HiSET® – Test at a Glance (TAAG) Information Brief

The purpose of the High School Equivalency Test (*HiSET*®) is to certify a test taker's attainment of academic knowledge and skills equivalent to those of a high school graduate. HiSET scores will identify those test takers who have performed at a level consistent with high school equivalency. Information from the HiSET program also will help identify areas in which test takers are career and college ready, as well as areas in which additional preparation may be needed.

Test takers will be tested in five core areas: Language Arts – Reading, Language Arts – Writing, Mathematics, Science, and Social Studies. Descriptions of each of these five tests are contained in this document. The **HiSET® Practice Tests** allow test takers to view sample content and item types and provide them with general information about their level of preparation for taking the operational form.

Through ongoing validity research, the HiSET program has been connected to college-readiness indicators. Test taker performance relative to these indicators is part of the reporting system for the assessment.

The following TAAG sections give a quick overview of each HiSET test and include:

- Test name
- Length of test (Time)
- Number and types of questions (Format)
- Content Categories and approximate percentage of the test
- Process Categories
- Process Category Descriptors
- Depth of Knowledge Levels (DOK)*

The emphasis of each category is expressed as the average percentage of the number of questions per category. This percentage is the approximate average number of questions across the forms on the HiSET test.

Language Arts – Reading

Test at a Glance	
Test Name	Language Arts – Reading
Time	65 minutes (English), 80 minutes (Spanish)
Number of Questions	50
Format	Multiple-choice questions
	Content Categories (Approximate Percentage of Questions)

	Application of concepts, analysis, synthesis, and evaluation involving:
	
	   I. Literary Texts (40%)
	   II. Informational Texts (60%)

	Process Categories

	A. Comprehension
	  B. Inference and Interpretation
	  C. Analysis
	  D. Synthesis and Generalization

About This Test

The Language Arts – Reading test provides evidence of a test taker's ability to understand, comprehend, interpret, and analyze a variety of reading material. The Language Arts – Reading test forms will include 40 percent of texts that are literary and 60 percent of texts that are informational. In the HiSET program, test takers will be required to read a broad range of high-quality literary and informational texts. The selections are presented in multiple genres on subject matter that varies in purpose and style. The selections will span various forms (e.g., narratives, memoirs, essays, biographical sketches, editorials, and poetry). The texts generally range in length from approximately 400 to 600 words; however the length typically increases after Spanish translation. This test may contain some questions that will not count toward your score.

Depth of Knowledge Levels (DOK)

Each test question is assigned a Depth of Knowledge Level (DOK). The levels refer to the cognitive demand that the test questions require to answer correctly.

The DOK are listed below along with a brief explanation or some examples of the DOK performances.

- Level 1 – Recall: test takers reflect surface-level understanding of explicit details of the text.
- Level 2 – Skill/Concept: test takers process text and make inferences to exhibit understanding beyond surface level.
- Level 3 – Strategic Thinking: test takers analyze and make meaning beyond the text.
- Level 4 – Extended Thinking: test takers synthesize information and reveal higher-order thinking through complex reasoning.

The examples listed do not cover all the expected behaviors for the DOK levels.

The Test Framework

The Language Arts – Reading test framework is organized into broad areas of content, called **Content Categories**. Each **Content Category** is further divided into **Process Categories** and **Process Category Descriptors**.

The **Process Category Descriptors** describe in greater detail the skills and knowledge eligible for testing. Test takers answer questions about the provided texts that may involve one or more of the **Process Category Descriptors** that are numbered under each **Reading Process Category** starting below.

Reading Process Categories

A. Comprehension

1. Demonstrate understanding of explicit details in the text
2. Determine the meaning of words and phrases as they are used in the text
3. Analyze the impact of specific word choices on meaning and tone

B. Inference and Interpretation

1. Make and support inferences from the text
2. Draw conclusions or deduce meanings not explicitly present in the text
3. Infer the traits, feelings, and motives of characters or individuals
4. Interpret information presented in different formats (e.g., charts, graphs, tables) and apply to understanding of the text
5. Interpret nonliteral language (e.g., figurative language, symbolism, connotation)

C. Analysis

1. Determine the main idea, topic, or theme of a text; summarize key details and ideas
2. Determine the author's or speaker's purpose or viewpoint
3. Analyze individuals, events, and ideas and how they develop and interact over the course of a text (e.g., through comparisons, contrasts, analogies, time lines)
4. Recognize aspects of an author's style, structure (e.g., chronological, cause-effect), mood, or tone (e.g., objective, humorous, solemn)
5. Evaluate arguments or use of literary devices (e.g., foreshadowing, flashback, irony)

D. Synthesis and Generalization

1. Draw conclusions and make generalizations based on several pieces of textual evidence
2. Make predictions based on several pieces of textual evidence
3. Compare and contrast elements (e.g., structure, style, point of view) of two or more texts
4. Analyze how two or more texts present similar information, topics, or themes

The following is a list of the College and Career Readiness Standards (CCRS)* that are included in the Language Arts – Reading test. The HiSET Language Arts – Reading test is aligned with CCRS Anchor 10: "Read and comprehend complex literary and informational texts independently and proficiently." While some skills assessed on the HiSET Language Arts – Reading test correspond to CCRS from lower grades, the HiSET test applies these skills to texts of appropriate reading level and complexity.
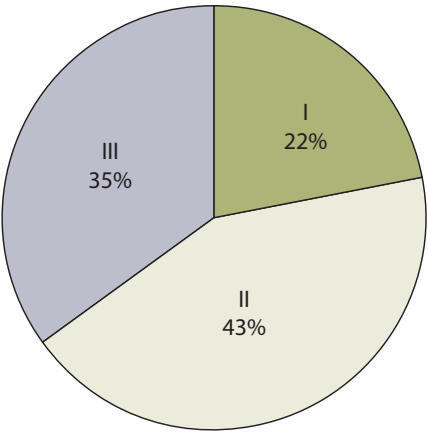
CCRS Code	College and Career Readiness Standards
RH.6 – 8.6	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion, or avoidance of particular facts).
RH.9 – 10.6	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
RH.9 – 10.9	Compare and contrast treatments of the same topic in several primary and secondary sources.
RI.11 – 12.3	Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
RI.11 – 12.7	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
RI.4.2	Determine the main idea of a text and explain how it is supported by key details; summarize the text.
RI.4.5	Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
RI.5.5	Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
RI.5.8	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
RI.5.9	Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
RI.6.7	Integrate information presented in different media or formats (e.g., in charts, graphs, photographs, videos, or maps) as well as in words to develop a coherent understanding of a topic or issue.
RI.7.5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.
RI.8.3	Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).
RI.8.6	Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.
RI.8.8	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.
RI.8.9	Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.
RI.9 – 10.5	Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).
RI.9 – 10.6	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
RI.9 – 10.8	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
RI/RL.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

CCRS Code	College and Career Readiness Standards
RI/RL.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
RI/RL.5.1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RI/RL.6.2	Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
RI/RL.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.
RI/RL.7.1	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
RI/RL.9 – 10.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
RI/RL.9 – 10.2	Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
RI/RL.9 – 10.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
RL.4.2	Determine a theme of a story, drama, or poem from details in the text; summarize the text.
RL.5.6	Describe how a narrator's or speaker's point of view influences how events are described.
RL.11 – 12.6	Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).

* U.S. Department of Education, Office of Vocational and Adult Education, 2013. College and Career Readiness Standards for Adult Education.
  URL: **https://www.vrae.org/images/customer-files/CCRStandardsAdultEd.pdf**

Language Arts – Writing

Test at a Glance	
Test Name	Language Arts – Writing
Time	120 minutes
Number of Questions	61
Format	Multiple-choice questions (60) Essay question (1)

<table>
<tr><td rowspan="4">

</td><td>Content Categories: Multiple-choice questions
(Approximate Percentage of Questions)</td></tr>
<tr><td>

  I.   Organization of Ideas (22%)
 II.   Language Facility (43%)
III.   Writing Conventions (35%)
</td></tr>
<tr><td>Content Categories: Essay question</td></tr>
<tr><td>

 A.   Development of Central Position or Claim
 B.   Organization of Ideas
 C.   Language Facility
 D.   Writing Conventions
</td></tr>
</table>

About This Test

The Language Arts – Writing test provides information about a test taker's skill in recognizing and producing effective standard American written English. The multiple-choice questions measure a test taker's ability to edit and revise written text. The essay question measures a test taker's ability to generate and organize ideas in writing.

The multiple-choice questions require test takers to make revision choices concerning organization, diction, and clarity, sentence structure, usage, and mechanics. The test questions are embedded in complete texts, which span various forms (e.g., letters, essays, newspaper articles, personal accounts, and reports). This test may contain some questions that will not count toward your score.

The texts are presented as drafts in which parts have been underlined or highlighted to indicate a possible need for revision. Questions present alternatives that may correct or improve the indicated portions.

Depth of Knowledge Levels (DOK)

Each test question is assigned a Depth of Knowledge Level (DOK). The levels refer to the cognitive demand that the test questions require to answer correctly.

The DOK are listed below along with a brief explanation or some examples of the DOK performances.

- Level 1 – Recall: test takers identify correct spelling of commonly misspelled words.
- Level 2 – Skill/Concept: test takers edit drafts by applying rules of grammar, punctuation, and capitalization.
- Level 3 – Strategic Thinking: test takers analyze drafts and make revisions for clarity, coherence, tone, and organization.
- Level 4 – Extended Thinking: test takers use complex reasoning and/or synthesize information in order to make revisions to drafts.

The examples listed do not cover all the expected behaviors for the DOK levels.

The essay question measures proficiency in the generation and organization of ideas through a direct assessment of evidence-based writing. Test takers read a pair of texts and then create written responses. Responses are evaluated on the test taker's abilities to develop positions or claims supported by evidence from the materials provided as well as their own experiences.

The Test Framework

The Language Arts – Writing test framework is organized into broad areas of content, called **Content Categories**. Each **Content Category** is further divided into **Content Category Descriptors**.

The **Content Category Descriptors** describe in greater detail the skills and knowledge eligible for testing. Because the Language Arts – Writing assessment was designed to measure the ability to analyze and evaluate writing, answering any question may involve aspects of more than one category. The **Content Category Descriptors** are numbered under each **Content Category** below for multiple-choice questions and on the following page for the essay question.

Content Categories: Multiple-choice questions

The following are descriptions of the skills covered in the content categories for the multiple-choice questions.

I.   *Organization of Ideas*

1. *Select logical or effective opening, transitional, and closing sentences*
2. *Evaluate relevance of content*
3. *Analyze and evaluate organizational structure of a text or portion of a text*
4. *Recognize logical transitions (e.g., however, consequently, likewise) and related words and phrases*

II. *Language Facility*

1. *Recognize appropriate use of phrases and clauses, parallel structure, and modifier placement*
2. *Recognize effective and varied use of compound, complex, and compound-complex sentences*
3. *Recognize idiomatic usage (e.g., phrases like "to miss the boat," "to cut corners," "to feel under the weather")*
4. *Express ideas precisely, maintaining appropriate style and tone*
5. *Analyze nuances in the meaning of words with similar denotations (e.g., the shades of meaning among look, glance, stare, glare, and scowl)*

III. Writing Conventions

1. *Recognize correct forms of verbs, modifiers, and pronouns (e.g., comparative vs. superlative adjectives; subjective vs. objective pronoun case)*

2. *Maintain grammatical agreement (e.g., subject-verb or pronoun-antecedent) and avoid inappropriate shifts in verb tense or pronoun number and person*

3. *Recognize and correct incomplete sentence fragments and run-ons*

4. *Recognize correct capitalization, punctuation (e.g., commas, semicolons, colons, dashes, quotation marks, ellipses), and spelling*

5. *Use reference sources (e.g., dictionaries, thesauruses, glossaries) appropriately*

Content Categories: Essay question

The following are descriptions of the skills and knowledge covered in the content categories for the essay question.

A. Development of a Central Position or Claim

1. *Focus on central position, supporting ideas*

2. *Explanation of supporting ideas*

3. *Command over writing an argument*

B. Organization of Ideas

1. *Introduction and conclusion*

2. *Sequencing of ideas*

3. *Paragraphing*

4. *Transitions*

C. Language Facility

1. *Word choice*

2. *Sentence structure*

3. *Expression and voice*

D. Writing Conventions

1. *Grammar*

2. *Usage*

3. *Mechanics*

The following is a list of the College and Career Readiness Standards (CCRS)* that are included in the Language Arts – Writing test. Assumption regarding grade levels of standards: The CCRS Writing and Language standards reflect the skills that are the focus for instruction at each grade level. It is understood that these skills must continue to be developed and mastered through the high school grades. It is also understood that "lower-grade" standards are still applied at the upper grades with increasing sophistication and detail using higher-level language and texts.

CCRS Code	College and Career Readiness Standards
L.2.1 – 3.1i.	Ensure subject-verb and pronoun-antecedent agreement.
L.2.1 – 3.1j.	Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.
L.4.1 – 5.1g.	Recognize and correct inappropriate shifts in verb tense.
L.4.1 – 5.1k.	Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
L.6.1 – 8.1a.	Ensure that pronouns are in the proper case (subjective, objective, and possessive).
L.6.1 – 8.1c.	Recognize and correct inappropriate shifts in pronoun number and person.
L.6.1 – 8.1d.	Recognize and correct vague or unclear pronouns.
L.6.1 – 8.1g.	Form and use verbs in the active and passive voice.
L.6.1 – 8.1h.	Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
L.6.1 – 8.1i.	Recognize and correct inappropriate shifts in verb voice and mood.
L.6.1 – 8.1j.	Explain the function of phrases and clauses in general and their function in specific sentences.
L.6.1 – 8.1k.	Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.
L.6.1 – 8.1l.	Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.
L.9 – 10.1a.	Use parallel structure.
L.9 – 10.1b.	Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.
L.4.2 – 5.2a.	Use correct capitalization.
L.4.2 – 5.2b.	Use commas and quotation marks to mark direct speech and quotations from a text.
L.4.2 – 5.2c.	Use punctuation to separate items in a series.
L.4.2 – 5.2d.	Use a comma to separate an introductory element from the rest of the sentence.
L.4.2 – 5.2f.	Use underlining, quotation marks, or italics to indicate titles of works.
L.4.2 – 5.2g.	Use a comma before a coordinating conjunction in a compound sentence.
L.6.2 – 8.2a.	Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.
L.6.2 – 8.2b.	Use a comma to separate coordinate adjectives (e.g., It was a fascinating, enjoyable movie but not He wore an old[,] green shirt).
L.9 – 10.2a.	Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.
L.9 – 10.2b.	Use a colon to introduce a list or quotation.
L.9 – 10.2c.	Spell correctly.

CCRS Code	College and Career Readiness Standards
L.4.3 – 5.3a.	Choose words and phrases to convey ideas precisely.
L.4.3 – 5.3d.	Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
L.6.3 – 7.3b.	Maintain consistency in style and tone.
L.6.3 – 7.3c.	Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.
L.11 – 12.4c.	Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology or its standard usage.
L.3.5c.	Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., knew, believed, suspected, heard, wondered).
L.5.5b.	Recognize and explain the meaning of common idioms, adages, and proverbs.
W.6 – 8.2c.	Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.
W.9 – 10.2a.	Introduce a topic and organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
W.9 – 10.2b.	Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
W.9 – 10.2c.	Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
W.9 – 10.2f.	Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Writing CCR Anchor 1:
Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Language CCR Anchor 1:
Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Language CCR Anchor 2:
Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Language CCR Anchor 3:
Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Mathematics

Test at a Glance	
Test Name	Mathematics
Time	90 minutes
Number of Questions	55
Format	Multiple-choice questions
Calculator	Calculator neutral. Please refer to the state policies for the state in which you are testing.

Content Categories (Approximate Percentage of Questions)

    I.   Numbers and Operations on Numbers (19%)

    II. Measurement/Geometry (18%)

    III. Data Analysis/Probability/Statistics (18%)

    IV. Algebraic Concepts (45%)

Process Categories

    A. Understand Mathematical Concepts and Procedures

    B. Analyze and Interpret Information

    C. Synthesize Data and Solve Problems

About This Test

The Mathematics test assesses mathematical knowledge and competencies. The test measures a test taker's ability to solve quantitative problems using fundamental concepts and reasoning skills. The questions present practical problems that require numerical operations, measurement, estimation, data interpretation, and logical thinking. Problems are based on realistic situations and may test abstract concepts such as algebraic patterns, precision in measurement, and probability. This test may contain some questions that will not count toward your score. The Mathematics test is calculator neutral. A calculator is not required, but if a test taker requests a calculator, the test center is required to provide access to one of the following: four-function or scientific calculator. Please refer to the state policies for the state in which you are testing. Some states have specified calculator type/model requirements. A test taker may not bring his or her own calculator to the testing center for use on the HiSET test.

Some test questions require the use of formulas. The formulas needed to answer certain questions will be provided via a formula sheet. Test takers should know some formulas prior to testing. Some of these include: distance-rate-time, Pythagorean Theorem, and quadratic formula.

The formulas below will not be provided on the formula sheet. Then following that:

- distance = (rate) (time) or $a=n$, note $d = rt;$ note d is distance, r is rate, and t is time

- Pythagorean Theorem: $a^2 + b^2 = c^2$. Note c is the longest side of the triangle; a and b are the other two sides of the triangle

- quadratic formula: $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$, where $ax^2 + bx + c = 0$ and $a \neq 0$

Depth of Knowledge Levels (DOK)

Each test question is assigned a Depth of Knowledge Level (DOK). The levels refer to the cognitive demand that the test questions require to answer correctly.

The DOK are listed below along with a brief explanation or some examples of the DOK performances.

- Level 1 – Recall: test takers apply a one-step calculation, simple algorithm, or a formula.
- Level 2 – Skill/Concept: test takers process/construct two or more step calculations.
- Level 3 – Strategic Thinking: test takers make inferences from calculations.
- Level 4 – Extended Thinking: test takers synthesize information and reveal higher-order thinking through complex reasoning.

The examples listed do not cover all the expected behaviors for the DOK levels.

The Test Framework

The Mathematics test framework is organized into broad areas of content, called **Content Categories**.

Each **Content Category** is further divided into **Content Category Descriptors**. The **Content Category Descriptors** describe in greater detail the skills and knowledge eligible for testing.

In addition to knowing and understanding the mathematics content explicitly described in the **Content Category Descriptors**, test takers also will answer questions that may involve one or more of the **Process Categories**. Each **Process Category** is further divided into **Process Category Descriptors**.

Content Categories

The **Content Category Descriptors** are numbered under each **Content Category** below. The **Process Category Descriptors** are numbered under the Mathematics **Process Categories** section starting on page 14.

I. Numbers and Operations on Numbers

1. *Use properties of operations with real numbers, including rational and irrational numbers (e.g., identify rational and irrational numbers, locate these numbers between two points on a number line, find the product and sum of rational and irrational numbers, and determine if the product or sum is rational or irrational).*

2. *Rewrite expressions involving radicals and rational exponents using the properties of exponents (e.g., find an equivalent expression to the cube root of $27x^5y^6$).*

3. *Solve problems involving numbers written in scientific notation (e.g., add, subtract, multiply, and divide numbers in scientific notation form).*

4. *Reason quantitatively and use units to solve problems.*

5. *Choose a level of accuracy appropriate to limitations on measurement.*

6. *Solve multistep real-world and mathematical problems involving rational numbers and irrational numbers including proportional relationships (settings may include money, rate, percentage, average, estimation/rounding).*

II. Measurement/Geometry

1. Understand transformations in the plane, including reflections, translations, rotations, and dilations. Describe a sequence of transformations to demonstrate that one two-dimensional figure is either congruent or similar to a second two-dimensional figure.

2. Use properties of two-dimensional figures, including formulas for area and perimeter and angle relationships. Develop a logical argument to show that such properties are valid.

3. Understand and apply the Pythagorean Theorem (e.g., find the distance between two points on a coordinate grid; find the third side of a right triangle given the lengths of two of the sides).

4. Demonstrate that two triangles are similar or congruent from criteria that is given. Use the fact that two triangles are congruent or similar to determine the values of unknown quantities. Solve real-world problems involving congruent and similar triangles.

5. Use volume formulas and problem-solving techniques to solve for the volume or surface area of 3-dimensional figures (e.g., cylinders, pyramids, cones, and spheres).

6. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).

7. Solve problems involving supplementary, complementary, vertical, and adjacent angles (e.g., given two supplementary angles with measures of 7x and 2x, find the measure of one angle in degrees).

8. Know precise definitions of geometric terms (e.g., given three noncollinear points on a plane, determine which describes all the points between these points, including the points).

III. Data Analysis/Probability/Statistics

1. Use equations, graphs (dot plots, histograms, and box plots), and tables to understand, represent, and interpret data. For data displays, interpret shape, center, spread, and effects of outliers. Summarize data for two categories in two-way frequency tables to solve problems, including those of bivariate data, spread, and relative frequencies.

2. Identify line of best fit from a scatter plot. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

3. Use tables, lists, tree-diagrams and simulations to find the probabilities of compound events.

4. Approximate the probability of a chance event. Develop a probability model, and use it to find probabilities of events (e.g., using the results of an experiment, determine the probability of an event from those results).

5. Use measures of center (mean) to draw inferences about populations including summarizing numerical data sets and calculation of measures of center (e.g., compare the means of two data sets; determine the mean given a set of data).

6. Understand how to use statistics to gain information about a population, generalizing information about a population from a sample of the population (e.g., determine which method to use from a list of methods to select a random sample; using the outcome from a random sample, predict the outcome of the population).

IV. Algebraic Concepts

1. Interpret parts of an expression, such as terms, factors, and coefficients in terms of its context.

2. Perform arithmetic operations on polynomials and rational expressions.

3. Write expressions in equivalent forms to solve problems, including factoring a quadratic expression to reveal the zeros of the function it defines, completing the square to determine the minimum or maximum value of a function, or transforming exponential equations.

4. *Solve mathematical and real-world problems involving linear equations and inequalities, including equations with coefficients represented by letters.*

5. *Solve quadratic equations in one variable that have real or complex roots by taking square roots, completing the square, or using the quadratic formula. Derive the quadratic formula by completing the square.*

6. *Solve simple rational and radical equations in one variable.*

7. *Solve systems of two linear equations algebraically and graphically. Know when a system has 0, 1, or an infinite number of solutions.*

8. *Graph linear, quadratic, square root, cube root, piecewise, absolute value, polynomial, rational, logarithmic, and exponential functions. Identify any intercepts, minima, maxima, asymptotes, and end behavior.*

9. *Create equations and inequalities in one or more variables to represent relationships and use them to solve problems mathematically and in the real world.*

10. *Rearrange formulas/equations to highlight a quantity of interest.*

11. *Understand the concept of a function and use function notation; interpret key features of graphs and tables in terms of quantities. Evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. Write a function that describes a relationship between two quantities (e.g., identify the graph of the function that shows y as a function of x). For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*

12. *Understand domain and range of a function (e.g., given a function in a real-world setting, determine which sets of numbers represent the domain of this function).*

13. *Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.*

14. *Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate rate of change from a graph (e.g., estimate the rate of change from a graph of a function for a specified interval).*

Mathematics Process Categories

Each **Process Category** is further divided into **Process Category Descriptors**. The **Process Category Descriptors** are numbered under each **Process Category** as follows.

A. Understand Mathematical Concepts and Procedures

1. *Select appropriate procedures*

2. *Identify examples and counterexamples of concepts*

B. Analyze and Interpret Information

1. *Make inferences or predictions based on data or information*

2. *Interpret data from a variety of sources*

C. Synthesize Data and Solve Problems

1. *Reason quantitatively*

2. *Evaluate the reasonableness of solutions*

The following is a list of the College and Career Readiness Standards (CCRS)* that are included in the Mathematics test.

CCRS Code	College and Career Readiness Standards
6.RP.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
6.SP.5	Summarize numerical data sets in relation to their context, such as by: Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."
7.EE.3	Solve multi-step, real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
7.EE.4	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
7.G.4	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
7.G.6	Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.
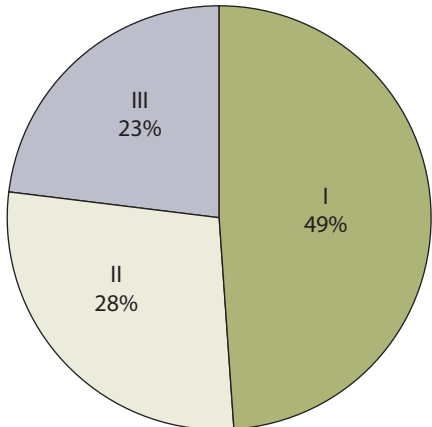
CCRS Code	College and Career Readiness Standards
7.RP.3	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.
7.SP.1	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
7.SP.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.
7.SP.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.
7.SP.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.
7.SP.7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
7.SP.8	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
8.EE.1	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = \dfrac{1}{3^3} = \dfrac{1}{27}$.
8.EE.2	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
8.EE.3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3×10^8, and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.

CCRS Code	College and Career Readiness Standards
8.EE.4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
8.EE.7	Solve linear equations in one variable.
8.EE.8	Analyze and solve pairs of simultaneous linear equations.
8.F.1	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
8.F.4	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two *(x, y)* values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.
8.G.2	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
8.G.4	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.
8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
8.SP.2	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.

CCRS Code	College and Career Readiness Standards
8.SP.4	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?
A – APR.1	Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
A – APR.6	Rewrite simple rational expressions in different forms; write $a(x) / b(x)$ in the form $q(x) + r(x) / b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
A – CED.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
A – CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A – CED.3	Represent constraints by equations or inequalities and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
A – CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R.
A – REI.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
A – REI.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
A – REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
A – REI.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
A – REI.4	Solve quadratic equations in one variable.
A – REI.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
A – SSE.1	Interpret parts of an expression, such as terms, factors, and coefficients.
A – SSE.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.

CCRS Code	College and Career Readiness Standards
F – BF.1	Write a function that describes a relationship between two quantities.
F – IF.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
F – IF.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
F – IF.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
F – IF.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.
F – IF.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
F – IF.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
G – CO.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
G – GMD.3	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
G – MG.2	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).
G – SRT.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
N – Q.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
N – Q.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
N – RN.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
S – ID.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
S – ID.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
S – ID.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
S - ID.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
S - ID.9	Distinguish between correlation and causation.

Science

Test at a Glance	
Test Name	Science
Time	80 minutes
Number of Questions	60
Format	Multiple-choice questions

<table>
<tr><td rowspan="5">

III 23%
I 49%
II 28%

</td><td>Content Categories (Approximate Percentage of Questions)</td></tr>
<tr><td>
I. Life Science (49%)
II. Physical Science (28%)
III. Earth Science (23%)
</td></tr>
<tr><td>Process Categories</td></tr>
<tr><td>
A. Interpret and Apply
B. Analyze
C. Evaluate and Generalize
</td></tr>
</table>

About This Test

The Science test provides evidence of a test taker's ability to use science content knowledge, apply principles of scientific inquiry, and interpret and evaluate scientific information. Most of the questions in the test are associated with stimulus materials that provide descriptions of scientific investigations and their results. Scientific information is based on reports that might be found in scientific journals. Graphs, tables, and charts are used to present information and results.

The science situations use material from a variety of content areas such as: physics, chemistry, botany, zoology, health, and astronomy. The questions may ask test takers to identify the research question of interest, select the best design for a specific research question, and recognize conclusions that can be drawn from results. Test takers also may be asked to evaluate the adequacy of procedures and distinguish among hypotheses, assumptions, and observations. This test may contain some questions that will not count toward your score.

Depth of Knowledge Levels (DOK)

Each test question is assigned a Depth of Knowledge Level (DOK). The levels refer to the cognitive demand that the test questions require to answer correctly.

The DOK are listed below along with a brief explanation or some examples of the DOK performances.
* Level 1 – Recall: test takers recall a term, property or fact.
* Level 2 – Skill/Concept: test takers process/interpret data.
* Level 3 – Strategic Thinking: test takers make inferences/conclusions from experimental data.
* Level 4 – Extended Thinking: test takers synthesize information and reveal higher-order thinking through complex reasoning.

The examples listed do not cover all the expected behaviors for the DOK levels.

The Test Framework

The Science test framework is organized into broad areas of content, called **Content Categories**.

Each **Content Category** is further divided into **Content Category Descriptors**. The **Content Category Descriptors** describe in greater detail the skills and knowledge eligible for testing.

In addition to knowing and understanding the science content explicitly described in the **Content Category Descriptors**, test takers also will answer questions that may involve one or more of the **Process Categories**. Each **Process Category** is further divided into **Process Category Descriptors**.

The **Content Category Descriptors** are numbered under each **Content Category** starting below. The **Process Category Descriptors** are numbered under the Science **Process Categories** section on the next page.

Content Categories

I.   Life Science

1.   *Understand organisms, their environments, and their life cycles*

2.   *Understand the interdependence of organisms (e.g., interpret interactions among organisms, such as predation, mutualism, and competition)*

3.   *Recognize the relationships between structure and function in living systems*

4.   *Understand the human body systems including the role of DNA, chromosomes, and specialized cells (e.g., compare the structures of different types of biomolecules, such as carbohydrates, lipids, and proteins)*

II.   Physical Science

1.   *Recognize physical properties such as volume, mass, color, and temperature*

2.   *Recognize concepts relating to the position and motion of objects (e.g., investigate how an object's motion changes when a net force is applied)*

3.   *Understand principles of light, heat, electricity, and magnetism (e.g., demonstrate that moving electric charges produce magnetic forces)*

4.   *Understand the principles of matter and atomic structure (e.g., understand that the properties of elements are based on the patterns of electrons in the outermost energy level of atoms)*

5.   *Understand the principles of chemical reactions*

III.   Earth Science

1.   *Recognize the properties of earth materials and the usefulness of some earth materials to humans*

2.   *Understand Earth's systems, processes, geologic structures, and time (e.g., analyze the effects on areas impacted by natural events, such as tectonic movement or flooding)*

3.   *Understand Earth's movements and position in the solar system*

4.   *Understand the sun, other stars, and the solar system (e.g., interpret data to identify the stages in the life cycle of a star)*

Science Process Categories

Each **Process Category** is further divided into **Process Category Descriptors**. The **Process Category Descriptors** are numbered under each **Process Category** below.

A. Interpret and Apply

1. Interpret observed data or information
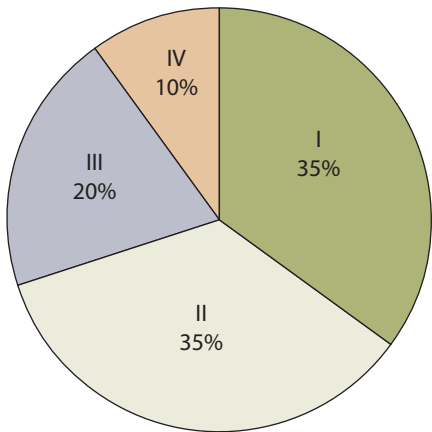2. Apply scientific principles

B. Analyze

1. Discern an appropriate research question suggested by the information presented
2. Identify reasons for a procedure and analyze limitations
3. Select the best procedure

C. Evaluate and Generalize

1. Distinguish among hypotheses, assumptions, data, and conclusions
2. Judge the basis of information for a given conclusion
3. Determine relevance for answering a question
4. Judge the reliability of sources

The College Career Readiness Standards (CCRS) specific to Science or Social Studies do not exist. Further information on the CCRS can be found here **https://www.vrae.org/images/customer-files/CCRStandardsAdultEd.pdf**.

Social Studies

Test at a Glance	
Test Name	Social Studies
Time	70 minutes
Number of Questions	60
Format	Multiple-choice questions

Content Categories (Approximate Percentage of Questions)

    I.   History (35%)

   II.   Civics/Government (35%)

  III.   Economics (20%)

  IV.   Geography (10%)

Process Categories

   A.   Interpret and Apply

   B.   Analyze

   C.   Evaluate and Generalize

About This Test

The Social Studies test provides evidence of a test taker's ability to use social studies content knowledge as well as analyze and evaluate various kinds of social studies information. The test uses materials from a variety of content areas, including history, political science, geography, and economics. Primary documents, posters, cartoons, timelines, maps, graphs, tables, charts, and reading passages may be used to present information. The questions may ask test takers to distinguish statements of fact from opinion; recognize the limitations of procedures and methods; and make judgments about the reliability of sources, the validity of inferences and conclusions, and the adequacy of information for drawing conclusions. This test may contain some questions that will not count toward your score.

Depth of Knowledge Levels (DOK)

Each test question is assigned a Depth of Knowledge Level (DOK). The levels refer to the cognitive demand that the test questions require to answer correctly.

The DOK are listed below along with a brief explanation or some examples of the DOK performances.

- Level 1 – Recall: test takers recall a term, concept or fact or identify specific information contained in a stimulus.
- Level 2 – Skill/Concept: test takers process or interpret information about people, places events or concepts.
- Level 3 – Strategic Thinking: test takers make inferences or draw conclusions about events or issues.
- Level 4 – Extended Thinking: test takers synthesize information and reveal higher-order thinking through complex reasoning.

The examples listed do not cover all the expected behaviors for the DOK levels.

The Test Framework

The Social Studies test framework is organized into broad areas of content, called **Content Categories**.

Each **Content Category** is further divided into **Content Category Descriptors**. The **Content Category Descriptors** describe in greater detail the skills and knowledge eligible for testing.

In addition to knowing and understanding the social studies content explicitly described in the **Content Category Descriptors**, test takers also will answer questions that may involve one or more of the **Process Categories**. Each **Process Category** is further divided into **Process Category Descriptors**.

The **Content Category Descriptors** are numbered under each **Content Category** starting below. The **Process Category Descriptors** are numbered under the Social Studies **Process Categories** section on the next page.

I. History

1. Analyze historical sources and recognize perspectives (e.g., political cartoons, letters, documents)

2. Identify interconnections among the past, present, and future

3. Understand specific eras in U.S. and world history, including the people who have shaped them and the political, economic, and cultural characteristics of those eras (e.g., River Valley Civilizations, Classical Civilizations, Age of Exploration, American Revolution, Early National Era, Civil War and Reconstruction, Gilded Age, World War I, Great Depression and New Deal, World War II, Cold War)

II. Civics/Government

1. Understand the role of the citizen in a democratic society, including rights and responsibilities, and informed participation (e.g., voters, officeholders, political party members, public meetings, petitions)

2. Recognize the structure and functions of different levels of government in the United States, including concepts of power and authority (e.g., powers reserved to states, constitutional principles, implied powers)

3. Understand the purposes and characteristics of various governance systems, with particular emphasis on the U.S. government (e.g., republic, democracy, parliamentary, monarchy, communism, founding documents)

III. Economics

1. Recognize fundamental economic concepts, including principles of supply and demand (e.g., scarcity, needs and wants, competition)

2. Understand government involvement in the economy, including comparative economic systems and globalization (e.g., fiscal and monetary policy, trade barriers, labor markets)

3. Understand consumer economics (e.g., savings, interest rates, credit, advertising, choice)

IV. Geography

1. Understand concepts and know terminology of physical and human geography

2. Use geographic concepts to analyze spatial phenomena and discuss economic, political, and social factors (e.g., regions, borders, migration, standard of living, cultural diffusion)

3. Interpret maps and other visual and technological tools, and analyze case studies (e.g., contour maps, population pyramids, climographs)

Social Studies Process Categories

Each **Process Category** is further divided into **Process Category Descriptors**. The **Process Category Descriptors** are numbered under each **Process Category** below.

A. Interpret and Apply

1. Make inferences or predictions based on data or other information

2. Infer unstated relationships

3. Extend conclusions to related phenomena

B. Analyze

1. Distinguish among facts, opinions, and values

2. Recognize the author's purpose, assumptions, and arguments

C. Evaluate and Generalize

1. Determine the adequacy of information for reaching conclusions

2. Judge the validity of conclusions

3. Compare and contrast the reliability of sources