

GED® Test

Curriculum and Notional Learning (International)





GED® Test Content Topics and Recommended Notional Learning

This document provides educators with detailed information on the GED® Test Content Topics and the time expected to be spent by a student seeking a high school credential. Notional learning time is included for each content area and includes the time expected for

- Participation in classroom instruction and activities
- Independent study, skill practice, and reading
- Completion of coursework
- Completion of both formative and summative assessment

GED® Overview and Notional Learning Time

Content	Overview	Notional Learning Time
Reasoning Through Language Arts Reading Writing Language	 The GED® RLA test focuses on three essential skills: Close reading Clear writing Editing and understanding the use of standard written English in context. Because the strongest predictor of career and college readiness is the ability to read and comprehend complex tests, especially nonfiction, the RLA test includes texts from both academic and workplace contexts. The test's ideas, syntax and style reflect a range of complexity levels. The writing task, or extended response (ER) item, requires test-takers to analyze given source texts and use evidence drawn from the texts to support their argument. 	120 - 125 hours
Mathematical Reasoning	The GED® Mathematical Reasoning test focuses on two major content areas: • Quantitative problem solving (45%) • Algebraic problem solving (55%) The GED® Mathematical Reasoning test focuses on the fundamentals of mathematics while striking a balance among • Deeper conceptual understanding • Procedural skill and fluency • Ability to apply these fundamentals in realistic situations.	115- 120 hours

Science	The GED® Science test focuses on the fundamentals of	75 - 80 hours
• Life Science	scientific reasoning, balancing	
 Physical Science 	Deeper conceptual understanding and	
 Earth and Space 	Procedural skill and fluency, with	
Science	The application of these fundamentals in realistic situations.	
	Each item on the Science test aligns with one Science Practice and one Content Topic.	
	The Science test focuses on three major content domains: • Life science • Physical science	
Social Studies	Earth and Space science The GED® Social Studies test focuses on the	85 - 90 hours
 Civics and Government U.S. History Economics Geography and the World 	fundamentals of social studies reasoning, balancing items such as: Deeper conceptual understanding Procedural skill and fluency Ability to apply these fundamentals in realistic situations Each item on the Social Studies test aligns with one Social Studies Practice and one Content Topic. The Social Studies Practices are key to reasoning in both textual and quantitative social science contexts. The Social Studies test focuses on four major content domains: Civics and government U.S. history Economics	
	Geography and the world	

Suggested Instruction, Resources & Notional Learning by

Subject and Content Area

REASONING THROUGH LANGUAGE ARTS (Including writing / composition)

MATHEMATICAL REASONING

SCIENCE

SOCIAL STUDIES

Reasoning through Language Arts Content with Suggested Instruction, Resources and Notional Learning Time

Reading	Objectives	Instruction/Resources	Notional Learning Time
Determine central ideas or themes and analyze their development; summarize the key supporting details and ideas.	 Students demonstrate the ability to Comprehend explicit details and main ideas in text. Summarize details and ideas in texts. Infer implied main ideas in paragraphs or whole texts. Determine which detail(s) support(s) a main idea. Identify a theme, or identify which element(s) in a text support a theme. Make evidence-based generalizations or hypotheses based on details in text, including clarifications, extensions, or applications of main ideas to new situations. Draw conclusions or make generalizations that require synthesis of multiple main ideas in text. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Direct instruction focusing on specific indicators. Independent work using	~50 hours
Analyze how individuals, events, and ideas develop and interact over the course of a text.	 Students demonstrate the ability to Order sequences of events in texts. Make inferences about plot/sequence of events, characters/people, settings, or ideas in texts. Analyze relationships within texts, including how events are important in relation to plot or conflict how people, ideas, or events are connected, developed, or distinguished, how events contribute to theme or relate to key ideas; or how a setting or context shapes structure and meaning. Infer relationships between ideas in a text (e.g., an implicit cause and effect, parallel, or contrasting relationship.) Analyze the roles that details play in complex literary or informational texts. 	resources identified by instructor.	

Reading	Objectives	Instruction/Resources	Notional Learning Time
Interpret words and phrases that appear frequently in texts from a wide variety of disciplines, including determining connotative and figurative meanings from context and analyzing how specific word choices shape meaning or tone.	 Students demonstrate the ability to Determine the meaning of words and phrases as they are used in a text, including determining connotative and figurative meanings from context. Analyze how meaning or tone is affected when one word is replaced with another. Analyze the impact of specific words, phrases, or figurative language in text, with a focus on author's intent to convey information or construct an argument. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Direct instruction focusing on specific indicators. Independent work using resources identified by instructor.	~50 hours (cont.)
Analyze the structure of texts, including how specific sentences or paragraphs relate to each other and the whole.	 Students demonstrate the ability to Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of text and contributes to the development of the ideas. Analyze the structure relationship between adjacent sections of text (e.g., how one paragraph develops or refines a key concept or how one idea is distinguished from another). Analyze transitional language or signal words (words that indicate structural relationships, such as consequently, nevertheless, otherwise) and determine how they refine meaning, emphasize certain ideas, or reinforce an author's purpose. Analyze how the structure of a paragraph, section, passage shapes meaning emphasizes key ideas, or supports an author's purpose. 		

Reading	Objectives	Instruction/Resources	Notional Learning Time
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.	 Students demonstrate the ability to do such things as: Determine an author's point of view or purpose of a text. Analyze how the structure of a paragraph, section, passage shapes meaning emphasizes key ideas, or supports an author's purpose. Infer an author's implicit as well as explicit purposes based on details in text. Analyze how the structure of a paragraph, section, passage shapes meaning emphasizes key ideas, or supports an author's purpose. *This is not an exhaustive list. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Direct instruction focusing on specific indicators.	~50 hours (cont.)
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.	 Students demonstrate the ability to Delineate the specific steps of an argument the author puts forward, including how the argument's claims build on one another. Identify specific pieces of evidence an author uses in support of claims or conclusions. Evaluate the relevance and sufficiency of evidence offered in support of a claim. Distinguish claims that are supported by reasons and evidence from claims that are Assess whether the reasoning is valid; identify fallacious reasoning in an argument and evaluate its impact. Identify an underlying premise or assumption in an argument and evaluate the logical support and evidence provided. 	Independent work using resources identified by instructor.	

Reading	Objectives	Instruction/Resources	Notional Learning Time
Analyze how two or more texts address similar themes or topics.	 Students demonstrate the ability to Draw specific comparisons between two texts that address similar themes or topics or between information presented in different formats (e.g., between information presented in text and information or data summarized in a table or timeline.) Compare two passages in similar or closely related genre that share ideas or themes, focusing on similarities and/or differences in perspective, tone, style, structure, purpose, or overall impact. Compare two argumentative passages on the same topic that present opposing claims (either main or supporting claims) and analyze how each text emphasizes different evidence or advances a different interpretation of facts. Analyze how data or quantitative and/or visual information extends, clarifies, or contradicts information in text, or determine how data supports an author's argument. Compare two passages that present related ideas or themes in different genre or formats (e.g., a feature article and an online FAQ or fact sheet) in order to evaluate differences in scope, purpose, emphasis, intended audience, or overall impact when comparing. Compare two passages that present related ideas or themes in different genre or formats in order to synthesize details, draw conclusions, or apply information to new situations. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Direct instruction focusing on specific indicators. Independent work using resources identified by instructor.	~50 hou (cont.)

Writing/Language	Objectives	Instruction/Resources	Notional Learning Time
Determine the details of what is explicitly stated and	 Students demonstrate the ability to Analyze and make logical inferences from source texts Identify evidence that supports claims made in source texts 	GED Prep Academy – complete assigned readings and activities	~10 hours
make logical inferences or valid claim that square with textual evidence.	Evaluate evidence to determine which claim is best supported	Instructor-guided and independent practice Direct instruction	~10 hours (cont.)
Produce an extended analytic response.	 Students demonstrate the ability to Introduce the idea(s) or claim(s) clearly. Creates an organization that logically sequences information. Develops the idea(s) or claim(s) thoroughly with well-chosen examples, facts, or details from the text. Maintains a coherent focus. 	modeling process for developing an extended response	
Write clearly and demonstrate sufficient command of standard English conventions.	,		

Writing/Language	Objectives	Instruction/Resources	Notional Learning Time
Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	 Students demonstrate the ability to 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). Edit to correct errors in straightforward subject-verb agreement. Edit to correct errors in pronoun usage, including pronoun-antecedent agreement, unclear pronoun references, and pronoun case. Edit to eliminate non-standard or informal usage (e.g., correctly use try to win the game instead of try and win the game). 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.) Edit to ensure parallelism and proper subordination and coordination. 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 wordiness or awkward sentence construction. Edit to ensure effective use of transitional words, conjunctive adverbs, and other words and phrases that support logic and clarity. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Direct instruction modeling processes for editing and revising documents focusing on the provided objectives	~20 hours ~20 hours (cont.)

Writing/Language	• Objectives	Instruction/Resources	Notional Learning Time
Demonstrate	Students demonstrate the ability to		
command of the conventions of standard English capitalization and	 Edit to ensure correct use of capitalization (e.g., proper nouns, titles, and beginnings of sentences). Edit to eliminate run-on sentences, fused sentences, or sentence fragments. 		
punctuation when	 Edit to ensure correct use of apostrophes with possessive nouns. 		
writing.	Edit to ensure correct use of punctuation (e.g., commas in a series or in		
	appositives and other nonessential elements, end marks, and appropriate punctuation for clause separation).		

Writing/Language	Objectives	Instruction/Resources	Notional Learning Time
Extended Response			
Create arguments and use evidence.	 Students demonstrate the ability to Generate text-based argument(s) and establishes a purpose that is connected to the prompt Cite relevant and specific evidence from source text(s) to support argument (may include few irrelevant pieces of evidence or unsupported claims) Analyze the issue and/or evaluates the validity of the argumentation within the source texts (e.g., distinguishes between supported and unsupported claims, makes reasonable inferences about underlying premises or assumptions, identifies fallacious reasoning, evaluates the credibility of sources, etc.) 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Direct instruction modeling process for developing an extended	~35 hours
Develop ideas and organize structure.	 Students demonstrate the ability to Contain ideas that are well developed and generally logical; most ideas are elaborated upon Contain a sensible progression of ideas with clear connections between details and main points Establish an organizational structure that conveys the message and purpose of the response; applies transitional devices appropriately Establish and maintains a formal style and appropriate tone that demonstrate awareness of the audience and purpose of the task Choose specific words to express ideas clearly 	response Develop extended responses using the Sample Passages and Prompts for Classroom Practice – RLA.	

Writing/Language	Objectives	Instruction/Resources	Notional Learning Time
Write clearly and demonstrate a command of standard English conventions.	Students demonstrate the ability to Demonstrate largely correct sentence structure and a general fluency that enhances clarity with specific regard to the following skills: varied sentence structure within a paragraph or paragraphs correct subordination, coordination, and parallelism avoidance of wordiness and awkward sentence structures usage of transitional words, conjunctive adverbs and other words that support logic and clarity avoidance of run-on sentences, fused sentences, or sentence fragments Demonstrate competent application of conventions with specific regard to the following skills: frequently confused words and homonyms, including contractions subject-verb agreement pronoun usage, including pronoun antecedent agreement, unclear pronoun references, and pronoun case placement of modifiers and correct word order capitalization (e.g., proper nouns, titles, and beginnings of sentences) use of apostrophes with possessive nouns 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)	Retrieve samples at: https://ged.com/wp- content/uploads/exten ded_response_classroo m_practice.pdf Distribute and review Extended Response Quick Tips to students. Retrieve quick tips at: https://ged.com/wp- content/uploads/exten ded_response_quick_ti ps.pdf	~35 hour (cont.)
	Note: Extended responses may contain some errors in mechanics and conventions, but they do not interfere with comprehension; overall, standard usage is at a level appropriate for on-demand draft writing.		

Writing/Language	Objectives	Instruction/Resources	Notional Learning Time
GED Ready®	Have students take the GED Ready RLA test. Review score report. Use GED	GED Ready® R.L.A. Test	~8 hours
Reasoning Through	Ready Scoring Tool to score students extended responses. Identify areas of	+ extended response	
Language Arts Test	concern and address specific skill gaps with student. If required, assign specific	scoring tool	
(predictive mock	objectives for more review and additional writing practice and feedback.		
exam and necessary	(https://app.ged.com/preLogin4?&_ga=2.259488906.1674835359.1657032599		
remediation based	-791007615.1641864344#/essayScoring)		
upon results)			

Mathematical Reasoning Content with Suggested Instruction, Resources and Notional Learning Time

Mathematical Practices	Mathematical practices focus on mathematical reasoning skills and modes of thinking mathematically. These skills are not content-specific and may be applied to items that cover a range of content domains. Instructors may review the following mathematical practices independently with students, especially in areas where students have challenges.	Instruction/Resources	Notional Learning Time
Building Solution Pathways and Lines of Reasoning	 Students demonstrate the ability to Search for and recognize entry points for solving a problem. Plan a solution pathway or outline a line of reasoning. Select the best solution pathway, according to given criteria. Recognize and identify missing information that is required to solve a problem. Select the appropriate mathematical technique(s) to use in solving a problem or a line of reasoning. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice	~25 hours
Abstracting Problems	Students demonstrate the ability to Represent real world problems algebraically. Represent real world problems visually. Recognize the important and salient attributes of a problem.		
Furthering Lines of Reasoning	 Students demonstrate the ability to Build steps of a line of reasoning or solution pathway, based on previous step or givens. Complete the lines of reasoning of others. Improve or correct a flawed line of reasoning 		

	Mathematical Reasoning		
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Mathematical Fluency	 Students demonstrate the ability to Manipulate and solve arithmetic expressions. Transform and solve algebraic expressions. Display data or algebraic expressions graphically 	GED Prep Academy – complete assigned readings and activities	~25 hours (cont.)
Evaluating Reasoning and Solution Pathways	Students demonstrate the ability to Recognize flaws in others' reasoning. Recognize and use counterexamples. Identify the information required to evaluate a line of reasoning.	Instructor-guided and independent practice	

	Mathematical Reasoning		
Quantitative Problem Solv Mathematics Content Indicators	Content indicators describe very specific skills and abilities that students are expected to demonstrate mastery	Instruction/Resources	Notional
Apply number sense concepts, including ordering rational numbers, absolute value, multiples, factors, and exponents.	 Students demonstrate the ability to Order fractions and decimals, including on a number line. Apply number properties involving multiples and factors, such as using the least common multiple, greatest common factor, or distributive property to rewrite numeric expressions. Apply rules of exponents in numerical expressions with rational exponents to write equivalent expressions with rational exponents. Identify absolute value or 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. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Model specific skills and concepts for students	~30 hours
Add, subtract, multiply, divide, and use exponents and roots of rational, fraction, and decimal numbers.	 Students demonstrate the ability to Perform addition, subtraction, multiplication, and division on rational numbers. Perform computations and write numerical expressions with squares and square roots of positive, rational numbers. Perform computations and write numerical expressions with cubes and cube roots of rational numbers. Determine when a numerical expression is undefined. Solve one-step or multi-step arithmetic, real world problems involving the four operations with rational numbers, including those involving scientific notation. 	Provide practice using real-life situations	

Mathematics Content Indicators	Content indicators describe very specific skills and abilities that students are expected to demonstrate mastery	Instruction/Resources	Notional Learning Time
Calculate and use ratios, percents, and scale factors.	 Students demonstrate the ability to Compute unit rates. Examples include but are not limited to: unit pricing, constant speed, persons per square mile, BTUs per cubic foot. Use scale factors to determine the magnitude of a size change. Convert between actual drawings and scale drawings. Solve multistep, arithmetic, real-world problems using ratios or proportions including those that require converting units of measure. 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. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Model specific skills and concepts for students Provide practice using real-life situations	~30 hours (cont.)
Calculate dimensions, perimeter, circumference, and area of two-dimensional figures.	 Students demonstrate the ability to Compute the area and perimeter of triangles and rectangles. Determine side lengths of triangles and rectangles when given area or perimeter Compute the area and circumference of circles. Determine the radius or diameter when given area or circumference 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. Compute perimeter and area of 2-D composite geometric figures, which could include circles, given geometric formulas as needed. Use the Pythagorean theorem to determine unknown side lengths in a right triangle. 		

Mathematics Content Indicators	Content indicators describe very specific skills and abilities that students are expected to demonstrate mastery	Instruction/Resources	Notional Learning Time
Calculate dimensions,	Students demonstrate the ability to	GED Prep Academy –	~30 hours
surface area, and volume	When given geometric formulas, compute volume and surface area	complete assigned	(cont.)
of three-dimensional figures	of rectangular prisms. Solve for side lengths or height, when given volume or surface area	readings and activities	
	When given geometric formulas, compute volume and surface area	Instructor-guided and	
	of cylinders. Solve for height, radius, or diameter when given volume or surface area.	independent practice	
	When given geometric formulas, compute volume and surface area of right prisms. Solve for side lengths or height, when given volume or surface area.	Model specific skills and concepts for students	
	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	Provide practice using real-life situations	
	• When given geometric formulas, compute volume and surface area of spheres. Solve for radius or diameter when given the surface area.		
	Compute surface area and volume of composite 3-D geometric		
	figures, given geometric formulas as needed.		
Interpret and create data	Students demonstrate the ability to		
displays	Represent, display, and interpret categorical data in bar graphs or circle graphs.		
	Represent, display, and interpret data involving one variable plots on		
	the real number line including dot plots, histograms, and box plots.		
	Represent, display, and interpret data involving two variables in		
	tables and the coordinate plane including scatter plots and graphs.		

Mathematics Content Indicators	Content indicators describe very specific skills and abilities that students are expected to demonstrate mastery	Instruction/Resources	Notional Learning Time
Calculate and use mean, median, mode and weighted average	 Students demonstrate the ability to 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. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and	~30 hours (cont.)
Utilize counting techniques and determine probabilities	Students demonstrate the ability to Use counting techniques to solve problems and determine combinations and permutations. Determine the probability of simple and compound events.	independent practice Model specific skills and concepts for students Provide practice using	

Algebraic Problem Solving			
Mathematics Content	Objectives	Instruction/Resources	Notional Learning Tim
Write, evaluate, and compute with expressions and polynomials	 Students demonstrate the ability to Add, subtract, factor, multiply and expand linear expressions with rational coefficients. Evaluate linear expressions by substituting integers for unknown quantities. Write linear expressions as part of word-to-symbol translations or to represent common settings. Add, subtract, multiply polynomials, including multiplying two binomials, or divide factorable polynomials. Evaluate polynomial expressions by substituting integers for unknown quantities. Factor polynomial expressions. Write polynomial expressions as part of word-to-symbol translations or to represent common settings. Add, subtract, multiply and divide rational expressions. Evaluate rational expressions by substituting integers for unknown quantities. Write rational expressions as part of word-to-symbol translations or to represent common settings. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Model specific skills and concepts for students Provide practice using real-life situations	~60 hours

Mathematics Content	Objectives	Instruction/Resources	Notional Learning Time
Write, manipulate, and	Students demonstrate the ability to	GED Prep Academy –	~60 hours
solve linear equations	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	complete assigned readings and activities	(cont.)
	with coefficients represented by letters.	Instructor-guided and	
	Solve real-world problems involving linear equations.	independent practice	
	 Write one-variable and multi-variable linear equations to represent context. Solve a system of two simultaneous linear equations by graphing, 	Model specific skills and concepts for	
	substitution, or linear combination. Solve real-world problems	students	
	leading to a system of linear equations.	Bur tila a a aire	
Write, manipulate, and	Students demonstrate the ability to	Provide practice using	
solve quadratic equations	Solve quadratic equations in one variable with rational coefficients	real-life situations	
	and real solutions, using appropriate methods. (e.g., quadratic		
	formula, completing the square, factoring, inspection)		
	Write one-variable quadratic equations to represent context.		
Connect and interpret	Students demonstrate the ability to		
graphs and functions	Locate points in the coordinate plane.		
	Determine the slope of a line from a graph, equation, or table.		
	Interpret unit rate as the slope in a proportional relationship		
	Graph two-variable linear equations.		
	 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.		

Mathematics Content	Objectives	Instruction/Resources	Notional Learning Time
Connect coordinates, lines, and equations	 Students demonstrate the ability to Write the equation of a line with a given slope through a given point. Write the equation of a line passing through two given distinct points. Use slope to identify parallel and perpendicular lines and to solve geometric problems 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice	~60 hours (cont.)
Compare, represent, and evaluate functions	 Students demonstrate the ability to 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 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). Evaluate linear and quadratic functions for values in their domain when represented using function notation. 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, 	-	

Mathematics Content	Objectives	Instruction/Resources	Notional Learning Time
GED Ready®	Have students take the GED Ready Mathematical Reasoning test. Review	GED Ready®	~5 hours
Mathematical Reasoning	score report. Identify areas of concern and address specific skill gaps with	Mathematical	
Test (predictive mock	student. If required, assign specific objectives for more review.	Reasoning Test &	
exam and necessary		Detailed, Personalized	
remediation based upon		Score Report Cross-	
results)		Referenced to	
		Learning Content	

Science Content with Suggested Instruction, Resources and Notional Learning Time

Science Practices	The science practices describe skills necessary for reasoning in a scientific context, while the content topics describe a body of knowledge typical of what is taught in American high schools. Each item on the GED® Science test aligns with one Science Practice and one Content Topic. Instructors may review the following science practices independently, especially in areas where students have challenges.	Instruction/Resources	Notional Learning Time
Comprehending Scientific Presentations	 Understand and explain textual scientific presentations Determine the meaning of symbols, terms, phrases as they are used in scientific presentations e.g. determine the meaning of symbols as they are used in scientific presentations Understand and explain non-textual scientific presentations 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice	~12 hours
Investigation Design (Experimental and Observational)	 Identify possible sources of error and alter the design of an investigation to ameliorate that error Identify and refine hypotheses for scientific investigations Identify the strength and weaknesses of one or more scientific investigations (experimental or observational) designs Design an scientific investigation Identify and interpret independent and dependent variables in scientific investigations 	Model specific practices especially those dealing with probability and statistics.	
Reasoning from Data	 Cite specific textual evidence to support a finding or conclusion Reason from data or evidence to a conclusion Make a prediction based upon data or evidence Using sampling techniques to answer specific scientific questions Evaluate whether a conclusion or theory is supported or challenged by 		

Science Practices	The science practices describe skills necessary for reasoning in a scientific context, while the content topics describe a body of knowledge typical of what is taught in American high schools. Each item on the GED® Science test aligns with one Science Practice and one Content Topic. Instructors may review the following science practices independently, especially in areas where students have challenges.	Instruction/Resources	Notional Learning Time
Evaluation Conclusions with Evidence	Evaluate whether a conclusion or theory is supported or challenged by particular data or evidence	GED Prep Academy – complete assigned readings and activities	~12 hours (cont.)
Working with Findings Expressing Scientific Information	 Reconcile multiple findings, conclusions or theories Express scientific information or findings visually Express scientific information or findings numerically or symbolically. Express scientific information or findings verbally. 	Instructor-guided and independent practice Model specific practices especially those dealing with probability and statistics.	
Scientific Theories	 Understand and apply scientific models, theories, and processes Identify a correct answer by applying commonly known scientific models, theories, and processes. Analyze relationship among concepts in a stimulus. Apply formulas from scientific theories Solve for an unknown variable by applying concepts and information provided in a stimulus. 		
Probability and Statistics	 Describe a data set statistically Calculate the mean, median, and mode of a data set Use counting and permutations to solve scientific problems Determine the number of combinations to solve a scientific problem. Determine the probability of events Determine simple probabilities. Determine compound probabilities of two independent events. Determine offspring ratios using a Punnett square. 		

Physical Science	Content Topics	Instruction/Resources	Notional Learning Time
Conservation, Transformation, and Flow of Energy	 Heat, temperature, the flow of heat results in work and the transfer of heat (e.g. conduction, convection) Endothermic and exothermic reactions Types of energy (e.g. kinetic, chemical, mechanical) and transformations between types of energy (e.g. chemical energy [sugar] to kinetic energy [motion of a body]) Sources of energy (e.g. sun, fossil fuels, nuclear) and the relationships between different sources (e.g. levels of pollutions, amount of energy produced) Types of waves, parts of waves (e.g. frequency, wavelength), types of electromagnetic radiation, transfer of energy by waves, and the uses and dangers of electromagnetic radiation (e.g. radio transmission, UV light and sunburns) 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building science vocabulary and in interpreting a variety of graphics, such as charts, tables, process	~20 hours
Work, Motion, and Forces	 Speed, velocity, acceleration, momentum, and collisions (e.g. inertia in a car accident, momentum transfer between two objects) Force, Newton's Laws, gravity, acceleration due to Gravity (e.g. freefall, law of gravitational attraction), mass and weight Work, simple machines (types and functions), mechanical advantages (force, distance, and simple machines), and power 	diagrams, etc.	
Chemical Properties and Reactions Related to Living Systems	 Structure of matter Physical and chemical properties, changes of state, and density Balancing chemical equations and different types of chemical equations, conservation of mass in balanced chemical equations and limiting reactants Parts in solutions, general rules of solubility (e.g. hotter solvents allow more solute to dissolve), saturation and the differences between weak and strong solutions 		

Life Science Content Topics	Content Topics	Instruction/Resources	Notional Learning Time
Human Body and Health	 Body systems (e.g. muscular, endocrine, nervous systems) and how they work together to perform a function (e.g. muscular and skeletal work to move the body) Homeostasis, feedback methods that maintain homeostasis (e.g. sweating to maintain internal temperature), and effects of changes in the external environment on living things (e.g. hypothermia, injury) Sources of nutrients (e.g. foods, symbiotic organisms) and concepts in nutrition (e.g. calories, vitamins, minerals) Transmission of disease and pathogens (e.g. airborne, bloodborne), effects of disease or pathogens on populations (e.g. demographics change, extinction), and disease prevention methods (e.g. vaccination, sanitation) 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building science vocabulary and in interpreting a variety	~20 hours
Relationship Between Life Functions and Energy Intake	Energy for life functions (e.g. photosynthesis, respiration, fermentation)	of graphics, such as charts, tables, process diagrams, etc.	
Energy Flows in Ecologic Networks (Ecosystems)	 Flow of energy in ecosystems (e.g. energy pyramids), conservation of energy in an ecosystem (e.g. energy lost as heat, energy passed on to other organisms) and sources of energy (e.g. sunlight, producers, lower-level consumer) Flow of matter in ecosystems (e.g. food webs and chains, positions of organisms in the web or chain) and the effects of change in communities or environment on food webs Carrying capacity, changes in carrying capacity based on changes in populations and environmental effects and limiting resources to necessary for growth Symbiosis (e.g. mutualism, parasitism, commensalism) and predator/prey relationships (e.g. changes in one population affecting another population) Disruption of ecosystems (e.g. invasive species, flooding, habitat destruction, desertification) and extinction (e.g. causes [human and natural] and effects) 		

Life Science Content Topics	Content Topics	Instruction/Resources	Notional Learning Time
Organization of Life (Structure and Function of Life)	 Essential functions of life (e.g. chemical reactions, reproduction, metabolism) and cellular components that assist the functions of life (e.g. cell membranes, enzymes, energy) Cell theory (e.g. cells come from cells, cells are the smallest unit of living things), specialized cells and tissues (e.g. muscles, nerve, etc.) and cellular levels of organization (e.g. cells, tissues, organs, systems) 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice	~20 hours (cont.)
Molecular Basis for Heredity	 Mitosis, meiosis (e.g. process and purpose) Central dogma of molecular biology, the mechanism of inheritance (e.g. DNA) and chromosomes (e.g. description, chromosome splitting during Meiosis) Genotypes, phenotypes and the probability of traits in close relatives (e.g. Punnett squares, pedigree charts) New alleles, assortment of alleles (e.g. mutations, crossing over), environmental altering of traits, and expression of traits (e.g. epigenetics, color-points of Siamese cats) 	Assist students in building science vocabulary and in interpreting a variety of graphics, such as charts, tables, process diagrams, etc.	
Evolution	 Common ancestry (e.g. evidence) and cladograms (e.g. drawing, creating, interpreting) Selection (e.g. natural selection, artificial selection, evidence) and the requirements for selection (e.g. variation in traits, differential survivability) Adaptation, selection pressure, and speciation 		

Earth and Space Science Content Topics	Content Topics	Instruction/Resources	Notional Learning Time
Interactions between Earth's Systems and Living Things	 Interactions of matter between living and non-living things (e.g. cycles of matter) and the location, uses and dangers of fossil fuels Natural Hazards (e.g. earthquakes, hurricanes, etc.) their effects (e.g. frequency, severity, and short- and long-term effects), and mitigation thereof (e.g. dikes, storm shelters, building practices) Extraction and use of natural resources, renewable vs. non-renewable resources and sustainability 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice	~20 hours
Earth and its System Components and Interactions	 Characteristics of the atmosphere, including its layers, gases and their effects on the Earth and its organisms, including climate change Characteristics of the oceans (e.g. salt water, currents, coral reefs) and their effects on Earth and organisms Interactions between Earth's systems (e.g. weathering caused by wind or water on rock, wind caused by high/low pressure and Earth rotation, etc.) Interior structure of the Earth (e.g. core, mantle, crust, tectonic plates) and its effects (e.g. volcanoes, earth quakes, etc.) and major landforms of the Earth (e.g. mountains, ocean basins, continental shelves, etc.) 	Assist students in building science vocabulary and in interpreting a variety of graphics, such as charts, tables, process diagrams, etc.	~20 hours (cont.)
Structures and Organization of the Cosmos	 Structures in the universe (e.g. galaxies, stars, constellations, solar systems), the age and development of the universe, and the age and development of Stars (e.g. main sequence, stellar development, deaths of stars [black hole, white dwarf]) Sun, planets, and moons (e.g. types of planets, comets, asteroids), the motion of the Earth's motion and the interactions within the Earth's solar system (e.g. tides, eclipses) The age of the Earth, including radiometrics, fossils, and landforms 		

Science (Life, Physical, Space and Earth)			
GED Ready® Science Test (predictive mock exam and necessary remediation based upon results)	Have students take the GED Ready® Science test. Review score report. Identify areas of concern and address specific skill gaps with student. If required, assign specific objectives for more review.	GED Ready® Science Test & Detailed, Personalized Score Report Cross- Referenced to Learning Content	~5 hours

Social Studies Content with Suggested Instruction, Resources and Notional Learning Time

Social Studies Practices	The Social Studies Practices can be described as skills that are key to reasoning in both textual and quantitative social science contexts. The practices come from important skills specified in career- and college-readiness standards, as well as in National Standards for History. Each item on the Social Studies test is aligned to one Social Studies Practice and one Content Topic.	Instruction/Resources	Notional Learning Time
Drawing Conclusions and Making Inferences	 Determine the details of what is explicitly stated in primary and secondary sources and make logical inferences or valid claims based on evidence. 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. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice	~10 hours
Determining Central ideas, Hypotheses, and Conclusions	 Determine the central ideas or information of a primary or secondary source document, corroborating, or challenging conclusions with evidence. Describe people, places, environments, processes, and events, and the connections between and among them. 	Assist students in building social studies vocabulary and in interpreting a variety	
Analyzing Events and Ideas	 Identify the chronological structure of a historical narrative and sequence steps in a process. Analyze in detail how events, processes, and ideas develop and interact in a written document; determine whether earlier events caused later ones or simply preceded them. Analyze cause-and-effect relationships and multiple causation, including action by individuals, natural and societal processes, and the influence of ideas. 	of graphics, such as charts, tables, editorial cartoons, maps, photographs, etc.	
	 Compare differing sets of ideas related to political, historical, economic, geographic, or societal contexts; evaluate the assumptions and implications inherent in differing positions. 		

Social Studies Practices	The Social Studies Practices can be described as skills that are key to reasoning in both textual and quantitative social science contexts. The practices come from important skills specified in career- and college-readiness standards, as well as in National Standards for History. Each item on the Social Studies test is aligned to one Social Studies Practice and one Content Topic.	Instruction/Resources	Notional Learning Time
Interpreting Meaning of Symbols, Words, and Phrases Analyzing Purpose and Point of View	 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 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). Identify instances of bias or propagandizing. Analyze how a historical context shapes an author's point of view. Evaluate the credibility of an author in historical and contemporary political discourse. 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building social studies vocabulary and in interpreting a variety of graphics, such as charts, tables, editorial cartoons, maps, photographs, etc.	~10 hours (cont.)
Integrating Content Presented in Different Ways	 Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text. 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. 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. 		
Evaluating Reasoning and Evidence	 Distinguish among fact, opinion, and reasoned judgment in a primary or secondary source document. Distinguish between unsupported claims and informed hypotheses grounded in social studies evidence. 		

Social Studies Practices	The Social Studies Practices can be described as skills that are key to reasoning in both textual and quantitative social science contexts. The practices come from important skills specified in career- and college-readiness standards, as well as in National Standards for History. Each item on the Social Studies test is aligned to one Social Studies Practice and one Content Topic.	Instruction/Resources	Notional Learning Time
Analyzing Reasoning between Texts	Compare treatments of the same social studies topic in various primary and secondary sources, noting discrepancies between and among the sources.	GED Prep Academy – complete assigned readings and activities	~10 hours (cont.)
Reading and Interpreting Graphs, Charts, and Other Data Representation	 Interpret, use, and create graphs (e.g., scatterplot, line, bar, circle) including proper labeling. Predict reasonable trends based on the data (e.g., do not extend trend beyond a reasonable limit). Represent data on two variables (dependent and independent) on a graph; analyze and communicate how the variables are related. Distinguish between correlation and causation. 	Instructor-guided and independent practice Assist students in building social studies	
Measuring the Center of a Statistical Dataset	Calculate the mean, median, mode, and range of a dataset.	vocabulary and in interpreting a variety of graphics, such as charts, tables, editorial cartoons, maps, photographs, etc.	

Social Studies (History, Civics and Government, Economics, Geography)

U.S. History/Civics and Gov	vernment		
U.S. History	Content Topics	Instruction/Resources	Notional
			Learning Time
Key Historical Documents	Key documents and the context and ideas that they signify (e.g.	GED Prep Academy –	~30 hours
that have Shaped	Magna Carta, Mayflower Compact, Declaration of Independence,	complete assigned	
American Constitutional	United States Constitution, Martin Luther King's Letter from the	readings and activities	
Government	Birmingham Jail, landmark decisions of the United States Supreme		
	Court, and other key documents)	Instructor-guided and	
Revolutionary and Early	Revolutionary War US	independent practice	
Republic Periods &	• War of 1812		
European Settlement and	George Washington	Assist students in	
Population of the	Thomas Jefferson	building social studies	
Americas	Articles of Confederation	vocabulary and in	
	Manifest Destiny	interpreting a variety	
	U.S. Indian Policy	of graphics, such as	
Civil War and	Slavery	charts, tables,	
Reconstruction	Sectionalism	editorial cartoons,	

Jim Crow laws

Civil Rights

Civil War Amendments

Plessy vs. Ferguson and Brown vs. Board of Education

• Reconstruction policies

Women's suffrage Civil Rights Movement

Warren court decisions

maps, photographs,

etc.

U.S. History	Content Topics	Instruction/Resources	Notional Learning Time
World Wars I and II	 Alliance system Imperialism, nationalism, and militarism Russian Revolution Treaty of Versailles and League of Nations Neutrality Acts and Isolationism Allied and Axis Powers Fascism, Nazism, and totalitarianism Decolonization 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in	~30 hours. (cont.)
The Cold War & Modern American Foreign Policy	 Communism and capitalism NATO and the Warsaw Pact U.S. maturation as an international power Division of Germany, Berlin Blockade and Airlift Truman Doctrine Marshall Plan Lyndon B. Johnson and The Great Society Richard Nixon and the Watergate scandal 	building social studies vocabulary and in interpreting a variety of graphics, such as charts, tables, editorial cartoons, maps, photographs, etc.	

Civics and Government	Content Topics	Instruction/Resources	Notional Learning Time
Types of Modern and Historical Governments Principles that have	Direct democracy, representative democracy, parliamentary democracy, presidential democracy, monarchy, and other types of government that contributed to the development of American constitutional democracy Natural rights philosophy	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building social studies vocabulary and in interpreting a variety of graphics, such as charts, tables, editorial cartoons, maps, photographs, etc.	~25 hours
Contributed to Development of American Constitutional Democracy	 Popular sovereignty and consent of the governed Constitutionalism Majority rule and minority rights Checks and balances Separation of powers Rule of law Federalism 		
Structure and Design of United Stated Government	 Structure, powers, and authority of the federal executive, judicial, and legislative branches Individual governmental positions (e.g. president, speaker of the house, cabinet secretary, etc.) Major powers and responsibilities of the federal and state governments Shared powers The amendment process Governmental departments and agencies 		
Individual Rights and Civic Responsibilities; Political Parties, Campaigns, and Elections in American Politics	 The Bill of Rights Political parties Interest groups Political campaigns, elections and the electoral process Contemporary Public Policy 		~25 hours (cont.)

Economics	Content Topics	Instruction/Resources	Notional Learning Time
Key Economic Events that Shaped American Government and Policies, and Relationship between Political and Economic Freedoms Fundamental Economic Concepts	 Markets Incentives Monopoly and competition Labor and capital Opportunity cost Profit Entrepreneurship Comparative advantage Specialization Productivity Interdependence 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building economics vocabulary and in interpreting a variety of graphics, such as charts, tables, graphs, etc.	~10 hours
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Economics	Content Topics	Instruction/Resources	Notional Learning Time
Microeconomics and Macroeconomics	 Supply, demand, and price Individual choice Institutions Fiscal and monetary policy Regulation and costs of government policies Investment Government and market failures Inflation and deflation GDP (Gross Domestic Product) 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building economics	es (cont.) es id e
Consumer Economics	 Unemployment Tariffs Types of credit Savings and banking Consumer credit laws 	vocabulary and in interpreting a variety of graphics, such as charts, tables, graphs, etc.	
Economic Causes and Impacts of Wars Economic Drivers of Exploration and Colonization Scientific and Industrial Revolutions			

Geography	Content Topics	Instruction/Resources	Notional Learning Time
Development of Classical Civilizations Relationship between the Environment and Societal Development Borders between Peoples and Nations Human Migration	 Nationhood and statehood Sustainability Technology Natural resources Human changes to the environment Concepts of region and place Natural and cultural diversity Geographic tools and skills Immigration, emigration, and diaspora Culture, cultural diffusion, and assimilation Population trends and issues Rural and urban settlement 	GED Prep Academy – complete assigned readings and activities Instructor-guided and independent practice Assist students in building social studies vocabulary and in interpreting a variety of graphics, such as charts, tables, graphs, maps, etc.	~10 hours
GED Ready® Social Studies Test (predictive mock exam and necessary remediation based upon results)	Have students take the GED Ready® Social Studies test. Review score report. Identify areas of concern and address specific skill gaps with student. If required, assign specific objectives for more review.	GED Ready® Social Studies Test & Detailed, Personalized Score Report Cross- Referenced to Learning Content	~5 hours