

# FTCE General Knowledge Test (082)

## Khan Academy Study Roadmap — Enhanced Edition

*Every official competency and skill, mapped to specific free Khan Academy units*

### How to use this roadmap

This guide is organized around the official FTCE competency-and-skill blueprint, so it matches the structure of the score report a student receives after a failed attempt. When a student brings you a score report, find the weak competency below and assign the linked Khan Academy units for exactly those skills — no more, no less.

- **Mastery standard:** for each assigned unit, the student should solve problems independently, explain the concept aloud, and score at least 80% on the unit's practice exercises before moving on. Khan Academy's built-in exercises and unit tests are the accountability mechanism — assign the exercises, not just the videos.
- **Prioritize by weight:** competency percentages below come from the official blueprint. In Math, probability/statistics (33%) and algebra (29%) together are over 60% of the subtest — a student short on time should start there, not with fractions.
- **The Praxis Core shortcut:** Khan Academy offers free [Official Praxis Core Math](#), [Reading](#), and [Writing](#) prep built with ETS. The Praxis Core overlaps heavily with the GK skill-for-skill and frames everything as test prep rather than school math. For reading and writing especially, the Praxis course is the backbone; the unit links below add targeted depth.
- **Official materials:** the free [GK Test Information Guides](#) (fl.nesinc.com) contain sample questions per subtest, the essay scoring rubric, and the math reference sheet. Students should know the reference sheet cold and practice with a basic four-function calculator only — that is all they get on test day.

### Test design at a glance

<b>Essay (825)</b>	1 essay · 50 minutes · passing: at least 6 of 8 points (revised scoring effective Jan 1, 2025)
<b>English Language Skills (826)</b>	~30 multiple-choice · 40 minutes · passing: scaled score of 200
<b>Reading (827)</b>	~30 multiple-choice (passage-based, ~5 passages) · 55 minutes · passing: scaled 200
<b>Mathematics (828)</b>	~35 multiple-choice · 1 hr 40 min · passing: scaled 200 · on-screen 4-function calculator and reference sheet provided
<b>Logistics</b>	Subtests can be taken in any combination and retaken individually after 31 days. New passing scores took effect January 1, 2025 — older prep materials may cite outdated cut scores (the essay was previously 8 of 12).

## Mathematics Subtest (828)

Four competencies. The on-screen reference sheet supplies formulas, so the test rewards setup and interpretation more than memorization. Start every student with the Official Praxis Core Math course as a spine, then drill weak skills with the units below.

### Competency 1 — Number sense, concepts, and operations (≈17%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Compare real numbers and identify their location on a number line	<a href="#">Arithmetic · Negative numbers</a> — ordering negative numbers; rational numbers on the number line	<i>Classic trap: thinking <math>-3 &gt; -1</math> because <math>3 &gt; 1</math>. Drill ordering mixed sets of fractions, decimals, and negatives.</i>
2. Solve real-world problems involving the four operations with rational numbers	<a href="#">Arithmetic · Fractions</a> <a href="#">Arithmetic · Decimals</a> <a href="#">Arithmetic · Percents</a>	<i>Always word problems on the test. Fraction ↔ decimal ↔ percent conversion fluency (<math>3/8 = 0.375 = 37.5%</math>) is the highest-leverage drill.</i>
3. Evaluate expressions involving order of operations	<a href="#">Pre-algebra · Arithmetic properties</a> — order of operations (PEMDAS) lessons <a href="#">Pre-algebra · Exponents &amp; radicals</a> — for expressions with exponents and square roots	<i>Watch the leading-negative trap: <math>-3^2 = -9</math>, not 9. The 4-function calculator does NOT apply order of operations — students must sequence keystrokes themselves.</i>

### Competency 2 — Geometry and measurement (≈21%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Identify and classify simple 2-D and 3-D figures by their mathematical properties	<a href="#">Basic geometry · Plane figures</a> — classifying triangles & quadrilaterals <a href="#">Basic geometry · Angles</a> <a href="#">Basic geometry · Volume &amp; surface area</a> — for solids: prisms, cylinders, etc.	<i>Know the quadrilateral hierarchy (every square is a rectangle and a rhombus) and triangle classification by sides AND angles.</i>
2. Solve problems involving ratio and proportion (scale drawings, models, real-world)	<a href="#">Pre-algebra · Ratios &amp; rates</a> <a href="#">7th grade · Geometry</a> — scale drawings lessons	<i>Set up the proportion, cross-multiply, done. Scale-drawing items (map distances, model dimensions) appear nearly every form.</i>
3. Determine an appropriate measurement unit and form (e.g., scientific notation)	<a href="#">Basic geometry · Units of measurement</a> <a href="#">8th grade · Numbers &amp; operations</a> — scientific notation lessons	<i>'Which unit is most appropriate to measure X?' items are easy points — square units for area, cubic for volume; scientific notation for very large/small quantities.</i>
4. Solve real-world measurement problems: fundamental units, derived units (mph, \$/gal), unit conversions	<a href="#">Basic geometry · Units of measurement</a> — converting units lessons <a href="#">Pre-algebra · Ratios &amp; rates</a> — intro to rates; unit rates <a href="#">Basic geometry · Area &amp; perimeter</a>	<i>Conversion factors within the customary and metric systems are on the reference sheet — train students to find them there rather than memorize.</i>

### Competency 3 — Algebraic thinking and the coordinate plane (≈29%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Determine whether two algebraic expressions are equivalent (properties of operations/equality)	<a href="#">Algebra basics · Algebraic expressions</a> — combining like terms; distributive property; equivalent expressions	<i>Distribute-and-simplify both expressions; if they match, they're equivalent. Sign errors when distributing a negative are the #1 miss.</i>
2. Identify an expression, equation, or inequality that models a real-world situation	<a href="#">Algebra basics · Algebraic expressions</a> — writing expressions word problems <a href="#">Algebra basics · Linear equations &amp; inequalities</a> — modeling/word-problem lessons	<i>Translation drills: '5 less than twice a number' = <math>2n - 5</math>, not <math>5 - 2n</math>. These items don't require solving — only setting up.</i>
3. Solve equations and inequalities (linear, quadratic) graphically or algebraically	<a href="#">Algebra basics · Linear equations &amp; inequalities</a> <a href="#">Algebra basics · Quadratics &amp; polynomials</a> — solving by factoring	<i>Inequality trap: flip the sign when multiplying/dividing by a negative. Quadratics on the GK stay simple — factoring level, not the quadratic formula under pressure.</i>
4. Determine and solve equations or inequalities in real-world problems	<a href="#">Algebra basics · Linear equations &amp; inequalities</a> — two-step equation & inequality word problems	<i>Combine skills 2 and 3: set up, then solve. Have students check the answer against the story (e.g., negative count of people = wrong).</i>
5. Graph and interpret a linear equation in real-world problems (plot points, explain slope and y-intercept)	<a href="#">Algebra basics · Graphing lines &amp; slope</a>	<i>Interpretation matters more than graphing: slope = rate per unit (cost per mile), y-intercept = starting value (the flat fee).</i>
6. Identify relations that satisfy the definition of a function	<a href="#">8th grade · Linear equations &amp; functions</a> — recognizing functions from tables, graphs, and mappings	<i>One input → exactly one output. Vertical line test for graphs; repeated x-values with different y-values in tables = not a function.</i>
7. Compare the slopes of two linear functions represented algebraically and graphically	<a href="#">8th grade · Linear equations &amp; functions</a> — comparing linear functions <a href="#">Algebra basics · Graphing lines &amp; slope</a> — slope from two points; slope-intercept form	<i>Typical item: one function as an equation, one as a graph or table — 'which grows faster?' Convert both to slope-intercept form.</i>

### Competency 4 — Probability, statistics, and data interpretation (≈33% — the largest competency)

Official FTCE skill	Khan Academy target	Tutor notes
1. Analyze data in various forms (histograms, bar graphs, circle graphs, pictographs, line plots, tables)	<a href="#">6th grade · Data &amp; statistics</a> — histograms, dot/line plots <a href="#">Statistics · Analyzing categorical data</a> — bar graphs, pie charts, two-way tables	<i>Pictograph trap: multiply by the key (each symbol = 50 units). Circle-graph items often require converting a percent of a total.</i>
2. Evaluate how data presentation can lead to	<a href="#">Statistics · Analyzing categorical data</a>	<i>Look for truncated y-axes, unequal intervals, and 3-D distortion. KA's coverage here is thinner —</i>

Official FTCE skill	Khan Academy target	Tutor notes
different or inappropriate interpretations	<a href="#">Statistics · Designing studies</a> — bias lessons	<i>supplement with score-report-style examples of misleading graphs.</i>
3. Calculate range, mean, median, and mode of data sets	<a href="#">Statistics · Summarizing quantitative data</a> — mean, median & mode lessons <a href="#">6th grade · Data &amp; statistics</a>	<i>Pure computation — fastest points on the subtest. Remind students to re-order the data before finding the median.</i>
4. Interpret central tendency (mean, median, mode) and dispersion (range, standard deviation) in context	<a href="#">Statistics · Summarizing quantitative data</a> — interquartile range; standard deviation intro	<i>Conceptual only for standard deviation: bigger SD = more spread. No SD calculation by hand on the GK.</i>
5. Evaluate how the selection of statistics (mean vs. median vs. mode) can mislead in context	<a href="#">Statistics · Summarizing quantitative data</a> — ‘mean vs. median: which is better?’ / impact of outliers	<i>Anchor example: home prices — one mansion drags the mean up, so the median is the honest summary. Outliers pull the mean, not the median.</i>
6. Solve real-world probability problems using counting procedures, tables, and tree diagrams	<a href="#">Statistics · Probability library</a> — basic theoretical probability; compound events; tree diagrams <a href="#">Statistics · Counting, permutations &amp; combinations</a> — counting principle lessons only	<i>Stay at fundamental-counting-principle depth (outfits = shirts × pants); skip the permutation/combination formula lessons — past GK scope.</i>
7. Infer and analyze conclusions from sample surveys, experiments, and observational studies	<a href="#">Statistics · Designing studies</a> — sampling methods; types of studies; correlation vs. causation	<i>Key distinctions: random sample → generalize to population; random assignment/experiment → infer causation; observational study → correlation only.</i>

## English Language Skills Subtest (826)

Three competencies, but conventions alone is half the subtest — weight tutoring time accordingly. Khan Academy's free Grammar course is nearly a one-to-one match for the conventions skills; vocabulary application is KA's weakest area and needs supplementing.

### Competency 1 — Knowledge of language structure (≈25%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Evaluate correct placement of modifiers	<a href="#">Grammar · Usage and style</a> — dangling & misplaced modifiers	<i>Ask: who is doing the action in the opening phrase? 'Running for the bus, my phone fell' — phones don't run.</i>
2. Apply knowledge of parallelism (parallel expressions for parallel ideas)	<a href="#">Grammar · Usage and style</a> — parallel structure lessons	<i>Items in a list must match form: 'swimming, hiking, and to bike' → 'biking.' Check verbs after correlatives (either/or, not only/but also).</i>
3. Apply knowledge of effective structures (fragments, comma splices, run-ons, syntax errors)	<a href="#">Grammar · Syntax: sentences and clauses</a> — phrases & clauses; fragments <a href="#">Grammar · Syntax: conventions of standard English</a> — run-ons and comma splices	<i>Comma splice = two complete sentences joined by only a comma. Fixes: period, semicolon, or comma + conjunction.</i>
4. Determine patterns of organization in a written passage (modes of rhetoric)	<a href="#">Official Praxis Core Reading</a> — text structure / organization lessons KA's grammar course doesn't cover rhetorical modes	<i>Teach the five patterns directly: compare/contrast, cause/effect, chronological, problem/solution, description — then have students label practice passages.</i>

### Competency 2 — Knowledge of vocabulary application (≈25%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Determine the meaning of unknown words, multiple-meaning words, and phrases in context	<a href="#">Digital SAT Reading &amp; Writing</a> — Words in Context lessons <a href="#">Official Praxis Core Reading</a>	<i>Strategy: cover the word, predict a replacement from context, then match. Multiple-meaning items hinge on the sentence, not the common definition.</i>
2. Determine correct use of commonly confused and misused words and phrases	<a href="#">Grammar · Usage and style</a> — frequently confused words (affect/effect, their/there/they're, fewer/less)	<i>This KA lesson set is a direct hit. Build a personal list from the student's own writing errors.</i>
3. Determine diction and tone appropriate to a given audience	<a href="#">Official Praxis Core Writing</a> — revision-in-context / style lessons <a href="#">Digital SAT Reading &amp; Writing</a> — transitions; rhetorical synthesis	<i>Usually a register question: formal report vs. casual blog. Eliminate slang and clichés in formal contexts.</i>

### Competency 3 — Knowledge of standard English conventions (≈50% — half the subtest)

Official FTCE skill	Khan Academy target	Tutor notes
1. Determine and select standard verb forms	<a href="#">Grammar · Parts of speech: the verb</a> — irregular verbs lessons	<i>Irregular past participles are the test's favorite: had went → had gone; have drank → have drunk.</i>
2. Identify inappropriate shifts in verb tense	<a href="#">Grammar · Parts of speech: the verb</a> — verb tense lessons	<i>Scan the surrounding sentences: if the passage narrates in past tense, a sudden present-tense verb is the error.</i>
3. Determine subject–verb agreement	<a href="#">Grammar · Parts of speech: the verb</a> — subject-verb agreement lessons	<i>The trap is distance: ‘The box of old letters were...’ → was. Cross out prepositional phrases between subject and verb.</i>
4. Determine pronoun–antecedent agreement	<a href="#">Grammar · Parts of speech: the pronoun</a> — pronoun-antecedent agreement	<i>Watch indefinite pronouns: each, everyone, neither are singular.</i>
5. Identify inappropriate pronoun shifts	<a href="#">Grammar · Parts of speech: the pronoun</a>	<i>Most common: drifting from ‘one’ or ‘a student’ to ‘you’ mid-passage.</i>
6. Determine clear pronoun references	<a href="#">Grammar · Parts of speech: the pronoun</a> — vague pronoun reference lessons	<i>If ‘it’ or ‘they’ could point to two different nouns, the sentence needs the noun restated.</i>
7. Determine pronoun case forms (subjective, objective, possessive)	<a href="#">Grammar · Parts of speech: the pronoun</a> — subject & object pronouns; possessives	<i>Drop the other person to test: ‘Maria and me went’ → ‘me went’? No → ‘Maria and I.’ Also: whom = him test.</i>
8. Evaluate correct use of adjectives and adverbs	<a href="#">Grammar · Parts of speech: the modifier</a> — adjectives vs. adverbs	<i>‘She sings good’ → well. Adverbs modify verbs; adjectives follow linking verbs (feels bad, not badly).</i>
9. Determine comparative and superlative degree forms	<a href="#">Grammar · Parts of speech: the modifier</a> — comparative & superlative lessons	<i>Two things = comparative (-er/more); three or more = superlative (-est/most). Never both: ‘more better’ is always wrong.</i>
10. Demonstrate command of standard spelling conventions	<a href="#">Grammar · Usage and style</a> — frequently confused words covers most tested spelling KA has no dedicated spelling unit	<i>GK spelling items are mostly homophone-driven (principal/principle), so the confused-words lessons carry this. Supplement with a homophone list.</i>
11. Demonstrate command of standard punctuation	<a href="#">Grammar · Punctuation: the comma and the apostrophe</a> <a href="#">Grammar course</a> — also complete the unit ‘Punctuation: the colon, semicolon, and more’	<i>Highest-frequency items: comma + conjunction joining independent clauses, apostrophes for possession vs. plurals (its/it’s), and semicolons between related complete sentences.</i>
12. Demonstrate command of standard capitalization	<a href="#">Official Praxis Core Writing</a> — capitalization lessons	<i>Proper nouns and titles-before-names (Principal</i>

Official FTCE skill	Khan Academy target	Tutor notes
	not covered in KA's grammar course	<i>Gomez vs. the principal); seasons and school subjects (except languages) stay lowercase.</i>

## Reading Subtest (827)

Every item is passage-based (about five passages per form, expository and narrative). Khan Academy doesn't host generic 'reading comprehension' videos, so the mapping below leans on two test-prep courses whose question types mirror the GK directly: Official Praxis Core Reading and Digital SAT Reading & Writing. Within the SAT course, lesson links rotate, so the table names the exact lesson to open from the course page.

### Competency 1 — Key ideas and details (≈40% — the largest competency)

Official FTCE skill	Khan Academy target	Tutor notes
1. Identify textual evidence to support conclusions drawn from text	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Command of Evidence (textual) <a href="#">Official Praxis Core Reading</a> — supporting details lessons	<i>'Which sentence best supports...'</i> — the right answer restates the claim's key terms, not just the topic.
2. Identify explicit meaning and details within text	<a href="#">Official Praxis Core Reading</a> — main idea & details lessons	<i>Answer is stated on the page. Wrong answers are usually true-sounding but not in the passage.</i>
3. Determine inferences and conclusions based on textual evidence	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Inferences <a href="#">Official Praxis Core Reading</a> — inference lessons	<i>Correct inferences are small steps from the text. Eliminate any choice requiring outside knowledge.</i>
4. Discriminate among inferences, conclusions, and assumptions	<a href="#">Official Praxis Core Reading</a> — argument/evaluation lessons	<i>Teach the vocabulary explicitly: an assumption is unstated and taken for granted; an inference is reasoned from stated evidence.</i>
5. Determine and analyze development of central ideas or themes	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Central Ideas and Details	<i>Main idea must cover the whole passage — too-narrow choices (one paragraph's point) are the classic distractor.</i>
6. Summarize one or more texts using key supporting ideas and details	<a href="#">Official Praxis Core Reading</a> — summarizing lessons	<i>A good summary = central idea + major supports, no minor details, no new opinions.</i>
7. Determine how and why individuals, events, and ideas develop	<a href="#">Official Praxis Core Reading</a> — organization / relationships within text	<i>Track transitions (however, as a result, later) — they signal how the author moves the idea forward.</i>
8. Determine cause-and-effect relationships among individuals, events, and ideas	<a href="#">Official Praxis Core Reading</a> — relationships between ideas lessons	<i>Signal words: because, therefore, led to, resulted in. Distinguish sequence (then) from causation (so).</i>

### Competency 2 — Craft and structure (≈25%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Interpret meaning of words and phrases (figurative, connotative, technical)	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Words in Context	<i>Same context-clue method as ELS vocabulary — efficient to teach the two subtests' skills together.</i>

Official FTCE skill	Khan Academy target	Tutor notes
2. Analyze how specific word choices shape meaning or tone	<a href="#">Digital SAT Reading &amp; Writing</a> — lessons: Words in Context; Text Structure and Purpose	<i>Connotation drills: slender vs. scrawny, determined vs. stubborn. Tone answer choices reward precision.</i>
3. Analyze how the author uses organization and text structure to convey meaning	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Text Structure and Purpose <a href="#">Official Praxis Core Reading</a> — organization lessons	<i>Reuses the rhetorical-modes content from ELS Competency 1.4 — one prep, two subtests.</i>
4. Contrast the point of view of two or more authors on the same topic (claims, reasoning, evidence)	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Cross-Text Connections	<i>Paired-passage items. Map each author's claim first; most questions ask where they'd agree or disagree.</i>
5. Analyze how point of view and purpose shape content and style	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Text Structure and Purpose <a href="#">Official Praxis Core Reading</a> — author's purpose lessons	<i>PIE shortcut for purpose: Persuade, Inform, Entertain — then ask how the style (word choice, structure) serves it.</i>

### Competency 3 — Integration of information and ideas (≈35%)

Official FTCE skill	Khan Academy target	Tutor notes
1. Evaluate and relate content presented in diverse formats (text + charts, graphs, visuals)	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Command of Evidence (quantitative)	<i>Read the graph's title, axes, and units before the answer choices. Overlaps with Math Competency 4.1 — double payoff.</i>
2. Evaluate specific claims for relevancy, sufficiency, and validity of reasoning	<a href="#">Official Praxis Core Reading</a> — evaluating arguments lessons	<i>Is the evidence on-topic (relevant), enough (sufficient), and logically connected (valid)? One anecdote ≠ sufficient.</i>
3. Synthesize information from a range of texts into a coherent explanation	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Cross-Text Connections <a href="#">Official Praxis Core Reading</a> — paired-passage practice	<i>Build the habit of one-sentence summaries per text before attempting synthesis questions.</i>
4. Analyze multiple texts to differentiate authors' approaches to similar themes (mode, craft, genre, point of view)	<a href="#">Digital SAT Reading &amp; Writing</a> — lesson: Cross-Text Connections	<i>Same theme, different vehicle: a memoir vs. a research article on resilience. Ask what each form lets the author do.</i>

## Essay Subtest (825)

One source-based essay in 50 minutes, scored holistically by two raters. Passing is now at least 6 of 8 points under the scoring criteria revised effective January 1, 2025 (older guides cite 8 of 12). Videos help least here — the real prep is writing 2–3 full timed essays and scoring them against the rubric in the official Test Information Guide. Use the resources below to fix specific rubric weaknesses.

### Official essay skills, grouped by rubric area

Official FTCE skill	Khan Academy target	Tutor notes
Purpose & thesis: determine purpose for task and audience; formulate a relevant thesis or claim; introduce the topic effectively	<a href="#">Official Praxis Core Writing</a> — argumentative essay lessons	<i>Formula that scores: restate the issue + take a clear position + preview two reasons. Thesis goes at the end of paragraph 1, every time.</i>
Organization & flow: organize ideas and details; use varied transitional devices; provide a conclusion that follows from the argument	<a href="#">Official Praxis Core Writing</a> — essay organization lessons	<i>Teach a flexible 4–5 paragraph frame: intro, 2–3 body paragraphs (one reason each), conclusion that adds an insight rather than re-listing.</i>
Support: cite ample, relevant textual evidence; anecdotal experience may supplement	<a href="#">Official Praxis Core Writing</a> — source-based essay lessons	<i>The GK essay is source-based — students MUST quote or paraphrase the provided passage(s) and attribute them. Personal anecdote is seasoning, not the meal.</i>
Language quality: college-level standard written English; varied sentence patterns; consistent point of view; conventions (no slang, jargon, clichés)	<a href="#">Grammar · Usage and style</a> <a href="#">Grammar · Syntax: sentences and clauses</a> — for combining sentences and varying structure	<i>Budget 5 minutes to plan and 5 to proofread. Most lost points are mechanical: comma splices, tense drift, and ‘you’ creeping in.</i>

## Suggested 6-week sequence (per subtest retake)

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For a student targeting one failed subtest with the standard 31-day retake window in mind:

- **Week 1 — Diagnose.** Pull the competency-level percentages from the student's score report (or give a free full-length practice test). Rank competencies weakest-first, weighted by blueprint percentage.
- **Weeks 2–4 — Remediate.** Assign the Khan Academy units above for the two weakest competencies only. Hold the 80%-on-exercises mastery bar; videos without exercises don't count.
- **Week 5 — Integrate.** Full Praxis Core course practice for the subtest, plus the official sample questions in the Test Information Guide under timed conditions.
- **Week 6 — Verify, then register.** One full-length timed practice test. Since multiple-choice passing requires roughly 71–75% correct, the student should be scoring consistently above 80% on practice before paying the retake fee.

*All videos are sourced from Khan Academy. Khan Academy reorganizes course URLs occasionally. If a link redirects, search the unit name in KA's search bar — unit titles are stable even when slugs change.*

*The above was adapted from the FTCE General Knowledge Exam General Knowledge Test (GK) (082) Resource Materials found here: [fl.nesinc.com GK Test Information Guides](https://fl.nesinc.com/GK_Test_Information_Guides).*

***The information above is current as of June 2026.***