

Standards-Based Report Card



Teacher/Parent Guide

A message from the Associate Superintendent

I am pleased to announce that beginning in the 2009-10 school year, the Santa Barbara Elementary School District will use a new standards-based report card for all elementary school students. This is an exciting step towards making sure all students are successful at meeting grade-level standards.

Educators are expected to teach to the standards outlined in the California State Curriculum Frameworks and to assess student learning along the way using a variety of assessments. The standards-based report card gives us a tool to accurately communicate to parents and guardians the progress their child is making on learning the district-identified essential standards for each grade level, kindergarten through sixth grade. It is simply a new and improved way of communicating student progress.

The new report card communicates whether or not a student is advanced—meaning the student has exceeded the standards; proficient—meaning the



student has met the standards; basic—meaning the student is approaching the standards; or below basic—meaning the student has not met the standards. The report card will be issued three times a year and provide information on student progress and proficiency in core subject areas.

The standards-based report card is helpful in several ways. First, it helps make sure there is more consistency of expectations from teacher to teacher. It

helps teachers and students focus on the standards from the very beginning of the school year, giving students the opportunity to get help early if they are not making adequate progress. Finally, it gives parents information on how their student is doing based on the standards.

The following Standard-Based Report Card Teacher/Parent Guide provides information about the report card itself, and a description of the analysis process for determining proficiency. A sixth grade report card is used as a sample. Each grade level report card includes the district-identified essential standards in language arts and mathematics for the grade level.

I trust you will find the new standards-based report card a useful tool. Please contact the Education Services Office at (805) 963-4338 ext. 210 should you have any questions or concerns.

Sincerely,

Robin Sawaske
Associate Superintendent

Acknowledgements

The Education Services Department is sincerely appreciative of the efforts of those teachers, principals, parents, and students who participated in the design and early implementation phases of the

District’s new standards-based report card. The analysis of student work, professional dialogue, and critical feedback provided by these stakeholders led to important refinements in the report

card and the design of a set of tools and processes which serve to make the reporting process more efficient.

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The Report Card

An Essential Component of a Standards-Based System



Sixth Grade Standards Based Report Card

This section contains information on how the achievement of standards is reported throughout the year.

Student Information		School Information	
Student Name		School	
Student ID		Principal	
Academic year		School Phone #	
Grade		School Address	
Teacher			

Attendance information is reported in this area, including the number of days tardy and absent.

Students are evaluated based on their achievement of the grade-level skills, strategies, and concepts identified in the California content standards. The grading scale approximates the same proficiency levels found in No Child Left Behind for end of year STAR test scores. For the first two reporting periods, students are evaluated on their progress toward the end-of-year expectations. For the third and final reporting period, the report card marks show students' overall achievement of end-of-year expectations for a given grade level.

Grading Scale	English Language Development	Citizenship
A- Advanced	4- Advanced	C- Consistently
P- Proficient	3- Intermediate	S- Sometimes
B- Basic	2- Early Intermediate	R- Rarely
BB- Below Basic	1- Beginning	
NA- Not Assessed		

Attendance	1	2	3
Days Enrolled			
Days Absent			
Days Tardy (less than 30 min.)			
Days Tardy (more than 30 min.)			

These are the levels of proficiency used to report achievement in the content areas.

Language Arts Achievement	1	2	3	Language Arts Achievement (cont)	1	2
LITERACY ACHIEVEMENT: READING IN ENGLISH				LITERACY ACHIEVEMENT: WRITING IN ENGLISH		
Word Analysis, Fluency, and Systematic Vocabulary Development				Writing Strategies		
1.1 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.				1.1 Choose the form of writing (e.g., personal letter, letter to the editor, report, poem, narrative) that best suits the intended purpose.		
1.2 Identify and interpret figurative language and words with multiple meanings.				1.2 Create multiple-paragraph expository compositions.		
1.3 Recognize the origins and meanings of frequently used foreign words in English and use these words accurately in speaking and writing.				1.5 Compose documents with appropriate formatting by using word-processing skills and principles of design (e.g., margins, tabs, spacing, columns, page orientation).		
1.4 Monitor expository text for unknown words or words with novel meanings by using word, sentence, and paragraph clues to determine meaning.				1.6 Revise writing to improve the organization and consistency of ideas within and between paragraphs.		
Reading Comprehension				Writing Applications		
2.3 Connect and clarify main ideas by identifying their relationships to other sources and related topics.				2.1 Write narratives.		
2.7 Make reasonable assertions about a text through accurate, supporting citations.				2.2 Write expository compositions (e.g., description, explanation, comparison and contrast, problem and solution).		
2.8 Note instances of unsupported inferences, fallacious reasoning, persuasion, and propaganda in text.				2.3 Write research reports.		
Literary Response and Analysis				2.4 Write responses to literature.		
3.1 Identify the forms of fiction and describe the major characteristics of each form.				2.5 Write persuasive compositions.		
3.2 Analyze the effect of the qualities of the character (e.g., courage or cowardice, ambition or laziness) on the plot and the resolution of the conflict.				Written and Oral English Language Conventions		
3.4 Define how tone or meaning is conveyed in poetry through word choice, figurative language, sentence structure, line length, punctuation, rhythm, repetition, and rhyme.				1.1 Use simple, compound, and compound-complex sentences; use effective coordination and subordination of ideas to express complete thoughts.		
3.7 Explain the effects of common literary devices (e.g., symbolism, imagery, metaphor) in a variety of fictional and nonfictional texts.				1.2 Identify and properly use indefinite pronouns and present perfect, past perfect, and future perfect verb tenses; ensure that verbs agree with compound subjects.		
LITERACY ACHIEVEMENT: LISTENING AND SPEAKING IN ENGLISH				1.4 Use correct capitalization.		
Listening and Speaking Strategies				1.5 Spell frequently misspelled words correctly (e.g., their, they're, there).		
1.3 Restate and execute multiple-step oral instructions and directions.				English Language Development (ELD)	Not Applicable	
Speaking Applications (Genres and Their Characteristics)				Expressive		
2.1 Deliver narrative presentations.				Receptive		
2.2 Deliver informative presentations.				Comments:		
2.3 Deliver oral responses to literature.						
2.4 Deliver persuasive presentations.						
2.5 Deliver presentations on problems and solutions.						

Citizenship codes report the development of personal and citizenship skills.

Language proficiency codes indicate the English language development of English learners.

Achievement marks for the first reporting period will appear in the first box. Marks for the second reporting will appear in the second box and the end-of-year achievement will appear in the third box.

English Language Development is only marked for English learners--students who are learning English as a second language.



Sixth Grade Standards Based Report Card

The three reporting periods are codes as follows: 1 refers to the first reporting period; 2 refers to the second; and 3 refers to the third reporting period.

Student achievement is reported by "strands". For example, "Number Sense and Operations" is one of the strands in the area of reading.

Student Information									
Student Name				Teacher					
Mathematics Achievement		1	2	3	Mathematics Achievement (cont)		1	2	3
Number Sense and Operations				Measurement and Geometry					
1.1 Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line. 1.3 Use proportions to solve problems (e.g., determine the value of N if $4/7 = N/21$, find the length of a side of a polygon similar to a known polygon). Use cross-multiplication as a method for solving such problems, understanding it as the multiplication of both sides of an equation by a multiplicative inverse. 1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips. 2.1 Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation. 2.3 Solve addition, subtraction, multiplication, and division problems, including those arising in concrete situations that use positive and negative integers and combinations of these operations. 2.4 Determine the least common multiple and the greatest common divisor of whole numbers; use them to solve problems with fractions (e.g., to find a common denominator to add two fractions or to find the reduced form for a fraction).				1.1 Understand the concept of a constant such as pi; know the formulas for the circumference and area of a circle. 1.2 Know common estimates of pi (3.14; 22/7) and use these values to estimate and calculate the circumference and the area of circles; compare with actual measurements. 2.1 Identify angles as vertical, adjacent, complementary, or supplementary and provide descriptions of these terms. 2.2 Use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle. 2.3 Draw quadrilaterals and triangles from given information about them (e.g., a quadrilateral having equal sides but no right angles, a right isosceles triangle).					
Algebra and Functions				Mathematical Reasoning					
1.1 Write and solve one-step linear equations in one variable. 1.4 Solve problems manually by using the correct order of operations or by using a scientific calculator. 2.2 Demonstrate an understanding that rate is a measure of one quantity per unit value of another quantity. 3.1 Use variables in expressions describing geometric quantities (e.g., $P = 2w + 2l$, $A = 1/2bh$, $C = pd$ - the formulas for the perimeter of a rectangle, the area of a triangle, and the circumference of a circle, respectively).				1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns. 2.1 Use estimation to verify the reasonableness of calculated results. 2.4 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.					
Statistics, Data Analysis, and Probability									
				1.1 Compute the range, mean, median, and mode of data sets. 2.2 Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method makes a sample more representative for a population. 3.1 Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.					
Comments:									

Listed under each strand are the District Essential Standards as described in the California Framework for this content area.

History/Social Studies Achievement	1	2	3	Physical Education Achievement	1	2
Demonstrates understanding of grade level standards				Demonstrates understanding of grade level standards		
Science Achievement				Development of Personal and Citizenship Skills		
Demonstrates understanding of grade level standards				Respects people and property		
Visual & Performing Arts Achievement				Actively engages in learning		
Fine Arts				Prepares and organizes		
Performing Arts				Completes documents/assignments when due		
Comments:				Understands and practices healthy behaviors		

Signatures	
Parent:	Teacher:
Parent:	
Assignment for next year:	

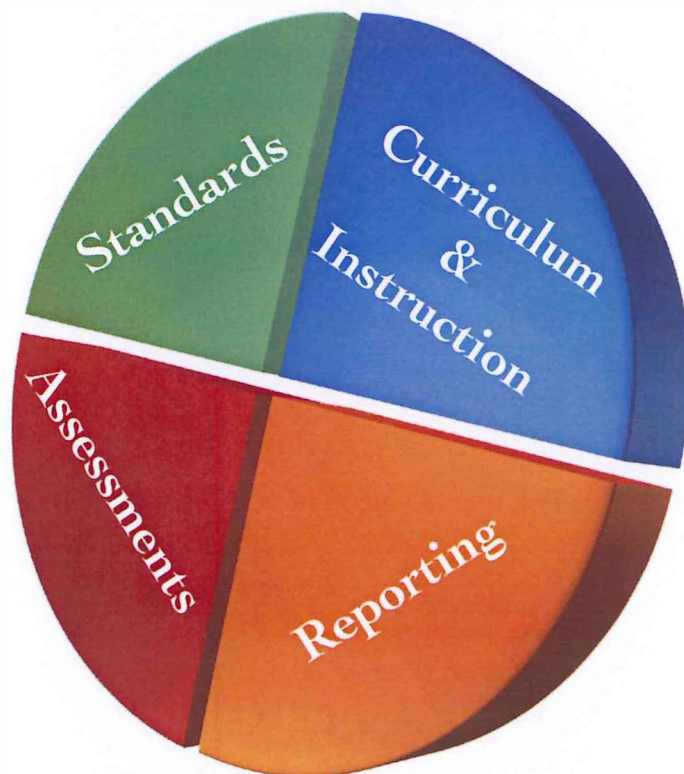
Revised: July 2009

This section will contain teacher comments about the individual student.

Components of a Standards-Based System

These are four essential components of a standards-based system:

1. The content standards, (as outlined by the California Department of Education) that describe what a student should know and be able to do at a given grade-level;
2. The standards-based curriculum or roadmap a teacher uses to ensure that instruction targets these standards;
3. The assessments that a teacher uses to measure learning and the extent to which a student has met the standards; and finally,
4. The reporting tool that allows a teacher to communicate accurately a student's progress towards meeting standards at critical junctures throughout the school year. The standards-based report card completes our standards-based system.



Definitions of Proficiency Levels

At the elementary level, there are three reporting periods. For the first two reporting periods, students are evaluated based on their progress toward end-of-year standards. In other words, students will not receive a mark of “proficient” or “advanced” before achieving end-of-year grade-level expectations. Students making good progress towards meeting grade-level standards may be at “Basic” or “Below Basic” levels during the first two reporting periods.

In the final reporting period, the report card marks reflect a student's achievement of the skills, strategies, and concepts identified in the California frameworks and content standards for that grade-level.

The grading scale approximates the same proficiency levels found in No Child Left Behind for end-of-year STAR test scores. Proficiency levels are broadly defined as follows:

Advanced

The student consistently exceeds standards as demonstrated by a body of evidence that shows depth of understanding and flexible application of grade-level concepts.

Proficient

The student consistently meets standards as demonstrated by a body of evidence that shows independent understanding and application of grade-level concepts.

Basic

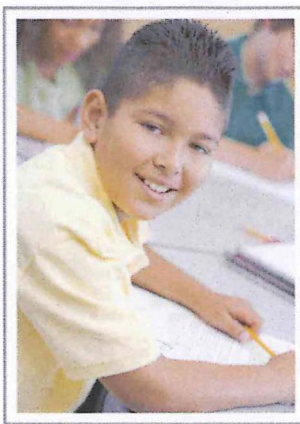
The student occasionally meets standards as demonstrated by a body of evidence that shows incomplete/inconsistent understanding and application of grade-level concepts.

Below Basic

The student rarely meets standards as demonstrated by a body of evidence that shows minimal understanding and application of grade-level concepts.

Analysis Process

Before making a determination regarding student proficiency and marking it on the report card, teachers should analyze a student's progress over the course of the reporting period. It is important to note that teachers have been reviewing the results of assessments and student work throughout the reporting period to determine next steps for instruction.



This analysis for student proficiency is based on key pieces of evidence. This process requires that a teacher:

- Collect key samples of student work in a body of evidence
- Analyze this entire body of evidence in comparison to a proficient body of evidence

A Body of Evidence in: Language Arts, Mathematics, History/Social Studies and Science Essential Elements

The following lists indicate the types of evidence a teacher should collect in preparation for using the standards-based report card. While it is not required that a teacher collect every piece of evidence listed here for every student (in some cases, a teacher might collect more and in some less), these pieces of evidence will create a well-rounded picture of student progress towards meeting grade-level standards.

Language Arts

- End of unit and District Benchmark Assessments
- Reading logs
- Authentic reading assessments

- Anecdotal records
 - Independent reading/writing conferring notes
 - Small group instruction
 - Text-based discussions

- Writing samples

Mathematics

- End of unit and District Benchmark Assessments
- Tasks and story problems which include numeric solutions, student's written explanation, and/or drawings and representations

History/Social Studies and Science

- Student response to grade-level prompts for each strand (responses in written form, drawings and diagrams, teacher scripting or a combination thereof.)
- Work from in-class investigations (may be in the form of student notebooks, interactive notebooks or recording sheets provided in the curriculum.)
- End of unit benchmark assessments

Process for Analyzing a Body of Evidence

In order to determine report card marks, a teacher should analyze a student's body of evidence using the following process.

Step 1: Analyze the Body of Evidence for Completeness

- Assure that there is sufficient evidence for each of the reporting strands.
- Gather additional evidence as needed.

Key questions to consider:

- What's in the body of evidence?

- How does the evidence align with the reporting strands?
- Is the body of evidence complete? If not, how will you collect what you need?

Step 2: Analyze the Body of Evidence for Quality

- Analyze the quality of student work across the reporting period using the content area rubrics as appropriate.

- At the end of the reporting period, organize and synthesize these assessments to determine the proficiency level for each of the reporting strands.

Key questions to consider:

- What is the quality of this body of evidence?
- What parts of the body of evidence are proficient? Basic? Below basic? Advanced? How do you know?

Essential Content Standards: Kindergarten-Sixth Grade

K

Kindergarten Language Arts Standards

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

- 1.2 Follow words from left to right and from top to bottom on the printed page.
- 1.6 Recognize and name all uppercase and lowercase letters of the alphabet.
- 1.9 Blend vowel-consonant sounds orally to make words or syllables.
- 1.10 Identify and produce rhyming words in response to an oral prompt.
- 1.11 Distinguish orally stated one-syllable words and separate into beginning or ending sounds.
- 1.14 Match all consonant and short-vowel sounds to appropriate letters.
- 1.15 Read simple one-syllable and high-frequency words (i.e., sight words).
- 1.17 Identify and sort common words in basic categories (e.g., colors, shapes, foods).

2.0 Reading Comprehension

- 2.2 Use pictures and context to make predictions about story content.
- 2.4 Retell familiar stories.
- 2.5 Ask and answer questions about essential elements of a text.

3.0 Literary Response and Analysis

- 3.3 Identify characters, settings, and important events.

1.0 Writing Strategies

- 1.1 Use letters and phonetically spelled words to write about experiences, stories, people, objects, or events.
- 1.4 Write uppercase and lowercase letters of the alphabet independently, attending to the form and proper spacing of the letters.

1.0 Written and Oral English Language Conventions

- 1.1 Recognize and use complete, coherent sentences when speaking.
- 1.2 Spell independently by using pre-phonetic knowledge, sounds of the alphabet, and knowledge of letter names.

1.0. Listening and Speaking Strategies

- 1.1 Understand and follow one- and two-step oral directions.

2.0. Speaking Applications (Genres and Their Characteristics)

- 2.3 Relate an experience or creative story in a logical sequence.

problems (for two numbers that are each less than 10).

Algebra and Functions

- 1.1 Identify, sort, and classify objects by attribute and identify objects that do not belong to a particular group (e.g., all these balls are green, those are red).

Measurement and Geometry

- 1.1 Compare the length, weight, and capacity of objects by making direct comparisons with reference objects (e.g., note which object is shorter, longer, taller, lighter, heavier, or holds more).
- 1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar).
- 2.1 Identify and describe common geometric objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone).

Statistics, Data Analysis, and Probability

- 1.2 Identify, describe, and extend simple patterns (such as circles or triangles) by referring to their shapes, sizes, or colors.

Mathematical Reasoning

- 2.1 Explain the reasoning used with concrete objects and/ or pictorial representations.

Kindergarten Math Standards

Number Sense

- 1.1 Compare two or more sets of objects (up to ten objects in each group) and identify which set is equal to, more than, or less than the other.
- 1.2 Count, recognize, represent, name, and order a number of objects (up to 30).
- 2.1 Use concrete objects to determine the answers to addition and subtraction

1st

1st Grade Language Arts Standards

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

- 1.3 Identify letters, words, and sentences.
- 1.5 Distinguish long- and short-vowel sounds in orally stated single-syllable words (e.g., *bit/bite*).
- 1.6 Create and state a series of rhyming words, including consonant blends.

1.7 Add, delete, or change target sounds to change words (e.g., change *cow* to *how*; *pan* to *an*).

1.8 Blend two to four phonemes into recognizable words (e.g., /c/ a/ t/ = cat; /f/ l/ a/ t/ = flat).

1.9 Segment single syllable words into their components (e.g., /c/ a/ t/ = cat; /s/ p/ l/ a/ t/ = splat; /r/ i/ ch/ = rich).

1.10 Generate the sounds from all the letters and letter patterns, including consonant blends and long- and short-vowel patterns (i.e., phonograms), and blend those sounds into recognizable words.

1.11 Read common, irregular sight words (e.g., the, have, said, come, give, of).

1.12 Use knowledge of vowel digraphs and r-controlled letter-sound associations to read words.

1.16 Read aloud with fluency in a manner that sounds like natural speech.

2.0 Reading Comprehension

- 2.2 Respond to *who*, *what*, *when*, *where*, and *how* questions.
- 2.7 Retell the central ideas of simple expository or narrative passages.

3.0 Literary Response and Analysis

3.1 Identify and describe the elements of plot, setting, and character(s) in a story, as well as the story's beginning, middle, and ending.

1.0 Writing Strategies

1.2 Use descriptive words when writing.
1.3 Print legibly and space letters, words, and sentences appropriately.

2.0 Writing Applications (Genres and Their Characteristics)

2.1 Write brief narratives (e.g., fictional, autobiographical) describing an experience.
2.2 Write brief expository descriptions of a real object, person, place, or event, using sensory details.

1.0 Written and Oral English Language Conventions

1.1 Write and speak in complete, coherent sentences.
1.5 Use a period, exclamation point, or question mark at the end of sentences.
1.6 Use knowledge of the basic rules of punctuation and capitalization when writing.
1.7 Capitalize the first word of a sentence, names of people, and the pronoun *I*.
1.8 Spell three- and four-letter short-vowel words and grade-level-appropriate sight words correctly.

1.0 Listening and Speaking Strategies

1.3 Give, restate, and follow simple two-step directions.

2.0 Speaking Applications (Genres and Their Characteristics)

2.2 Retell stories using basic story grammar and relating the sequence of

story events by answering *who*, *what*, *when*, *where*, *why*, and *how* questions.

1st Grade Math Standards**Number Sense**

1.1 Count, read, and write whole numbers to 100.
1.2 Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >).
1.3 Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as $4 + 4$, $5 + 3$, $2 + 2 + 2 + 2$, $10 - 2$, $11 - 3$).
1.4 Count and group object in ones and tens (e.g., three groups of 10 and 4 equals 34, or $30 + 4$).
1.5 Identify and know the value of coins and show different combinations of coins that equal the same value.
2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
2.2 Use the inverse relationship between addition and subtraction to solve problems.
2.3 Identify one more than, one less than, 10 more than, and 10 less than a given number.
2.4 Count by 2s, 5s, and 10s to 100.
2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).
2.6 Solve addition and subtraction problems with one- and two-digit numbers (e.g., $5 + 58 = \underline{\quad}$).

Algebra and Functions

1.1 Write and solve number sentences from problem situations that express relationships involving addition and subtraction.
1.2 Understand the meaning of the symbols +, -, =.

Measurement and Geometry

1.1 Compare the length, weight, and volume of two or more objects by using direct comparison or a nonstandard unit.
1.2 Tell time to the nearest half hour and relate time to events (e.g., before/after, shorter/longer).
2.2 Classify familiar plane and solid objects by common attributes, such as color, position, shape, size, roundness, or number of corners, and explain which attributes are being used for classification.

Statistics, Data Analysis, and Probability

1.2 Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs.
2.1 Describe, extend, and explain ways to get to a next element in simple repeating patterns (e.g., rhythmic, numeric, color, and shape).

Mathematical Reasoning

1.2 Use tools, such as manipulatives or sketches, to model problems.

2nd**2nd Grade Language Arts Standards****1.0 Word Analysis, Fluency, and Systematic Vocabulary Development**

1.1 Recognize and use knowledge of spelling patterns (e.g., diphthongs, special vowel spellings) when reading.
1.2 Apply knowledge of basic syllabication rules when reading (e.g., vowel-consonant-vowel = *su/per*; vowel-consonant/consonant-vowel = *sup/per*).

1.3 Decode two-syllable nonsense words and regular multi-syllable words.
1.5 Identify and correctly use regular plurals (e.g., *-s*, *-es*, *-ies*) and irregular plurals (e.g., *fly/flies*, *wife/wives*).
1.6 Read aloud fluently and accurately and with appropriate intonation and expression.
1.7 Understand and explain common antonyms and synonyms.
1.8 Use knowledge of individual words in unknown compound words to predict their meaning.
1.9 Know the meaning of simple prefixes and suffixes (e.g., *over-*, *un-*, *-ing*, *-ly*).

1.10 Identify simple multiple-meaning words.

2.0 Reading Comprehension

2.1 Use titles, tables of contents, and chapter headings to locate information in expository text.
2.3 Use knowledge of the author's purpose(s) to comprehend informational text.
2.4 Ask clarifying questions about essential textual elements of exposition (e.g., *why*, *what if*, *how*).
2.5 Restate facts and details in the text to clarify and organize ideas.

- 2.6 Recognize cause-and-effect relationships in a text.
2.8 Follow two-step written instructions.

3.0. Literary Response and Analysis

- 3.1 Compare and contrast plots, settings, and characters presented by different authors.

1.0 Writing Strategies

- 1.1 Group related ideas and maintain a consistent focus.
1.2 Create readable documents with legible handwriting.
1.3 Understand the purposes of various reference materials (e.g., dictionary, thesaurus, atlas).
1.4 Revise original drafts to improve sequence and provide more descriptive detail.

2.0 Writing Applications (Genres and Their Characteristics)

- 2.1 Write brief narratives based on their experiences.
2.2 Write a friendly letter complete with the date, salutation, body, closing, and signature.

1.0 Written and Oral English Language Conventions

- 1.1 Distinguish between complete and incomplete sentences.
1.3 Identify and correctly use various parts of speech, including nouns and verbs, in writing and speaking.
1.4 Use commas in the greeting and closure of a letter and with dates and items in a series.
1.5 Use quotation marks correctly.
1.6 Capitalize all proper nouns, words at the beginning of sentences and greetings, months and days of the week, and titles and initials of people.
1.7 Spell frequently used, irregular words correctly (e.g., *was, were, says, said, who, what, why*).
1.8 Spell basic short-vowel, long-vowel, *r*-controlled, and consonant-blend patterns correctly.

1.0 Listening and Speaking Strategies

- 1.4 Give and follow three-and four-step oral directions.
1.8 Retell stories, including characters, setting, and plot.
1.9 Report on a topic with supportive facts and details.

2.0 Speaking Applications (Genres and Their Characteristics)

- 2.1 Recount experiences or present stories.

2nd Grade Math Standards

Number Sense

- 1.1 Count, read, and write whole numbers to 1,000 and identify the place value for each digit.
1.2 Use words, models, and expanded forms (e.g., $45 = 4 \text{ tens} + 5$) to represent numbers (to 1,000).
1.3 Order and compare whole numbers to 1,000 by using the symbols $<$, $=$, $>$.
2.1 Understand and use the inverse relationship between addition and subtraction (e.g., an opposite number sentence for $8 + 6 = 14$ is $14 - 6 = 8$) to solve problems and check solutions.
2.2 Find the sum or difference of two whole numbers up to three digits long.
3.1 Use repeated addition, arrays, and counting by multiples to do multiplication.
3.2 Use repeated subtraction, equal sharing, and forming equal groups with remainders to do division.
3.3 Know the multiplication tables of 2s, 5s, and 10s (to "times 10") and commit them to memory.
4.1 Recognize, name, and compare unit fractions from $1/12$ to $1/2$.
4.2 Recognize fractions of a whole and parts of a group (e.g., one-fourth of a pie, two-thirds of 15 balls).
4.3 Know that when all fractional parts are included, such as four-fourths, the result is equal to the whole and to one.
5.1 Solve problems using combinations of coins and bills.
5.2 Know and use the decimal notation and the dollar and cent symbols for money.

Algebra and Functions

- 1.1 Use the commutative and associative rules to simplify mental calculations and to check results.
1.2 Relate problem situations to number sentences involving addition and subtraction.
1.3 Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences.

Measurement and Geometry

- 1.1 Measure the length of objects by iterating (repeating) a nonstandard or standard unit.
1.3 Measure the length of an object to the nearest inch and/ or centimeter.
1.4 Tell time to the nearest quarter hour and know relationships of time (e.g., minutes in an hour, days in a month, weeks in a year).
2.1 Describe and classify plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) according to the number and shape of faces, edges, and vertices.
2.2 Put shapes together and takes them apart to form other shapes (e.g., two congruent right triangles can be arranged to form a rectangle).

Statistics, Data Analysis, and Probability

- 1.1 Record numerical data in systematic ways, keeping track of what has been counted.
1.2 Represent the same data set in more than one way (e.g., bar graphs and charts with tallies).
1.3 Identify features of data sets (range and mode).
2.1 Recognize, describe, and extend patterns and determine a next term in linear patterns (e.g., 4, 8, 12...; the number of ears on one horse, two horses, three horses, four horses).

Mathematical Reasoning

3rd

3rd Grade Language Arts Standards

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

- 1.2 Decode regular multisyllabic words.
 1.3 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.
 1.4 Use knowledge of antonyms, synonyms, homophones, and homographs to determine the meanings of words.
 1.6 Use sentence and word context to find the meaning of unknown words.
 1.8 Use knowledge of prefixes (e.g., *un-*, *re-*, *pre-*, *bi-*, *mis-*, *dis-*) and suffixes (e.g., *-er*, *-est*, *-ful*) to determine the meaning of words.

2.0 Reading Comprehension

- 2.1 Use titles, tables of contents, chapter headings, glossaries, and indexes to locate information in text.
 2.2 Ask questions and support answers by connecting prior knowledge with literal information found in, and inferred from, the text.
 2.3 Demonstrate comprehension by identifying answers in the text.
 2.5 Distinguish the main idea and supporting details in expository text.
 2.6 Extract appropriate and significant information from the text, including problems and solutions.

3.0 Literary Response and Analysis

- 3.1 Distinguish common forms of literature (e.g., poetry, drama, fiction, nonfiction).
 3.2 Comprehend basic plots of classic fairy tales, myths, folktales, legends, and fables from around the world.
 3.4 Determine the underlying theme or author's message in fiction and nonfiction text.

1.0 Writing Strategies

- 1.1 Create a single paragraph.
 1.2 Write legibly in cursive or joined italic, allowing margins and correct spacing between letters in a word and words in a sentence.
 1.3 Understand the structure and organization of various reference materials (e.g., dictionary, thesaurus, atlas, encyclopedia).

- 1.4 Revise drafts to improve the coherence and logical progression of ideas by using an established rubric.

2.0 Writing Applications (Genres and Their Characteristics)

- 2.1 Write narratives.
 2.2 Write descriptions that use concrete sensory details to present and support unified impressions of people, places, things, or experiences.

1.0 Written and Oral English Language Conventions

- 1.1 Understand and be able to use complete and correct declarative, interrogative, imperative, and exclamatory sentences in writing and speaking.
 1.2 Identify subjects and verbs that are in agreement and identify and use pronouns, adjectives, compound words, and articles correctly in writing and speaking.
 1.3 Identify and use past, present, and future verb tenses properly in writing and speaking.
 1.4 Identify and use subjects and verbs correctly in speaking and writing simple sentences.
 1.5 Punctuate dates, city and state, and titles of books correctly.
 1.6 Use commas in dates, locations, and addresses and for items in a series.
 1.7 Capitalize geographical names, holidays, historical periods, and special events correctly.
 1.8 Spell correctly one-syllable words that have blends, contractions, compounds, orthographic patterns (e.g., *qu*, consonant doubling, changing the ending of a word from *-y* to *-ies* when forming the plural), and common homophones (e.g., *hair-hare*).
 1.9 Arrange words in alphabetic order.

1.0 Listening and Speaking Strategies

- 1.1 Retell, paraphrase, and explain what a speaker has said.
 1.6 Provide a beginning, a middle, and an end, including concrete details that develop a central idea.
 1.11 Distinguish between the speaker's opinions and verifiable facts.

2.0 Speaking Applications (Genres and their Characteristics)

- 2.3 Make descriptive presentations that use concrete sensory details to set forth and support unified impressions of people, places, things, or experiences.

3rd Grade Math Standards

Number Sense

- 1.3 Identify the place value for each digit in numbers to 10,000.
 1.4 Round off numbers to 10,000 to the nearest ten, hundred, and thousand.
 1.5 Use expanded notation to represent numbers (e.g., $3,206 = 3,000 + 200 + 6$).
 2.1 Find the sum or difference of two whole numbers between 0 and 10,000.
 2.2 Memorize to automaticity the multiplication table for numbers between 1 and 10.
 2.3 Use the inverse relationship of multiplication and division to compute and check results.
 2.4 Solve simple problems involving multiplication of multi-digit numbers by one-digit numbers ($3,671 \times 3 = \underline{\quad}$).
 3.1 Compare fractions represented by drawings or concrete materials to show equivalency and to add and subtract simple fractions in context (e.g., $1/2$ of a pizza is the same amount as $2/4$ of another pizza that is the same size; show that $3/8$ is larger than $1/4$).
 3.2 Add and subtract simple fractions (e.g., determine that $1/8 + 3/8$ is the same as $1/2$).
 3.3 Solve problems involving addition, subtraction, multiplication, and division of money amounts in decimal notation and multiply and divide money amounts in decimal notation by using whole-number multipliers and divisors.

Algebra and Functions

- 1.1 Represent relationships of quantities in the form of mathematical expressions, equations, or inequalities.
 1.3 Select appropriate operational and relational symbols to make an expression true (e.g., if $4 \underline{\quad} 3 = 12$, what operational symbol goes in the blank?).
 2.1 Solve simple problems involving a functional relationship between two quantities (e.g., find the total cost of multiple items given the cost per unit).

Measurement and Geometry

- 1.2 Estimate or determine the area and volume of solid figures by covering them with squares or by counting the number of cubes that would fill them.
 1.3 Find the perimeter of a polygon with integer sides.
 2.1 Identify, describe, and classify polygons (including pentagons, hexagons, and octagons).
 2.2 Identify attributes of triangles (e.g., two equal sides for the isosceles triangle,

three equal sides for the equilateral triangle, right angle for the right triangle).
 2.3 Identify attributes of quadrilaterals (e.g., parallel sides for the parallelogram, right angles for the rectangle, equal sides and right angles for the square).
 2.5 Identify, describe, and classify common three-dimensional geometric objects (e.g., cube, rectangular solid, sphere, prism, pyramid, cone, cylinder).

Statistics, Data Analysis, and Probability

1.1 Identify whether common events are certain, likely, unlikely, or improbable.
 1.2 Record the possible outcomes for a simple event (e.g., tossing a coin) and systematically keep track of the outcomes when the event is repeated many times.
 1.3 Summarize and display the results of probability experiments in a clear and

organized way (e.g., use a bar graph or a line plot).

Mathematical Reasoning

4th

4th Grade Language Arts Standards

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

1.1 Read narrative and expository text aloud with grade-appropriate fluency and accuracy and with appropriate pacing, intonation, and expression.
 1.2 Apply knowledge of word origins, derivations, synonyms, antonyms, and idioms to determine the meaning of words and phrases.
 1.3 Use knowledge of root words to determine the meaning of unknown words within a passage.
 1.4 Know common roots and affixes derived from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., international).
 1.6 Distinguish and interpret words with multiple meanings.

2.0 Reading Comprehension

2.1 Identify structural patterns found in informational text (e.g., compare and contrast, cause and effect, sequential or chronological order, proposition and support) to strengthen comprehension.
 2.5 Compare and contrast information on the same topic after reading several passages or articles.

3.0 Literary Response and Analysis

3.2 Identify the main events of the plot, their causes, and the influence of each event on future actions.
 3.5 Define figurative language (e.g., simile, metaphor, hyperbole, personification) and identify its use in literary works.

1.0 Writing Strategies

1.2 Create multiple-paragraph compositions.

1.3 Use traditional structures for conveying information (e.g., chronological order, cause and effect, similarity and difference, and posing and answering a question).
 1.4 Write fluidly and legibly in cursive or joined italic.
 1.5 Quote or paraphrase information sources, citing them appropriately.
 1.7 Use various reference materials (e.g., dictionary, thesaurus, card catalog, encyclopedia, online information) as an aid to writing.
 1.9 Demonstrate basic keyboarding skills and familiarity with computer terminology (e.g., cursor, software, memory, disk drive, hard drive).
 1.10 Edit and revise selected drafts to improve coherence and progression by adding, deleting, consolidating, and rearranging text.

2.0 Writing Applications (Genres and Their Characteristics)

2.1 Write narratives.
 2.2 Write responses to literature.
 2.3 Write information reports.
 2.4 Write summaries that contain the main ideas of the reading selection and the most significant details.

1.0 Written and Oral English Language Conventions

1.1 Use simple and compound sentences in writing and speaking.
 1.3 Identify and use regular and irregular verbs, adverbs, prepositions, and coordinating conjunctions in writing and speaking.
 1.4 Use parentheses, commas in direct quotations, and apostrophes in the possessive case of nouns and in contractions.
 1.5 Use underlining, quotation marks, or italics to identify titles of documents.
 1.6 Capitalize names of magazines, newspapers, works of art, musical compositions, organizations, and the first word in quotations when appropriate.

1.7 Spell correctly roots, inflections, suffixes and prefixes, and syllable constructions.

1.0 Listening and Speaking Strategies

1.2 Summarize major ideas and supporting evidence presented in spoken messages and formal presentations.
 1.5 Present effective introductions and conclusions that guide and inform the listener's understanding of important ideas and evidence.

2.0 Speaking Applications (Genres and Their Characteristics)

2.1 Make narrative presentations.
 2.2 Make informational presentations.
 2.3 Deliver oral summaries of articles and books that contain the main ideas of the event or article and the most significant details.
 2.4 Recite brief poems (i.e., two or three stanzas), soliloquies, or dramatic dialogues, using clear diction, tempo, volume, and phrasing.

4th Grade Math Standards

Number Sense

1.1 Read and write whole numbers in the millions.
 1.2 Order and compare whole numbers and decimals to two decimal places.
 1.7 Write the fraction represented by a drawing of parts of a figure; represent a given fraction by using drawings; and relate a fraction to a simple decimal on a number line.
 3.1 Demonstrate an understanding of, and the ability to use, standard algorithms for the addition and subtraction of multi-digit numbers.
 3.3 Solve problems involving multiplication of multi-digit numbers by two-digit numbers.
 3.4 Solve problems involving division of multi-digit numbers by one-digit numbers.

4.1 Understand that many whole numbers break down in different ways (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$).

4.2 Know that numbers such as 2, 3, 5, 7, and 11 do not have any factors except 1 and themselves and that such numbers are called prime numbers.

Algebra and Functions

1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g., demonstrate an understanding and the use of the concept of a variable).

1.2 Interpret and evaluate mathematical expressions that now use parentheses.

Measurement and Geometry

1.4 Understand and use formulas to solve problems involving perimeters and areas of rectangles and squares. Use those formulas to find the areas of more complex figures by dividing the figures into basic shapes.

2.1 Draw the points corresponding to linear relationships on graph paper (e.g., draw 10 points on the graph of the equation $y = 3x$ and connect them by using a straight line).

2.2 Understand that the length of a horizontal line segment equals the difference of the x -coordinates.

2.3 Understand that the length of a vertical line segment equals the difference of the y -coordinates.

Statistics, Data Analysis, and Probability

1.1 Formulate survey questions; systematically collect and represent data on a number line; and coordinate graphs, tables, and charts.

Mathematical Reasoning

2.1 Use estimation to verify the reasonableness of calculated results.

2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.

5th

5th Grade Language Arts Standards

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

1.1 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.

1.2 Use word origins to determine the meaning of unknown words.

1.3 Understand and explain frequently used synonyms, antonyms, and homographs.

1.4 Know abstract, derived roots and affixes from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., controversial).

1.5 Understand and explain the figurative and metaphorical use of words in context.

2.0 Reading Comprehension (Focus on Informational Materials)

2.1 Understand how text features (e.g., format, graphics, sequence, diagrams, illustrations, charts, maps) make information accessible and usable.

2.3 Discern main ideas and concepts presented in texts, identifying and assessing evidence that supports those ideas.

2.4 Draw inferences, conclusions, or generalizations about text and support them with textual evidence and prior knowledge.

2.5 Distinguish facts, supported inferences, and opinions in text.

3.0 Literary Response and Analysis

3.1 Identify and analyze the characteristics of poetry, drama, fiction,

and nonfiction and explain the appropriateness of the literary forms chosen by an author for a specific purpose.

3.2 Identify the main problem or conflict of the plot and explain how it is resolved.

3.3 Contrast the actions, motives (e.g., loyalty, selfishness, conscientiousness), and appearances of characters in a work of fiction and discuss the importance of the contrasts to the plot or theme.

3.4 Understand that theme refers to the meaning or moral of a selection and recognize themes (whether implied or stated directly) in sample works.

3.5 Describe the function and effect of common literary devices (e.g., imagery, metaphor, symbolism).

3.7 Evaluate the author's use of various techniques (e.g., appeal of characters in a picture book, logic and credibility of plots and settings, use of figurative language) to influence readers' perspectives.

1.0 Writing Strategies

1.1 Create multiple-paragraph narrative compositions.

1.2 Create multiple-paragraph expository compositions.

1.3 Use organizational features of printed text (e.g., citations, end notes, bibliographic references) to locate relevant information.

1.4 Create simple documents by using electronic media and employing organizational features (e.g., passwords, entry and pull-down menus, word searches, the thesaurus, spell checks).

1.6 Edit and revise manuscripts to improve the meaning and focus of writing by adding, deleting, consolidating, clarifying, and rearranging words and sentences.

2.0 Writing Applications (Genres and Their Characteristics)

2.1 Write narratives.

2.2 Write responses to literature.

2.3 Write research reports about important ideas, issues, or events.

2.4 Write persuasive letters or compositions.

1.0 Written and Oral English Language Conventions

1.1 Identify and correctly use prepositional phrases, appositives, and independent and dependent clauses; use transitions and conjunctions to connect ideas.

1.2 Identify and correctly use verbs that are often misused (e.g., lie/ lay, sit/ set, rise/ raise), modifiers, and pronouns.

1.3 Use a colon to separate hours and minutes and to introduce a list; use quotation marks around the exact words of a speaker and titles of poems, songs, short stories, and so forth.

1.4. Use correct capitalization.

1.5 Spell roots, suffixes, prefixes, contractions, and syllable constructions correctly.

1.0 Listening and Speaking Strategies

1.7 Identify, analyze, and critique persuasive techniques (e.g., promises, dares, flattery, glittering generalities); identify logical fallacies used in oral presentations and media messages.

1.8 Analyze media as sources for information, entertainment, persuasion, interpretation of events, and transmission of culture.

2.0 Speaking Applications (Genres and Their Characteristics)

2.1 Deliver narrative presentations.

- 2.2 Deliver informative presentations about an important idea, issue, or event.
2.3 Deliver oral responses to literature.

5th Grade Math Standards

Number Sense

1.1 Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.

1.2 Interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.

1.3 Understand and compute positive integer powers of nonnegative integers; compute examples as repeated multiplication.

1.4 Determine the prime factors of all numbers through 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor (e.g., $24 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3$).

1.5 Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.

2.1 Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify the reasonableness of the results.

2.2 Demonstrate proficiency with division, including division with positive decimals and long division with multi-digit divisors.

2.3 Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and

unlike denominators of 20 or less), and express answers in the simplest form.

2.4 Understand the concept of multiplication and division of fractions.
2.5 Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

Algebra and Functions

1.1 Use information taken from a graph or equation to answer questions about a problem situation.

1.2 Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.

1.3 Know and use the distributive property in equations and expressions with variables.

1.4 Identify and graph ordered pairs in the four quadrants of the coordinate plane.

1.5 Solve problems involving linear functions with integer values; write the equation; and graph the resulting ordered pairs of integers on a grid.

Measurement and Geometry

1.0 Students understand and compute the volumes and areas of simple objects:

1.1 Derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangles make a parallelogram with twice the area; a parallelogram is compared with a rectangle of the same area by cutting and pasting a right triangle on the parallelogram).

1.3 Understand the concept of volume and use the appropriate units in common measuring systems (i.e., cubic centimeter

[cm³], cubic meter [m³], cubic inch [in³], cubic yard [yd³]) to compute the volume of rectangular solids.

1.4 Differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (i.e., find the perimeter, area, volume).

2.1 Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).

2.2 Know that the sum of the angles of any triangle is 180° and the sum of the angles of any quadrilateral is 360° and use this information to solve problems.

Statistics, Data Analysis, and Probability

1.1 Know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.

1.2 Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.

1.4 Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.

1.5 Know how to write ordered pairs correctly; for example, (x, y).

Mathematical Reasoning

2.8 Note instances of unsupported inferences, fallacious reasoning, persuasion, and propaganda in text.

3.0 Literary Response and Analysis

3.1 Identify the forms of fiction and describe the major characteristics of each form.

3.2 Analyze the effect of the qualities of the character (e.g., courage or cowardice, ambition or laziness) on the plot and the resolution of the conflict.

3.4 Define how tone or meaning is conveyed in poetry through word choice, figurative language, sentence structure, line length, punctuation, rhythm, repetition, and rhyme.

6th

6th Grade Language Arts Standards

1.0 Word Analysis, Fluency, and Systematic Vocabulary Development

1.1 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.

1.2 Identify and interpret figurative language and words with multiple meanings.

1.3 Recognize the origins and meanings of frequently used foreign words in English and use these words accurately in speaking and writing.

1.4 Monitor expository text for unknown words or words with novel meanings by using word, sentence, and paragraph clues to determine meaning.

2.0 Reading Comprehension (Focus on Informational Materials)

2.3 Connect and clarify main ideas by identifying their relationships to other sources and related topics.

2.7 Make reasonable assertions about a text through accurate, supporting citations.

3.7 Explain the effects of common literary devices (e.g., symbolism, imagery, metaphor) in a variety of fictional and nonfictional texts.

1.0 Writing Strategies

1.1 Choose the form of writing (e.g., personal letter, letter to the editor, review, poem, report, narrative) that best suits the intended purpose.

1.2 Create multiple-paragraph expository compositions.

1.5 Compose documents with appropriate formatting by using word-processing skills and principles of design (e.g., margins, tabs, spacing, columns, page orientation).

1.6 Revise writing to improve the organization and consistency of ideas within and between paragraphs.

2.0 Writing Applications (Genres and Their Characteristics)

2.1 Write narratives.

2.2 Write expository compositions (e.g., description, explanation, comparison and contrast, problem and solution).

2.3 Write research reports.

2.4 Write responses to literature.

2.5 Write persuasive compositions.

1.0 Written and Oral English Language Conventions

1.1 Use simple, compound, and compound-complex sentences; use effective coordination and subordination of ideas to express complete thoughts.

1.2 Identify and properly use indefinite pronouns and present perfect, past perfect, and future perfect verb tenses; ensure that verbs agree with compound subjects.

1.4 Use correct capitalization.

1.5 Spell frequently misspelled words correctly (e.g., their, they're, there).

1.0 Listening and Speaking Strategies

1.3 Restate and execute multiple-step oral instructions and directions.

2.0 Speaking Applications (Genres and Their Characteristics)

2.1 Deliver narrative presentations.

2.2 Deliver informative presentations.

2.3 Deliver oral responses to literature.

2.4 Deliver persuasive presentations.

2.5 Deliver presentations on problems and solutions.

6th Grade Math Standards

Number Sense

1.1 Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.

1.3 Use proportions to solve problems (e.g., determine the value of N if $4/7 = N/21$, find the length of a side of a polygon similar to a known polygon). Use cross-multiplication as a method for solving such problems, understanding it as the multiplication of both sides of an equation by a multiplicative inverse.

1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.

2.1 Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation.

2.3 Solve addition, subtraction, multiplication, and division problems, including those arising in concrete situations, that use positive and negative integers and combinations of these operations.

2.4 Determine the least common multiple and the greatest common divisor of whole numbers; use them to solve problems with fractions (e.g., to find a common denominator to add two fractions or to find the reduced form for a fraction).

Algebra and Functions

1.1 Write and solve one-step linear equations in one variable.

1.4 Solve problems manually by using the correct order of operations or by using a scientific calculator.

2.2 Demonstrate an understanding that rate is a measure of one quantity per unit value of another quantity.

3.1 Use variables in expressions describing geometric quantities (e.g., $P = 2w + 2l$, $A = 1/2bh$, $C = \pi d$ - the formulas for the perimeter of a rectangle, the area of a triangle, and the circumference of a circle, respectively).

Measurement and Geometry

1.1 Understand the concept of a constant such as π ; know the formulas for the circumference and area of a circle.

1.2 Know common estimates of π (3.14; 22/7) and use these values to estimate and calculate the circumference and the area of circles; compare with actual measurements.

2.1 Identify angles as vertical, adjacent, complementary, or supplementary and provide descriptions of these terms.

2.2 Use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle.

2.3 Draw quadrilaterals and triangles from given information about them (e.g., a quadrilateral having equal sides but no right angles, a right isosceles triangle).
Statistics, Data Analysis, and Probability

1.1 Compute the range, mean, median, and mode of data sets.

2.2 Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method makes a sample more representative for a population.

3.1 Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.

Mathematical Reasoning

1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.

2.1 Use estimation to verify the reasonableness of calculated results.

2.4 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.