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# Parent-Teacher Guide to California Content Standards and STAR Testing

*Second Grade Content Standard and CST Guide.*

# The Preparation Begins

### How Your Child Can Improve His or Her Score on ANY Standardized Test and Have a Successful School Career

The most important thing any student can do to improve his/her chances on ANY test and to ensure success at school is to READ…READ…READ! You can support your child as a reader by helping him/her to set aside a regular time every day to read. At this Second Grade level…it is important that 15-20 minutes per day are spent reading and that, at least, 10 of those minutes are spent reading aloud to an adult. Children should read both fiction and non-fiction and what is read should be discussed to make certain that he/she understands what has been read. Even magazines – at the appropriate reading level – are fine.

BOTTOM LINE: Students who read do better in school. Students who read do better on tests. They can comprehend the written material and digest it more rapidly and with less frustration. Even the math sections have written information in each and every question.

If you have not already done so – this is the time to begin reading with your child. Don't put it off. Only 15-20 minutes per day will make all of the difference in the world!

Did you know that by 4th Grade students are expected to read *one half million* words per year?
better start reading!!!!!

# STAR Analysis Introduction

## I. Introduction to CAT/6 and California Standards Test

As we all know, the cornerstone of California's quest for achievement accountability is the Standardized Testing and Reporting or STAR program. During the first three years of the STAR program the focus was on a basic skills, nationally normed, multiple-choice test – the Stanford-9. Because it was developed for national use -- the Stanford-9 did not fully match the academic content standards adopted to guide school curriculum in California; thus our students were at an unfair disadvantage when compared nationally. For this reason, the State Board of Education adopted the CAT/6 in addition to the California Standards Test (CST). CAT/6 scores are still normed and compared to a national sample of students – the questions, however, are better aligned with California Standards and, therefore, test what our student should be learning. The CST was created to be completely aligned with our state adopted standards and makes up 80% of the weight of the STAR tests.

The theory behind the aforementioned adoption of the CAT/6 and the creation and added weight of the CST is that our students should be better able to perform – and thus score higher – if the STAR tests they are taking actually test the standards being taught in our California classrooms. Additionally, if the tests our students are taking are aligned with what California teachers are teaching – then they would be better able to test students' actual progress toward grade level goals.

The STAR tests are prepared under the supervision of the State and a series of committees that review questions for alignment with content standards. The individual grade-level standards' exams are designed specifically to test compliance with the content standards for a particular subject for that year. ***Therefore, the tests are narrowly focused on what should be taught that year and, by design, do not measure a broad base of knowledge. If a student has not been exposed to or taught the content standards (or more commonly, exposed to only half the content standards) students perform poorly on the standards exam no matter how bright the students might otherwise be.***

## III. How can we use test scores to help us and what exactly is an API score

Based on the results of every student tested in a given school – the school earns an API score. This API is a one-number summary of test scores, with various tests receiving various weights in the index. These tests are broken down into subtests based on the State Standards. The number of questions and the weighted percentages are given for each grouping see California Subject Blueprints at http://www.cde.ca.gov/ta/tg/sr/blueprints.asp. All of the standards are listed; however, a check mark by the standard number denotes which Standards are actually tested. Does that mean that special emphasis should be placed on these areas?

API scores are calculated on a two-year cycle. The first year is the base year and the second is the growth year. The API scores range from 200-1000. For schools with a BASE API score (calculated during the first year) below 800, the annual growth score should increase 5% per year in order to close the gap.

The API does not reflect individual students' test-score growth. It summarizes a school's performance one year (BASE) and compares it to the school's performance in the following year (GROWTH) – but the group of students, at each school – especially at the junior high level, is different from year to year. For example, when 8$^{th}$ graders leave as a new set of 7$^{th}$ graders arrives – each with a different set of strengths and weaknesses – every year. There is, however, there is a multiyear effort underway to establish a system in which schools will be evaluated based on the progress of individual students over time rather than on "before and after snapshots". While this API is important to the state – at our school level it is a rather arbitrary number that does little to help us use the test to move our students to proficiency.

This said…we are all responsible for making sure that each and every student is adequately prepared to, not only take the STAR tests…but to move on to the next grade and – hopefully – onto the next level of academic success!

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# California Standards Test Breakdown
# Second Grade

| ***Second Grade Mathematics CST*** | **Number of Questions on Test** | **Percent Value on Test** |
|---|---|---|
| **Strand** | | |
| **MATH** | | |
| Number Sense | 38 | 58% |
| Algebra and Functions | 6 | 9% |
| Measurement and Geometry | 14 | 22% |
| Statistics, Data Analysis & Probability | 7 | 11% |
| Mathematical Reasoning | Embedded | |

| ***Second Grade English-Language Arts*** | **Number of Questions on Test** | **Percent Value on Test** |
|---|---|---|
| **Strand** | | |
| **English-Language Arts** | | |
| Word Analysis | 22 | 34% |
| Reading Comprehension | 15 | 23% |
| Literary Response and Analysis | 6 | 9% |
| Writing Strategies | 8 | 12% |
| Written Conventions | 14 | 22% |

**NOTE:** All of the standards marked with a ✓ are tested on the CST. Standards with an * after them comprise a minimum of 70% of the California Standards Test.

# Reading

**WORD ANALYSIS, FLUENCY, AND SYSTEMATIC VOCABULARY DEVELOPMENT**

**Approximately 22 items or 34% of the California Standards English/Language Arts Reading Test are based on the "Word Analysis, Fluency, and Systematic Vocabulary Development" Strand.**

## This strand asks students to:

- Decode vowel patterns in words such as: toil, fright, rain, few.
- Decode multi-syllable words – including applying knowledge of basic syllabication rules when reading. Examples include din-ner and di-ner.
- Read high frequency words and common abbreviations *(Jan., Sun., Mr., St.).* See list of high frequency words below.
- Understand vocabulary concepts such as regular plurals (*-s, -es,*
- *ies)* and irregular plurals (*fly and flies, leaf and leaves)*, common antonyms and synonyms, compound words, simple prefixes and suffixes (*over-, un-, -ing, -ly)* simple multiple-meaning words.
- Read fluently and with accuracy and appropriate pacing at the second grade level.

## Successful students will:

- Be able to read fluently at grade level
- Recognize all of the high frequency words for second grade
- Identify whether a plural word is regular or irregular
- Identify compound words
- Identify simple prefixes and suffixes

# Reading

**1.0 Word Analysis, Fluency, and Systematic Vocabulary Development**
Students understand the basic features of reading. They select letter patterns and know how to translate them into spoken language by using phonics, syllabication, and word parts. They apply this knowledge to achieve fluent oral and silent reading.

Decoding and Word Recognition
Word Analysis is basically "analyzing words"

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 multisyllable words.

1.4 Recognize common abbreviations (e.g., *Jan., Sun., Mr., St.).*

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.

## Rules that Will Help Your Child Be a Successful Second Grader

1. **A dipthong** is two vowel sounds that come together so quickly that they are considered to be only one.

**Examples:** oi and oy, ou and ow.

*Dipthong* oi and ou come in the initial or medial position of a word.
*Dipthong* oy and ow come in the final position of a word.

**2. Vowel/Consonant Rule:** A vowel followed by a consonant is short.

**Examples:** log cat sit tug wet.

**3. Vowel Rule:** An open, accented vowel is long.

**Examples:** no me so we go hi

**4. Twin Consonants:** Twin consonants are two identical letters side by side in a word, but only the first letter makes the sound.

**Examples:** ball class stuff

**5. Consonants Digraphs**: A diagraph is two letters that come together and make one sound. This is different from a blend. In a blend the two sounds can be distinguished.

**Examples:** th- The diagraph th has a voiced and unvoiced sound. To determine if th is unvoiced or voiced, place three fingers over your throat and say the word. If you feel vibrations when pronouncing the th, then the th is voiced.

**6. Vowel Diagraphs:** A vowel diagraph is two letters with the first letter making a long sound and the second letter is silent. Basically, "first one does the talking, the second keeps on walking"

**Examples:** ee ay ai oo

**7. Vowel Consonant Consonant Vowel Rule:** When a word contains more than one vowel, it could follow the vccv or vowel consonant-consonant -vowel pattern.

**Examples:** napkin picnic rabbit

**8. K and C Rules:** There are two ways to spell the /k/ sound.

Spell the /k/ sound with k if the sound comes before e, i, or y.
**Examples:** kid milky skip silky

Spell the /k/ sound with the letter k if the sound comes before e, i, or y.
**Examples:** keg kid milky skip silky.

Spell the /k/ sound with a c if the sound comes before a, o, u, or any consonant.
**Examples:** cat clip crop cost cup

**9. Vowel-e Rule:** A vowel followed by consonant and a "sneaky e" is long.
**Examples:** name hope these like rule

**10. Combinations:** A combination is two letters coming together to make an unexpected sound. These are different from a diagraph because you cannot hear any of these letters' normal sounds.

**Examples:** ar er ir ur or

**11. Final /s/ Rules:** After a short vowel—use ss.
**Examples:** pass, miss, dress.

After a long vowel, use ce.
**Examples:** ice space

After a consonant or a vowel diagraph, use se.
**Example:** false rinse pulse loose horse

**12. Dropping Rule:** When a word ends in a silent e, drop the e before adding a vowel suffix.
**Examples:** take + ing = taking, rake + ing = raking

**13. Dipthongs:** A dipthong is two vowel sounds that come together so quickly that they are considered to be only one syllable.

**Examples:** oi and oy, ou and ow. Dipthong oi and ou come in the initial or middle position of a word. Dipthong oy and ow come in the final position of a word.

**14. Ghost Diagraphs:** A ghost diagraph has the silent "g" "k" and "w" in the diagraphs gn, kn, and wr.

**Ex:** knife gnaw wrist

**15. Doubling Rule:** When a vowel suffix is added to a root word that ends with one vowel and one consonant—the final consonant is doubled before adding the suffix.

Vowel suffixes are ed, ing, and y.
**Example:** sit + ing = sitting Sit ends with a vowel followed by one consonant.

***Vocabulary and Concept Development***
✓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.

**Hints:** By 2/3 of the way through the Second Grade year – please help your child be able to:

- Read aloud fluently.
- Read multi-syllable words.
- Understand antonyms, synonyms and words with multiple meanings.
- Determine and break apart compound words and affixes and use them to figure out the meaning of new words.
- Turn singular nouns into plural nouns.

**Useful information:**

1. synonyms: words that mean the same or nearly the same.
   Remember: **S** = synonym and **S** = same – **Synonym = Same**

**Sample question:** Decide which word means nearly the same as the underlined word.

A. a <u>weary</u> traveler
   a. sure-footed
   ***b. tired***
   c. hungry
   d. none of the above

2. antonyms: words that mean the opposite of a given word.

Sample question:

B. <u>quiet</u> whispers
   a. peaceful
   ***b. loud***
   c. private
   d. hurtful

# Reading Comprehension

**Approximately 15 items or 23% of the Second Grade California Standards English/Language Arts Reading Test are based on the "Reading Comprehension" Strand.**

What specifically is "Reading Comprehension"?

Students read and understand grade-level-appropriate material. Students will be asked to answer questions that require them to make predictions, compare information from several sources, analyze information from text, recipes, directions etc. among other things. Knowing how to read fluently at grade level is the key to this section of standards.

The selections in *Recommended Readings in Literature, Kindergarten Through Grade Eight* (found at: http://www.cde.ca.gov/ci/rl/ll/ litrlclassificat.asp) illustrate the quality and complexity of the materials to be read by students. In addition to their regular school reading, by grade four**, students read one-half million words annually**, including a good representation of grade-level-appropriate narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information). In grade two, students continue to make progress toward this goal.

**2.0 Reading Comprehension**

***Structural Features of Informational Materials***
✓2.1 Use titles, tables of contents, and chapter headings to locate information in expository text.

***Comprehension and Analysis of Grade-Level-Appropriate Text***
2.2 State the purpose in reading (i. e., tell what information is sought).
✓ 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.
✓ 2.7 Interpret information from diagrams, charts, and graphs.
✓ 2.8 Follow two-step written instructions.

# Literary Response and Analysis

**Approximately 6 items or 9% of the Second Grade California Standards English/Language Arts Reading Test are based on the "Literary Response and Analysis" Strand.**

Students will be required to:

- Respond to a variety of children's literature
- Distinguish between structural features of text and the literary terms and elements (plot, theme, setting, characters)
- Understand the cause and effect relationship
- They identify the use of rhythm, rhyme, and alliteration in poetry.
- Compare and contrast plots, settings, and characters in stories written by different authors

**3.0. Literary Response and Analysis**

*Narrative Analysis of Grade-Level-Appropriate Text*
✓3.1 Compare and contrast plots, settings, and characters presented by different authors.
✓3.2 Generate alternative endings to plots and identify the reason or reasons for, and the impact of, the alternatives.
✓3.3 Compare and contrast different versions of the same stories that reflect different cultures.
✓3.4 Identify the use of rhythm, rhyme, and alliteration in poetry.

Helpful definitions:

**1. Rhythm:** Meter or pattern of sound – specifically, the pattern of accented and unaccented syllables.

**2. Rhyme:** Words that contain the same sounds.

***Example:*** End rhyme: green and mean, goat and boat

**3. Alliteration:** The repetition of consonant sounds.

***Example:*** ***cr***eamy and ***cr***unchy

# Written and Oral English Language Conventions

**Approximately 14 items or 22% of the Second Grade California Standards English/Language Arts Reading Test are based on the "Written and Oral English Language Conventions" Strand.**

## What in the world are "Conventions"?

Basically written and oral English language conventions include:

- Analyzing sentence structure
- Grammar
- Punctuation
- Capitalization
- Spelling

**1.0 Written and Oral English Language Conventions**
Students write and speak with a command of standard English conventions appropriate to this grade level.

**Sentence Structure**
✓1.1 Distinguish between complete and incomplete sentences.
1.2 Recognize and use the correct word order in written sentences.

**Grammar**
✓1.3 Identify and correctly use various parts of speech, including nouns and verbs, in writing and speaking.

**Punctuation**
✓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.

**Capitalization**
✓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.

**Spelling**
✓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.

| High Frequency Word List<br>Second Grade | | |
|---|---|---|
| about | home | point |
| air | house | read |
| all | how | right |
| also | kind | same |
| American | know | sentence |
| animals | large | set |
| another | learn | show |
| answer | letters | small |
| any | line | sound |
| around | long | spell |
| asked | man | still |
| back | means | study |
| because | men | such |
| been | more | take |
| before | most | tell |
| boy | mother | than |
| called | name | thing |
| came | need | think |
| change | new | there |
| day | number | try |
| different | oil | turned |
| down | old | very |
| each | only | way |
| end | other | well |
| even | our | went |
| find | over | words |
| following | page | work |
| form | part | write |
| found | people | years |
| from | picture | |
| good | place | |
| hand | play | |

Success begins with KNOWING how to READ and SPELL these words!

# Writing Strategies

**Approximately 8 items or 12% of the Second Grade California Standards English/Language Arts Reading Test are based on the "Writing Strategies" Strand.**

Success in the Writing Strategies strand means that students can write and recognize clear, understandable sentences and paragraphs that develop a central idea. Specifically:

- Students must know their audience and write appropriately
- Know the purpose of their writing
- Understand the writing process – prewriting, drafting revising and editing.

**1.0 Writing Strategies**
**Organization and Focus**
✓1.1 Group related ideas and maintain a consistent focus.

**Penmanship**
1.2 Create readable documents with legible handwriting.

**Research**
✓11.3 Understand the purposes of various reference materials (e.g., dictionary, thesaurus, atlas).

**Evaluation and Revision**
✓11.4 Revise original drafts to improve sequence and provide more descriptive detail.

**Below are items not on CST but crucial to Second Grade Success!**

**2.0 Writing Applications (Genres and Their Characteristics)**
Students write compositions that describe and explain familiar objects, events, and experiences. Student writing demonstrates a command of standard American English and the drafting, research, and organizational strategies outlined in Writing Standard 1.0.

Using the writing strategies of grade two outlined in Writing Standard 1.0, students:

2.1 Write brief narratives based on their experiences:
a. Move through a logical sequence of events.
b. Describe the setting, characters, objects, and events in detail.

2.2 Write a friendly letter complete with the date, salutation, body, closing, and signature.

# Math

**In Second Grade students will learn:**

- to understand place value and number relationships in addition and subtraction,
- simple concepts of multiplication,
- to measure quantities with appropriate units,
- to classify shapes and see relationships and patterns, and
- to collect and analyze data and then verify the answers they get.

The "Standards" being addressed are boxed and/or highlighted in grey.

The Power Standards are marked with a ✓

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## Number Sense

*Approximately 38 items, or 58 %, of the math questions on the California Standards Test will contain problems requiring operations and knowledge of the Number Sense section of the Second Grade California State Content Standards.*

The core part of Second Grade Math Standards is the ***Number Sense*** strand…but…

...how can I make sense of numbers if I have no idea what ***Number Sense*** is?

Basically, Number Sense is…

- learning to count and recognize whole numbers
- breaking down numbers
- manipulating numbers
- addition
- subtraction
- grouping to introduce division
- multiplication tables of 2s, 5s, and 10s
- recognize fractions as parts of a single whole
- even numbers and odd numbers
- work with money
- understand the decimal in relation to money

# Number Sense

**1.0 Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:**

✓ 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 tens + 5) to represent numbers (to 1,000).
✓ 1.3 Order and compare whole numbers to 1,000 by using the symbols <, =, >.

***1.1✓ Count, read, and write whole numbers to 1,000 and identify the place value for each digit.***

| Thousands | Hundreds | Tens | Ones |
|---|---|---|---|
| 1 | 2 | 4 | 5 |

1,245 = One thousand two hundred forty-five

Sample question:

1. 1,245 Choose the numeral in the tens place.
   a. 2
   b. 4
   c. 5
   d. 1000

   The correct answer is ***b 4***, because there are **4** tens.

2. 6 tens 3 ones
   a. 36
   b. 603
   c. 63
   d. 363

The correct answer is ***c 63*** because 60 + 3 = 63

***1.2 Use words, models, and expanded forms (e.g., 45 = 4 tens + 5) to represent numbers (to 1,000).***

Another way to look at 1,245 is:

1000 + 200 + 40 + 5 = 1,245

Sample question:

1. 300 + 40 + 7 =

The correct is ***347*** because 300 + 40 + 7 = 347

***1.3✓ Order and compare whole numbers to 1,000 by using the symbols <, =, >.***

Knowing the order of numbers is an important part of math.

When ordering numbers using the <> symbols think of the opening of the < as an alligator's mouth and remember that the alligator is greedy and wants to EAT the BIGGEST number – so the biggest number always goes INSIDE the alligators mouth.

***Example:*** ***4 < 10*** ***This reads, "4 is less than 10" -- the alligator is eating the 10***
***6 > 2*** ***This reads, "6 is greater than 2" the alligator is eating the 6***
***8 = 8*** ***This reads, "8 equals 8" and the alligator goes home***

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**Parent's Notes and Practice**

**2.0 Students estimate, calculate, and solve problems involving addition and subtraction of two-and three-digit numbers:**

✓ **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.
**2.3** Use mental arithmetic to find the sum or difference of two two-digit numbers.

## *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.*

**Inverse Relationship**: An ***inverse relationship*** is something that is the opposite of what you are doing. Here an ***inverse relationship*** means that every addition problem can use the sum (answer) and one of the numbers you are adding – to make a subtraction problem.

Example: 2 + 15 = 17 *inverse* 17 - 15 = 2

**Sample question:**

1. 3 + 4 = 7 **select the answer that checks this problem**
   a. 4 + 3 = 7
   b. 7 + 3 = 10
   c. 10 – 3 = 7
   d. 7 – 3 = 4

The answer is ***d. 7 – 3 = 4*** because all of the same numbers are used in a problem that forms the opposite operation.

2. 6 + _____ = 10 10 - _____ = 6 Which will make this number sentence true?

   a. 16
   b. 10
   c. 5
   d. 4

The answer is d. 4 because 6 + ***4*** = 10 10 - ***4*** = 6

**Remember:** To form the inverse of addition – subtract
To Form the inverse of subtraction – add

***2.2 ✓ Find the sum or difference of two whole numbers up to three digits long.***

**Sum:** The answer to an addition problem.
**Difference:** The answer to a subtraction problem.
This is simply adding and subtracting one, two and three digit numbers.
Sample question:

1. 31 + 45 = ___
   a. 76
   b. 67
   c. 31
   d. 45

The answer is ***a. 76***, because 31 + 45 = 76

2. 245 – 122 = ____
   a. 123
   b. 23
   c. 367
   d. 323

***2.3 Use mental arithmetic to find the sum or difference of two two-digit numbers.***

This standard is not directly tested; however, quizzing your student regularly (in the car, at the store) would be beneficial to his or her mathematical success. **3.0 Students model and solve simple problems involving multiplication and division:**

✓ 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.

***3.1✓ Use repeated addition, arrays, and counting by multiples to do multiplication.***

**Think:** How are 2+2+2+2 and 4X2 related? They are related because multiplication is just adding groups!

Skip counting can be used to solve multiplication problems.

1. There are 2 rows and 6 columns of square tiles. The numbers sentence for this is:
   a. 4x6
   b. 2x6
   c. 2+6
   d. 6-2

**Solution:** To solve this problem draw a simple picture of seating six people in two rows – you will find you need 12 seats.

*Help your student by learning to skip count by 2s, 3s, 5s, and 10s.*

***3.2✓ Use repeated subtraction, equal sharing, and forming equal groups with remainders to do division.***

*This is a Power Standard – and it is often tested in the context of word problems*. When trying to solve word problems – look for cues in the sentence to tell you whether to add or subtract.

- ❖ Adding words: in all, altogether.
- ❖ Subtraction words: how many left, how many more, how many fewer.

**Sample problem:** Katie has 28 heart stickers. She has 9 triangle stickers. ***How many more*** heart stickers does she have?

a. 28 + 9 = 37 more heart stickers
b. 28 – 9 = 19 more triangle stickers
c. 28 – 9 = 19 more heart stickers
d. none of the above.

**Solution:** The correct answer is ***c. 28 – 9 = 19*** more heart stickers. The clue in the sentence is "how many more". "How many more" means subtraction. We are looking for heart stickers so the answer is 19 heart stickers.

***3.3✓ Know the multiplication tables of 2s, 5s, and 10s (to "times 10") and commit them to memory.***

This is an easy one to understand. Help your student memorize the times tables for 2s, 5s and 10s up to the "times 10" – i.e. 10 x 10 = 100

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## Parent's Notes and Practice

**4.0 Students understand that fractions and decimals may refer to parts of a set and parts of a whole:**

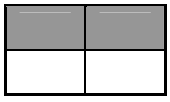
| |
|---|
| ✓ 4.1 Recognize, name, and compare unit fractions from 1/12 to ½.<br>✓ 4.2 Recognize fractions of a whole and parts of a group (e.g., one-fourth of a pie, two-thirds of 15 balls).<br>✓ 4.3 Know that when all fractional parts are included, such as four-fourths, the result is equal to the whole and to one. |

Problems regarding 4.0 of the ***Number Sense*** strand of the California State Standards are as follows.

1. What fraction names the shaded part of the shape:
   a. 1/5
   b. 2/3
   c. 2/6
   d. ½

**Solution:** The answer is ***b. 2/3*** because 2 of the 3 rectangles are shaded.

2. What part is shaded:
   a. 2/4
   b. 1/6
   c. 2/5
   **d. 1/3**



**Solution**: The answer is **a. 2/4** because 2 of 4 parts of the shape are shaded.

3. Which fractions are ordered from least to greatest?
   a. $\frac{1}{8}\frac{1}{4}\frac{1}{3}\frac{1}{2}$
   b. $\frac{2}{3}\frac{1}{4}\frac{1}{3}\frac{1}{2}$
   c. $\frac{5}{1}\frac{1}{2}\frac{1}{3}\frac{1}{6}$
   d. $\frac{1}{2}\frac{1}{3}\frac{1}{4}\frac{1}{8}$

**Solution:** The correct answer is a. $\frac{1}{8}\frac{1}{4}\frac{1}{3}\frac{1}{2}$ because if the same number is on the top of all of the fractions – the bottom numbers go in descending order.

**5.0 Students model and solve problems by representing, adding, and subtracting amounts of money:**

✓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.

## *5.1✓ Solve problems using combinations of coins and bills.*

The best way to practice recognition of money with your child is to get out some coins and practice grouping them and counting out what they are worth.

Sample question:

Which of these is a true statement?

a. 50 cents = 4 dimes and 2 nickels
b. 1 quarter = 6 pennies and 2 dimes
c. 2 quarters = 2 half-dollars
d. none of the above

The correct answer **a. 50 cents = 4 dimes and 2 nickels**.

Barney has 2 quarters, 1 dime and 2 nickels. How much money does he have?

a. 65 cents
b. 70 cents
c. 50 cents
d. none of the above.

The correct answer is **b. 70 cents**.

**Hint:** It is important for your child to be able to recognize the standard U.S. coins, manipulate them and add them up in various groups.

**For Example:**

equals 21 cents


equals 30 cents

## Algebra and Functions

**1.0 Students model, represent, and interpret number relationships to create and solve problems involving addition and subtraction:**

✓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.

Approximately 9 % or 6 items of the California Standards test will contain problems requiring operations and knowledge of the **Algebra and Functions** strand of the Second Grade California State Content Standards.

What exactly is "**Algebra and Functions**"?

In the **Algebra and Functions** section of the CST second graders will…

- identify number sentences that represent the inverse operation of given number sentences.
- apply the addition properties of zero and one in problem situations.
- describe the inverse relationship between addition and subtraction, write related equations, and solve, e.g., 35 + _ = 47, 47 - 35 = _.

Basically, students will be asked to determine relationships such as:

18 + 8 is the same as 18 + 2 + 6
and 10 + 3 + 7 is the same as 10 + 10

✓***1.1 Use the commutative and associative rules to simplify mental calculations and to check results.***

*Commutative Property of Addition:* Changing the order of addends (the numbers added in an addition problem) does not change the sum (answer) of the problem.

Sample question:

1. 3 + 4 = 7 is the same as,
   a. 4 + 3 = 7
   b. 4 + 4 = 7
   c. 7 – 3 = 4
   d. None of the above

Solution: Based on the Commutative Property of Addition a. 4 + 3 = 7.
Remember: The Commutative Property says that it doesn't matter what order addends are in – order does not affect answer in addition.

*Associative Rule of Addition:* Changing the grouping of addends does not change the answer.

$$(3+5)+7=15 \quad \text{and} \quad 3+(5+7)=15$$

Sample question:

1. If (2+5)+9=16, then

    a. (5-2)+9=16
    b. 5+2+16=9
    c. 2+(5+9)=16
    d. None of the above.

Solution: The correct answer is c. 2+(5+9)=16 because it doesn't matter how you group numbers when you are adding. You will always get the same answer.

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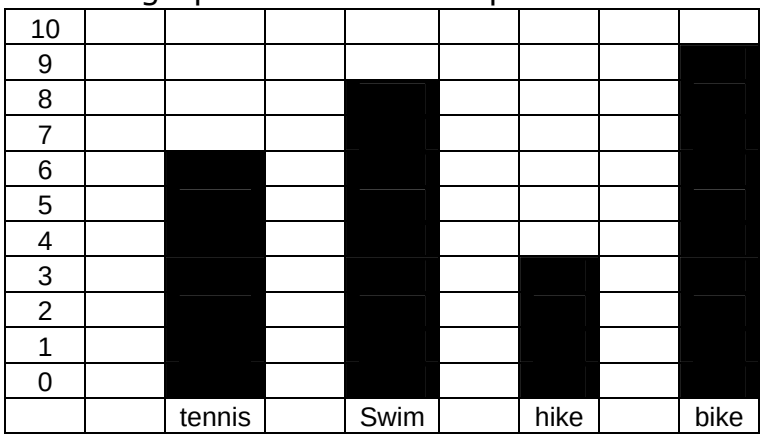
## Parent's Notes and Practice

***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.***

Students will read graphs and number sentences and answer questions.

**Hint:** When analyzing graphs – remind students to read the information on the sides and bottom of the graph.

Use the graph to answer the questions below:




1. How many students played tennis?
   - ***a. 6 – because 6 is the last space filled in.***
   - b. 8
   - c. 3
   - d. 9

2. How many students went biking?
   - a. 8
   - ***b. 9 – because 9 is the last space filled in.***
   - c. 3
   - d. 10

3. What activity was picked by the most students?
   - a. tennis
   - b. swimming
   - c. hiking
   - ***d. biking – because the bar is the highest in the graph.***

4. What activity was picked by the fewest students?
   - a. swimming
   - ***b. hiking – because the bar is the lowest in the graph.***
   - c. biking
   - d. baseball

# Measurement and Geometry

Approximately 22%, or 14 items, of the second grade California Standards Test will contain problems requiring operations and knowledge of the **Geometry and Measurement** strand of the Second Grade California State Content Standards.

Second Graders will be specifically asked to:

- Use a pictured object (like a paper clip) to estimate the measure of a line
- Measure an object to the nearest inch or centimeter
- To tell time to the nearest quarter hour
- To know the relationships between minutes, hours – months, years, etc.
- Describe, identify, create and sort and build with shapes (squares, triangles, circles, rectangles etc.)
- Identify a variety of geometric shapes in everyday structures
- Compare and sort 2 and 3 dimensional shapes (3-D terms include sphere, prism cones etc.)
- Extend and make patterns with shapes
- Determine lines of symmetry, flips, slides, turns and transformations of shapes
- Describe locations on a grid - up four and over two

**1.0 Students understand that measurement is accomplished by identifying a unit of measure, iterating (repeating) that unit, and comparing it to the item to be measured:**

1.1 Measure the length of objects by iterating (repeating) a nonstandard or standard unit.
1.2 Use different units to measure the same object and predict whether the measure will be greater or smaller when a different unit is used.
✓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).
1.5 Determine the duration of intervals of time in hours (e.g., 11:00 a.m. to 4:00 p.m.).

Remember: To help your student with this portion of the CST:

- Practice telling time in intervals of 5 (i.e. 12:05, 12:10 etc.).
- ***Practice measuring objects (pencils, paperclips, erasures, etc.) with both in and centimeter rulers.***
- Discuss days vs. weeks vs. months vs. years.
- Discuss intervals of time (seconds, minutes, hours).
- Practice determining how much time something takes (e.g.: We will be at Grandma's from 2:00 p.m. to 4:00 p.m. How long will we be there? 2 hours.)

# STATISTICS, DATA ANALYSIS, AND PROBABILITY

**1.0 Students collect numerical data and record, organize, display, and interpret the data on bar graphs and other representations:**

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).
1.4 Ask and answer simple questions related to data representations.

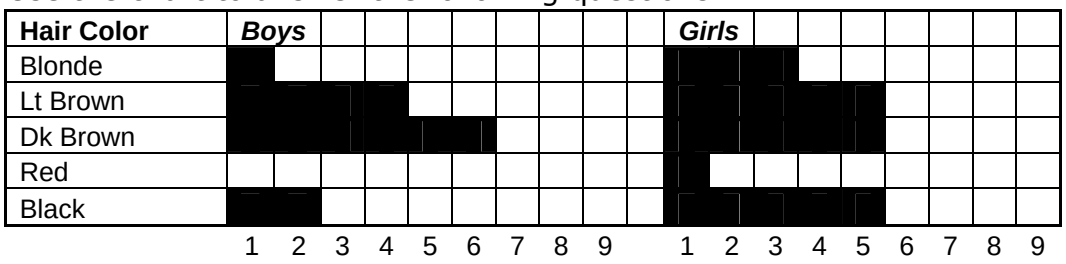
Approximately 11%, 7 items, of the Second Grade STAR questions will be based on the STATISTICS, DATA ANALYSIS, AND PROBABILITY strand.

In this section students will be asked to:

- Look at charts and bar graphs and determine what the data means.
- Keep track of counting.
- Order numbers and tell which is the least or greatest.

## Sample questions:

Use the chart to answer the following questions:




1. How many boys have blonde hair?
   a. 3
   ***b. 1***
   c. 4
   d. 2

   * Look for the **Boys** part of the chart and count how many boxes are shaded in the **Blonde** row!

2. How many more boys have dark brown hair than girls who have red hair?
   ***a. 5***
   b. 2
   c. 6
   d. 1

   * Count the **Boys** with **Dk Brown** hair and the ***Girls*** with ***Red hair*** and subtract – Hint: "how many more".

3. How many boys and girls have black hair?
   a. 2
   b. 5
   ***c. 7***
   d. 2

   * Add up the **Boys** and ***Girls*** with **Black** hair.