3 SL 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly. (3 SL 1)

3 SL 1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. (3 SL 1a)

3 SL 1b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). (3 SL 1b)

3 SL 1c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. (3 SL 1c)

3 SL 1d. Explain their own ideas and understanding in light of the discussion. (3 SL 1d)

3 SL 2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. (3 SL 2)

3 SL 3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. (3 SL 3)

Presentation of Knowledge and Ideas

3 SL 4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (3 SL 4)

3 SL 4a. **Plan and deliver a narrative presentation that: recounts a well-elaborated event, includes details, reflects a logical sequence, and provides a conclusion. CA** (2 SL 4a)

3 SL 5. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 3 Language standards 1 and 3 for specific expectations.) (3 SL 6)

Language

Conventions of Standard English

3 L 1. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (3 L 2)

3 L 1a. Capitalize appropriate words in titles. (3 L 2a)

3 L 1b. Use commas in dates and to separate single words in a series. (1 L 2c)

3 L 1c. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g*., sitting, smiled, cries, happiness*). (3 L 2e)

3 L 1d. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. (3 L 2f)

3 L 1e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. (3 L 2g)

3 L 1f. **Write legibly in cursive or joined italics, allowing margins and correct spacing between letters in a word and words in a sentence. CA** (3 L 1j)

3 L 1g. **Use reciprocal pronouns correctly. CA (**3 L 1k)

Knowledge of Language

3 L.2 Use knowledge of language and its conventions when writing, speaking, reading, or listening, (3 L 3)

3 L 2a. Choose words and phrases for effect. (3 L 3a)

3 L 2b. Recognize and observe differences between the conventions of spoken and written standard English. (3 L 3b)

3 L 2c. Compare formal and informal uses of English. (2 L 3a)

Vocabulary Acquisition and Use

3 L 3. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content,* choosing flexibly from a range of strategies. (3 L 4)

3 L 3a. Use sentence-level context as a clue to the meaning of a word or phrase. (3 L 4a)

3 L 3b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat*). (3 L 4b)

3 L 3c. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases ***in all content areas***. **CA (**3 L 4d) (2 L 4e)

3 L 4. Demonstrate understanding of word relationships and nuances in word meanings. (3 L 5)

3 L 4a. Distinguish the literal and non-literal meanings of words and phrases in context (e.g., *take steps*). (3 L 5a)

3 L 4b. Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*). (3 L 5b)

3 L 5. 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*). (3 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade Four

Reading Literature

Key Ideas and Details

4 RL 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.(4 RL 1)

4 RL 2. Determine a theme of a story, drama, or poem from details in the text; summarize the text. (4 RL 2)

4 RL 3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions). (4 RL 3)

Craft and Structure

4 RL 4. Students distinguish their own point of view from that of the narrator or those of the characters.(3 RL 6)

Integration of Knowledge and Ideas

4 RL 5. With prompting and support, compare and contrast the adventures and experiences of characters in stories. (K RL 9) (1 RL 9)

4 RL 6. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures. (2 RL 9)

4 RL 7. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series). (3 RL 9)

Range of Reading and Level of Text Complexity

4 RL 8. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range. (4 RL 10)

Reading Informational Texts

Key Ideas and Details

4 RI 1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3 RI 1) (2 RI 1)

4 RI 2. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4 RI 1)

4 RI 3. Identify the main topic of a multi-paragraph text as well as the focus of specific paragraphs within the text. (2 RI 2)

4 RI 4. Determine the main idea of a text and explain how it is supported by key details; summarize the text. (4 RI 2) (3 RI 2)

4 RI 5. 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. (4 RI 3) (2 RI 3)

Craft and Structure

4 RI 6. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*. **(See grade 4 Language standards 4-6 for additional expectations.) CA** (4 RI 4)

4 RI 7. 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. (2 RI 5)

4 RI 8. Identify the main purpose of a text, including what the author wants to answer, explain, or describe. (2 RI 6)

Integration of Knowledge and Ideas

4 RI 9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4 RI 9)(K RI 9)

4 RI 10. Identify the reasons an author gives to support points in a text. (K RI 8)

4 RI 11. Students distinguish their own point of view from that of the author of a text. (3 RI 6)

4 RI 12. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text. (2 RI 7)

Range of Reading and Level of Text Complexity

4 RI 13. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range. (4 RI 10)

Reading Foundational Skills

Phonics and Word Recognition

4 RF 1. Know and apply grade-level phonics and word analysis skills in decoding words. (4 RF 3)

4 RF 1a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. (4 RF 3a)

4 RF 1b. Identify and know the meaning of the most common prefixes and derivational suffixes. (3 RF 3a)

Fluency

4 RF 2. Read with sufficient accuracy and fluency to support comprehension. (4 RF 4)

4 RF 2a. Read on-level text with purpose and understanding. (4 RF 4a)

4 RF 2b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. (4 RF 4b)

4 RF 2c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. $ RF 4c)

Writing

Text Types and Purposes

4 W 1.Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because, and, also*) to connect opinion and reasons, and provide a concluding statement or section. (2 W 1)

4 W 2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (4 W 2)

4 W 2a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. (4 W 2a)

4 W 2b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. (4 W 2b)

4 W 2c. Link ideas within categories of information using words and phrases (e.g., *another, for example, also, because*). (4 W 2c)

4 W 1d. Use precise language and domain-specific vocabulary to inform about or explain the topic. (4 W 2d)

4 W 2e. Provide a concluding statement or section related to the information or explanation presented. (4 W 2e)

4 W 3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (4 W 3)

4 W 3a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. (4 W 3a)

4 W 3b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. (4 W 3b)(3 W 3b)

4 W 3c. Use a variety of transitional words and phrases to manage the sequence of events. (4 W 3c)

4 W 3d. Use concrete words and phrases and sensory details to convey experiences and events precisely. (4 W 3d)

4 W 3e. Provide a conclusion that follows from the narrated experiences or events. (4 W 3e)

Production and Distribution of Writing

4 W4. Produce clear and coherent writing **(including multiple-paragraph texts)** in which the development and organization are appropriate to task, purpose, and audience. **CA (4 W 4)** (2 W 4)

4 W 5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 4.) (4 W 5)

Research to Build and Present Knowledge

4 W 6. Conduct short research projects that build knowledge through investigation of different aspects of a topic.(4 W 7)

4 W 6a.Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2 W 7)

4 W 7. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes, **paraphrase**, and categorize information, and provide a list of sources. **CA** (4 W 8) (3 W 8)

4 W 8. Draw evidence from literary or informational texts to support analysis, reflection, and research. (4 W 9)

Range of Writing

4 W 9. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (4 W 10)(3 W 10)

Speaking and Listening

Comprehension and Collaboration

4 SL 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly. (4 SL 1)

4 SL 1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. (4 SL 1a)

4 SL 1b. Follow agreed-upon rules for discussions and carry out assigned roles. (4 SL 1b)

4 SL 1c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. (4 SL 1c)

4 SL 1d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. (4 SL 1d)

4 SL 2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. (4 SL 2)

Presentation of Knowledge and Ideas

4 SL 3. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. (4 SL 4)

4 SL 3a. **Plan and deliver a narrative presentation that: relates ideas, observations, or recollections; provides a clear context; and includes clear insight into why the event or experience is memorable. CA** (4 SL 4a)

4 SL 3b. Plan and deliver an informative/ explanatory presentation on a topic that: organizes ideas around major points of information, follows a logical sequence, includes supporting details, uses clear and specific vocabulary, and provides a strong conclusion. CA (4 SL 4b)

4 SL 4. Add audio recordings or visual displays to presentations when appropriate to enhance the development of main ideas or themes. (4 SL 5) (Audio at Grade 7)

4 SL 5. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 and 3 for specific expectations.) (4 SL 6)

Language

Conventions of Standard English

4 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (4 L 1)

4 L 1a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences. (3 L 1a)

4 L 1b. Form and use regular and irregular plural nouns. (3 L 1b)

4 L 1c. Use abstract nouns (e.g., *childhood*). (3 L 1c)

4 L 1d. Form and use regular and irregular verbs. (3 L 1d)

4 L 1e. Form and use the simple (e.g., *I walked; I walk; I will walk*) verb tenses. (3 L 1e)

4 L 1f. Ensure subject-verb and pronoun- antecedent agreement. (3 L 1f)

4 L 1g. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified. (3 L 1g)

4 L 1h. Use coordinating and subordinating conjunctions. (3 L 1h)

4 L 1i. Produce simple, compound, and complex sentences. (3 L 1i)

4 L 1j. Form and use the progressive (*e.g., I was walking; I am walking; I will be walking*) verb tenses. (4 L 1b)

4 L 1k. Use adjectives and adverbs, and choose between them depending on what is to be modified. (2 L 1e)

4 L 1l. Produce, expand, and rearrange complete simple and compound sentences (e.g., *The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy*). (2 L 1f)

4 L 1m. Order adjective within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*). (4 L 1d)

4 L 1n. Form and use prepositional phrases. (4 L 1e)

4 L 1o. Correctly use frequently confused words (e.g., *to, too, two; there, their*). (4 L 1g)

4 L 1p. Write fluidly and legibly in cursive or joined italics. CA (4 L 1h)

4 L 2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (4 L 2)

4 L 2a. Use correct capitalization. (4 L 2a)

4 L 2b. Use commas and quotation marks to mark direct speech and quotations from a text. (4 L 2b) (3 L 2c)

4 L 2c. Form and use possessives. (3 L 2d)

4 L 2d. Use a comma before a coordinating conjunction in a compound sentence. (4 L 2c)

4 L 2e. Use commas in addresses. (3 L 2b)

4 L 2f. Use commas in greetings and closings of letters. (2 L 2b)

4 L 2g. Use an apostrophe to form contractions and frequently occurring possessives. (2 L 2c)

4 L 2h. Spell grade-appropriate words correctly, consulting references as needed. (4 L 2d)

Knowledge of Language

4 L 3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. (4 L 3)

4 L 3a. Choose words and phrases to convey ideas precisely. (4 L 3a)

4 L 3b. Choose punctuation for effect. (4 L 3b)

4 L 3c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion). (4 L 3c)

Vocabulary Acquisition and Use

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. (4 L 4)

4 L 4 a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase. (4 L 4a)

4 L 4b. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*). (3 L 4c)

4 L 4c. 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 **and to identify alternate word choices *in all content areas***. **CA** (4 L 4c)

4 L 5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. (4 L 5)

4 L 5a. Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context. (4 L 5a)

4 L 5b. Recognize and explain the meaning of common idioms, adages, and proverbs. (4 L 5b)

4 L 5c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms). (4 L 5c)

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). (4 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade Five

Reading Literature

Key Ideas and Details

5 RL 1.Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (5 RL 1)

5 RL 2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text. (5 RL 2)

5 RL 3.Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact). (5 RL 3)

Craft and Structure

5 RL 4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language, including figurative language such as metaphors and similes. **(See grade 5 Language standards 4-6 for additional expectations.) CA** (5 RL 4) (3 RL 4)

5 RL 5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections. (3 RL 5)

5 RL 6. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean). (4 RL 4**)**

Range of Reading and Level of text Complexity

5 RL 7. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently. (5 RL 10)

Reading Informational Texts

Key Ideas and Details

5 RI 1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (5 RI 1)

5 RI 2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. (5 RI 2)

Craft and Structure

5 RI 3. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*. **(See grade 5 Language standards 4-6 for additional expectations.) CA** (5 RI 4)

Integration of Knowledge and Ideas

5 RI 4. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (5 RI 7)(digital in Grade 7)

5 RI 5. Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s). (5 RI 8)

5 RI 6. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. (5 RI 9)

Range of Reading and Level of Text Complexity

5 RI 7. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently. (5 RI 10)

Reading Foundational Skills

Phonics and Word Recognition

5 RF 1. Know and apply grade-level phonics and word analysis skills in decoding words.(5 RF 3)

5 RF 1a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context (5 RF 3a)

Fluency

5 RF 2. Read with sufficient accuracy and fluency to support comprehension. (5 RF 4)

5 RF 2a. Read on-level text with purpose and understanding. (5 RF 4a)

5 RF 2b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. (5 RF 4b)

5 RF 2c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. (5 RF 4c)

Writing

Text Types and Purposes

5 W 1. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (5 W 2)

5 W 1a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. (5 W 2a)

5 W 1b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. (5 W 2b)

5 W 1c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast, especially*). (5 W 2c)

5 W 1d. Use precise language and domain-specific vocabulary to inform about or explain the topic. (5 W 2d)

5 W 1e. Provide a concluding statement or section related to the information or explanation presented. (5 W 2e)

5 W 2. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (5 W 3)

5 W 2a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. (5 W 3a)

5 W 2b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. (5 W 3b)

5 W 2c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. (5 W 3c)

5 W 2d. Use concrete words and phrases and sensory details to convey experiences and events precisely. (5 W 3d)

5 W 2e. Provide a conclusion that follows from the narrated experiences or events. (5 W 3e)

Production and Distribution of Writing

5 W 3. Produce clear and coherent writing **(including multiple-paragraph texts)** in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) **CA** (5 W 4)

5 W 4. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 5.) (5 W 5)

Research to Build and Present Knowledge

5 W 5. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (5 W 7)

5 W 6. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. (5 W 8)

5 W 7. Apply *grade 5 Reading standards* to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]."). and "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]"). (5 W 9a) (4 W 9a)

Range of Writing

5 W 8. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (5 W 10)

Speaking and Listening

Comprehension and Collaboration

5 SL 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. (5 SL 1)

5 SL 1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. (5 SL 1a)

5 SL 1b. Follow agreed-upon rules for discussions and carry out assigned roles. (5 SL 1b)

5 SL 1c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. (5 SL 1c)

5 SL 1d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. (5 SL 1d)

5 SL 2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. (5 SL 2)

Presentation of Knowledge and Ideas

5 SL 3. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. (5 SL 4)

5 SL 3a. **Memorize and recite a poem or section of a speech or historical document using rate, expression, and gestures appropriate to the selection. CA** (5 SL 4b)

5 SL 4. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 for specific expectations.) (5 SL 6)

Language

Conventions of Standard English

5 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (5 L 1)

5 L 1a. Use verb tense to convey various times, sequences, states, and conditions. (5 L 1c)

5 L 1b. Recognize and correct inappropriate shifts in verb tense. (5 L 1d)

5 L 2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (5 L 2)

5 L 2a. Use punctuation to separate items in a series. (5 L 2a)

5 L 2b. Use a comma to separate an introductory element from the rest of the sentence. (5 L 2b)

5 L 2c. 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?). (5 L 2c)

5 L 2d. Use underlining, quotation marks, or italics to indicate titles of works. (5 L 2d)

5 L 2e. Spell grade-appropriate words correctly, consulting references as needed. (5 l 2e)

Knowledge of Language

5 L 3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. (5 L 3)

5 L 3a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style. (5 L 3a)

Vocabulary Acquisition and Use

5 L 4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content,* choosing flexibly from a range of strategies. (5 l 4)

5 L 4a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase. (5 L 4a)

5 L 4b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). (Greek in 5, Latin in 6) (5 L 4b)

5 L 4c. 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 **and to identify alternate word choices *in all content areas***. **CA** (5 L 4c)

5 L 4d. Recognize and explain the meaning of common idioms, adages, and proverbs. (5 L 5b)

5 L 4e. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words. (5 L 5c)

5 L 5. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition).* (5 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade Six

Reading Literature

Key Ideas and Details

6 RL 1. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6 RL 2)

6RL 2. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution. (6 RL 3)

Craft and Structure

6 RL 3. 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. **(See grade 6 Language standards 4–6 for additional expectations.) CA** (6 RL 4)

6 RL 4. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text. (4 RL 5)

6 RL 4a. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem. (5 RL 5)

6 RL 4b. 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. (6 RL 5)

6 RL 5. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations. (4 RL 6)

6 RL 5a. Describe how a narrator's or speaker's point of view influences how events are described. (5 RL 6)

6 RL 5b. Explain how an author develops the point of view of the narrator or speaker in a text. (6 RL 6)

Integration of Knowledge and Ideas

6 RL 6. Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text. (4 RL 7)

6 RL 7. Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. (4 RL 9)

6 RL 8. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics. (5 RL 9)

6 RL 9. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics. (6RL 9)

Range of Reading and Level of Text Complexity

6 RL 10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range. (6 RL 10)

Reading Informational Texts

Key Ideas and Details

6 RI 1. 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 judgments. (6 RI 2)

6 RI 2. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes). (6 RI 3)

6 RI 3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. (5 RI 3)

Craft and Structure

6 RI 4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **(See grade 6 Language standards 4–6 for additional expectations.) CA (6 RI 4)**

6 RI 5. Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas. (6 RI 5)

6 RI 6. 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. (4 RI 5)

6 RI 7. 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. (5 RI 5)

6 RI 8. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text. (6 RI 6)

6 RI 9. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided. (4 RI 6)

Integration of Knowledge and Ideas

6 RI 10. 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 RI 7)

6 RI 11. 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. (4 RI 7) (digital in gr. 7)

6 RI 12. Explain how an author uses reasons and evidence to support particular points in a text. (4 RI 8)

6 RI 13. Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person). (6 RI 9)

Range of Reading and Level of Text Complexity

6 RI 14. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range. (6 RI 10)

Writing

Text Types and Purposes

6 W 1. **Write arguments** to support claims with clear reasons and relevant evidence. (6 W 1)

6 W 1a. Introduce claim(s) and organize the reasons and evidence clearly. (6 W 1a)

6 W 1b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. (6 W 1b)

6 W 1c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. 6 W 1c)

6 W 1 d. Establish and maintain a formal style. (G W 1d)

6 W 1e. Provide a concluding statement or section that follows from the argument presented. (6 W 1e)

Standard 6 W 1 Integrates and builds upon standard 4 W 1, included for the first time here:

W 1. **Write opinion pieces** on topics or texts, supporting a point of view with reasons and information. (4 W 1)

W 1a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. (4 W 1a)

W 1b. Provide reasons that are supported by facts and details. (4 W 1b)

W 1c. Link opinion and reasons using words and phrases (e.g., *for instance, in order to, in addition*). (4 W 1c)

W 1 d. Provide a concluding statement or section related to the opinion presented. (4 W 1d)

6 W 2**. Write informative/explanatory texts** to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (6 W 2)

6 W 2a. Introduce a topic **or thesis statement**; 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. **CA** (6 W 2a)

6 W 2b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. (6 W 2b)

6 W 2c. Use appropriate transitions to clarify the relationships among ideas and concepts. (6 W 2c)

6 W 2d. Use precise language and domain-specific vocabulary to inform about or explain the topic. (6 W 2d)

6 W 2e. Establish and maintain a formal style. (6 W 2e)

6 W 2f. Provide a concluding statement or section that follows from the information or explanation presented in W 2. (6 W 2f)

6 W 3. **Write narratives** to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. (6 W 3)

6 W 3a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. (6 W 3a)

6 W 3b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. (6 W 3b)

6 W 3c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. (6 W 3c)

6 W 3d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. (6 W 3d)

6 W 3e. Provide a conclusion that follows from the narrated experiences or events. (6 W 3e)

Production and Distribution of Writing

6 W 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) (6 W 4)

6 W 5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 6.) (6 W 5)

6 W 6. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. (6 W 6)

Research to Build and Present Knowledge

6 W 7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. (6 W 7)

6 W 8. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. (6 W 8)

6 W 9. Draw evidence from literary or informational texts to support analysis, reflection, and research. (6 W 9)

6 W 9a. Apply *grade 6 Reading standards* to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics"). (6 W 9a)

6 W 9b. Apply *grade 6 Reading standards* to literary nonfiction (e.g., "Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not"). (6 W 9b)

6 W 9c. Apply *grade level Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]").(5 W 9b)

6 W 9d. Apply grade level Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text"). (4 W 9b)

Range of Writing

6 W 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Speaking and Listening

Comprehension and Collaboration

6 SL 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 6 topics, texts, and issues*, building on others' ideas and expressing their own clearly. (6 SL 1)

6 SL 1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. (6 SL 1a)

6 SL 1b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. (6 SL 1b)

6 SL 1c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. (6 SL 1 c)

6 SL 1d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. (6 SL 1d)

6 SL 2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. (6 SL 2)

6 SL 3. Identify and delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. (6 SL 3) (4 SL 3)

Presentation of Knowledge and Ideas

6 SL 4. Present claims and findings **(e.g., argument, narrative, informative, response to literature presentations)**, sequencing ideas logically and using pertinent descriptions, facts, and details **and nonverbal elements** to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.**CA** (6 SL 4)

6 SL 4a. **Plan and deliver an opinion speech that: states an opinion, logically sequences evidence to support the speaker's position, uses transition words to effectively link opinions and evidence (e.g., consequently and therefore), and provides a concluding statement related to the speaker's position. CA** (5 SL 4a)

6 SL 4b. **Plan and deliver an informative/explanatory presentation that: develops a topic with relevant facts, definitions, and concrete details; uses appropriate transitions to clarify relationships; uses precise language and domain specific vocabulary; and provides a strong conclusion. CA** (6 SL 4a)

6 SL 5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information. (6 SL 5)

6 SL 6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 for specific expectations.) (6 SL 6)

Language

Conventions of Standard English

6 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6 L 1)

6 L 1a. Ensure that pronouns are in the proper case (subjective, objective, possessive). (6 L 1a)

6 L 1b. Use **all pronouns, including** intensive pronouns (e.g., *myself, ourselves*) **correctly. CA** (6 L 1b)

6 L 1c. Use **interrogative**, relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why.) **CA** (4 L 1a)

6 L 1d. Recognize and correct inappropriate shifts in pronoun number and person. (6 L 1c)

6 L 1e. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents). (6 L 1d)

6 L 1f. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions. (4 L 1c)

6 L 1g. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. (5 L 1a)

6 L 1h. Use correlative conjunctions (e.g., either/or, neither/nor). (5 L 1e)

6 L 1i. Form and use the perfect (e.g., I had walked; I have walked; I will have walked) verb tenses. (5 L 1b)

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6 L 1j. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons. (4 L 1f)

6 L 1k. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language. (6 L 1e)

6 L 2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (6 L 2)

6 L 2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements. (6 L 2a)

6 L 2b. Spell correctly. (6 L 2b)

Knowledge of Language

6 L 3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. (6 L 3)

6 L 3a. Vary sentence patterns for meaning, reader/ listener interest, and style. (6 L 3a)

6 L 3b. Maintain consistency in style and tone. (6 L 3b)

6 L 3c. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems. (5 L 3b)

Vocabulary Acquisition and Use

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. (6 L 4)

6 L 4a. 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. (6 L 4a)

6 L 4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience, auditory, audible*). (6 L 4b)(5 L 4b)

6 L 4c. 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 its part of speech. (6 L 4c)

6 L 4d. 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). (6 L 4d)

6 L 5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. (6 L 5)

6 L 5a. Interpret figurative language, including similes and metaphors, in context. (5 L 5a)

6 L5 b. Interpret figures of speech (e.g., personification) in context. (6 L 5a)

6 L 5c. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words. (6 L 5b)

6 L 5d. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *stingy, scrimping, economical, unwasteful, thrifty*). (6 L 5c)

6 L 6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. (6 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade Seven

Reading Literature

Key Ideas and Details

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 RL1) (6 RL 1)

7 RL 2. Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text. (7 RL 2)

7 RL 3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot). (7 RL 3)

Craft and Structure

7 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 rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama. **(See grade 7 Language standards 4–6 for additional expectations.) CA** (7 RL 4)

7 RL 5. Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning. (7 RL 5)

7 RL 6. Analyze how an author develops and contrasts the points of view of different characters or narrators in a text. (7 RL 6)

Integration of Knowledge and Ideas

7 RL 7. Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history. (7 RL 9)

7 RL 8. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g. graphic novel, multimedia presentation of fiction, folktale, myth, or poem).

Range of Reading and Level of Text Complexity

7 RL 9. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range. (7 RL 10)

Reading Informational Texts

Key Ideas and Details

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. (7 RI 1) (6 RL 1)

7 RI 2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text. (7 RI 2)

7 RI 3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events). (7 RI 3)

Craft and Structure

7 RI 4. 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. **(CA--See grade 7 Language standards 4–6 for additional expectations.)** (7 RI 4)

7 RI 5 **Analyze the use of text features (e.g., graphics, headers, captions) in popular media. CA (**6 RI 5a)

Integration of Knowledge and Ideas

7 RI 6. Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words). (7 RI 7)

7 RI 7. Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. (6 RI 8)

Range of Reading and Level of Text Complexity

7 RI 8. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range. (7 RI 10)

Writing

Text Types and Purposes

7 W 1. **Write arguments** to support claims with clear reasons and relevant evidence. (7 W 1)

7 W 1a. Introduce claim(s), acknowledge **and address** alternate or opposing claims, and organize the reasons and evidence logically. **CA** (7 W 1a)

7 W 1b. Support claim(s) **or counterarguments** with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. **CA** (7 W 1b)

7W 1c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. (7 W 1c)

7 W 1 d. Establish and maintain a formal style. (7 W 1d)

7 W 1e. Provide a concluding statement or section that follows from and supports the argument presented. (7 W 1e)

7 W 2. **Write *informative/explanatory texts*** to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (7 W 2)

7 W 2b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. (7 W 2b)

7 W 2c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. (7 W 2c)

7 W 2d. Use precise language and domain-specific vocabulary to inform about or explain the topic. (7 W 2d)

7 W 2e. Establish and maintain a formal style. (7 W 2e)

7 W 2f. Provide a concluding statement or section that follows from and supports the information or explanation presented. (7 W 2f)

7 W 3. **Write *narratives*** to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. (7 W 3)

7 W 3a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. (7 W 3a)

7 W 3b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. (7 W 3b)

7 W 3c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. (7 W 3c)

7 W 3d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. (7 W 3d)

7 W 3e. Provide a conclusion that follows from and reflects on the narrated experiences or events. (7 W 3e)

Production and Distribution of Writing

7 W 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) (7 W 4)

7 W 5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 7.) (7 W 5)

7 W 6. Use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. (6 W 6)

Research to Build and Present Knowledge

7 W 7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation. (7 W 7)

7 W 8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. (7 W 8)(6 W 8)

7 W 9. Draw evidence from literary or informational texts to support analysis, reflection, and research. (7 W 9)

7 W 9a. Apply *grade 7 Reading standards* to literature (e.g., "Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history"). (7W 9a)

7 W 9b. Apply *grade 7 Reading standards* to literary nonfiction (e.g. "Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims"). (7 W 9b)

Range of Writing

7 W 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (7 W 10)

Speaking and Listening

Comprehension and Collaboration

7 SL 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 7 topics, texts, and issues,* building on others' ideas and expressing their own clearly. (7 SL 1)

7 SL 1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. (7 SL 1a)

7 SL 1b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. (7 SL 1b)

7 SL 1c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. (7 SL 1c)

7 SL 1d. Acknowledge new information expressed by others and, when warranted, modify their own views. (7 SL 1d)

7 SL 1e. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims thAt are not. (6 SL 3)

7 SL 1f. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. (6 SL 2)

Presentation of Knowledge and Ideas

7 SL 2. Present claims and findings **(e.g., argument, narrative, summary presentations),** emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. **CA** (7 SL 4)

7 SL 3. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information. (6 SL 5)

7 SL 4. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 for specific expectations.) (7 SL 6)

Language

Conventions of Standard English

7 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (7 L 1)

7 L 1a. Explain the function of phrases and clauses in general and their function in specific sentences. (7 L 1a)

7 L 1b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. (7 L 1b)

7 L 1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers. (7 L 1c)

7 L 2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (7 L 2)

7 L 2a. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*). (7 L 2a)

7 L 2b. Spell correctly. (7 L 2b)

Knowledge of Language

7 L 3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. (7 L 3)

7 L 3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy. (7 L 3a)

Vocabulary Acquisition and Use

7 L 4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies. (7 L 4)

7 L 4a. 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. (7 L 4a)

7 L 4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent, bellicose, rebel*). (7 L 4b)

7 L 4c. 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 or its part of speech **or trace the etymology of words**. **CA** (7 L 4c) (6 L 4c)

7 L 4d. 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). (7 L 4d)

7 L 5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. (7 L 5)

7 L 5a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context. (7 L 5a)

7 L 5b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words. (7 L 5b)

7 L 5c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined, respectful, polite, diplomatic, condescending*). (7 L 5c)

7 L 6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. (7 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

English Language Arts
Grade Eight

Reading Literature

Key Ideas and Details

8 RL 1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. (8 RL 1)

8 RL 2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text. (8 RL 2)

8 RL 3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision. (8 RL 3)

Craft and Structure

8 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 specific word choices on meaning and tone, including analogies or allusions to other texts. **(See grade 8 Language standards 4–6 for additional expectations.) CA** (8 RL 4)

8 RL 5. Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style. (8 RL 5)

8 RL 6. Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor. (8 RL 6)

Integration of Knowledge and Ideas

8 RL 7. Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors. (8 RL 7)

8 RL 7a. Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film). (7 RL 7)

8 RL 8. Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new. (8 RL 9)

Range of Reading and Level of Text Complexity

8 RL 9. By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently. (8 RL 10)

Reading Informational Texts

Key Ideas and Details

8 RI 1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. (8 RI 1)

8 RI 2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text. (8 RI 2)

8 RI 3. Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories). (8 RI 3)

Craft and Structure

8 RI 4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts. **(See grade 8 Language standards 4–6 for additional expectations.) CA** (8 RI 4)

8 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. (7 RI 5)

8 RI 5a. Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept. (8 RI 5)

8 **RI 5b. Analyze the use of text features (e.g., graphics, headers, captions) in consumer materials and public documents. CA** (8 RI 5a)(7 RI 5a)

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. (8 RI 6) (7 RI 6)

Integration of Knowledge and Ideas

8 RI 7. Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea. (8 RI 7)

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 to support the claims; recognize when irrelevant evidence is introduced. (8 RI 8) (7 RI 8)

8 RI 9. Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation. (8 RI 9)

8 RI 9a. Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.

Range of Reading and Level of Text Complexity

8 RI 10. By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently. (8 RI 10)

Writing

Text Types and Purposes

8 W 1. **Write arguments** to support claims with clear reasons and relevant evidence. (8 W 1)

8 W 1a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. (8 W 1a)

8 W 1b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. (8 W 1b)

8 W 1c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. (8 W 1c)

8 W 1 d. Establish and maintain a formal style. (8 W 1d)

8 W 1e. Provide a concluding statement or section that follows from and supports the argument presented. (8 W 1e)

8 W 2. **Write informative/explanatory texts**, **including career development documents (e.g., simple business letters and job applications),** to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. **CA** (8 W 2)

8 W 2a. Introduce a topic **or thesis statement** 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. **CA** (7 W 2a)

8 W 2b. Introduce a topic **or thesis statement** clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. **CA** (8 W 2a)

8 W 2c. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. (8 W 2b)

8 W 2d. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. (8 W 2c)

8 W 2e. Use precise language and domain-specific vocabulary to inform about or explain the topic. (8 W 2d)

8 W 2f. Establish and maintain a formal style. (8 W 2e)

8 W 2g. Provide a concluding statement or section that follows from and supports the information or explanation presented. (8 W 2f)

8 W 3. **Write narratives** to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. (8 W 3)

8 W 3a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. (8 W 3a)

8 W 3b. Use narrative techniques, such as dialogue, pacing, description, and reflection to develop experiences, events, and/or characters. (8 W 3b)

8 W 3c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events. (8 W 3c)

8 W 3d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. (8 W 3d)

8 W 3e. Provide a conclusion that follows from and reflects on the narrated experiences or events. (8 W 3e)

Production and Distribution of Writing

8 W 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) (8 W 4)

8 W 5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 8.) (8 W 5)

8 W 6. Use technology, including the Internet, to produce and publish writing, linking to and citing sources, and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. (8 W 6) (7 W 6)

Research to Build and Present Knowledge

8 W 7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. (8 W 7)

8 W 8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. (8 W 8) (7 W 8)

8 W 9. Draw evidence from literary or informational texts to support analysis, reflection, and research. (8 W 9)

8 W 9a. Apply *grade 8 Reading standards* to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new"). (8 W 9a)

8 W 9b. Apply *grade 8 Reading standards* to literary nonfiction (e.g., "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"). (8 W 9b)

Range of Writing

8 W 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (8 W 10)

Speaking and Listening

Comprehension and Collaboration

8 SL 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 8 topics, texts, and issues,* building on others' ideas and expressing their own clearly. (8 SL 1)

8 SL 1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. (8 SL 1a)

8 SL 1b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. (8 SL 1b)

8 SL 1c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. (8 SL 1c)

8 SL 1d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. (8 SL 1d)

8 SL 2. Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study. (7 SL 2)

8 SL 2a. Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation. (8 SL 2)

8 SL 3. Delineate a speaker's argument and specific claims, **and attitude towards the subject**, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced. **CA** (8 SL 3) (7 SL 3)

Presentation of Knowledge and Ideas

8 SL 4. Present claims and findings **(e.g., argument, narrative, response to literature presentations)**, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. **CA** (8 SL 4)

8 SL 4a. **Plan and present a narrative that: establishes a context and point of view, presents a logical sequence, uses narrative techniques (e.g., dialogue, pacing, description, sensory language), uses a variety of transitions, and provides a conclusion that reflects the experience. CA** (8 SL 4a)

8 SL 4b. **Plan and present an argument that: supports a claim, acknowledges counterarguments, organizes evidence logically, uses words and phrases to create cohesion, and provides a concluding statement that supports the argument presented. CA** (7 SL 4a)

8 SL 5. Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. (8 SL 5) (7 SL 5)

8 SL 6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 for specific expectations.) (8 SL 6)

Language

Conventions of Standard English

8 L 1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (8 L 1)

8 L 1a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. (8 L 1a)

8 L 1b. Form and use verbs in the active and passive voice. (8 L 1b)

8 L 1c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. (8 L 1c)

8 L 1d. Recognize and correct inappropriate shifts in verb voice and mood. (8 L 1d)

8 L 2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (8 L 2)

8 L 2a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break. (8 L 2a)

8 L 2b. Use an ellipsis to indicate an omission. (8 L 2b)

8 L 2c. Spell correctly. (8 L 2c)

Knowledge of Language

8 L 3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. (8 L 3)

8 L 3a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact). (8 L 3a)

Vocabulary Acquisition and Use

8 L 4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies. (8 L 4)

8 L 4a. 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. (8 L 4a)

8 L 4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede, recede, secede*). (8 L 4b)

8 L 4c. 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 or its part of speech **or trace the etymology of words**. **CA** (8 L 4c)

8 L 4d. 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). (8 L 4d)

8 L 5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. (8 L 5)

8 L 5a. Interpret figures of speech (e.g. verbal irony, puns) in context. (8 L 5a)

8 L 5b. Use the relationship between particular words to better understand each of the words. (8 L 5b)

8 L 5c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *bullheaded, willful, firm, persistent, resolute*). (8 L 5c)

8 L 6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. (8 L 6)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

Literacy in History/Social Studies, Science, and Technical Subjects Grades 6-8

Reading in History/Social Studies

Key Ideas and Details

RHSS 1. Cite specific textual evidence to support analysis of primary and secondary sources.

RHSS 2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RHSS 3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

Craft and Structure

RHSS 4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RHSS 5. Describe how a text presents information (e.g., sequentially, comparatively, causally).

RHSS 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).

Integration of Knowledge and Ideas

RHSS 7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RHSS 8. Distinguish among fact, opinion, and reasoned judgment in a text.

RHSS 9. Analyze the relationship between a primary and secondary source on the same topic.

Range of Reading and Level of Text Complexity

RHSS 10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.

Reading in Science and Technical Subjects

Key Ideas and Details

RST 1. Cite specific textual evidence to support analysis of science and technical texts.

RST 2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

RST 3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Craft and Structure

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 6–8 texts and topics.*

RST 5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

RST 6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

Integration of Knowledge and Ideas

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).

RST 8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

RST 9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

Range of Reading and Level of Text Complexity

RST 10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

Writing in History/Social Studies, Science, and Technical Subjects

Text Types and Purposes

W HSST 1. Write arguments focused on *discipline-specific content*.

a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.

b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.

c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, 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 HSST 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.

c. Use appropriate and varied 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 and objective tone.

f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

W HSST 3. See Note, below. (Not applicable as a separate requirement.)

Production and Distribution of Writing

W HSST 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

W HSST 5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W HSST 6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

Research to Build and Present Knowledge

W HSST 7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

W HSST 8. Gather relevant information from multiple print and digital sources **(primary and secondary),** using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. **CA**

W HSST 9. Draw evidence from informational texts to support analysis reflection, and research.

Range of Writing

W HSST 10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Note on Narrative Writing (W3): Students' narrative skills continue to grow in these grades. The Literacy Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results. *(Note from the Common Core Literacy Standards)*

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards In a Waldorf-Inspired Public School Program

Mathematics

Recommendations for
Kindergarten through Grade Eight

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

Mathematics
Kindergarten

Counting and Cardinality

Count to tell the number of objects.

K CC 1. Understand the relationship between numbers and quantities; connect counting to cardinality. (K CC 4)

K CC 1a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. (K CC 4a)

K CC 1b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. (K CC 4b)

K CC 1c. Understand that each successive number name refers to a quantity that is one larger. (K CC 4c)

Note:

1.Numbers, counting, and shapes are incorporated in the activities of the Waldorf Kindergarten. These activities provide a rich experiential foundation for the explicit learning to come in the grades that follow.

2. The Common Core standards indicate when students are to have achieved the standards: they are indicators of individual student achievements. They do not indicate when the content of the standards is initially introduced and taught to the students: They are not curriculum or instructional standards. Content may be taught and developed over a number of years. The Common Core standard placement indicates when the students are expected to have attained the standard.

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

Mathematics
Grade 1

Counting and Cardinality

Know number names and the count sequence.

1 CC 1. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). (K CC 3)

1 CC 2. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. (K CC 5)

Compare numbers.

1 CC 3. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (K CC 6)

1 CC 4. Compare two numbers between 1 and 10 presented as written numerals. (K CC 7)

Operations and Algebraic Thinking

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

1 OAT 1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (K OAT 1)

1 OAT 2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. (K OAT 2)

1 OAT 3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). (K OAT 3)

1 OAT 4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. (K OAT 4)0

1 OAT 5. Fluently add and subtract within 5. (K OAT 5)

Add and subtract within 20.

1 OAT 6. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). (1 OAT 5)

1 OAT 7. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. (1 OAT 6)

Use strategies such as

- counting on;
- making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9);
- using the relationship between addition and subtraction (e.g., knowing that if 8 + 4 = 12, one knows 12 – 8 = 4);
- and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Work with addition and subtraction equations.

1 OAT 8. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. (1 OAT 7)

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.

Number and Operations in Base Ten

Extend the counting sequence.

1 NOBT 1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. (1 NOBT 1)

Measurement and Data

Describe and compare measurable attributes.

1 MD 1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K MD 1)

1 MD 2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. (K MD 2)

Classify objects and count the number of objects in each category.

1 MD 3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (K MD 3)

Measure lengths indirectly and by iterating length units.

1 MD 4. Order three objects by length; compare the lengths of two objects indirectly by using a third object. (1 MD 1)

Geometry

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1 G 1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. (K G 1)

1 G 2. Correctly name shapes regardless of their orientations or overall size. (K G 2)

1 G 3. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. (K G 5)

Alliance for Public Waldorf Education
Recommended Grade Level Placements of Common Core Standards
In a Waldorf-Inspired Public School Program

Mathematics
Grade 2

Counting and Cardinality

Know number names and the count sequence.

2 CC 1. Count forward beginning from a given number within the known sequence (instead of having to begin at 1) (K CC 2)

Operations and Algebraic Thinking

Represent and solve problems involving addition and subtraction.

2 OAT 1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (1 OAT 1)

2 OAT 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. (1 OAT 2)

Understand and apply properties of operations and the relationship between addition and subtraction

2 OAT 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.) (! OAT 3)

2 OAT 4. Understand subtraction as an unknown-addend problem.
For example, subtract 10 – 8 by finding the number that makes 10 when added to 8. (1 OAT 4)

Add and subtract within 20.

2 OAT 5. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. (2 OAT 2)

Work with equal groups of objects to gain foundations for multiplication.

2 OAT 6. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. (2 OAT 3)

2 OAT 7. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. (2 OAT 4)

Work with addition and subtraction equations.

2 OAT 8. 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. (1 OAT 7)

2 OAT 8.1 Write and solve number sentences from problem situations that express relationships involving addition and subtraction within 20. (1 OAT 7.1)

2 OAT 9. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.
For example, determine the unknown number that makes the equation true in each of the equations 8 + ☐ = 11, 5 = ☐ – 3, 6 + 6 = ☐ (1 OAT 8)

Number and Operations in Base Ten

Work with numbers 11-19 to gain foundations for place value.

2 NOBT 1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.(K NOBT 1)

Understand place value.

2 NOBT 2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

2a. 10 can be thought of as a bundle of ten ones — called a “ten.”

2b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

2c. 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 NOBT 2, 2a, 2b, 2c)

2 NOBT 3. 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:

3a. 100 can be thought of as a bundle of ten tens — called a "hundred."

3b. 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). (2 NOBT 1)

2 NOBT 4. Count within 1000; skip-count by **2s**, 5s, 10s, and 100s. **CA** (2 NOBT 2)

2 NOBT 5. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. (2 NOBT 3)

2 NOBT 6. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. (2NOBT 4)

Use place value understanding and properties of operations to add and subtract.

2 NOBT 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. (2 NOBT 7)

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.

2 NOBT 8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. (2 NOBT 8)

2 NOBT 9. Explain why addition and subtraction strategies work, using place value and the properties of operations. (2 NOBT 9)

Measurement and Data

Relate addition and subtraction to length.

MD 1. 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. (2 MD 6)

Geometry

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

2 G 3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). (K G 3)

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Mathematics
Grade 3

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

3 OAT 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. (2 OAT 1) (Foundational)

3 OAT 2. Interpret products of whole numbers, e.g., interpret 5 × 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 × 7. (3 OAT 1)

3 OAT 3. 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. (3 OAT 2)

3 OAT 4. 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 OAT 3)

3 OAT 5. 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 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?. (3 OAY 4)

Understand properties of multiplication and the relationship between multiplication and division.

3 OAT 6. Apply properties of operations as strategies to multiply and divide.

Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that

8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.) (Students need not use formal terms for these properties (CC) (3 OAT 5)

3 OAT 7. Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8*. (3 OAT 6)

Multiply and divide within 100.

3 OAT 8. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 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. (3 OAT 7)

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3 OAT 9. 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 OAT 8)

3 OAT 10. 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*. (3 OAT 9)

Number and Operations in Base Ten

Understand place value.

3 NOBT 1. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. (1 NOBT 3)

Use place value understanding and properties of operations to perform multi-digit arithmetic.

3 NOBT 2. Use place value understanding to round whole numbers to the nearest 10 or 100. (3 NOBT 1)

3 NOBT 3. 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. (Grade 2)

Relate the strategy to a written method and explain the reasoning used. (Grade 3)

Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. (Grade 2) (1 NOBT 4)

3 NOBT 4. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. (2 NOBT 5)

3 NOBT 5. Add up to four two-digit numbers using strategies based on place value and properties of operations. (2 NOBT 6)

3 NOBT 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. (1 NOBT 6)

3 NOBT 7. 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. (3 NOBT 2)

3 NOBT 8. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations. (3NOBT 3)

3 NOBT 9. **Use estimation strategies to make reasonable estimates in problem solving. CA** (2 NOBT 7.1)

Measurement and Data

Measure and estimate lengths in standard units.

3 MD 1. 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 2)

3 MD 2. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. (2 MD 1)

3 MD 3. 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 2)

3 MD 4. Estimate lengths using units of inches, feet, centimeters, and meters. (2 MD 3)

3 MD 5. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit (2 MD 4)

Solve problems involving measurement and estimation of intervals of time and amounts of money.

3 MD 6. Using analog and digital clocks, tell and write time, to the nearest minute, and measure time intervals in minutes and hours, using a.m. and p.m.

Know relationships of time (e.g., minutes in an hour, days in a month, weeks in a year). CA.

Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. (3 MD 1) (1 MD 3)

3 MD 7. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

3 MD 8. 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. (1 MD 4)

3 MD 9. 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*. (3 MD 3)

3 MD 10. Generate measurement data by measuring lengths using rulers 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 4)

Geometry

Analyze, compare, create, and compose shapes.

3 G 1. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). (K G 4)

3 G 2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. (2 G 2)

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Mathematics
Grade 4

Operations and Algebraic Thinking

Use the four operations with whole numbers to solve problems.

4 OAT 1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 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. (4 OAT 1)

4 OAT 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 OAT 2)

4 OAT 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 OAT 3)

Gain familiarity with factors and multiples.

4 OAT 4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. 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 OAT 4)

Generate and analyze patterns.

4 OAT 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. (4 OAT 5)

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.

Number and Operations in Base Ten

Generalize place value understanding for multi-digit whole numbers.

4 NOBT 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 ÷ 70 = 10 by applying concepts of place value and division*. (4 NOBT 1*)*

4 NOBT 2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. (4 NOBT 2)

4 NOBT 3. Use place value understanding to round multi-digit whole numbers to any place. (4 NOBT 3)

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4 NOBT 4. Fluently add and subtract multi-digit whole numbers using the standard algorithm. (4 NOBT 4)

4 NOBT 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. (4 NOBT 5)

4 NOBT 6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (4 NOBT 6)

Number and Operations—Fractions

(Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.) (CC)

Develop understanding of fractions as numbers.

4 NOF 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*. (3 NOF 1)

4 NOF 2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. (3 NOF 2)

4 NOF 2a. 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. (3 NOF 2a)

4 NOF 2b. 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 NOF 2b)

4 NOF 3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. (3 NOF 3)

4 NOF 3a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. (3 NOF 3a)

4 NOF 3b. 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. (3 NOF 3b)

4 NOF 3c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. (3 NOF 3c)

4 NOF 3d. 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. (3 NOF 3d)

Extend understanding of fraction equivalence and ordering.

4 NOF 4. 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. (4 NOF 1)

4 NOF 5. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. (4 NOF 2)

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

4 NOF 6. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. (4 NOF 3)

4 NOF 6a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. (4 NOF 3a)

4 NOF 6b. 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. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8*. (4 NOF 3b)

4 NOF 6c. 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. (4 NOF 3c)

4 NOF 6d. 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. (4 NOF 3d)

4 NOF 7. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. (4 NOF 4)

4 NOF 7a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4*). (4 NOF 4a)

4 NOF 7b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* (4 NOF 4b)

4 NOF 7c. 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. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? (4 NOF 4c)

Measurement and Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

4 MD 1. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4 MD 2)

4 MD 2. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. (4 MD 3)

Represent and interpret data.

4 MD 3. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.

For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection. (4 MD 4)

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

4 MD 4. Recognize area as an attribute of plane figures and understand concepts of area measurement. (3 MD 5)

4 MD 4a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. (3 MD 5a)

4 MD 4b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units. (3 MD 5b)

4 MD 5. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). (3 MD 6)

4 MD 6. Relate area to the operations of multiplication and addition. (3 MD 7)

4 MD 6a. 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. (3 MD 7a)

4 MD 6b. 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. (3 MD 7b)

4 MD 6c. 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 × b and a × c. Use area models to represent the distributive property in mathematical reasoning. (3 MD 7c)

4 MD 6d. 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. (3 MD 7d)

Geometry

Reason with shapes and their attributes.

4 G 1. 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 1/4 of the area of the shape. (3 G 2)

4 G 2. 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. (2 G 3) (1 G 3)

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Mathematics
Grade 5

Operations and Algebraic Thinking

Write and interpret numerical expressions.

5 OAT 1. **Express a whole number in the range 2–50 as a product of its prime factors. For example, find the prime factors of 24 and express 24 as 2x2x2x3. CA** (5 OAT 2.1)

Analyze patterns and relationships.

5 OAT 2. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.
(5 OAT 3)

Number and Operations in Base Ten

Understand the place value system.

5 NOBT 1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. (5 NOBT 1)

5 NOBT 2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5 NOBT 2)

5 NOBT 3. Read, write, and compare decimals to thousandths.

a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).

b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. (5 NOBT 3)

5 NOBT 4. Use place value understanding to round multi-digit whole numbers to any place. (5 NOBT 4)

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5 NOBT 5. Fluently multiply multi-digit whole numbers using the standard algorithm. (5 NOBT 5)

5 NOBT 6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (5 NOBT 6)

5 NOBT 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. (5 NOBT 7)

Number and Operations—Fractions

Use equivalent fractions as a strategy to add and subtract fractions.

5 NOF 1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. (5 NOF 1)

For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12.
(In general, a/b + c/d = (ad + bc)/bd.)

5 NOF 2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. (5 NOF 2)

For example, recognize an incorrect result 2/5 + 1/2 = 3/7,
by observing that 3/7 < 1/2.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

5 NOF 3. 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. (4 NOF 3c)

5 NOF 4. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as 6/5. (In general, $n \times (a/b) = (n \times a)/b$.* (4 NOF 4b)

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

5 NOF 5. 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. (5 NOF 3)

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 NOF 6. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. (5 NOF 4)

5 NOF 7. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. (5 NOF 4a)

For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$.
(In general, $(a/b) \times (c/d) = ac/bd$.).

5 NOF 8. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. (5 NOF 4b)

5 NOF 9. Interpret multiplication as scaling (resizing), by:

8a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

8b. 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 $a/b = (n \times a)/(n\ b)$ to the effect of multiplying a/b by 1.
(5 NOF 5)

5 NOF 10. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
(5 NOF 6)

5 NOF 11. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (5 NOF 7)

5 NOF 12a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. (5 NOF 7a)

For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.

5 NOF 12b. Interpret division of a whole number by a unit fraction, and compute such quotients. (5 NOF 7b)

For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.

5 NOF 12c. 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. (5 NOF 7c)

For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?

5 NOF 13. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100 (5 NOF 8)*

Note: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade. (CC)

Understand decimal notation for fractions, and compare decimal fractions.

5 NOF 14. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. (5 NOF 9)*

5 NOF 15. 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 **the number line or another** visual model. **CA** (5 NOF 10)

5 NOF 16. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.* (4 NOF 5)

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5 NOF 17. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. (4 NOF 6)*

5 NOF 18. 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 **the number line or another** visual model. **CA** (4 NOF 7)

Measurement and Data

Convert like measurement units within a given measurement system.

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. (5 MD 1)

5 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. (3 MD 2)

Represent and interpret data.

5 MD 3. 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. (5 MD 2)

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

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

5 MD 4. 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. (3 MD 8)

Geometric measurement: understand concepts of angle and measure angles.

5 MD 5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.

b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees
(4 MD 5)

Geometry

Reason with shapes and their attributes.

5 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. (2 G 1)

5 G 2. 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 1)

Classify two-dimensional figures into categories based on their properties.

5 G 3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. (5 G 3)

For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

5 G 4. Classify two-dimensional figures in a hierarchy based on properties. (5 G 4)

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Mathematics
Grade 6

Ratios and Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems.

6 RPR 1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. (6 RPR 1)

For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."

6 RPR 3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. (6 RPR 3)

6 RPR 3b. Solve unit rate problems including those involving unit pricing and constant speed. (6 RPR 3b)

For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?

6 RPR 3c. 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. (6 RPR 3c)

6 RPR 3d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. (6 RPR 3d)

The Number System

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

6 NS 1. 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. (6 NS 1)

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 1/2 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 1/2 square mi?

Compute fluently with multi-digit numbers and find common factors and multiples.

6 NS 2. Fluently divide multi-digit numbers using the standard algorithm. (6 NS 2)

6 NS 3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. (6 NS 3)

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. (6 NS 4)

For example, express 36 + 8 as 4 (9 + 2).

Apply and extend previous understandings of numbers to the system of rational numbers.

6 NS 7d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars*. (6 NS 7d)

Measurement and Data

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

6 MD 1. 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 × b and a × c. Use area models to represent the distributive property in mathematical reasoning. (3 MD 7c)

Geometric measurement: understand concepts of angle and measure angles.

6 MD 6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. (4 MD 6)

6 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. (4 MD 7)

Geometry

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

6 G 1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. (4 G 1)

6 G. 2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles**. (Two dimensional shapes should include special triangles, e.g., equilateral, isosceles, scalene, and special quadrilaterals, e.g., rhombus, square, rectangle, parallelogram, trapezoid.) CA** (4 G 2)

6 G 3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. (4 G 3)

Statistics and Probability

Develop understanding of statistical variability.

6 SP 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. (6 SP 1)

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Mathematics
Grade 7

Operations and Algebraic Thinking

Write and interpret numerical expressions.

7 OAT 1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. (5 OAT 1)

7 OAT 2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. (5 OAT 2)

For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.

Ratios and Proportional Relationships

Analyze proportional relationships and use them to solve real-world and mathematical problems.

7 RPR 1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. (7 RPR 1)

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.

The Number System

Apply and extend previous understandings of numbers to the system of rational numbers.

7 NS 1. 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 5)

7 NS 2. 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. (6 NS 6)

7 NS 2a. 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. (6 NS 6a)

7 NS 2b. 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. (6 NS 6b(

7 NS 2c. 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 6c)

7 NS 3. Understand ordering and absolute value of rational numbers. (6 NS 7)

7 NS 3a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right.* (6 NS 7a*)*

7 NS 3b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write –3°C > –7°C to express the fact that –3°C is warmer than –7°C.* (6 NS 7b)

7 NS 3c. 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. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars*. (6 NS 7c)

7 NS 4. 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. (6 NS 8)

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

7 NS 5. 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. (7 NS 1)

7 NS 5a. Describe situations in which opposite quantities combine to make 0. (1 NS 1a)
For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.

7 NS 5b. 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. (7 NS 1b)

7 NS 5c. 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. (7 NS 1c)

7 NS 5d. Apply properties of operations as strategies to add and subtract rational numbers. (7 NS 1d)

7 NS 6. Solve real-world and mathematical problems involving the four operations with rational numbers. (7 NS 3)

Expressions and Equations

Apply and extend previous understandings of arithmetic to algebraic expressions.

7 EE 1. Write and evaluate numerical expressions involving whole-number exponents. (6 EE 1)

7 EE 2. Write, read, and evaluate expressions in which letters stand for numbers. (6 EE 2)

7 EE 2a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.* (6 EE 2a)

7 EE 2b. 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.

For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms. (6 EE 2b)

7 EE 2c. 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 2c)

For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.

7 EE 3. Apply the properties of operations to generate equivalent expressions. (6 EE 3)

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.

7 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). (6 EE 4)

For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.

Reason about and solve one-variable equations and inequalities.

7 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. (6 EE 5)

7 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. (6 EE 6)

7 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. (6 EE 7)

7 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. (6 EE 8)

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

7 EE 9. 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. (7 EE 4a)

For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?

Geometry

Graph points on the coordinate plane to solve real-world and mathematical problems.

7 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). (5 G 1)

7 G 2. 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 2)

Draw, construct, and describe geometrical figures and describe the relationships between them.

7 G 3. 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. (7 G 1)

7 G 4. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. (7 G 2)

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

7 G 5. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6 G 1)

7 G 6. 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. (7 G 4)

7 G 7. 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. (7 G 5)

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Mathematics
Grade 8

Ratios and Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems.

8 RPR 1. Understand the concept of a unit rate *a*/*b* associated with a ratio *a:b* with $b \neq 0$, and use rate language in the context of a ratio relationship. (6 RPR 2)

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."

8 RPR 2. 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. (6 RPR 3a)

Analyze proportional relationships and use them to solve real-world and mathematical problems.

8 RPR 3. Recognize and represent proportional relationships between quantities. (7 RPR 2)

8 RPR 3a. 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. (7 RPR 2a)

8 RPR 3b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. (7 RPR 2b)

8 RPR 3c. Represent proportional relationships by equations.

For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn. (7 RPR 2c)

8 RPR 3d. 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. (7 RPR 2d)

8 RPR 4. Use proportional relationships to solve multistep ratio and percent problems. (7 RPR 3)

Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

The Number System

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

8 NS 1. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. (7 NS 2)

8 NS 1a. 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. (7 NS 2a)

8 NS 1b. 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. (7 NS 2b)

8 NS 1c. Apply properties of operations as strategies to multiply and divide rational numbers. (7 NS 2c)

8 NS 1d. 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. (7 NS 2d)

Know that there are numbers that are not rational, and approximate them by rational numbers.

8 NS 2. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. (8 NS 1)

8 NS 3. 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., π2). (8 NS 2)

For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.

Expressions and Equations

Represent and analyze quantitative relationships between dependent and independent variables.

8 EE 1. 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 9)

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.

Use properties of operations to generate equivalent expressions.

8 EE 2. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. (7 EE 1)

8 EE 3. 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. (7 EE 2)

For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

8 EE 4. 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. (7 EE 3)

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 $27.50. If you want to place a towel bar 9 3/4 inches long in the 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 5. 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. (7 EE 4)

8 EE 5a. 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. (7 EE 4b)

For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.

***Work with radicals and integer exponents*.**

8 EE 6. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. *(8 EE 1)*

8 EE 7. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational. (8 EE 2)

8 EE 8. 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. (8 EE 3)

For example, estimate the population of the United States as 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.*

8 EE 9. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. (8 EE4)

Understand the connections between proportional relationships, lines, and linear equations.

8 EE 10. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. (8 EE 5)

For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

8 EE 11. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b. (8 EE 6)

Analyze and solve linear equations and pairs of simultaneous linear equations.

8 EE 12.Solve linear equations in one variable. (8 EE 7)

a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8 EE 13. Analyze and solve pairs of simultaneous linear equations. (8 EE 8)

a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.*

c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Functions

Define, evaluate, and compare functions.

8 F 1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (8 F 1)

8 F 2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). (8 F 2)

For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.

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. (8 F 3)

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.

Use functions to model relationships between quantities.

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. (8 F 4)

8 F 5. 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. (8 F 5)

Measurement and Data

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

8 MD 1. Recognize volume as an attribute of solid figures and understand concepts of volume measurement. (5 MD 3)

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.

8 MD 2**.** Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. (5 MD 4)

8 MD 3. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. (5 MD 5)

8 MD 3a. 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. (5 MD 5a)

8 MD 3b. 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. (5 MD 5b)

8 MD 3c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. (5 MD 5c)

Geometry

Draw, construct, and describe geometrical figures and describe the relationships between them.

8 G 1. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. (7 G 3)

Solve real-world and mathematical problems involving area, surface area, and volume.

8 G 2. 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. (7 G 6)

8 G 3. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l\ w\ h$ and $V = b\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. (6 G 2)

8 G 4. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. (6 G 3)

8 G 5. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. (6 G 4)

Understand congruence and similarity using physical models, transparencies, or geometry software.

8 G 6. Verify experimentally the properties of rotations, reflections, and translations:
a. Lines are taken to lines, and line segments to line segments of the same length.
b. Angles are taken to angles of the same measure.
c. Parallel lines are taken to parallel lines. (8 G 1)

8 G 7. 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. (8 G 2)

8 G 8. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. (8 G 3)

8 G 9. 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. (8 G 4)

8 G 10. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so. (8 G 5)

Understand and apply the Pythagorean Theorem.

8 G 11. Explain a proof of the Pythagorean Theorem and its converse. (8 G 6)

8 G 12. 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 7)

8 G 13. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. (8 G 8)

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

8 G 14. Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. (8 G 9)

Statistics and Probability

Develop understanding of statistical variability.

8 SP 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. (6 SP 1)

8 SP 2. Understand that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape. (6 SP 2)

8 SP 3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. (6 SP 3)

Summarize and describe distributions.

8 SP 4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots. (6 SP 4)

8 SP 5. Summarize numerical data sets in relation to their context, such as by:

5a. Reporting the number of observations.

5b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

5c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

5d. 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. (6 SP 5)

Use random sampling to draw inferences about a population.

8 SP 6 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. (7 SP 1)

8 SP 7. 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. (7 SP 2)

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.

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Draw informal comparative inferences about two populations.

8 SP 8. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. (7 SP 3)

For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean

absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.

8 SP 9. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. (7 SP 4)

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.

Investigate chance processes and develop, use, and evaluate probability models.

8 SP 10. 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. (7 SP 5)

8 SP 11. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. (7 SP 6)

For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

8 SP 12. 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. (7 SP 7)

8 SP 12a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. (7 SP 7a)

For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.

8 SP 12b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. (7 SP 7b)

For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?

8 SP 13. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. (7 SP 8)

8 SP 13a. 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. (7 SP 8a)

8 SP 13b. 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. (7 SP 8b)

8 SP 13c. Design and use a simulation to generate frequencies for compound events. (7 SP 8c)

For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?

Investigate patterns of association in bivariate data.

8 SP 14. 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. (8 SP 1)

8 SP 15. 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 2)

8 SP 16. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. (8 SP 3)

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.

8 SP 17. 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. (8 SP 4)

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?