Your Guide to EXPLORE®

—What It Measures
—Its Purposes and Foundations
—How It Is Developed

ACT®

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ACT endorses the *Code of Fair Testing Practices in Education*, a statement of guidelines for those who develop, administer, and use educational tests and data. The *Code* sets forth criteria for fairness in four areas: developing and selecting appropriate tests, administering and scoring tests, reporting and interpreting test results, and informing test takers. ACT is committed to ensuring that each of its testing programs upholds the *Code*'s standards for appropriate test development practices and use.

A copy of the full *Code* may be obtained free of charge from ACT Customer Services, P.O. Box 1008, Iowa City, IA 52243-1008, 319/337-1429.

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Introduction

Overview and Purpose

The EXPLORE® Program helps well over half a million eighth- and ninth-grade students each year prepare for future academic and career success. EXPLORE contains four curriculum-based tests: English, Mathematics, Reading, and Science. These standardized multiple-choice tests are based on the major areas of high school and postsecondary instructional programs. Performance on these tests has a direct relationship to a student's educational achievement. The meaning of the test scores can be grasped and interpreted by both students and teachers.

EXPLORE is designed to be administered in eighth and ninth grades to provide students with an early indication of their educational progress in the context of the post-high school educational and career options they are considering. The results from EXPLORE can be used to help students make adjustments in their coursework to help ensure that they are prepared for what they want to do in and after high school. Schools use EXPLORE data in academic advising and counseling.

EXPLORE is part of ACT's EPAS/Educational Planning and Assessment System®, which also includes the ACT for students in grades 11 and 12 and PLAN® for students in grade 10. All these EPAS programs are based on a common content continuum in each of the four areas tested and are, therefore, helpful for measuring students' achievement, for gauging students' readiness for the transition to the next level of learning, and for school program evaluation.

Curriculum Foundations

EXPLORE is based on the philosophy that the best way to measure students' readiness for further education and careers is to measure as directly as possible the knowledge and skills students will need in those settings. To select the specific knowledge and skills for assessment, ACT analyzes three sources of information: First, we examine the objectives for instruction for grades 7–12 for all states in the United States that have published such objectives. Second, we review textbooks on state-approved lists for courses in grades 7–12. Third, we conduct an ACT National Curriculum Survey® in which we survey and consult with educators at the secondary and postsecondary levels to determine the knowledge and skills taught in grades 7–12 that are prerequisite to success in college and work. We then analyze the information from all three sources to define a scope and sequence for each of the areas measured by EXPLORE.

The material covered on each of the four tests, derived from these ACT National Curriculum Surveys, is drawn from the domain of each content area that educators agree is important to that content area and that is prerequisite to further learning. ACT routinely conducts an ACT National Curriculum Survey to ensure the continued appropriateness of the content on the EXPLORE tests.

In 2002–2003, for example, ACT reviewed state educational standards from all 49 states that had published such standards; surveyed 16,363 middle school/junior high and high school teachers and 10,565 entry-level-course postsecondary faculty; and convened expert content panels to discuss the survey results and the curriculum review results. The findings are summarized in *Content Validity Evidence in Support of ACT's Educational Achievement Tests: ACT National Curriculum Survey 2002–2003,* published by ACT in 2003. The study is the only one of its kind in the United States. Its results have a direct and significant impact on the development of the EPAS tests.

Test Development

ACT has developed, and over time has refined, the test specifications for EXPLORE by studies such as those previously described. The tasks presented in the tests are representative of a broad range of academic skills, comprehensive in scope and educationally significant. There is no penalty for guessing, and the tests are not speeded: generally, 95% of the examinees finish the tests in the time allowed.

The four tests are measures of academic development that rely largely on the students' ability to apply the content knowledge and reasoning skills acquired in their coursework to high-level tasks. These tasks often require the integration of proficiencies and skills from various courses. Consequently, the EXPLORE tests contain a large proportion of analytical, problem-solving exercises.

Item Writing

The materials for the EXPLORE tests reflect our nation's cultural diversity and are acquired by ACT from item writers who represent a wide variety of backgrounds. In the construction of its tests, ACT conscientiously involves educators, at appropriate grade levels, located at educational institutions in all regions of the country. These item writers reflect a variety of racial and ethnic backgrounds and represent different educational philosophies. They work from detailed guidelines ACT provides that specify the test content, cognitive skill level, and item format. ACT staff correspond with item writers to offer guidance in item development and periodically conduct workshops in test development for item writers. We encourage item writers to produce materials representing diverse points of view. The guidelines also include specifications for nondiscriminatory subject matter and language usage.

Item Editing and Review

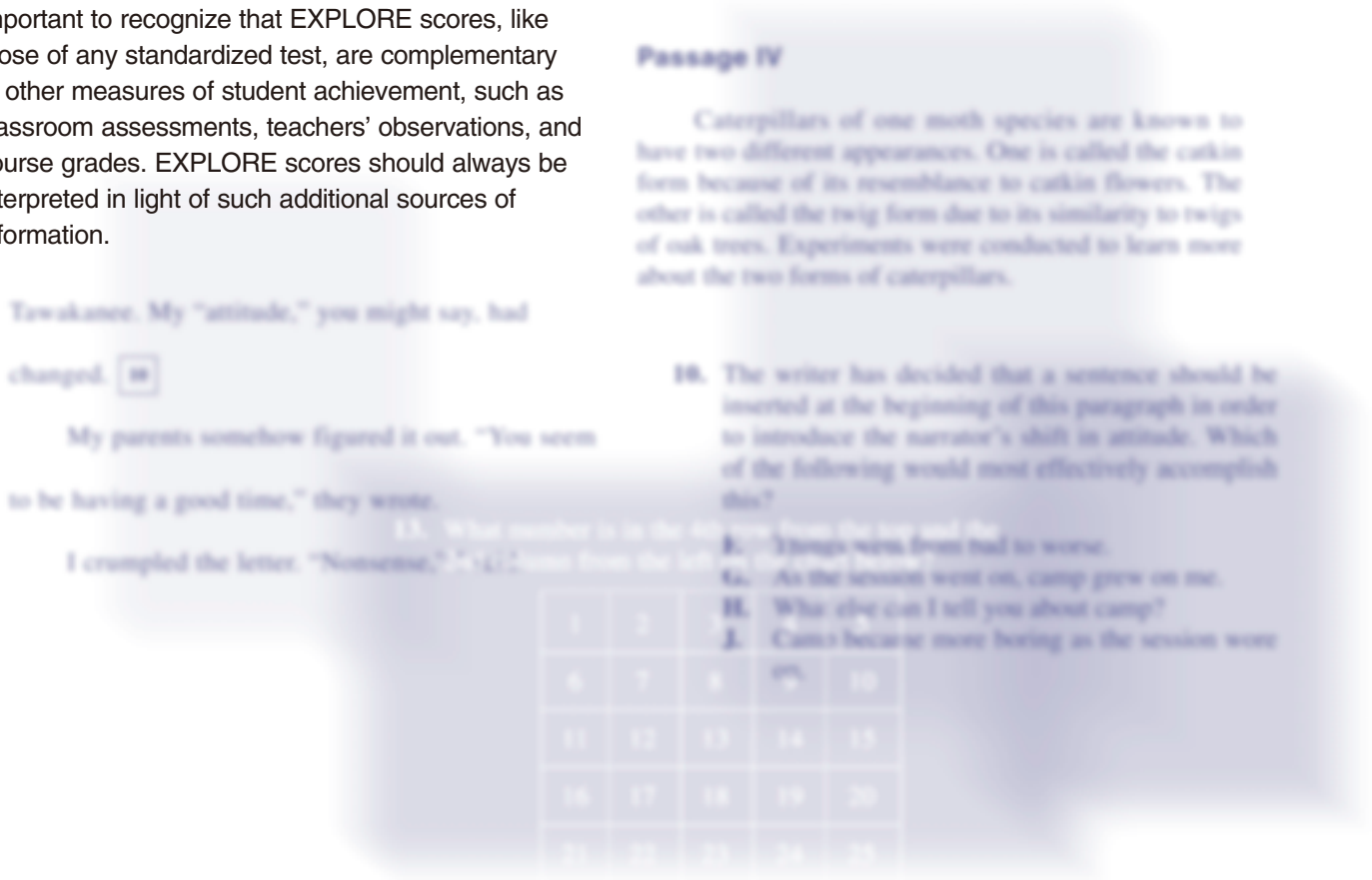
Once the items are written, they go through several stages of editing and review. During the editing process, all test materials are reviewed by both ACT staff and panels of experts external to ACT for content accuracy, conformity to good testing practices, fair portrayal of groups, avoidance of subject matter that may be unfamiliar to members of a group, and nonsexist use of language. ACT convenes meetings with the expert panelists to discuss each test in detail. The items that are judged acceptable in the review process are then tried out on a sample of students (selected to be representative of the total examinee population) to determine whether the items are at appropriate difficulty levels and are functioning properly. Items judged acceptable are placed in an item pool.

Test Construction

National forms of the EXPLORE tests are constructed by selecting items from the item pool that match both the content and statistical specifications for the tests. The result in each case is a *domain-sampled test;* that is, each form of each EXPLORE test is a *sample* from the larger domain on which the test is based. Multiple forms of the EXPLORE tests are developed, and each form is a carefully selected sample of items from the subject domain. Therefore, students' best preparation for the EXPLORE tests is, through their coursework, to obtain a thorough understanding of the entire domain, rather than trying to "guess" specific topics that might be included on any particular form of the test. After the test forms are constructed, they are subjected to further reviews and panel discussions for content and fairness considerations by ACT staff and outside consultants. These reviews examine not only each content area test separately, but also the complete battery of tests as a whole. Only after the test forms meet ACT's high standards for quality are they administered nationally.

Before the results of an EXPLORE test form's administration can be used, the score scale for each of the four content-area tests and for the Composite score (the average of the four test scores) must be shown to be the same as that for any other form. Although every attempt is made to make the forms of the EXPLORE tests equivalent to one another, there is always some slight variation in the difficulty of various test forms. To compensate for this slight variation, the scores for the various test forms are equated through a statistical process that provides comparable test scores. Once the equating process is completed, the results of the tests can be reported on a score scale, which runs from 1 through 25, that is comparable for all test forms. In this way, a standard score of 18, for instance, will represent the same level of achievement for all test forms. It is important to remember, in interpreting the scores, that they are estimates, within 2 scale score points for each content-area test score and within 1 scale score point for the Composite score. It is also important to recognize that EXPLORE scores, like those of any standardized test, are complementary to other measures of student achievement, such as classroom assessments, teachers' observations, and course grades. EXPLORE scores should always be interpreted in light of such additional sources of information.

After each national test administration, each form of each EXPLORE test is subjected to final statistical reviews—a review of the item analysis and a review of differential item functioning. The results of the item analysis are carefully scrutinized to determine if the items performed as expected. The differential item functioning review is based on a statistical analysis that is conducted to determine if the items performed differentially for one or more population groups. Any items that are flagged through these statistical analyses are reviewed carefully and evaluated for potential bias. If the final statistical reviews were to reveal any problem, ACT would take appropriate action to ensure that every student received an accurate and fair measurement of her or his academic achievement.



EXPLORE English Test

Description of the test

The English Test is a 40-item, 30-minute test that measures the student's understanding of the conventions of standard written English (punctuation, grammar and usage, and sentence structure) and of rhetorical skills (strategy, organization, and style). Spelling, vocabulary, and rote recall of rules of grammar are not tested. The test assumes that students are in the process of taking a core coursework program in high school comprising four years of English courses.

The test consists of four prose passages, each of which is accompanied by a sequence of multiple-choice test items. To ensure a variety of rhetorical situations, a range of essay styles and types is employed, from personal and narrative pieces to persuasive and informative essays. Passages are chosen not only for their appropriateness in assessing writing skills but also to reflect students' interests and experiences. Because the passages used are complete essays, the revising and editing issues posed by the questions offer a certain richness and complexity. While some questions require students to apply their knowledge of standard written English to the task of deciding the best way to write a sentence or sentences, the surrounding context makes the overriding issue that of clear and effective communication of meaning. Other questions call on students to analyze the entire essay before making a decision. In these cases, students must examine the essay in order to determine its focus, style, tone, logical flow, and organizational structure. Some questions, for example, ask students to evaluate the entire essay in terms of a stated goal; to identify the rhetorical effect of a section of the essay; or to make a judgment relative to the essay's coherence or a word's connotative meanings.

The test is formatted so that some items refer to underlined portions of the passage and offer several alternatives to the portion underlined. The student must decide which choice is most appropriate in the context of the passage. Some items ask about an underlined portion, a section of the passage, or the passage as a whole. The student must decide which choice best answers the question posed. Many items offer "NO CHANGE" to the passage as one of the choices. The items are numbered consecutively. Each item number refers to a correspondingly numbered portion underlined in the passage or to a corresponding numeral in a box located at the appropriate point in the passage.

Table 1
EXPLORE English Test
40 items, 30 minutes

Content/Skills	Proportion of Test	Number of Items
Usage/Mechanics	**.625**	**25**
Punctuation	.150	6
Grammar and Usage	.200	8
Sentence Structure	.275	11
Rhetorical Skills	**.375**	**15**
Strategy	.125	5
Organization	.125	5
Style	.125	5
Total	**1.00**	**40**

Scores reported:

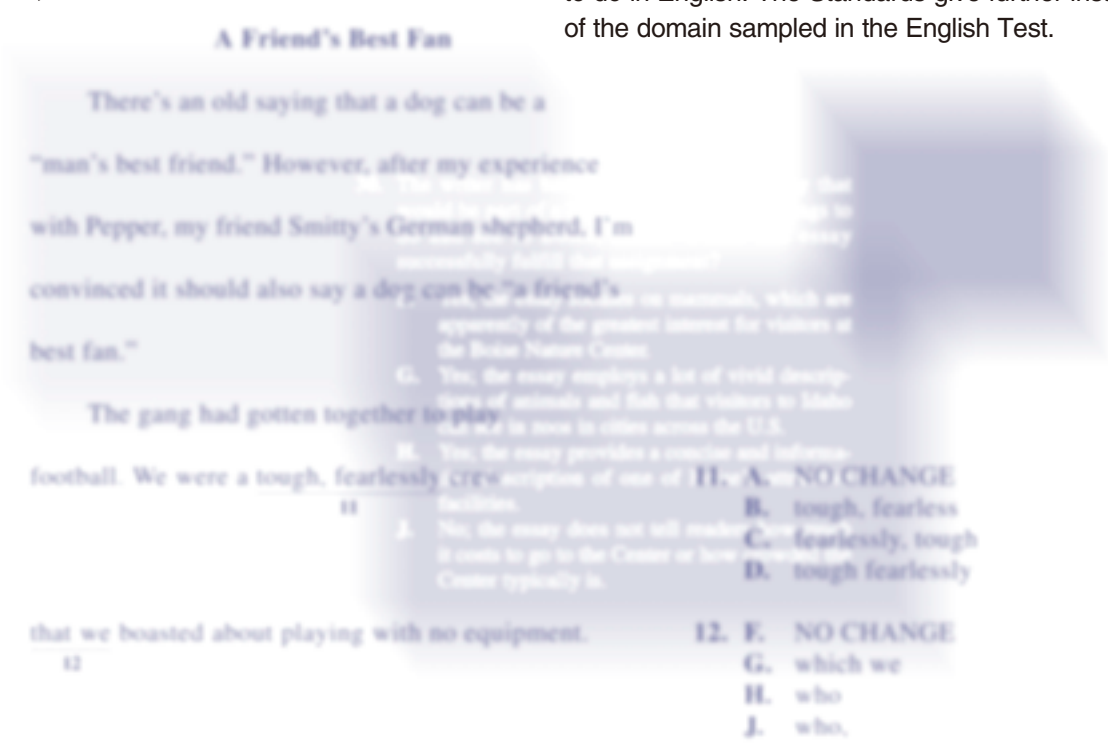
- Usage/Mechanics (25 items)
- Rhetorical Skills (15 items)
- Total test score (40 items)

Content of the test

Six elements of effective writing are included in the English Test. These elements and the approximate proportion of the test devoted to each are given in Table 1.

1. **Usage/Mechanics**
   - a. **Punctuation.** The items in this category test the student's knowledge of the conventions of internal and end-of-sentence punctuation, with emphasis on the relationship of punctuation to meaning (e.g., avoiding ambiguity, identifying appositives).
   - b. **Grammar and Usage.** The items in this category test the student's understanding of agreement between subject and verb, between pronoun and antecedent, and between modifier and the words modified; verb formation; pronoun case; formation of comparative and superlative adjectives and adverbs; and idiomatic usage.
   - c. **Sentence Structure.** The items in this category test the student's understanding of relationships between and among clauses, placement of modifiers, and shifts in construction.
2. **Rhetorical Skills**
   - a. **Strategy.** The items in this category test the student's ability to develop a given topic by judging the appropriateness of expression in relation to audience and purpose, the effect of adding, revising, or deleting supporting material, and judging the relevance of statements in context.
   - b. **Organization.** The items in this category test the student's ability to organize ideas and to make decisions about cohesion devices: opening, transitional, and closing statements.
   - c. **Style.** The items in this category test the student's ability to select precise and appropriate words and images, to maintain the level of style and tone in an essay, to manage sentence elements for rhetorical effectiveness, and to avoid ambiguous pronoun references, wordiness, and redundancy.

Table 2 on page 6 gives the EXPLORE College Readiness Standards for English. These are statements that describe what students who score in various score ranges are *likely* to know and to be able to do in English. The Standards give further instances of the domain sampled in the English Test.


PASSAGE II

A Friend's Best Fan

There's an old saying that a dog can be a "man's best friend." However, after my experience with Pepper, my friend Smitty's German shepherd, I'm convinced it should also say a dog can be "a friend's best fan."

The gang had gotten together to play football. We were a tough, fearlessly 11

that we boasted about playing with no equipment. 12

11. A. NO CHANGE
B. tough, fearless
C. fearlessly, tough
D. tough fearlessly

12. F. NO CHANGE
G. which we
H. who
J. who,

Table 2: College Readiness Standards for the EXPLORE English Test

The College Readiness Standards describe what students who score in the specified score ranges are *likely* to know and to be able to do.

Score Range 13–15	• Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., *then, this time*) • Revise sentences to correct awkward and confusing arrangements of sentence elements • Revise vague nouns and pronouns that create obvious logic problems • Use conjunctions or punctuation to join simple clauses	• Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences • Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives • Delete commas that create basic sense problems (e.g., between verb and direct object)
Score Range 16–19	• Identify the basic purpose or role of a specified phrase or sentence • Delete a clause or sentence because it is obviously irrelevant to the essay • Select the most logical place to add a sentence in a paragraph • Delete obviously synonymous and wordy material in a sentence • Revise expressions that deviate from the style of an essay • Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences • Decide the appropriate verb tense and voice by considering the meaning of the entire sentence	• Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts • Recognize and use the appropriate word in frequently confused pairs such as *there* and *their, past* and *passed*, and *led* and *lead* • Provide appropriate punctuation in straightforward situations (e.g., items in a series) • Delete commas that disturb the sentence flow (e.g., between modifier and modified element)
Score Range 20–23	• Identify the central idea or main topic of a straightforward piece of writing • Determine relevancy when presented with a variety of sentence-level details • Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., *first, afterward, in response*) • Decide the most logical place to add a sentence in an essay • Add a sentence that introduces a simple paragraph • Delete redundant material when information is repeated in different parts of speech (e.g., "alarmingly startled") • Use the word or phrase most consistent with the style and tone of a fairly straightforward essay	• Determine the clearest and most logical conjunction to link clauses • Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers) • Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., *long for, appeal to*) • Ensure that a verb agrees with its subject when there is some text between the two • Use commas to set off simple parenthetical phrases • Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)
Score Range 24–25	• Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal • Delete material primarily because it disturbs the flow and development of the paragraph • Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement • Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., *therefore, however, in addition*) • Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic • Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward • Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence • Identify and correct ambiguous pronoun references	• Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay • Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems • Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence • Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences • Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using *have* rather than *of* • Use punctuation to set off complex parenthetical phrases • Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by *and*) • Use apostrophes to indicate simple possessive nouns • Recognize inappropriate uses of colons and semicolons

EXPLORE Mathematics Test

Description of the test

The Mathematics Test is a 30-item, 30-minute test designed to assess the mathematical skills that students have typically acquired in middle school and junior high courses. The test presents multiple-choice items that require students to use their reasoning skills to solve practical problems in mathematics. Most items are discrete, but on occasion some may belong to sets composed of several items (e.g., several items based on the same graph or chart). Students should have calculators available when taking the Mathematics Test, but students are not required to use a calculator. All problems on the Mathematics Test can be solved without using a calculator. Visit ACT's website at **www.act.org** for details on calculator models permitted.

The problems assume knowledge of basic formulas and computational skills but do not require memorization of complex formulas nor extensive computation. The material covered on the test emphasizes the major content areas that are prerequisite to successful performance in further coursework in mathematics.

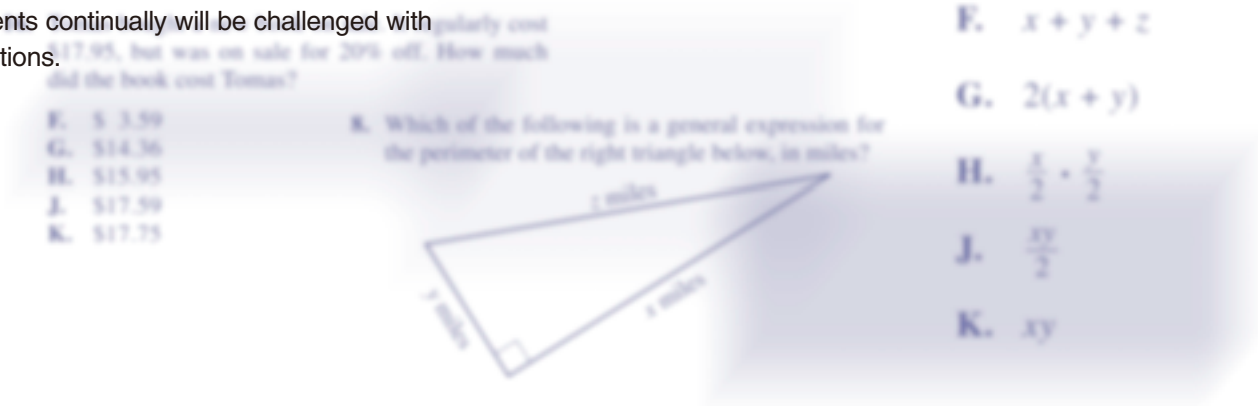
Many items are couched in contexts, some purely mathematical, others imitative of real-world mathematical problems. These give students a real opportunity to work through mathematical issues and to display their skills, from their depth of mathematical understanding to their powers of problem solving. One of the goals of the Mathematics Test is to test students' abilities to transfer quantitative reasoning and problem-solving skills from one context to another. The test therefore offers a wide range of questions to ensure that students continually will be challenged with new situations.

The items included in the Mathematics Test cover four cognitive levels: knowledge and skills, direct application, understanding concepts, and integrating conceptual understanding. Knowledge and skills items require the student to use one or more facts, definitions, formulas, or procedures to solve problems that are presented in purely mathematical terms. Direct application items require the student to use one or more facts, definitions, formulas, or procedures to solve straightforward problems set in real-world situations. Understanding concepts items test the student's depth of understanding of major concepts by requiring reasoning from a concept to reach an inference or a conclusion. Integrating conceptual understanding items test the student's ability to achieve an integrated understanding of two or more major concepts to solve nonroutine problems. The approximate percentage of the test devoted to each cognitive level is given in Table 3. The number of questions in each cognitive level may vary slightly from the number of questions shown in the table.

Table 3

EXPLORE Mathematics Test Cognitive Levels

Cognitive Level	Proportion of Test	Number of Items
Knowledge and Skills	.267	8
Direct Application	.267	8
Understanding Concepts, Integrating Conceptual Understanding	.467	14
Total	**1.00**	**30**



Content of the test

Items are classified according to four content areas. These categories and the approximate proportion of the test devoted to each are given in Table 4.

Table 4

EXPLORE Mathematics Test
30 items, 30 minutes

Content Area	Proportion of Test	Number of Items
Pre-Algebra	.333	10
Elementary Algebra	.300	9
Geometry	.234	7
Statistics/Probability	.133	4
Total	**1.00**	**30**

Score reported: Total test score (30 items)

1. **Pre-Algebra.** Items in this content area are based on basic operations using whole numbers, decimals, fractions, and integers; place value; square roots and approximations; the concept of exponents; scientific notation; factors; ratio, proportion, and percent.
2. **Elementary Algebra.** Items in this content area are based on operations with algebraic expressions. The operations include evaluation of algebraic expressions by substitution, use of variables to express relationships, solutions of linear equations in one variable, use of real number lines to represent numbers, and graphing of points in the standard coordinate plane.
3. **Geometry.** Items in this content area cover such topics as the use of scales and measurement systems, plane and solid geometric figures and associated relationships and concepts, the concept of angles and their measures, parallelism, relationships of triangles, properties of a circle, and the Pythagorean theorem. All of these topics are addressed at a level preceding formal geometry.
4. **Statistics/Probability.** Items in this content area cover such topics as elementary counting and rudimentary probability; data collection, representation, and interpretation; and reading and relating graphs, charts, and other representations of data. These topics are addressed at a level preceding formal statistics.

Table 5 gives the EXPLORE College Readiness Standards for Mathematics. These are statements that describe what students who score in various score ranges are *likely* to know and to be able to do in mathematics. The Standards give further instances of the domain sampled in the Mathematics Test.

Table 5: College Readiness Standards for the EXPLORE Mathematics Test

The College Readiness Standards describe what students who score in the specified score ranges are *likely* to know and to be able to do.

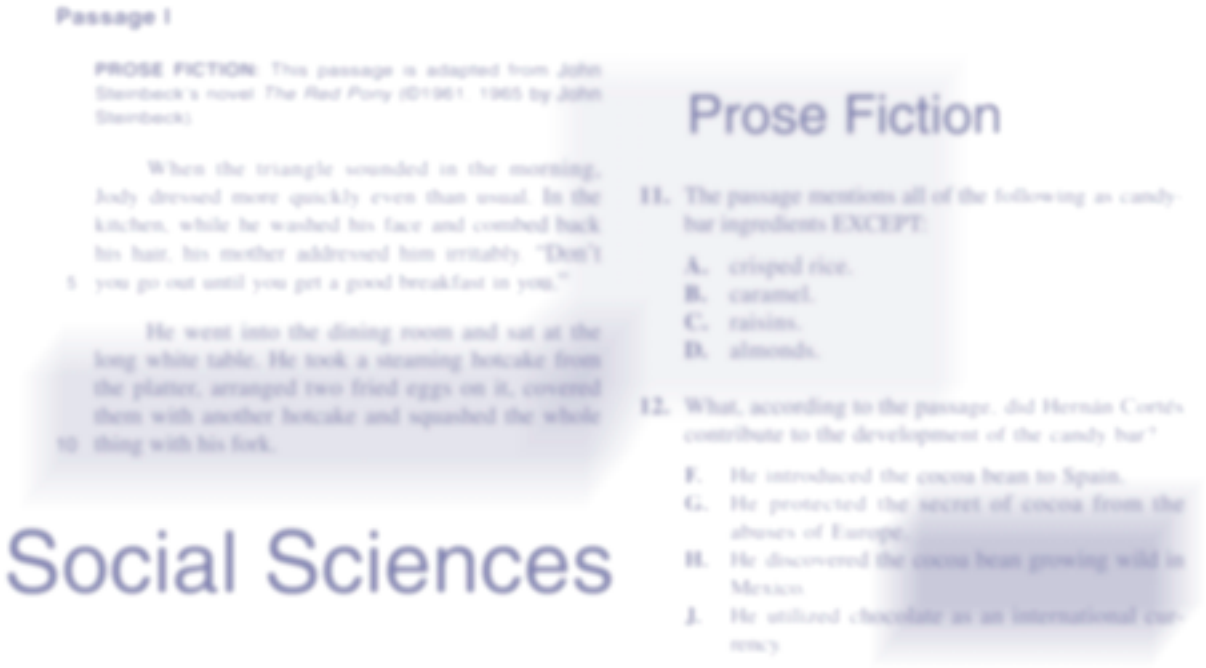
Score Range 13–15	• Perform one-operation computation with whole numbers and decimals • Solve problems in one or two steps using whole numbers • Perform common conversions (e.g., inches to feet or hours to minutes) • Calculate the average of a list of positive whole numbers • Perform a single computation using information from a table or chart • Recognize equivalent fractions and fractions in lowest terms	• Exhibit knowledge of basic expressions (e.g., identify an expression for a total as $b + g$) • Solve equations in the form $x + a = b$, where a and b are whole numbers or decimals • Identify the location of a point with a positive coordinate on the number line • Estimate or calculate the length of a line segment based on other lengths given on a geometric figure
Score Range 16–19	• Solve routine one-step arithmetic problems (using whole numbers, fractions, and decimals) such as single-step percent • Solve some routine two-step arithmetic problems • Calculate the average of a list of numbers • Calculate the average, given the number of data values and the sum of the data values • Read tables and graphs • Perform computations on data from tables and graphs • Use the relationship between the probability of an event and the probability of its complement	• Recognize one-digit factors of a number • Identify a digit's place value • Substitute whole numbers for unknown quantities to evaluate expressions • Solve one-step equations having integer or decimal answers • Combine like terms (e.g., $2x + 5x$) • Locate points on the number line and in the first quadrant • Exhibit some knowledge of the angles associated with parallel lines • Compute the perimeter of polygons when all side lengths are given • Compute the area of rectangles when whole number dimensions are given
Score Range 20–23	• Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average • Calculate the missing data value, given the average and all data values but one • Translate from one representation of data to another (e.g., a bar graph to a circle graph) • Determine the probability of a simple event • Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor	• Evaluate algebraic expressions by substituting integers for unknown quantities • Add and subtract simple algebraic expressions • Solve routine first-degree equations • Perform straightforward word-to-symbol translations • Locate points in the coordinate plane • Find the measure of an angle using properties of parallel lines • Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 360°) • Compute the area and perimeter of triangles and rectangles in simple problems • Use geometric formulas when all necessary information is given
Score Range 24–25	• Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) • Calculate the average, given the frequency counts of all the data values • Manipulate data from tables and graphs • Compute straightforward probabilities for common situations • Find and use the least common multiple • Order fractions • Work with numerical factors • Work with scientific notation • Work with squares and square roots of numbers	• Solve real-world problems using first-degree equations • Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) • Identify solutions to simple quadratic equations • Use several angle properties to find an unknown angle measure • Compute the area of triangles and rectangles when one or more additional simple steps are required • Compute the area and circumference of circles after identifying necessary information

EXPLORE Reading Test

Description of the test

The Reading Test is a 30-item, 30-minute test that measures the student's reading comprehension as a product of referring and reasoning skills. That is, the test items require the student to derive meaning from several texts by (1) referring to what is explicitly stated and (2) reasoning to determine implicit meanings and to draw conclusions, comparisons, and generalizations. The test comprises three prose passages that are representative of the level and kinds of writing commonly encountered in secondary curricula: passages on topics in prose fiction, the humanities, and the social sciences are included. These passages are selected from published sources. Each passage is preceded by a heading that identifies what type of passage it is (e.g., "Prose Fiction"), names the author, and may give a brief note that helps in understanding the passage. The lines of the passage are numbered for reference. Each passage is accompanied by a set of multiple-choice test items. These items do not test the rote recall of facts from outside the passage, isolated vocabulary items, or rules of formal logic. Rather, the test focuses upon the complex of complementary and mutually supportive skills that readers must bring to bear in studying written materials across a range of subject areas.

Referring cognitive skills are measured in the Reading Test by items that require the student to (1) recognize the explicitly stated main idea of a passage or of a paragraph; (2) recognize explicitly stated significant details (the who, what, where, when, why, and how information); and (3) recognize explicitly stated relationships, such as sequence, cause-effect, and comparison. Reasoning cognitive skills are measured in the Reading Test by items that require the student to (1) infer main ideas or purposes, sequences, cause-effect relationships, and relationships between details and the main idea; (2) demonstrate critical understanding of the text by drawing conclusions from facts given; making comparisons using information in the passage; making appropriate generalizations; recognizing logical fallacies, rhetorical flaws, or limitations in passages (e.g., details that undermine the main idea); recognizing stereotypes; understanding point of view; and distinguishing between fact and opinion; and (3) determine specific meanings of words or short phrases within the context of a passage. Each passage in the test is accompanied by both referring items and reasoning items. The proportion of each type of item depends on the nature of the passage and the cognitive demands it places on the reader.



Content of the test

The three types of reading selections and the approximate proportion of the test devoted to each are given in Table 6.

Table 6
EXPLORE Reading Test
30 items, 30 minutes

Content Area	Proportion of Test	Number of Items
Prose Fiction	.33	10
Humanities	.33	10
Social Sciences	.33	10
Total	**1.00**	**30**

Score reported: Total test score (30 items)

1. **Prose Fiction.** Intact short stories or excerpts from short stories or novels.
2. **Humanities.** Passages from memoirs and personal essays and in the content areas of architecture, art, dance, ethics, film, language, literary criticism, music, philosophy, radio, television, and theater.
3. **Social Sciences.** Anthropology, archaeology, biography, business, economics, education, geography, history, political science, psychology, sociology.

Table 7 on page 12 gives the EXPLORE College Readiness Standards for Reading. These are statements that describe what students who score in various score ranges are *likely* to know and to be able to do in reading. The Standards give further instances of the domain sampled in the Reading Test.

Table 7: College Readiness Standards for the EXPLORE Reading Test

The College Readiness Standards describe what students who score in the specified score ranges are *likely* to know and to be able to do.

Score Range 13–15	• Recognize a clear intent of an author or narrator in uncomplicated literary narratives • Locate basic facts (e.g., names, dates, events) clearly stated in a passage • Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages	• Recognize clear cause-effect relationships described within a single sentence in a passage • Understand the implication of a familiar word or phrase and of simple descriptive language • Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives
Score Range 16–19	• Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives • Locate simple details at the sentence and paragraph level in uncomplicated passages • Recognize a clear function of a part of an uncomplicated passage • Identify relationships between main characters in uncomplicated literary narratives	• Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives • Use context to understand basic figurative language • Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages
Score Range 20–23	• Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives • Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages • Locate important details in uncomplicated passages • Make simple inferences about how details are used in passages • Order simple sequences of events in uncomplicated literary narratives • Identify clear relationships between people, ideas, and so on in uncomplicated passages	• Identify clear cause-effect relationships in uncomplicated passages • Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages • Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages • Draw simple generalizations and conclusions using details that support the main points of more challenging passages
Score Range 24–25	• Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages • Infer the main idea or purpose of straightforward paragraphs in more challenging passages • Summarize basic events and ideas in more challenging passages • Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages • Locate important details in more challenging passages • Locate and interpret minor or subtly stated details in uncomplicated passages • Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages • Order sequences of events in uncomplicated passages • Understand relationships between people, ideas, and so on in uncomplicated passages	• Identify clear relationships between characters, ideas, and so on in more challenging literary narratives • Understand implied or subtly stated cause-effect relationships in uncomplicated passages • Identify clear cause-effect relationships in more challenging passages • Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages • Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages • Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives • Draw generalizations and conclusions about people, ideas, and so on in more challenging passages

Descriptions of the EXPLORE Reading Test Passages

Uncomplicated Literary Narratives refers to excerpts from essays, short stories, and novels that tend to use simple language and structure, have a clear purpose and a familiar style, present straightforward interactions between characters, and employ only a limited number of literary devices such as metaphor, simile, or hyperbole.

More Challenging Literary Narratives refers to excerpts from essays, short stories, and novels that tend to make moderate use of figurative language, have a more intricate structure and messages conveyed with some subtlety, and may feature somewhat complex interactions between characters.

Uncomplicated Informational Passages refers to materials that tend to contain a limited amount of data, address basic concepts using familiar language and conventional organizational patterns, have a clear purpose, and are written to be accessible.

More Challenging Informational Passages refers to materials that tend to present concepts that are not always stated explicitly and that are accompanied or illustrated by more—and more detailed—supporting data, include some difficult context-dependent words, and are written in a somewhat more demanding and less accessible style.

EXPLORE Science Test

Description of the test

The Science Test is a 28-item, 30-minute test that measures the student's interpretation, analysis, evaluation, reasoning, and problem-solving skills acquired in science courses through grade 8. The test is made up of six test units, each of which consists of some scientific information (the stimulus) and a set of multiple-choice test items. The use of calculators is not permitted on the Science Test. The scientific information is conveyed in one of three different formats:

1. **Data Representation.** This format presents students with graphic and tabular material similar to that found in science journals and texts. The items associated with this format measure skills such as graph reading, interpretation of scatterplots, and interpretation of information presented in tables. The graphic or tabular material may be taken from published materials; the items are composed expressly for the Science Test.
2. **Research Summaries.** This format provides students with descriptions of one or more related experiments. The items focus upon the design of experiments and the interpretation of experimental results. The stimulus and items are written expressly for the Science Test.
3. **Conflicting Viewpoints.** This format presents students with expressions of several hypotheses or views that, being based on differing premises or on incomplete data, are inconsistent with one another. The items focus upon the understanding, analysis, and comparison of alternative viewpoints or hypotheses. Both the stimulus and the items are written expressly for the Science Test.

The test items require students to recognize and understand the basic features of, and concepts related to, the provided information; to examine critically the relationships between the information provided and the conclusions drawn or hypotheses developed; and to generalize from given information to gain new information, draw conclusions, or make predictions.

Content of the test

The content of the Science Test includes the life sciences, physical sciences, and Earth/space sciences (e.g., geology, astronomy, and meteorology). Advanced knowledge in these subjects is not required, but background knowledge that is typically covered in science courses through grade 8 is needed to answer some of the questions. Advanced mathematical skills are not required, but minimal arithmetic computations may be needed for some questions. The reading portion of the test is concise and clear, so that reading comprehension should not present difficulties. Indeed, the test focuses not on reading comprehension—though examinees do need to read and comprehend the information presented—but rather on reasoning in the context of scientific theory and data. The test goes beyond general reading comprehension by posing the kinds of questions that students of science must answer in planning, carrying out, and evaluating scientific investigations (e.g., What controls are required? How should the data best be displayed to show trends? What alternative hypotheses or explanations are possible?) and in studying scientific theories (e.g., Which of several theories has the best empirical support? Which theory is the most internally consistent? Which elements of a theory are consistent, or inconsistent, with elements of another theory?). Thus, the test emphasizes scientific reasoning skills over recall of scientific content, skill in mathematics, or reading ability. The approximate proportion of the test devoted to each of the three formats is shown in Table 8.

Table 8

EXPLORE Science Test
28 items, 30 minutes

Content Area*	Format	Proportion of Test	Number of Items
Earth/Space Sciences Life Sciences Physical Sciences	Data Representation Research Summaries Conflicting Viewpoints	.43 .36 .21	12 10 6
Total		**1.00**	**28**

Score reported: Total test score (28 items)

*Note: All three content areas are represented in the test; there are three units in the life sciences, two units in the physical sciences, and one unit in the Earth/space sciences.

Table 9 gives the EXPLORE College Readiness Standards for Science. These are statements that describe what students who score in various score ranges are *likely* to know and to be able to do in science reasoning. The Standards give further instances of the domain sampled in the Science Test.

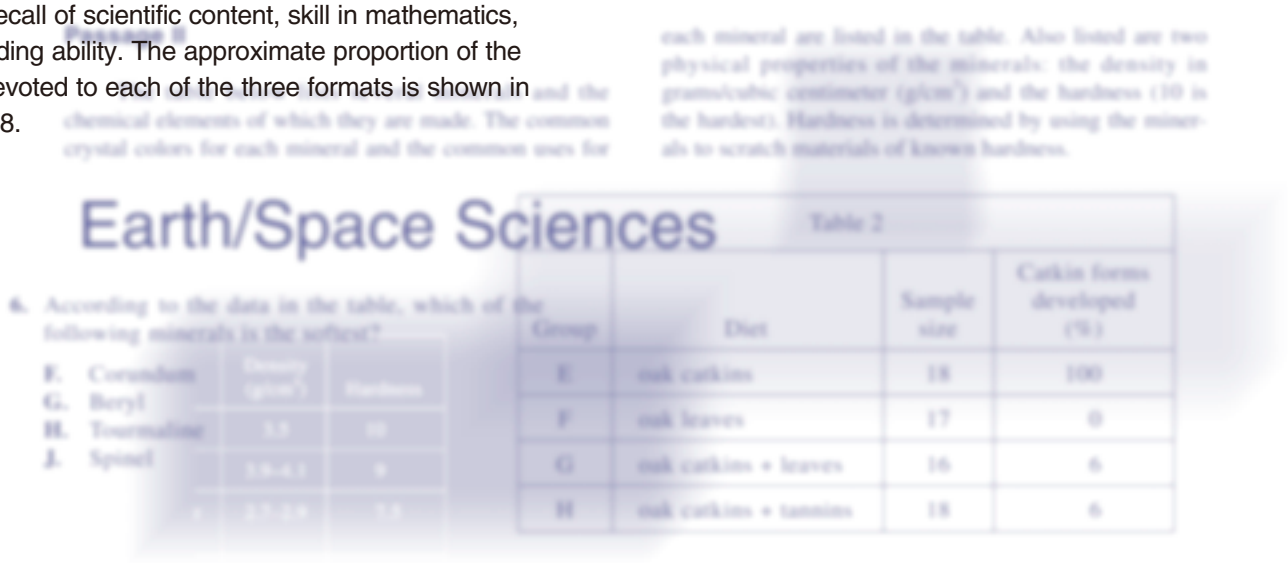


Table 9: College Readiness Standards for the EXPLORE Science Test

The College Readiness Standards describe what students who score in the specified score ranges are *likely* to know and to be able to do.

Score Range 13–15	• Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)	• Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)
Score Range 16–19	• Select two or more pieces of data from a simple data presentation • Understand basic scientific terminology • Find basic information in a brief body of text	• Determine how the value of one variable changes as the value of another variable changes in a simple data presentation • Understand the methods and tools used in a simple experiment
Score Range 20–23	• Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram) • Compare or combine data from a simple data presentation (e.g., order or sum data from a table) • Translate information into a table, graph, or diagram • Understand the methods and tools used in a moderately complex experiment	• Understand a simple experimental design • Identify a control in an experiment • Identify similarities and differences between experiments • Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model • Identify key issues or assumptions in a model
Score Range 24–25	• Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table) • Compare or combine data from a complex data presentation • Interpolate between data points in a table or graph • Determine how the value of one variable changes as the value of another variable changes in a complex data presentation • Identify and/or use a simple (e.g., linear) mathematical relationship between data • Analyze given information when presented with new, simple information • Understand the methods and tools used in a complex experiment • Understand a complex experimental design • Predict the results of an additional trial or measurement in an experiment	• Determine the experimental conditions that would produce specified results • Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models • Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why • Identify strengths and weaknesses in one or more models • Identify similarities and differences between models • Determine which model(s) is(are) supported or weakened by new information • Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion

Science College Readiness Standards are measured in the context of science topics students encounter in science courses. These topics may include:

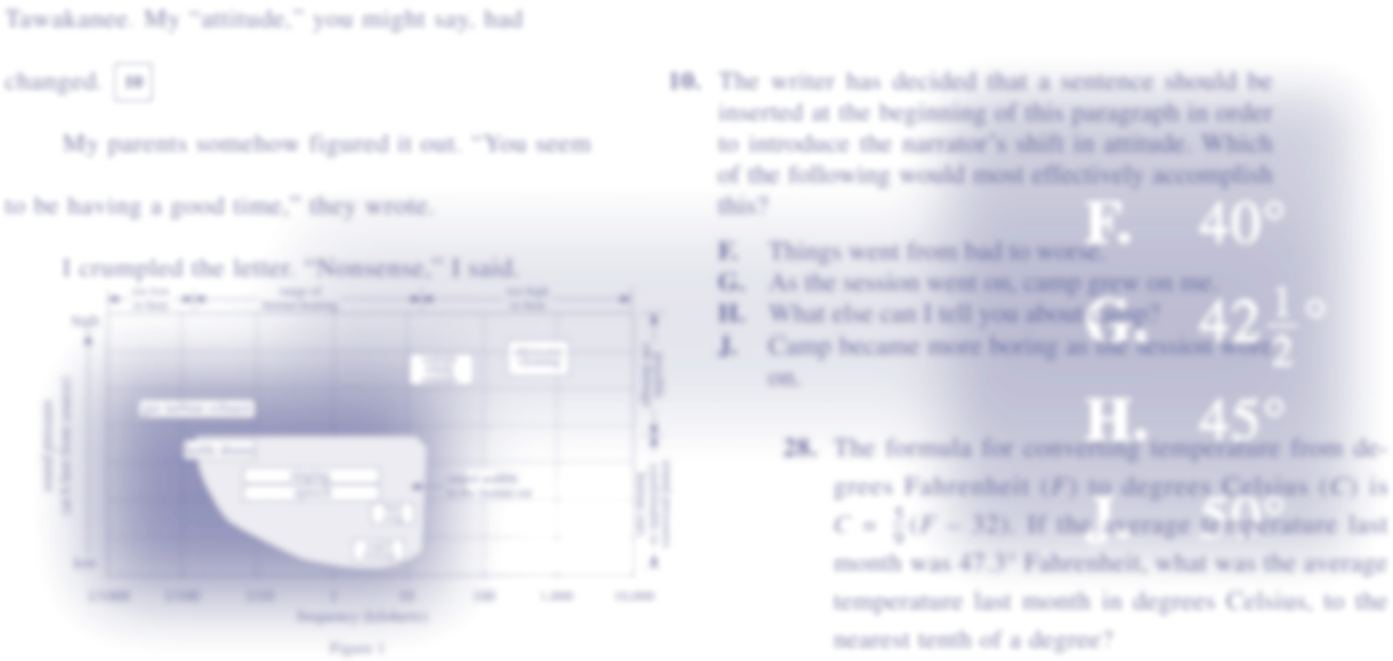
Life Science/Biology	Physical Science/Chemistry, Physics	Earth and Space Science
• Animal behavior • Animal development and growth • Body systems • Cell structure and processes • Ecology • Evolution • Genetics • Homeostasis • Life cycles • Molecular basis of heredity • Origin of life • Photosynthesis • Plant development, growth, structure • Populations • Taxonomy	• Atomic structure • Chemical bonding, equations, nomenclature, reactions • Electrical circuits • Elements, compounds, mixtures • Force and motion • Gravitation • Heat and work • Kinetic and potential energy • Magnetism • Momentum • The Periodic Table • Properties of solutions • Sound and light • States, classes, and properties of matter • Waves	• Earthquakes and volcanoes • Earth's atmosphere • Earth's resources • Fossils and geologic time • Geochemical cycles • Groundwater • Lakes, rivers, oceans • Mass movements • Plate tectonics • Rocks, minerals • Solar system • Stars, galaxies, and the universe • Water cycle • Weather and climate • Weathering and erosion

ACT's Commitment to Fairness

As a testing organization, ACT endorses the *Code of Fair Testing Practices in Education,* a statement of guidelines for those who develop, administer, and use educational tests and data. The *Code* sets forth criteria for fairness in four areas: developing and selecting appropriate tests, administering and scoring tests, reporting and interpreting test results, and informing test takers. According to the *Code,* test developers should provide "tests that are fair to all test takers regardless of age, gender, disability, race, ethnicity, national origin, religion, sexual orientation, linguistic background, or other personal characteristics." Test developers should "avoid potentially insensitive content or language," and "evaluate the evidence to ensure that differences in performance are related to the skills being assessed." ACT is committed to ensuring that each of its testing programs upholds the *Code*'s standards for appropriate test development practice and use.

ACT makes every effort to see that all ACT tests are fair to the populations for which the tests are intended. The assurance of fairness in a test is a critically important goal. To best accomplish this goal requires careful attention to the detection and elimination of unfairness factors at all stages of test development, test administration, and test specifications design. This attention is sustained throughout every stage of the test development process, including item writing and review, item pretest, item selection and form construction, and forms review, by such means as the following:

- All item writers are provided with criteria on developing fair test materials.
- Fairness reviewers are experts in diverse areas of education and represent both genders and a variety of racial and ethnic backgrounds.
- All reviews on preliminary forms include a review for fairness concerns.
- After the initial reviews, the test forms are submitted to panels of content experts and fairness reviewers for final review.
- After administrations of the EXPLORE items, statistical procedures are performed to ensure that items are not functioning differentially for different subgroups of the population.



Related Resources

ACT provides materials to help students prepare for the EXPLORE tests and use the results. Some of these materials are provided to all students, thus ensuring equal access to meaningful test preparation information. Most are available at little or no cost through high schools or directly from ACT:

- *College Readiness Standards*
  To add to the information provided with test scores, ACT has developed College Readiness Standards for the EXPLORE, PLAN, and ACT programs. ACT developed these Standards, in collaboration with content experts in each subject area, by analyzing the skills and knowledge students need in order to successfully respond to the test questions in various score ranges. The EXPLORE College Readiness Standards describe the types of skills and understandings that students will need in high school. These Standards help students, teachers, counselors, and others to more fully understand what students who score in various score ranges are *likely* to know and to be able to do in each academic area assessed in EXPLORE. The Standards are complemented by suggestions for learning experiences that students might benefit from if they wish to progress to higher levels of achievement. The EXPLORE College Readiness Standards can be found at ACT's website.
- *College Readiness Standards Information Services*
  ACT provides reporting services based on the College Readiness Standards for the EXPLORE, PLAN, and ACT programs. For each program, these services include a series of five reports and interpretive guides, and a set of curriculum review worksheets.
- *Getting Ready for High School and Beyond: Helpful Suggestions for Students and Their Parents*
  This leaflet for students and their parents describes EXPLORE and includes tips for doing well in high school. A Spanish edition is available at no additional charge on request.
- *It's Your Future: Using Your EXPLORE Results*
  This booklet explains the EXPLORE score report and offers suggestions for using the results. It is provided free of charge to students with their EXPLORE score reports. A Spanish edition is available at no extra charge on request.
- The *EXPLORE Program Guide*
  This manual is intended to help school counselors effectively use and interpret EXPLORE results. It is provided free of charge to school counselors.
- *The ACT Website*
  The ACT website (**www.act.org**) provides such resources as the College Readiness Standards, test administration information, and the current list of calculators prohibited for use on the Mathematics Test. Students may visit **www.explorestudent.org** for help with their educational planning.
- *Sample Test Booklets*
  Retired EXPLORE test forms may be purchased for student or institutional use. Order forms may be requested from ACT Customer Services at 319/337-1429.

To help schools derive maximum benefit from their participation in ACT programs and services, ACT maintains a staff of consultants in regional offices. If you need additional ACT information or assistance, please contact the ACT office that serves your state.

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