GED
TESTING SERVICE®

The GED® Test
A Content Comparison

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The GED® Test: A Content Comparison Between 2002 and 2014

Appendix D gives a breakdown of the similarities between the 2002 Series GED® Test and the 2014 GED® test as well as a summary of the changes. Each content area's section contains a table showing the content specifications that are comparable across both tests, followed by a "What's new?" section that identifies specific innovations or improvements that we are implementing in the 2014 test's content.

Reasoning Through Language Arts (RLA) – Reading: Similarities between the 2002 and 2014 Tests

Note: Codes in **bold** in the 2014 column refer to the 2014 GED® Assessment Targets and Indicators as outlined in the body of Chapter 2 of the *Assessment Guide for Educators*. The codes may not appear in numerical order, as the goal of the table below is to show areas of correspondence between the 2002 content and the 2014 content.

RLA – Reading: Content Specifications	
2002	**2014**
Restate or paraphrase information.	**R.2.1** Comprehend explicit details and main ideas in a text.
Summarize main ideas.	**R.2.2** Summarize details and ideas in text.
Explain the primary implications of the text.	**R.2.4** Infer implied main ideas in paragraphs or whole texts.
Transfer concepts and principles from reading to a new context.	**R.2.7** Make evidence-based generalizations or hypotheses based on details in text, including clarifications, extensions, or applications of main ideas to new situations.
Draw conclusions and understand consequences.	**R.2.8** Draw conclusions or make generalizations that require synthesis of multiple main ideas in text.
Make inferences and recognize unstated assumptions	**R.2.3** Make sentence-level inferences about details that support main ideas.
Identify elements of style and structure and interpret the organizational structure or pattern in a text.	**R.5.4** Analyze how the structure of a paragraph, section, or passage shapes meaning, emphasizes key ideas, or supports an author's purpose.
Identify tone, word usage, characterization, use of detail and example, and figurative language.	**R.4.3/L.4.3** Analyze the impact of specific words, phrases, or figurative language in text, with a focus on an author's intent to convey information or construct an argument. **R.3.1** Make inferences about plot/sequence of events, characters/people, settings, or ideas in texts.
Identify cause and effect relationships.	**R.3.4** Infer relationships between ideas in a text (e.g. an implicit cause and effect, parallel, or contrasting relationship.

RLA – Reading: Content Specifications	
2002	**2014**
Distinguish conclusions from supporting statements.	**R.2.5** Determine which detail(s) supports a main idea.
Interpret tone, point of view, style or purpose of a work.	**R.6.1** Determine an author's point of view or purpose of a text.
Make connections among parts of a text and integrate information from outside a passage with elements within the passage.	[Not assessed on 2014 test. Refer to R.5, R.7, and R.9 on the following page for how the 2014 test assesses related content]

What's new on the 2014 RLA test in the *Reading* content domain?

In addition to continuing to measure test-takers' knowledge and abilities with regard to key comprehension skills, the new 2014 Reasoning Through Language Arts test will be assessing a selection of reasoning skills that allow them to evaluate complex argumentative text and analyze information. While these skills infuse all of the new RLA Reading targets and indicators, they are described in some detail in the following Reading Targets and their corresponding Indicators, which represent an expansion upon the skills measured on the 2002 Series GED® Test.

- **R.3** Analyze how individuals, events, and ideas develop and interact over the course of a text.
- **R.5** Analyze the structure of texts, including how specific sentences or paragraphs relate to each other and the whole.
- **R.6** Determine an author's purpose or point of view in a text and explain how it is conveyed and shapes the content and style of a text.
- **R.8** Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- **R.7 and R.9** Analyze how two or more texts address similar themes or topics

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For more information on each of the Reading Targets, see Reasoning Through Language Arts Assessment Targets in the body of Chapter 2 of the *Assessment Guide for Educators*.

RLA – Language: Similarities between the 2002 and 2014 Tests

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RLA – Language: Content Specifications	
2002	**2014**
Create effective text divisions (within or among paragraphs. Combine paragraphs to form a more effective document. Form new paragraphs within multi-paragraph documents. Create topic sentences.	**L.1.9** Edit to ensure effective use of transitional words, conjunctive adverbs, and other words and phrases that support logic and clarity. [Note: Paragraph development and organizational skills are measured through Trait 2 of the Extended Response Scoring Rubric and will not appear in editing tasks on the 2014 RLA test.]
Edit to eliminate sentence fragments, run-on sentences, and comma splices.	**L.2.2** Edit to eliminate run-on sentences, fused sentences, or sentence fragments.
Edit to eliminate improper coordination and subordination, modification, and parallelism.	**L.1.5** Edit to eliminate dangling or misplaced modifiers or illogical word order (e.g., correctly use to meet almost all requirements instead of to almost meet all requirements). **L.1.6** Edit to ensure parallelism and proper subordination and coordination.
Edit to eliminate subject-verb agreement (including agreement in number, interrupting phrases, and inverted structure).	**L.1.2** Edit to correct errors in straightforward subject-verb agreement. **L.1.7** Edit to correct errors in subject-verb or pronoun antecedent agreement in more complicated situations (e.g., with compound subjects, interceding phrases, or collective nouns).
Edit to eliminate verb tense errors (including sequence of tenses, word clues to tense in sentences, word clues to tense in paragraphs, and verb form).	[Note: This skill is assessed on the 2014 test via Extended Response Scoring Rubric Trait 3 only.]
Edit to eliminate pronoun reference errors (including incorrect relative pronouns, pronoun shift, vague or ambiguous references, and agreement with antecedents).	**L.1.3** Edit to correct errors in pronoun usage, including pronoun-antecedent agreement, unclear pronoun references, and pronoun case. **L.1.7** Edit to correct errors in subject-verb or pronoun antecedent agreement in more complicated situations (e.g., with compound subjects, interceding phrases, or collective nouns).

RLA – Language: Content Specifications (continued)	
2002	**2014**
Edit to eliminate errors in capitalization (including proper names and adjectives, titles, and months/ seasons).	**L.2.1** Edit to ensure correct use of capitalization (e.g., proper nouns, titles, and beginnings of sentences).
Edit to eliminate errors in punctuation (including commas in a series, commas between independent clauses joined by a conjunction, introductory elements, appositives, and the overuse of commas).	**L.2.4** Edit to ensure correct use of punctuation (e.g., commas in a series or in appositives and other non-essential elements, end marks, and appropriate punctuation for clause separation).
Edit to eliminate errors in spelling (restricted to errors related to possessives, contractions, and homophones).	**L.1.1** Edit to correct errors involving frequently confused words and homonyms, including contractions (passed, past; two, too, to; there, their, they're; knew, new; it's its). **L.2.3** Edit to ensure correct use of apostrophes with possessive nouns.
[Not assessed on the 2002 Series test.]	**L.1.4** Edit to eliminate non-standard or informal usage (e.g., correctly use *try to win the game* instead of *try and win the game*)

What's new on the 2014 RLA test in the *Language* content domain?

While virtually all of the language conventions and usage skills that are measured on the 2002 Series Writing Test will continue to be measured in the 2014 RLA editing tasks, one of the biggest innovations that appear in this content area is in how these tasks are presented. On the 2002 Series, editing items appear in multiple-choice format in which sentences or phrases that contain errors are excerpted from a passage. On the new test, however, test-takers will find passages with embedded drop-down menus within them. These drop-down style items simulate real-life editing tasks because, once the test-taker has chosen the appropriate phrase selection from the menu, the phrase selection appears right in the passage so that the test-taker can see the selection in the context of the sentence and overall passage.

For more information on each of the Language Targets, see Reasoning Through Language Arts Assessment Targets in the body of Chapter 2 of the *Assessment Guide for Educators*.

RLA – Extended Response (Essay): Similarities between the 2002 and 2014 Tests

Trait 2 of the 2014 Extended Response (ER) Scoring Rubric has extensive overlap with the 2002 Series Holistic Scoring Rubric.

Dimensions of the 2002 Essay Rubric	Dimensions of the 2014 RLA ER Trait 2 Rubric
Presents a clearly focused main idea that addresses the prompt.	Contains ideas that are thoroughly and logically developed, with full elaboration of main ideas
Establishes a clear and logical organization.	Establishes an effective organizational structure that is well-suited to the message and purpose of the response as a whole; applies transitional devices strategically and effectively
Achieves coherent development with specific and relevant details and examples.	Contains purposeful, logical progression of ideas with details closely tied to their main points
Consistently controls sentence structure and the conventions of EAE.	[Note: This 2002 content is measured on Trait 3 of the Extended Response Scoring Rubric.]
Exhibits varied and precise word choice	Chooses words purposefully and carefully to express ideas with clarity and logic; consistently and strategically applies advanced vocabulary.
[Note: The 2014 column lists a new dimension that was not assessed on the 2002 Series test.]	Strategically applies awareness of audience and purpose of the task to enhance meaning throughout the response.

What's new on the 2014 RLA test Extended Response (Essay)?

The extended response (ER) task on the 2014 test is designed to present a real-world opportunity for test-takers to demonstrate their ability to develop an argument and support their ideas with text-based evidence. Unlike the 2002 Series Essay prompts, which were presented outside of any context and which posed somewhat abstract questions to test-takers, the new ERs provide a brief pair of engaging passages describing opposing perspectives on a similar topic. Test-takers must read these passages and evaluate which position is better supported. As noted in the table above, the 2014 Trait 2 Rubric also adds an assessment of the test-takers awareness of both the audience and the purpose of the writing task.

In addition to the stylistic and organizational skills that are outlined in Trait 2 of the Scoring Rubric, test-takers' responses to the new ER tasks will be evaluated on how well they use two other important sets of skills.

1. Creating Arguments and Using Evidence (Trait 1)
2. Clarity and Command of Standard English Conventions (Trait 3)

Trait 1 is designed to help scorers focus on not just the presentation of the test-takers' ideas, but also the content of what they say in their essays. In particular, we are interested in how well test-takers can develop an argument in which they use evidence directly from the passages they are given in order to support their assertions.

Trait 3, on the other hand, which was incorporated into the 2002 Series Holistic rubric, specifically delineates a clear and limited number of key conventions and usage skills (outlined in the Language specifications above). The reason for separating these skills into a distinct trait on this rubric is that it is essential for test-takers to demonstrate their command of these skills in writing of their own, in addition to being able to apply them to the writing of another, as the editing tasks described above require.

For more information about Traits 1, 2, and 3, see the RLA Extended Response Scoring Rubric in the body of Chapter 2 of the *Assessment Guide for Educators*.

Mathematical Reasoning: Similarities between 2002 and 2014 Tests:

Note: Codes in **bold** in the 2014 column refer to the 2014 GED® Assessment Targets and Indicators as outlined in the body of Chapter 2 of the *Assessment Guide for Educators*. The codes may not appear in numerical order, as the goal of the table below is to show areas of correspondence between the 2002 content and the 2014 content.

Mathematical Reasoning: Content Specifications	
2002	**2014**
Represent and use numbers in a variety of equivalent forms (integer, fraction, decimal, percent, exponential, and scientific) in real-world and mathematical problem situations.	**Q.1.a** Order fractions and decimals, including on a number line. **Q.1.c** Apply rules of exponents in numerical expressions with rational exponents to write equivalent expressions with rational exponents. **Q.3.d** Solve two-step, arithmetic, real world problems involving percents. Examples include but are not limited to: simple interest, tax, markups and markdowns, gratuities and commissions, percent increase and decrease.
Represent, analyze, and apply whole numbers, decimals, fractions, percents, ratios, proportions, exponents, roots, and scientific notation in a wide variety of situations.	**Q.1.a** Order fractions and decimals, including on a number line. **Q.1.b** Apply number properties involving multiples and factors, such as using the least common multiple, greatest common factor, or distributive property to rewrite numeric expressions. **Q.2.a** Perform addition, subtraction, multiplication, and division on rational numbers. **Q.2.b** Perform computations and write numerical expressions with squares and square roots of positive, rational numbers. **Q.2.c** Perform computations and write numerical expressions with cubes and cube roots of positive, rational numbers. **Q.2.e** Solve one-step or multi-step arithmetic, real world problems involving the four operations with rational numbers, including those involving scientific notation. **Q.3.c** Solve multistep, arithmetic, real-world problems using ratios or proportions including those that require converting units of measure. **Q.3.d** Solve two-step, arithmetic, real world problems involving percents. Examples include but are not limited to: simple interest, tax, markups and markdowns, gratuities and commissions, percent increase and decrease.
Recognize equivalencies and order relations for whole numbers, fractions, decimals, integers, and rational numbers.	**Q.1.a** Order fractions and decimals, including on a number line.
Select the appropriate operations to solve problems (for example, When should I divide?).	[Not assessed on the 2014 test]
Relate basic arithmetic operations to one another.	[Not assessed on the 2014 test]
Calculate mentally, with pencil and paper, and with a scientific calculator using whole numbers, fractions, decimals, and integers.	**Q.2.a** Perform addition, subtraction, multiplication, and division on rational numbers.

Mathematical Reasoning: Content Specifications (continued)	
2002	**2014**
Use estimation to solve problems and assess the reasonableness of an answer.	[Not assessed on the 2014 test]
Model and solve problems using the concepts of perpendicularity, parallelism, congruence, and similarity of geometric figures.	[Not assessed on the 2014 test]
Use spatial visualization skills to describe and analyze geometric figures and translations/rotations/dilations of geometric figures.	[Not assessed on the 2014 test]
Use the Pythagorean theorem to model and solve problems.	**Q.4.e** Use the Pythagorean theorem to determine unknown side lengths in a right triangle.
Find, use, and interpret the slope of a line, the y-intercept of a line, and the intersection of two lines.	**A.5.b** Determine the slope of a line from a graph, equation, or table. **A.5.c** Interpret unit rate as the slope in a proportional relationship. **A.5.d** Graph two-variable linear equations. **A.5.e** For a function that models a linear or nonlinear relationship between two quantities, interpret key features of graphs and tables in terms of quantities, and sketch graphs showing key features of graphs and tables in terms of quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior, and periodicity.
Find, use, and interpret the slope of a line, the y-intercept of a line, and the intersection of two lines (continued from previous page).	**A.6.a** Write the equation of a line with a given slope through a given point. **A.6.c** Use slope to identify parallel and perpendicular lines and to solve geometric problems.
Use coordinates to design and describe geometric figures.	**A.5.a** Locate points in the coordinate plane.
Identify and select appropriate units of metric and customary measures.	[Not assessed on the 2014 test]
Convert and estimate units of metric and customary measure (all conversions within systems).	**Q.3.c** Solve multistep, arithmetic, real-world problems using ratios or proportions including those that require converting units of measure. **Q.4.a** Compute the area and perimeter of triangles and rectangles. Determine side lengths of triangles and rectangles when given area or perimeter. **Q.4.b** Compute the area and circumference of circles. Determine the radius or diameter when given area or circumference. **Q.4.c** Compute the perimeter of a polygon. Given a geometric formula, compute the area of a polygon. Determine side lengths of the figure when given the perimeter or area. **Q.4.d** Compute perimeter and area of 2-D composite geometric figures, which could include circles, given geometric formulas as needed. **Q.5.a** When given geometric formulas, compute volume and surface area of rectangular prisms. Solve for side lengths or height, when given volume or surface area. **Q.5.b** When given geometric formulas, compute volume and surface area of cylinders. Solve for height, radius, or diameter when given volume or surface area. **Q.5.c** When given geometric formulas, compute volume and surface area of right prisms. Solve for side lengths or height, when given volume or surface area. **Q.5.d** When given geometric formulas, compute volume and surface area of right pyramids and cones. Solve for side lengths, height, radius, or diameter when given volume or surface area.

Mathematical Reasoning: Content Specifications (continued)	
2002	**2014**
Convert and estimate units of metric and customary measure (all conversions within systems). (Continued)	**Q.5.e** When given geometric formulas, compute volume and surface area of spheres. Solve for radius or diameter when given the surface area.
Solve and estimate solutions to problems involving length, perimeter, area, surface area, volume, angle measurement, capacity, weight, and mass.	**Q.5.f** Compute surface area and volume of composite 3-D geometric figures, given geometric formulas as needed.
Use uniform rates (e.g., miles per hour, bushels per acre) in problem situations.	**Q.2.e** Solve one-step or multi-step arithmetic, real world problems involving the four operations with rational numbers, including those involving scientific notation. **Q.3.a** Compute unit rates. Examples include but are not limited to: unit pricing, constant speed, persons per square mile, BTUs per cubic foot. **Q.3.b** Use scale factors to determine the magnitude of a size change. Convert between actual drawings and scale drawings. **Q.3.c** Solve multistep, arithmetic, real-world problems using ratios or proportions including those that require converting units of measure.
Read and interpret scales, meters, and gauges	[Not assessed on the 2014 test]
Predict the impact of changes in linear dimension on the perimeter, area, and volume of figures.	[Not assessed on the 2014 test]
Construct, interpret, and draw inferences from tables, charts, and graphs. Make inferences and convincing arguments based on data analysis. Represent data graphically in ways that make sense and are appropriate to the context. Use an informal line of best fit to make predictions from data.	**Q.6.a** Represent, display, and interpret categorical data in bar graphs or circle graphs. **Q.6.b** Represent, display, and interpret data involving one variable plots on the real number line including dot plots, histograms, and box plots. **Q.6.c** Represent, display, and interpret data involving two variables in tables and the coordinate plane including scatter plots and graphs.
Evaluate arguments based on data analysis, including distinguishing between correlation and causation.	[Not assessed on the 2014 test]
Apply measures of central tendency (mean, median, mode) and analyze the effect of changes in data on these measures.	**Q.7.a** Calculate the mean, median, mode and range. Calculate a missing data value, given the average and all the missing data values but one, as well as calculating the average, given the frequency counts of all the data values, and calculating a weighted average.
Apply and recognize sampling and bias in statistical claims.	[Not assessed on the 2014 test]
Make predictions based on experimental or theoretical probabilities, including listing possible outcomes.	**Q.8.a** Use counting techniques to solve problems and determine combinations and permutations. **Q.8.b** Determine the probability of simple and compound events.
Compare and contrast different sets of data on the basis of measures of central tendency and dispersion (range, standard deviation).	[Not assessed on the 2014 test]

Mathematical Reasoning: Content Specifications (continued)	
2002	**2014**
Analyze and represent situations involving variable quantities with tables, graphs, verbal descriptions, and equations.	**A.2.b** Solve real-world problems involving linear equations. **A.5.d** Graph two-variable linear equations. **A.5.e** For a function that models a linear or nonlinear relationship between two quantities, interpret key features of graphs and tables in terms of quantities, and sketch graphs showing key features of graphs and tables in terms of quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior, and periodicity. **A.7.a** Compare two different proportional relationships represented in different ways. Examples include but are not limited to: compare a distance-time graph to a distance-time equation to determine which of two moving objects has a greater speed. **A.7.d** Compare properties of two linear or quadratic functions each represented in a different way (algebraically, numerically in tables, graphically or by verbal descriptions). Examples include but are not limited to: given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.
Recognize that a variety of problem situations may be modeled by the same function or type of function (e.g., $y = mx + b$, $y = ax^2$, $y = ax$, $y = 1/x$).	**A.2.c** Write one-variable and multi-variable linear equations to represent context. **A.4.b** Write one-variable quadratic equations to represent context.
Convert between different representations, such as tables, graphs, verbal descriptions, and equations.	**A.2.c** Write one-variable and multi-variable linear equations to represent context. **A.4.b** Write one-variable quadratic equations to represent context. **A.5.d** Graph two-variable linear equations.
Create and use algebraic expressions and equations to model situations and solve problems.	**A.1.a** Add, subtract, factor, multiply and expand linear expressions with rational coefficients. **A.1.c** Write linear expressions as part of word-to-symbol translations or to represent common settings. **A.1.d** Add, subtract, multiply polynomials, including multiplying two binomials, or divide factorable polynomials. **A.1.g** Write polynomial expressions as part of word-to-symbol translations or to represent common settings. **A.1.h** Add, subtract, multiply and divide rational expressions. **A.1.j** Write rational expressions as part of word-to-symbol translations or to represent common settings. **A.2.b** Solve real-world problems involving linear equations. **A.2.c** Write one-variable and multi-variable linear equations to represent context. **A.2.d** Solve a system of two simultaneous linear equations by graphing, substitution, or linear combination. Solve real-world problems leading to a system of linear equations. **A.4.a** Solve quadratic equations in one variable with rational coefficients and real solutions, using appropriate methods. (e.g., quadratic formula, completing the square, factoring, inspection). **A.4.b** Write one-variable quadratic equations to represent context.

Mathematical Reasoning: Content Specifications (continued)	
2002	**2014**
Convert between different representations, such as tables, graphs, verbal descriptions, and equations.	**A.2.c** Write one-variable and multi-variable linear equations to represent context. **A.4.b** Write one-variable quadratic equations to represent context. **A.5.d** Graph two-variable linear equations.
Evaluate formulas.	**A.1.b** Evaluate linear expressions by substituting integers for unknown quantities. **A.1.e** Evaluate polynomial expressions by substituting integers for unknown quantities. **A.1.i** Evaluate rational expressions by substituting integers for unknown quantities. **A.7.c** Evaluate linear and quadratic functions for values in their domain when represented using function notation.
Solve equations, including first degree, quadratic, power, and systems of linear equations.	**A.2.a** Solve one-variable linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms or equations with coefficients represented by letters. **A.2.b** Solve real-world problems involving linear equations. **A.2.d** Solve a system of two simultaneous linear equations by graphing, substitution, or linear combination. Solve real-world problems leading to a system of linear equations. **A.4.a** Solve quadratic equations in one variable with rational coefficients and real solutions, using appropriate methods. (e.g., quadratic formula, completing the square, factoring, inspection). **A.4.b** Write one-variable quadratic equations to represent context.
Recognize and use direct and indirect variation.	[Not assessed on the 2014 test]
Analyze tables and graphs to identify and generalize patterns and relationships.	**A.2.b** Solve real-world problems involving linear equations. **A.5.d** Graph two-variable linear equations.
Analyze and use functional relationships to explain how a change in one quantity results in a change in another quantity, including linear, quadratic, and exponential functions.	[Not assessed on the 2014 test]

What's new on the 2014 Mathematical Reasoning Test?

As shown in the tables above, one of the major differences between the content of the 2002 Series Mathematics Test and the 2014 Mathematical Reasoning Test is the clarity with which each skill is articulated. Breaking each of these skills down into greater detail than the 2002 Series content framework provided is intended to give greater guidance and specificity to test developers, instructional materials developers, and educators.

Note that there are **some skills tested on the 2002 Series GED® Test that *will not appear* on the 2014 test.** The elimination of certain skills is generally **NOT** due to the fact that those skills are no longer important, but, rather, it is sometimes because those skills are foundational to other skills that ***are*** being assessed on the 2014 test. In other instances, because of the 2014 test's focus on ***deep mastery*** of core foundational skills, some more advanced mathematics have been moved out of the scope of the test. In addition, in the particular case of many statistics-based skills, those skills appear on the 2014 test in the Science and Social Studies tests, as opposed to the Mathematical Reasoning test.

In addition to all the skills that align with what has been previously measured, the 2014 test includes items that test the following skills:

- **Q.1.d** Identify absolute value of a rational number as its distance from 0 on the number line and determine the distance between two rational numbers on the number line, including using the absolute value of their difference.
- **Q.2.d** Determine when a numerical expression is undefined.
- **A.1.f** Factor polynomial expressions.
- **A.3.a** Solve linear inequalities in one variable with rational number coefficients.
- **A.3.b** Identify or graph the solution to a one variable linear inequality on a number line.
- **A.3.c** Solve real-world problems involving inequalities.
- **A.3.d** Write linear inequalities in one variable to represent context.

- **A.7.b** Represent or identify a function in a table or graph as having exactly one output (one element in the range) for each input (each element in the domain).

This more granular approach to describing the mathematical content is not the only improvement upon the 2002 Series test. In addition, the 2014 test includes items that measure the Mathematical Practices. These practices are skills that are drawn both from the Common Core State Standards for Mathematical Practice and from the Principles and Standards for School Mathematics developed by the National Council of Teachers of Mathematics.

The content indicators and Mathematical Practices found in the GED® Mathematical Reasoning Assessment Targets, though related, cover different aspects of item content considerations. The content indicators focus on mathematical content and they describe very specific knowledge and skills. In contrast, the mathematical practices focus more on mathematical reasoning skills and modes of thinking mathematically. Most of the Mathematical Practices are not specific to any one particular area of mathematics content, meaning that a mathematical practice indicator could be applied to test items that cover a variety of content domains (e.g., algebra, data analysis, number sense).

The Mathematical Practices provide specifications for assessing real-world problem-solving skills in a mathematical context rather than requiring students only to memorize, recognize and apply a long list of mathematical algorithms. Each practice falls into one of the five following categories.

- MP.1 Building Solution Pathways and Lines of Reasoning
- MP.2 Abstracting Problems
- MP.3 Furthering Lines of Reasoning
- MP.4 Mathematical Fluency
- MP.5 Evaluating Reasoning and Solution Pathways

For more information on the mathematical practices, see the Mathematical Reasoning Assessment Targets in the body of Chapter 2 of the *Assessment Guide for Educators*.

Science: Similarities between the 2002 and 2014 Tests

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Science Practices	
2002	**2014**
Understand unifying concepts and processes, including • systems • order and organization • evidence • models and explanations • change, constancy and measurement • evolution • equilibrium	**SP.1.a** Understand and explain textual scientific presentations. **SP.1.b** Determine the meaning of symbols, terms and phrases as they are used in scientific presentations. **SP.1.c** Understand and explain a non-textual scientific presentations. **SP.7.a** Understand and apply scientific models, theories and processes. **SP.7.b** Apply formulas from scientific theories.
Use science as inquiry, including • identifying questions and concepts that guide scientific investigations • designing and conducting scientific investigations • using appropriate tools and techniques to gather data • thinking critically and logically about relationships between evidence and explanations • analyzing alternative explanations • communicating scientific arguments • understanding scientific inquiry	**SP.2.a** Identify possible sources of error and alter the design of an investigation to ameliorate that error. **SP.2.b** Identify and refine hypotheses for scientific investigations. **SP.2.c** Identify the strength and weaknesses of one or more scientific investigation (i.e. experimental or observational) designs. **SP.2.d** Design a scientific investigation. **SP.2.e** Identify and interpret independent and dependent variables in scientific investigations. **SP.3.a** Cite specific textual evidence to support a finding or conclusion. **SP.3.b** Reason from data or evidence to a conclusion. **SP.3.c** Make a prediction based upon data or evidence. **SP.3.d** Using sampling techniques to answer scientific questions. **SP.4.a** Evaluate whether a conclusion or theory is supported or challenged by particular data or evidence. **SP.5.a** Reconcile multiple findings, conclusions or theories. **SP.6.a** Express scientific information or findings visually. **SP.6.b** Express scientific information or findings numerically or symbolically. **SP.6.c** Express scientific information or findings verbally. **SP.8.a** Describe a data set statistically. **SP.8.b** Use counting and permutations to solve scientific problems. **SP.8.c** Determine the probability of events.

Science Practices (continued)	
2002	**2014**
Understand the links between science and technology to • Identify, change, or improve a piece of technology or technique • Make decisions in regards to identifying and stating new problems or needs • Designing, implementing, and evaluating a solution. Use science in social and personal perspectives to make decisions about personal and social issues, including • personal and community health • population growth • natural resources • environmental quality • natural and human-induced hazards • science and technology in local, national, and global challenges.	[Science and technology and science in social and personal perspectives are not separately assessed on the 2014 test. These overall concepts are integrated into the other relevant areas on the 2014 test.]

Science Content Topics

Physical Science	
2002	**2014**
• structure of atoms • structure and properties of matter • chemical reactions • motions and forces • conservation of energy and increase in disorder • interactions of energy and matter	**P.a** Conservation, Transformation, and Flow of Energy **P.b** Work, Motion, and Forces **P.c** Chemical Properties and Reactions Related to Living Systems

Life Science	
2002	**2014**
• the cell • molecular basis of heredity • biological evolution • interdependence of organisms • matter • energy • organization in living systems	**L.a** Human Body and Health **L.b** Relationship Between Life Functions and Energy Intake **L.c** Energy Flows in Ecologic Networks (Ecosystems) **L.d** Organization of Life (Structure and Function of Life) **L.e** Molecular Basis for Heredity **L.f** Evolution

Earth and Space Science	
2002	**2014**
• energy in the Earth system • geochemical cycles • origin and evolution of the Earth system • origin and evolution of the universe	**ES.a** Interactions between Earth's Systems and Living Things **ES.b** Earth and its System Components and Interactions **ES.c** Structures and Organization of the Cosmos

What's new on the 2014 Science Test?

Many of the science reasoning skills that were assessed on the 2002 test will continue to be assessed on the 2014 test. However, in the new Science Practices, these skills are articulated in greater detail and with greater focus. The new science practices focus on test-takers' ability to glean information from scientific texts, reason with data representations and statistics, and apply key scientific models, theories and processes. The intent of the Science Practices is to provide clearer and more specific information to both test developers and educators about the skills that will be assessed.

Similarly, the content of the 2014 Science test will continue to be drawn from the three major content domains of Physical Science, Life Science and Earth and Space Science. However, instead of the broad and open-ended categories that appeared in the 2002 content specifications, the Content Topics in the 2014 Science Assessment Targets are broken down into the Subtopics, which give much greater detail so as to narrow the scope of the content that is "fair game" for being featured in test questions. The content topics are also further filtered by the focusing themes. Content of each item must pertain to one of these two themes:

- Human Health and Living Systems
- Energy and Related Systems

Test-takers should be *broadly and generally familiar* with each of the basic concepts enumerated in the Science Content Topics and Subtopics, and they should be able to recognize and understand, in context, each of the *terms* listed therein. Test-takers are **not** expected to have an in-depth and comprehensive knowledge of each subtopic. Rather, the stimuli about which each question pertains will provide necessary details about scientific figures, formulas, and other key principles. For example, a question may include answer options and stimuli that contain specific terms drawn from the content subtopics; however, test-takers will never

be asked to formulate their own definition a term without the item providing sufficient contextual support for such a task.

For more information on the science content topics and subtopics and the focusing themes, see the Science Assessment Targets in the body of Chapter 2 of the *Assessment Guide for Educators*.

Social Studies: Similarities between the 2002 and 2014 Tests

Note: Codes in **bold** in the 2014 column refer to the 2014 GED® Assessment Targets and Indicators as outlined in the body of Chapter 2 of the *Assessment Guide for Educators*. The codes may not appear in numerical order, as the goal of the table below is to show areas of correspondence between the 2002 content and the 2014 content.

Social Studies Practices	
2002	**2014**
Understand the meaning and intent of text and/or visual material, restate information and summarize ideas.	**SSP.1.a** Determine the details of what is explicitly stated in primary and secondary sources and make logical inferences or valid claims based on evidence. **SSP.4.a** Determine the meaning of words and phrases as they are used in context, including vocabulary that describes historical, political, social, geographic, and economic aspects of social studies.
Identify implications and make inferences.	**SSP.1.b** Cite or identify specific evidence to support inferences or analyses of primary and secondary sources, attending to the precise details of explanations or descriptions of a process, event, or concept.
Use information and ideas in a situation different from that provided by the item stimulus.	**SSP.1.b** Cite or identify specific evidence to support inferences or analyses of primary and secondary sources, attending to the precise details of explanations or descriptions of a process, event, or concept.
Apply the appropriate abstraction to a new problem without prompting or instruction.	[Not assessed on the 2014 test.]
Break down information and understand the relationship between component ideas.	**SSP.2.a** Determine the central ideas or information of a primary or secondary source document, corroborating or challenging conclusions with evidence. **SSP.2.b** Describe people, places, environments, processes, and events, and the connections between and among them.
Distinguish facts from opinions and hypotheses.	**SSP.7.a** Distinguish among fact, opinion, and reasoned judgment in a primary or secondary source document. **SSP.7.b** Distinguish between unsupported claims and informed hypotheses grounded in social studies evidence.
Distinguish conclusions from supporting statements.	**SSP.11.b** Identify specific pieces of evidence an author uses in support of claims or conclusions.
Recognize information that is designed to persuade an audience, recognize unstated assumptions, recognize fallacies in logic in arguments or conclusions.	**SSP.5.b** Identify instances of bias or propagandizing.
Identify cause and effect relationships and distinguish them from other sequential relationships.	**SSP.3.a** Identify the chronological structure of a historical narrative and sequence steps in a process.
Recognize the point of view of a writer in a historical account.	**SSP.5.a** Identify aspects of a historical document that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
Recognize the historical context of the text, avoiding "present-mindedness."	**SSP.5.c** Analyze how a historical context shapes an author's point of view.
Identify comparisons and contrasts among points of view and interpretations of issues.	**SSP. 8.a** Compare treatments of the same social studies topic in various primary and secondary sources, noting discrepancies between and among the sources.

Social Studies Practices (continued)	
2002	**2014**
Determine implications, effects, and the value of presenting visual data in different ways.	**SSP.6.a** Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text. **SSP.6.b** Analyze information presented in a variety of maps, graphic organizers, tables, and charts; and in a variety of visual sources such as artifacts, photographs, political cartoons. **SSP.6.c** Translate quantitative information expressed in words in a text into visual form (e.g., table or chart); translate information expressed visually or mathematically into words.
Use criteria provided to make judgments about the validity or accuracy of information.	**SSP.5.d** Evaluate the credibility of an author in historical and contemporary political discourse.
Identify generalizations, principles, or strategies and assess the appropriateness of information to substantiate conclusions, hypotheses, and generalizations (using such criteria as source, objectivity, technical correctness, and currency.	**SSP.2.a** Determine the central ideas or information of a primary or secondary source document, corroborating or challenging conclusions with evidence. **SSP.5.d** Evaluate the credibility of an author in historical and contemporary political discourse.
Assess the accuracy of facts.	**SSP.3.a** Identify the chronological structure of a historical narrative and sequence steps in a process. **SSP.5.d** Evaluate the credibility of an author in historical and contemporary political discourse.
Compare and contrast differing accounts of the same event.	**SSP.5.d** Evaluate the credibility of an author in historical and contemporary political discourse. **SSP.8.a** Compare treatments of the same social studies topic in various primary and secondary sources, noting discrepancies between and among the sources.
Recognize the role that values, beliefs, and convictions play in decision making.	**SSP.5.a** Identify aspects of a historical document that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts). **SSP.5.b** Identify instances of bias or propagandizing.

Social Studies Content Topics

United States History	
2002	**2014**
• Beginnings to 1820 (Native Peoples, Colonization, Settlement, Revolution, the New Nation) • 1801–1900 (Expansion, Reform, Civil War, Reconstruction, Industrial Development) • 1890–present (Emergence of Modern America, Great Depression, World War II, Postwar United States, Contemporary United States)	**USH.a** Key historical documents that have shaped American constitutional government **USH.b** Revolutionary and Early Republic Periods **USH.c** Civil War and Reconstruction **USH.d** Civil Rights **USH.e** European settlement and population of the Americas **USH.f** World Wars I &II **USH.g** The Cold War **USH.h** American foreign policy since 9/11

Geography and the World	
2002	**2014**
• World in Spatial Terms • Places and Regions • Physical Systems • Human Systems • Environment and the Society • Uses of Geography • Beginnings–1000 B.C. (Beginnings and Early Civilizations) • 1000 B.C.–300 B.C. (Classical • Traditions, Empires, Religions) • 300 B.C.–A.D. 1770 (Growing Trade, Hemispheric Interactions, First Global Age) • 1750–1914 (Age of Revolutions) • 1900–present (Urbanization; World Wars; Global Depression; Advances in Science and Technology • New Democracies of Africa, Asia, South America; The Cold War;"Global Culture")	**G. a** Development of classical civilizations **G.b** Relationships between the environment and societal development **G. c** Borders between peoples and nations **G. d** Human Migration

Civics and Government	
2002	**2014**
• Civic Life • Politics and Government • Foundations of the American Political System • American Government • Relationship of United States to Other Nations • The Roles of Citizens in American Democracy	**CG.a** Types of modern and historical governments **CG.b** Principles that have contributed to development of American constitutional democracy **CG.c** Structure and design of United States government **CG.d** Individual rights and civic responsibilities **CG.e** Political parties, campaigns, and elections in American politics **CG.f** Contemporary Public Policy

Economics	
2002	**2014**
• Economic Reasoning and Choice • Comparison of Economic Systems • Business in a Free Enterprise System • Production and Consumers • Financial Institutions • Government's Role in the Economy, Labor and the Economy • Global Markets and Foreign Trade	**E. a** Key economic events that have shaped American government and policies **E. b** Relationship between political and economic freedoms **E. c** Fundamental Economic Concepts **E. d** Microeconomics and Macroeconomics **E. e** Consumer economics **E. f** Economic causes and impacts of wars **E.g** Economic drivers of exploration & colonization **E. h** Scientific and Industrial Revolutions

What's new on the 2014 Social Studies Test?

Many of the social studies reasoning skills that were assessed on the 2002 test will continue to be assessed on the 2014 test. However, in the new Social Studies Practices, these skills are articulated in greater detail and with greater focus. The new Social Studies Practices focus on test-takers' ability to glean information from primary and secondary source documents, reason with data representations and statistics, and apply key concepts and ideas relevant to the social sciences. The intent of the Social Studies Practices is to provide clearer and more specific information to both test developers and educators about the skills that will be assessed. In addition to the skills listed above, the 2014 test also assesses the following key skills and their related sub-skills (indicators) on the Social Studies test:

- SSP.8 Analyzing relationships between texts
- SSP.9 Writing analytic responses to source texts
- SSP.10 Reading and interpreting graphs, charts and other data representation

Note: SSP.9 will be assessed in the new Social Studies Extended Response task. For more information, see the Social Studies Extended Response Scoring Rubric in the *Assessment Guide for Educators*.

Similarly, the content of the 2014 Social Studies test will continue to be drawn from the four major content domains of United States History, Geography and the World, Civics and Government, and Economics. However, instead of the broad and open-ended categories that appeared in the 2002 content specifications, the Content Topics in the 2014 Social Studies Assessment Targets are broken down into the Subtopics, which give much greater detail so as to narrow the scope of the content that is "fair game" for being featured in test questions. The content topics are also further filtered by the focusing themes. Content of each item must pertain to one of these two themes:

- Development of Modern Liberties and Democracy
- Dynamic Responses in Societal Systems

Test-takers should be *broadly and generally familiar* with each of the basic concepts enumerated in the Social Studies

Content Topics and Subtopics, and they should be able to recognize and understand, in context, each of the *terms* listed therein. Test-takers are ***not*** expected, however, to have an in-depth and comprehensive knowledge of each subtopic. Rather, the stimuli about which each question pertains will provide necessary details about historical figures, timelines, and other key principles. For example, a question may include answer options and stimuli that contain specific terms drawn from the content subtopics; however, test-takers will never be asked to formulate their own definition a term without the item providing sufficient contextual support for such a task.

For more information on the social studies content topics and subtopics and the focusing themes, see the Social Studies Assessment Targets in the body of Chapter 2 of the *Assessment Guide for Educators*.