Using Classroom Data

To Monitor

Student Progress

English Language Arts Grade Level Content Expectations

Reading

GLCE
R.CM. 06.03
Analyze global themes, universal truths and principles within and across texts to create a deeper understanding by drawing conclusions, making inferences and synthesizing.

Concepts: What do students need to know about?
Global themes
- Abstract concepts
    - War/conflict
    - Slavery
    - Poverty
    - Faith
    - Abuse
    - Civil rights
    - Discrimination
    - Global warming/Environment
- Universal truths and principles
    - Love
    - Fear
    - Death
    - Faith
    - Truth
    - Freedom
    - Patriotism
    - Justice
    - Honesty
    - Change
    - Right/Wrong
    - Responsibility
    - Perseverance
    - Challenge
    - Courage
    - Rule of Law
    - Core democratic values
- Understanding – reader's comprehension
- Conclusion
    - Use evidence in text to reach
    - Summary or to summarize

Calhoun Intermediate School District

CISD
CALHOUN INTERMEDIATE
SCHOOL DISTRICT
An Educational Service Agency

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- o Analyze component parts and make connections
- o Synthesize information
- o Make connections with self and text to reach
- Inference
    - o Read between the lines
    - o To draw a conclusion from facts
- Synthesizing
    - o To bring together to make or create own meaning

Skills: What do students need to be able to do?
- o Analyze – draw conclusions
    - o Determine importance
    - o Determine relevant detail
    - o Connect to self/prior knowledge
    - o Infer from component parts
    - o Understand similarities of both text
    - o Understand differences between text
    - o Filter information
    - o Compare/contrast information

Topics or Context: What vehicle will the information be provided through?
- Written or oral communication
- Narrative text
- Informational text

Big Ideas:
- Reader creates own meaning that can be justified through evidence in text.
- Reader mediates own understanding through the interaction of self, what they know, and interaction of text.
- Every text written has a message or theme for the reader.

Essential Questions:
- What is the role of point of view? How does the reader sort it out?

Mathematics Grade Level Content Expectations

Data and Probability

GLCE
D.RE.05.02
Construct line graphs from tables of data; include axis label and scale.

Concepts: What do students need to know about _____?

Skills: What do students need to be able to do?

Topics or Context: What vehicle will the information be provided through?

Big Ideas:

Essential Questions:

Mathematics Grade Level Content Expectations

Strand: _____

Which Grade Level Content Expectations (GLCE's) did your students perform the lowest on last year's MEAP? Record Grade Level Content Expectations 10% or more below state average.

Grade_____ _____%   Grade_____ _____%   Grade_____ _____%

Item #	GLCE's	Gap	Item #	GLCE's	Gap	Item #	GLCE's	Gap

Which Grade Level Content Expectations are of greatest concern for your grade level?

Mathematics Grade Level Content Expectations

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ELA Grade Level Content Expectations

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Which Grade Level Content Expectations are of greatest concern for your grade level?

ELA Monitoring Plan for Grade _____

Which GLCE's should you monitor in your plan?

Answering the following questions will help you determine which GLCE's you should monitor during this quarter.

On which GLCE's did your students perform the lowest on last year's MEAP?

Use the Data 4SS Comparative Item Analysis graphs to determine which GLCE's were the most difficult for your students. Do you have other assessment data (common assessments, classroom assessments) that would provide additional information about which GLCE's your students need additional support.

Which GLCE's are weighted most heavily on the MEAP for your grade?

Which GLCE's are part of your district curriculum for your grade this quarter?

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Monitoring Plan

Quarter _____

School _____ **for Grade** _____

GLCE #	GLCE Description	Included in curriculum (Y/N)	Is there a developed assessment ready to use for this GLCE? (Y/N) If yes, where did you find the assessment?	Due date for 1st assessment	Due date for re-assessment

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Mathematics Monitoring Plan for Grade _____

Which GLCE's should you monitor in your plan?
Answering the following questions will help you determine which GLCE's you should monitor during this quarter.

On which GLCE's did your students perform the lowest on last year's MEAP?
Use the Data 4SS Comparative Item Analysis graphs to determine which GLCE's were the most difficult for your students. Do you have other assessment data (common assessments, classroom assessments) that would provide additional information about which GLCE's your students need additional support.

Which GLCE's are weighted most heavily on the MEAP for your grade?

Which GLCE's are part of your district curriculum for your grade this quarter?

Quarter _____ Monitoring Plan
School ___ for Grade ___

GLCE #	GLCE Description	Included in curriculum (Y/N)	Is there a developed assessment ready to use for this GLCE? (Y/N) If yes, where did you find the assessment?	Due date for 1st assessment	Due date for re-assessment

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Monitoring for _____ Grading Period

Students	GLCE #				GLCE #				GLCE #				GLCE #				GLCE #			

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College Readiness Standards — English

	Topic Development in Terms of Purpose and Focus	Organization, Unity, and Coherence	Word Choice in Terms of Style, Tone, Clarity, and Economy
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
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
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
24–27	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
28–32*	Apply an awareness of the focus and purpose of a fairly involved essay to determine the rhetorical effect and suitability of an existing phrase or sentence, or to determine the need to delete plausible but irrelevant material Add a sentence to accomplish a subtle rhetorical purpose such as to emphasize, to add supporting detail, or to express meaning through connotation	Make sophisticated distinctions concerning the logical use of conjunctive adverbs or phrases, particularly when signaling a shift between paragraphs Rearrange sentences to improve the logic and coherence of a complex paragraph Add a sentence to introduce or conclude a fairly complex paragraph	Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., "an aesthetic viewpoint" versus "the outlook of an aesthetic viewpoint") Correct vague and wordy or clumsy and confusing writing containing sophisticated language
33–36†	Determine whether a complex essay has accomplished a specific purpose Add a phrase or sentence to accomplish a complex purpose, often expressed in terms of the main focus of the essay	Consider the need for introductory sentences or transitions, basing decisions on a thorough understanding of both the logic and rhetorical effect of the paragraph and essay	Delete redundant material that involves subtle concepts or that is redundant in terms of the paragraph as a whole

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College Readiness Standards — English (continued)

	Sentence Structure and Formation	Conventions of Usage	Conventions of Punctuation
13–15	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)
16–19	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)
20–23	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)
24–27	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
28–32*	Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole	Correctly use reflexive pronouns, the possessive pronouns *its* and *your*, and the relative pronouns *who* and *whom* Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)	Use commas to set off a nonessential/nonrestrictive appositive or clause Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical) Use an apostrophe to show possession, especially with irregular plural nouns Use a semicolon to indicate a relationship between closely related independent clauses
33–36†	Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses	Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb	Use a colon to introduce an example or an elaboration

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College Readiness Standards — Mathematics

	Basic Operations & Applications	Probability, Statistics, & Data Analysis	Numbers: Concepts & Properties	Expressions, Equations, & Inequalities
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
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., $2x + 5x$)
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 simple counting techniques*	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 Multiply two binomials*
24–27	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 Use Venn diagrams in counting*	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 Work problems involving positive integer exponents* Work with cubes and cube roots of numbers* Determine when an expression is undefined* Exhibit some knowledge of the complex 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 Add, subtract, and multiply polynomials* Factor simple quadratics (e.g., the difference of squares and perfect square trinomials)* Solve first-degree inequalities that do not require reversing the inequality sign*
28–32 *	Solve word problems containing several rates, proportions, or percentages	Calculate or use a weighted average Interpret and use information from figures, tables, and graphs Apply counting techniques Compute a probability when the event and/or sample space are not given or obvious	Apply number properties involving prime factorization Apply number properties involving even/odd numbers and factors/multiples Apply number properties involving positive/negative numbers Apply rules of exponents Multiply two complex numbers †	Manipulate expressions and equations Write expressions, equations, and inequalities for common algebra settings Solve linear inequalities that require reversing the inequality sign Solve absolute value equations Solve quadratic equations Find solutions to systems of linear equations
33–36 †	Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)	Distinguish between mean, median, and mode for a list of numbers Analyze and draw conclusions based on information from figures, tables, and graphs Exhibit knowledge of conditional and joint probability	Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers Exhibit knowledge of logarithms and geometric sequences Apply properties of complex numbers	Write expressions that require planning and/or manipulating to accurately model a situation Write equations and inequalities that require planning, manipulating, and/or solving Solve simple absolute value inequalities

* Statements apply to PLAN & ACT only   † Statements apply to the ACT only

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	Graphical Representations	Properties of Plane Figures	Measurement	Functions†
13–15	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	
16–19	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	
20–23	Locate points in the coordinate plane Comprehend the concept of length on the number line* Exhibit knowledge of slope*	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	Evaluate quadratic functions, expressed in function notation, at integer values
24–27	Identify the graph of a linear inequality on the number line* Determine the slope of a line from points or equations* Match linear graphs with their equations* Find the midpoint of a line segment*	Use several angle properties to find an unknown angle measure Recognize Pythagorean triples* Use properties of isosceles triangles*	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 Compute the perimeter of simple composite geometric figures with unknown side lengths*	Evaluate polynomial functions, expressed in function notation, at integer values Express the sine, cosine, and tangent of an angle in a right triangle as a ratio of given side lengths
28–32 *	Interpret and use information from graphs in the coordinate plane Match number line graphs with solution sets of linear inequalities Use the distance formula Use properties of parallel and perpendicular lines to determine an equation of a line or coordinates of a point Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle)†	Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Use the Pythagorean theorem	Use relationships involving area, perimeter, and volume of geometric figures to compute another measure	Evaluate composite functions at integer values Apply basic trigonometric ratios to solve right-triangle problems
33–36 †	Match number line graphs with solution sets of simple quadratic inequalities Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$ Solve problems integrating multiple algebraic and/or geometric concepts Analyze and draw conclusions based on information from graphs in the coordinate plane	Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas Use relationships among angles, arcs, and distances in a circle	Use scale factors to determine the magnitude of a size change Compute the area of composite geometric figures when planning or visualization is required	Write an expression for the composite of two simple functions Use trigonometric concepts and basic identities to solve problems Exhibit knowledge of unit circle trigonometry Match graphs of basic trigonometric functions with their equations

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College Readiness Standards — Reading

	Main Ideas and Author's Approach	Supporting Details
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
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
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
24–27	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
28–32*	Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage	Locate and interpret minor or subtly stated details in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument
33–36†	Identify clear main ideas or purposes of complex passages or their paragraphs	Locate and interpret details in complex passages Understand the function of a part of a passage when the function is subtle or complex

Descriptions of the EPAS (EXPLORE, PLAN, and ACT) Reading 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.

Complex Literary Narratives refers to excerpts from essays, short stories, and novels that tend to make generous use of ambiguous language and literary devices, feature complex and subtle interactions between characters, often contain challenging context-dependent vocabulary, and typically contain messages and/or meanings that are not explicit but are embedded in the passage.

	Sequential, Comparative, and Cause-Effect Relationships	Meanings of Words	Generalizations and Conclusions
13–15	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
16–19	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
20–23	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
24–27	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
28–32*	Order sequences of events in more challenging passages Understand the dynamics between people, ideas, and so on in more challenging passages Understand implied or subtly stated cause-effect relationships in more challenging passages	Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts	Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on
33–36†	Order sequences of events in complex passages Understand the subtleties in relationships between people, ideas, and so on in virtually any passage Understand implied, subtle, or complex cause-effect relationships in virtually any passage	Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage	Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage Understand and generalize about portions of a complex literary narrative

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.

Complex Informational Passages refers to materials that tend to include a sizable amount of data, present difficult concepts that are embedded (not explicit) in the text, use demanding words and phrases whose meaning must be determined from context, and are likely to include intricate explanations of processes or events.

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College Readiness Standards — Science

	Interpretation of Data	Scientific Investigation	Evaluation of Models, Inferences, and Experimental Results
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)		
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	
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
24–27	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
28–32*	Compare or combine data from a simple data presentation with data from a complex data presentation Identify and/or use a complex (e.g., nonlinear) mathematical relationship between data Extrapolate from data points in a table or graph	Determine the hypothesis for an experiment Identify an alternate method for testing a hypothesis	Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Determine whether new information supports or weakens a model, and why Use new information to make a prediction based on a model
33–36†	Compare or combine data from two or more complex data presentations Analyze given information when presented with new, complex information	Understand precision and accuracy issues Predict how modifying the design or methods of an experiment will affect results Identify an additional trial or experiment that could be performed to enhance or evaluate experimental results	Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why

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 & 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 motions • 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 geological 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

* Statements apply to PLAN & ACT only   † Statements apply to the ACT only

Each activity in this booklet helps you become more familiar with ACT's College Readiness Standards—sets of statements that communicate educational expectations for junior high/middle school and high school students. College Readiness Standards have been written for all four academic areas measured in the multiple-choice tests in the ACT: English, Mathematics, Reading, and Science. The Standards for each academic area are organized by *score range* (13–15, 16–19, 20–23, 24–27, 28–32, and 33–36) and by *strand* (distinct yet overlapping areas of knowledge and skill).

Please follow the steps outlined below to explore the relationship between the ACT test questions and the ACT College Readiness Standards. If you have questions, ask your workshop coordinator.

Step A: Find and briefly review the College Readiness Standards table for your respective content area. Please note that the College Readiness Standards are organized both by score range (along the left-hand side) and by strand (across the top).

Step B: Read the explanatory text and/or the guiding questions for your content area.

Step C: Read the sample test questions (and [except in Mathematics] their corresponding passage); then determine which strand(s) and Standards link to each test question. Space has been provided below each test question to write notes about what is measured in each test question. Write the College Readiness Standards number (e.g., 301, 502) and the strand abbreviation (e.g., in English, TOD, OUC) in the second column of the worksheet. Please note that the score range for each test question appears in column one.

Step D: Discuss your findings with the other participants in the workshop.

English Essay
from the Abbreviated ACT Test

PASSAGE I

A Voice of Her Own

Sandra Cisneros, perhaps the best known Latina

author in the United States, writes poems and stories

whose titles alone—"Barbie-Q, "My Lucy Friend Who
    1

Smells Like Corn, "Woman Hollering Creek —engage

potential readers' curiosity.
            2

Ironically, this renowned writer, whose books are
                                        3

printed on recycled paper, did not do well in school.
        3

When she lectures at schools and public libraries,

Cisneros presents the evidence. An elementary school
                                    4

report card containing Cs, Ds, and a solitary B (for

conduct). Cisneros has a theory to explain her low grades:

teachers had low expectations for Latina and Latino

students from Chicago's South Side.

Despite the obstacles that she faced in school,

Cisneros completed not only high school but also college.

Her persistence paid off in her twenties, when Cisneros

was admitted prestigious to the Writers' Workshop at the
                5

University of Iowa.

Cisneros soon observed that most of her
            6

classmates at the university seemed to have a common

set of memories, based on middle-class childhoods,

from which to draw in their writing. Cisneros felt
                                            7

decided out of place.
    8

9

She decided to speak from her own experience. Her

voice, which by being one of a Latina living outside the
                                            10

mainstream, found a large and attentive audience in
    10

1984 with the publication of her first short story
    11

collection, *The House on Mango Street*. Today, this book
                                        12

is read by middle school, high school, and college students

across the United States.

Cisneros uses her influence as a successful writer to

help other Latina and Latino writers get their works

published. But having made the argument that, in order for
                                    13

large numbers of young Latinos to achieve literary

success, the educational system itself must change.

Cisneros hints that she succeeded in spite of the
                14

educational system. "I'm the exception, she insists, "not

the rule. 15

Guiding Questions for English Workshop Activity

1. What judgment or editing decision (e.g., choosing transition words, correcting verb tense, determining the purpose of the essay) is the student asked to make in the test question?

2. Which strand most directly addresses that judgment or editing decision?

3. Which standard within that strand (and score range) do you think best describes the test question?

4. Think of one classroom activity that you've used successfully that either requires students to use the skill you've identified or that helps students learn the skill you've identified. Please informally describe that activity to your fellow educators.

Worksheet

Sample Test Question	Strand(s) College Readiness Standards

Score Range 20–23
5. The best placement for the underlined portion would be:
  A. where it is now.
  B. before the word *admitted*.
  *C. before the word *Writers'*.
  D. before the word *Workshop*.
 	
Judgment/Decision:	

Score Range 16–19
8. F. NO CHANGE
  G. deciding
  *H. decidedly
  J. decidedly and
 	
Judgment/Decision:	

Score Range 13–15
12.*F. NO CHANGE
  G. In the future,
  H. Meanwhile,
  J. At the same time,
 	
Judgment/Decision:	

1. What topic (e.g., algebra, geometry, statistics) is the test question about?

2. Which strand focuses on the topic you chose?

3. What knowledge and skills does a student need to successfully respond to the test question?

4. Which standard within that strand (and score range) best describes the knowledge or skills you listed?

5. Think of one classroom activity that you've used successfully that requires students to use the skill you've identified or helps students learn the skill you've identified. Please informally describe that activity to your fellow educators.

Worksheet

Sample Test Question	Strand(s) College Readiness Standards

Score Range 13–15
 	
1. Ten boxes of books were delivered to the school library. There were 50 books in each box, except for the last box, which contained only 40 books. How many books did the library receive in this delivery?
 	
  A. 50
  B. 450
 *C. 490
  D. 500
  E. 540
 	
Knowledge and Skills:	

Score Range 16–19 3. Anton went to Mexico during summer vacation with his Spanish class. He recorded the number of pesos he spent each day in a table, as shown below. What was the mean number of pesos he spent per day? 	July	1	2	3	4	5
---	---	---	---	---	---

Pesos spent	250	100	150	100	400 |
					
					  A. 100
					  B. 150
					 *C. 200
					  D. 220
					  E. 300
					
					Knowledge and Skills:	

F-33

Sample Test Question	Strand(s) College Readiness Standards

Score Range 20–23
 	
5. A bag contains 4 red jelly beans, 5 green jelly beans, and 3 white jelly beans. If a jelly bean is selected at random from the bag, what is the probability that the jelly bean selected is green?
 	
   A. $\frac{1}{12}$
 	
   B. $\frac{1}{5}$
 	
   C. $\frac{5}{23}$
 	
   *__D.__ $\frac{5}{12}$
 	
   E. $\frac{5}{7}$
 	
Knowledge and Skills:	

Score Range 33–36
 	
15. The radio station WEST is erecting a new transmitting tower that is 280 feet tall. A support wire will be attached to the ground at point A and to the tower 250 feet up at point B, as shown below. The wire must be at least as long as $\overline{AB}$. Which of the following expresses the length of $\overline{AB}$, in feet?
 	
  A. $250 \cos 70°$
 	
  B. $250 \sin 70°$
 	
  C. $250 \tan 70°$
 	
  D. $\dfrac{250}{\cos 70°}$
 	
 *__E.__ $\dfrac{250}{\sin 70°}$
 	
Knowledge and Skills:	

The ACT Reading Test includes four types of passages: Prose Fiction and Humanities (classified as literary narratives) and Social Science and Natural Science (classified as informational). Passages also differ in level of difficulty: uncomplicated, more challenging, or complex. When determining the difficulty of the passage below, please think in terms of a "typical (average) eleventh- or twelfth-grade student."

Most of the College Readiness Standards mention a specific type of passage and level of difficulty. When a Standard mentions level of difficulty only, students should be able to display the skill while reading both literary narratives and informational passages.

Reading Passage
from the Abbreviated ACT Test

Passage I

SOCIAL SCIENCE: This passage, which describes land practices in the commons (tracts of land that belonged to and were used by a community as a whole), and the enclosure movement (when the commons were taken over by private interests and fenced off), is adapted from the essay "The Place, the Region, and the Commons" by Gary Snyder, which is included in his book *The Practice of the Wild* (©1990 by Gary Snyder).

I stood with my climbing partner on the summit of Glacier Peak looking all ways round, ridge after ridge and peak after peak, as far as we could see. He said: "You mean there's a senator for all this? It is easy to
5 think there are vast spaces on earth yet unadministered, perhaps forgotten, or unknown, but it is all mapped and placed in some domain. In North America there is a lot that is in the public domain, which has its problems, but at least they are problems we are all enfranchised to
10 work on.

American public lands are the twentieth-century incarnation of a much older institution known across Eurasia—in English called the "commons —which was the ancient mode of both protecting and managing the
15 wilds of the self-governing regions. It worked well enough until the age of market economies, colonialism, and imperialism. Let me give you a kind of model of how the commons worked.

Between the extremes of deep wilderness and the
20 private plots of the farmstead lies a territory which is not suitable for crops. In earlier times it was used jointly by the members of a given tribe or village. This area, embracing both the wild and the semi-wild, is of critical importance. It is necessary for the health of the wilder-
25 ness because it adds big habitat, overflow territory, and room for wildlife to fly and run. It is essential even to an agricultural village economy because its natural diversity provides the many necessities and amenities that the privately held plots cannot. It enriches the agrarian diet
30 with game and fish. The shared land supplies firewood, poles and stone for building, clay for the kiln, herbs, dye plants, and much else. It is especially important as seasonal or full-time open range for cattle, horses, goats, pigs, and sheep.

35 In the abstract the sharing of a natural area might be thought of as a matter of access to "common pool resources with no limits or controls on individual exploitation. The fact is that such sharing developed over millennia and always within territorial and social
40 contexts. In the peasant societies of both Asia and Europe there were customary forms that gave direction to the joint use of land. They did not grant free access to outsiders, and there were controls over entry and use by member households. The commons is both specific land
45 *and* the traditional community institution that determines the carrying capacity for its various subunits and defines the rights and obligations of those who use it, with penalties for lapses. Because it is traditional and *local*, it is not identical with today's "public domain, which is
50 land held and managed by a central government. Under a national state such management may be destructive (as it is becoming in Canada and the United States) or benign, but in no case is it locally managed. One of the ideas in the current debate on how to reform our public lands is
55 that of returning them to regional control.

An example of traditional management: what would keep one household from bringing in more and more stock and tempting everyone toward overgrazing? In earlier England and in some contemporary Swiss
60 villages, the commoner could only turn out to common range as many head of cattle as he could feed over the winter in his own corrals. This meant that no one was allowed to increase his herd from outside with a cattle drive just for summer grazing.

65 There is a well-documented history of the commons in relation to the village economies of Europe and England. In England from the time of the Norman Conquest the knights and overlords began to gain control over the many local commons. From the fifteenth
70 century on the landlord class increasingly fenced off village-held land and turned it over to private interests. The enclosure movement was backed by the big wool corporations who found profit from sheep to be much greater than that from farming. The wool business had a
75 destructive effect on the soils and dislodged peasants. The arguments for enclosure in England—efficiency, higher production—ignored social and ecological effects and served to cripple the sustainable agriculture of some districts.

80 The enclosures created a population of rural homeless who were forced in their desperation to become the world's first industrial working class. The enclosures were tragic both for the human community and for natural ecosystems. The fact that England now has the
85 least forest and wildlife of all the nations of Europe has much to do with the enclosures.

6

F-35

Guiding Questions for Reading Workshop Activity

1. How would you classify this passage: literary narrative or informational passage?

2. Using the passage descriptions at the bottom of the Reading College Readiness Standards table, what do you think is the difficulty level of the passage: uncomplicated, more challenging, or complex?

3. What skills does a student need to successfully respond to the test question?

4. Which strand focuses on the skills you listed?

5. Which standard within that strand (and score range) best describes the skills you listed?

6. Think of one classroom activity that you've used successfully that either requires students to use the skill you've identified or that helps students learn the skill you've identified. Please informally describe that activity to your fellow educators.

Worksheet

Passage classification: _____

Sample Test Question	Strand(s) College Readiness Standards

Score Range 13–15
 	
1. As it is used in line 12 , the word *incarnation* most nearly means:
 	
  A. import.
*B. version.
  C. area.
  D. relationship.
 	
Skills:	

Score Range 28–32
 	
2. The author's primary aim in this passage is to:
 	
  F. criticize Canadian and United States management of public domain lands.
*G. describe traditional commons and explain the effects of their disappearance.
  H. praise the commons movement and explain how the enclosure movement benefitted from it.
  J. persuade members of central governments to tighten their control over commonly held land.
 	
Skills:	

Score Range 28–32
 	
5. The passage implies that the number of commons in Europe diminished primarily because of:
 	
  A. dissatisfaction on the part of villagers.
  B. displacement of the population of rural homeless.
  C. increased production by farmers, villagers, and tribal members.
*D. greed on the part of landowners and corporations.
 	
Skills:	

F-36

The Interpretation of Data strand describes the skills used to read and analyze information presented in tables, graphs, diagrams, or text. These skills include selecting data points from graphs, comparing 2 or more data points or sets of data, interpolation of data, and extrapolation from data.

The Scientific Investigation strand focuses on the skills needed to understand and analyze an experiment. These skills include determining the control in an experiment, determining the hypothesis that an experiment is designed to test, and determining the purpose behind an experimental design or procedure.

The Evaluation of Models, Inferences, and Experimental Results strand contains the skills needed to understand and analyze diverse scientific models. These skills include determining the hypothesis or conclusion that is supported by a given set of data, experiment, or model; finding the areas of agreement and disagreement in different models; and identifying the strengths, weaknesses, key issues, and assumptions in various models.

Data Representation Passage
from the Abbreviated ACT Test

Passage I

Herbicides are used to control the growth of weeds. An herbicide that may be used safely with one crop species may damage another crop if the latter crop is planted in soil containing residual amounts of the herbicide from an earlier application. Two experiments were performed to study this effect.

Experiment 1

A botanist filled 90 pots with Soil Type 1. No herbicide was added to the soil in 10 pots. The other pots were divided into groups of 10 and the soil in each group was treated with 10, 20, 50, or 100 ppm of either Herbicide A or B. All other factors were held constant. Ten seeds of a corn hybrid were planted in each pot. After 40 days, the plants were uprooted, oven-dried, and weighed. The results are shown in Table 1.

Table 1		
Herbicide dose (ppm)	Average mass of plants (g)	
	Herbicide A	Herbicide B
10	14.1	15.6
20	12.4	13.7
50	9.3	12.1
100	5.5	9.3
Note: Average plant mass in untreated soil was 16.0 g.		

Experiment 2

Experiment 1 was repeated with 90 pots of Soil Type 1 and 90 pots of Soil Type 2. The same herbicide doses and corn hybrid were used. All other factors were held constant. After 40 days, the heights of the plants were measured. The results are shown in Table 2.

Table 2				
Herbicide dose (ppm)	Average height of plants (cm)			
	Soil Type 1		Soil Type 2	
	Herbicide A	Herbicide B	Herbicide A	Herbicide B
10	46.3	49.0	50.3	52.5
20	42.0	47.0	44.4	47.0
50	34.1	39.4	40.6	42.3
100	19.6	22.7	30.9	36.4

Note: Average plant height in untreated Soil Type 1 was 50.6 cm; average plant height in untreated Soil Type 2 was 52.7 cm.

Information on the two soil types used is given in Table 3.

Table 3			
Soil Type	pH	Organic matter (%)	Clay (%)
1	6.9	5.0	16.3
2	6.2	9.5	7.9

1. What science process skills must students use to answer the test question correctly?

2. Which strand focuses on the skills you chose?

3. Which standard within that strand (and score range) best describes the skills you listed?

4. Think of one classroom activity that you've used successfully that either requires students to use the skill you've identified or that helps students learn the skill you've identified. Please informally describe that activity to your fellow educators.

Worksheet

Sample Test Question	Strand(s) College Readiness Standards

Score Range 20–23
 	
2. Which of the following sets of plants served as the control in Experiment 1 ?
 	
  *F. Plants grown in untreated soil
  G. Plants grown in soil treated with 10 ppm of Herbicide A
  H. Plants grown in soil treated with 10 ppm of Herbicide B
  J. Plants grown in soil treated with 100 ppm of Herbicide A
 	
Science Process Skills:	

Score Range 28–32
 	
5. Another set of corn seeds was planted in Soil Type 1 under the same conditions as Experiment 1, except that the soil was treated with 150 ppm of Herbicide A. Based on the results of Experiment 1, one would predict that the approximate average mass of a corn plant after 40 days would be:
 	
  *A. less than 5.5 g.
  B. between 6.0 g and 9.3 g.
  C. between 9.4 g and 14.1 g.
  D. greater than 14.1 g.
 	
Science Process Skills:	

Score Range 20–23
 	
8. According to Table 3, Soil Type 2 differs from Soil Type 1 in which of the following ways?
 	
  F. Soil Type 2 is less acidic than is Soil Type 1.
  *G. Soil Type 2 has a higher percent organic matter than does Soil Type 1.
  H. Soil Type 2 has a higher percent clay content than does Soil Type 1.
  J. Soil Type 2 contains higher levels of Herbicides A and B than does Soil Type 1.
 	
Science Process Skills:	

Research Summaries Passage
from the Abbreviated ACT Test

Passage II

Crustal *plates* (sections of Earth's crust) lie on top of a denser layer of material known as the *mantle*, which extends to a depth of 2,900 km, where the core begins. Mantle material moves by a process known as *convection*. In convection, molten or semisolid material is heated from below, rises as large *plumes*, spreads horizontally, cools, and then sinks, creating a *convection cell*. Plates are carried along by the convection cells and plate edges may be forced down into the mantle creating large, cold, *sinking slabs* of crust. Below are two opposing views about the nature of mantle convection.

Viewpoint 1

The mantle is composed of 2 layers that are chemically distinct and do not mix. The lower mantle is denser, hotter, enriched in iron and silicon, and under greater pressure than the upper mantle. Convection cells exist only in the 600 km deep upper mantle. Only heat passes between the 2 layers; no actual material is exchanged. The boundary between the mantle layers can be detected with *seismic* (earthquake) waves which speed up significantly at and below a depth of 600 km.

The sinking slabs are dense and cold enough to sink into the upper mantle but not into the lower mantle. Earthquakes have been detected in the sinking slabs, but none below a depth of 600 km. Scientists who believe that slabs penetrate deeper are misinterpreting their seismic data.

Viewpoint 2

The whole mantle circulates in convection cells and mixing occurs throughout. The 600 km deep "boundary is merely a place where pressure transforms the crystal structure of the mantle material. Different crystal structures do not preclude mixing of the entire mantle. Seismic studies have detected sinking slabs of colder rock that had penetrated the mantle to depths between 600 and 1,400 km in many parts of the world.

Mathematical models have shown that the *tilt angle* (angle at which sinking slabs descend into the mantle) of known sinking slabs corresponds much more closely to that expected for whole mantle convection than to tilt angles expected for only upper mantle convection.

1. What science process skills must students use to answer the test question correctly?

2. Which strand focuses on the skills you chose?

3. Which standard within that strand (and score range) best describes the skills you listed?

4. Think of one classroom activity that you've used successfully that either requires students to use the skill you've identified or that helps students learn the skill you've identified. Please informally describe that activity to your fellow educators.

Worksheet

Sample Test Question	Strand(s) College Readiness Standards
Score Range 28–32 **9.** According to Viewpoint 1, an ascending plume of hot mantle material that originates near a depth of 2,900 km would be able to rise: 　A. all the way to the bottom of the crust. 　B. all the way to the surface of Earth. 　*C. only to the bottom of the upper mantle. 　D. only a few km above that depth. **Science Process Skills:**	
Score Range 24–27 **10.** Which of the following statements best describes how the 2 viewpoints are alike? 　F. Both are based on the nature of rock samples from the deep seafloor. 　G. Both agree that material from the lower mantle mixes with the upper mantle. 　H. Both agree that the mantle has the same properties throughout its depth. 　*J. Both depend to some extent on studies using seismic waves. **Science Process Skills:**	