



A Guide to The SAT Subject Tests

And how they relate to your AP + IB Courses



In this guide, you will learn the format, content, and skills covered for each of the Subject Tests below. You will also learn how your AP/IB courses relate to these tests. The Subject Tests covered in this guide are:

- Literature
- Math Level 1
- Biology-Molecular
- U.S. History
- Math Level 2
- Chemistry
- World History
- Biology-Ecological
- Physics

What are the SAT Subject Tests?

SAT Subject Tests are optional college entrance exams that highlight your strengths in particular subject areas. A handful of colleges require them, many top schools recommend them, and many admissions teams will consider them if you choose to send your scores.

What to Expect on SAT Subject Tests

There are 20 different SAT Subject Tests grouped into 5 categories: English, History, Mathematics, Science, and Languages. Though subjects range from Biology to Japanese, every test shares a few things in common:

- You have **60** minutes to complete each exam.
- All questions are multiple choice.
- All tests are scored on a scale of 200 to 800.
- You gain **1** point for each correct answer.
- You lose a fraction of a point for each wrong answer.
 - $\frac{1}{4}$ for 5-choice questions
 - $\frac{1}{3}$ for 4-choice questions
 - $\frac{1}{2}$ for 3-choice questions
- No points will be deducted for unanswered questions.





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Why take SAT Subject Tests?

They offer an opportunity to highlight your academic strengths – strengths that might not come through on the more general SAT and ACT. Beyond giving admissions teams a fuller picture of you, SAT Subject Tests:

- Act as course placement exams at some schools, enabling you to exempt entry-level classes.
- Bolster your case for admittance to a specific major or school within a university.
- Offer international students a chance to show subject mastery to admissions teams who are more familiar with U.S. standards of course rigor.
- Provide multilingual and/or ESL students an opportunity to showcase expertise.
- Give you a competitive edge.
- Are required or recommended at many top colleges and universities.*

*Don't be fooled by the word *recommended*. In recent years competitive schools have stopped officially requiring SAT Subject Tests so as not to disadvantage students who cannot afford to purchase elective exams. If you can afford to do so, recommended means you probably should.

How should you prepare?

To excel on an SAT Subject Test, begin by taking the high school class that coincides with it. Next, it's important to learn the ins and outs of the test, practice testing within the 60-minute time constraint, develop a strategy for guessing vs. omitting, and brush up on content that never quite clicked, or that your teacher covered back in September. At Applerouth, we've designed a study plan for every test taker:

- **Fine Tuning Tutoring Package:** Target specific areas for maximum score increase potential during 6 hours of tutoring. Recommended if you are planning to take 1 SAT Subject Test.
- **Comprehensive Tutoring Package:** Dive into SAT Subject content and hone test-taking strategies during 12 hours of tutoring. Recommended if you are planning to take 2 SAT Subject Tests or desire an in-depth exploration of a single test.
- **In-Depth Tutoring Package:** Achieve the greatest score gains or focus on the largest scope of content during 18 hours of tutoring. Recommended if you are planning to take 2 or more SAT Subject Tests.

Learn more about SAT Subject prep by giving us a call at **866-789-PREP**. We're here to answer questions about test choice, testing timeline, you name it!

We would love to help you navigate this process.



Literature



Format + Content

About **60** multiple-choice questions.

6 to 8 reading selections followed by sets of **4 to 12** questions.

Source of Questions	Approximate % of Test*
English literature	40%-50%
American literature	40%-50%
Other literature written in English	0%-10%

Chronology

Renaissance and 17th century	30%
18th and 19th centuries	30%
20th and 21st centuries	40%

Genre

Poetry	40%-50%
Prose	40%-50%
Drama and other	0%-10%

**The distribution of passages may vary in different versions of the test. Above indicates typical or average content.*

Skills Covered

- Recognize denotative and connotative meanings of words in context.
- Identify the structure of a text, including genre, progression, and format.
- Respond to a writer's use of language, including diction, imagery, and figurative language, and to its effects on the reader.
- Analyze narrative elements such as voice, tone, and point of view.
- Analyze poetic elements such as speaker, audience, occasion, and purpose.

Applerouth Tutor Tips

- Practice active reading! Marking-up a passage as you go saves time and helps you recall information.
- If the old-fashioned language is giving you a hard time, paraphrase it into something relatable.

Content Related to Your Courses

AP English Literature Course **80%**

Covers **80%** of the content on the Subject Test

What test content is not covered?

- Greater understanding in certain literary terms/techniques.
- The use of humor and satire.

AP English Language Course **50%**

Covers **50%** of the content on the Subject Test

What test content is not covered?

- Literary techniques used in prose.
- Literary techniques when analyzing poetry.
- Vocabulary used in fiction and poetry from 1400-1900.

IB Language A: Literature Course **55%**

Covers **55%** of the content on the Subject Test

What test content is not covered?

- Greater understanding in literary techniques when analyzing poetry.
- Greater understanding in Western-centric prose.
- Vocabulary used in fiction and poetry from 1400-1900.

IB Language A: Language and Literature Course **45%**

Covers **45%** of the content on the Subject Test

What test content is not covered?

- Greater understanding in literary techniques used in prose and when analyzing poetry.
- Greater understanding in Western-centric prose.

IB Language A: Literature and Performance Course **10%**

Covers **10%** of the content on the Subject Test

What test content is not covered?

- Literary techniques used in prose.
- Literary techniques when analyzing poetry.
- Vocabulary used in fiction and poetry in 1400-1900.



U.S. History



Format + Content

90 multiple-choice questions

Material Covered*	Approximate % of Test
Political history	31%-35%
Economic history	13%-17%
Social history	20%-24%
Intellectual and cultural history	13%-17%
Foreign policy	13%-17%

Periods Covered

Pre-Columbian history to 1789	20%
1790-1898	40%
1899 to the present	40%

**Social science concepts, methods, and generalizations are incorporated in this material.*



Skills Covered

- Knowledge of historical terms, concepts, and themes.
- Ability to identify historical facts and chronology.
- Comprehension of important elements in U.S. History.
- Facility at interacting with primary sources.
- Proficiency at connecting ideas to charts, maps, and graphs.
- Ability to evaluate sources with a given purpose in mind.



Content Related to Your Courses

AP U.S. History Course **75%**

Covers **75%** of the content on the Subject Test

What test content is not covered?

- Historical facts: people, legislation, events, literary works, terminology, and court cases.
- Greater depth in the Industrial Revolution and Post-1968 America.
- Government structures and the Constitution.

IB Route 2: 20th-Century World History (SL/HL) Course **20%**

Covers **20%** of the content on the Subject Test

What test content is not covered?

- Historical content spanning 1400-1900.
- Greater understanding of U.S. History from 1900-present.
- Government structures and the Constitution.

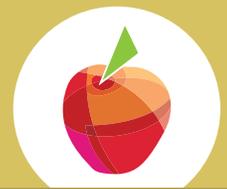


Applerouth Tutor Tips

- Study up on culture and social trends, rather than military history and specific dates.
- Skip questions you are unsure about. You can skip questions and still get a great score.



World History



Format + Content

Approximately **90** to **95** multiple-choice questions

Material Covered	Approximate % of Test
Global or comparative	25%
Europe	25%
Africa	10%
Southwest Asia	10%
South and Southeast Asia	10%
East Asia	10%
Americas	10%

Periods Covered

Prehistory and civilizations to 500 c.e.*	25%
500 to 1500 c.e.	20%
1500 to 1900 c.e.	25%
Post-1900 c.e.	20%
Prose	40%-50%
Cross-chronological	10%

*The World History Subject Test uses the chronological designations b.c.e. (before common era) and c.e. (common era). These labels correspond to b.c. (before Christ) and a.d. (anno Domini), which are used in some world history textbooks.



Skills Covered

- Ability to interpret cause-and-effect relationships.
- Understanding of major historical developments as demonstrated through knowledge of events and geography.
- Proficiency in concepts essential to historical analysis.
- Facility at interpreting artistic sources and quotations from published materials.



Applerouth Tutor Tips

- Study up on culture and social trends, rather than military history and specific dates.
- Make sure to know the basics of world religions.



Content Related to Your Courses

AP European History Course **30%**

Covers **30%** of the content on the Subject Test

What test content is not covered?

- Historical facts: people, legislation, events, literary/artistic works, and terminology.
- Content related to Asia, Africa, and the Americas.
- Colonization from a non-Eurocentric viewpoint.

AP World History Course **70%**

Covers **70%** of the content on the Subject Test

What test content is not covered?

- Historical facts: people, legislation, events, literary/artistic works, and terminology.
- Greater understanding and focus on Prehistory-1500 (especially up to 600 BCE and between 600 BCE and 600 CE) and 1900-Present.
- Greater understanding of Asian and European History.

IB Route 1: Europe and the Islamic World (SL/HL) Course **25%**

Covers **25%** of the content on the Subject Test

What test content is not covered?

- Historical facts: people, legislation, events, literary works, and terminology.
- Content related to Asia, Africa, and the Americas.
- All content Prehistory-500 CE and 1500 CE-Present.

IB Route 2: 20th-Century World History (SL/HL) Course **35%**

Covers **35%** of the content on the Subject Test

What test content is not covered?

- Historical facts: people, legislation, events, literary/artistic works, and terminology.
- All content Prehistory-1900.





Math Level 1



Format + Content

50 multiple-choice questions

Number and Operations Approximate % of Test

Operations, ratio and proportion, **10%–14%**
complex numbers, counting, elementary
number theory, sequences

Algebra and Functions **38%–42%**

Expressions, equations, inequalities,
representation and modeling, properties
of functions (linear, polynomial, rational,
exponential)

Euclidean Geometry **18%–22%**

Coordinate Geometry **8%–12%**

Lines, parabolas, circles, symmetry,
transformations

3-D Geometry **4%–6%**

Solids, surface area and volume (cylinders,
cones, pyramids, spheres, prisms)

Trigonometry **6%–8%**

Right triangles, identities

Data Analysis, Statistics and Probability

Mean, median, mode, range, **8%–12%**
interquartile range, graphs and plots,
least-squares regression (linear), probability

Content Related to Your Courses

Your school curriculum should cover all of the content on the Math 1 Subject Test.

Algebra **70%**

Covers **70%** of the content on the Subject Test

What test content is not covered?

- Geometry
- Trigonometry

30%

Geometry

Covers **30%** of the content on the Subject Test

What test content is not covered?

- Numbers and operations
- Algebra and functions
- Data analysis, statistics, and probability



Applerouth Tutor Tips

- You get to use your calculator on this test, so make sure you are comfortable with it.
- Sometimes it is easier to test the answer choices to see which one works than to fully solve the problem.
- Write everything down and draw pictures! This can help you keep from getting stuck and can help prevent small mistakes.



Math Level 2



Format + Content

50 multiple-choice questions

Number and Operations Approximate % of Test

Operations, ratio and proportion, **10%–14%**
complex numbers, counting, elementary
number theory, matrices, sequences, series,
vectors

Algebra and Functions **48%–52%**

Expressions, equations, inequalities, representation
and modeling, properties of functions (linear,
polynomial, rational, exponential, logarithmic,
trigonometric, inverse trigonometric, periodic,
piecewise, recursive, parametric)

Coordinate Systems and Graphing **10%–14%**

Lines, parabolas, circles, ellipses, hyperbolas,
symmetry, transformations, polar coordinates

3-D Geometry **4%–6%**

Solids, surface area and volume (cylinders, cones,
pyramids, spheres, prisms), coordinates in three
dimensions

Trigonometry **12%–16%**

Right triangles, identities, radian measure, law of
cosines, law of sines, equations, double angle formulas

Data Analysis, Statistics and Probability

Mean, median, mode, range, **8%–12%**
interquartile range, standard deviation, graphs and
plots, least-squares regression (linear, quadratic,
exponential), probability



Content Related to Your Courses

Your school curriculum should cover most of the
content on the Math 2 Subject Test.

Algebra **55%**

Covers **55%** of the content on the Subject Test

What test content is not covered?

- Elementary number theory
- Sequences
- Vectors
- 3-D geometry
- Certain properties of functions
- Matrices
- Series
- Polar coordinates
- Trigonometry

Trigonometry/Pre Calculus **40%**

Covers **40%** of the content on the Subject Test

What test content is not covered?

- Operations
- Complex numbers
- Certain properties of functions
- Coordinate systems and graphing
- 3-D geometry
- Data analysis, statistics, and probability
- Ratio and proportion
- Algebra and functions



Applerouth Tutor Tips

- The test-makers don't expect you to have seen everything on this test. Don't feel bad about skipping a few questions!
- Write everything down and draw pictures! This can help you keep from getting stuck and can help prevent small mistakes.
- If you are in an AP math class, make sure you go back and review how to do the Algebra 2 problems you likely haven't thought about in over a year.





Biology-Ecological



Format + Content

80 multiple-choice questions

The first **60** of the 80 questions are common to both Biology-E and Biology-M, followed by **20** specialized questions for each section.

Cell and Molecular Biology **Approximate % of Test**

Cell structure and organization, mitosis, photosynthesis, cellular respiration, enzymes, biosynthesis, biological chemistry **12%**

Ecology **25%**

Energy flow, nutrient cycles, populations, communities, ecosystems, biomes, biodiversity, effects of human intervention

Genetics **12%**

Meiosis, Mendelian genetics, inheritance patterns, molecular genetics

Organismal Biology **25%**

Structure, function and development of organisms (with emphasis on plants and animals), animal behavior

Evolution and Diversity **25%**

Origin of life, evidence of evolution, patterns of evolution, natural selection, speciation, classification and diversity of organisms

Skills Covered

- Knowledge of core concepts; ability to recall specific facts; familiarity with terminology (about 30% of test).
- Ability to reformulate information into equivalent forms; application of knowledge to unfamiliar and/or practical situations; proficiency at problem solving with mathematical relationships (about 35% of test).
- Interpreting, inferring, and deducing from qualitative and quantitative data; integrating information in order to form conclusions; recognizing unstated assumptions (about 35% of test).

Content Related to Your Courses

AP Biology Course **85%**

Covers **85%** of the content on the Subject Test

What test content is not covered?

- Greater understanding of topics tested on Ecological Emphasis section.

AP Environmental Science **55%**

Covers **55%** of the content on the Subject Test

What test content is not covered?

- Cell and Molecular Biology
- Genetics
- Function and development of organisms

IB Biology (SL) Course **80%**

Covers **80%** of the content on the Subject Test

What test content is not covered?

- Greater understanding of some topics.
- Lab design

IB Biology (HL) Course **90%**

Covers **90%** of the content on the Subject Test

Content not covered:

- Lab design

Applerouth Tutor Tips

- On test day, make sure you fill in the appropriate circle on your answer sheet to indicate you will be talking Biology-E or Biology-M.
- There's a lot of vocabulary! Make sure you study early and find the study style that works for you.



Biology-Molecular



Format + Content

80 multiple-choice questions

The first **60** of the 80 questions are common to both Biology-E and Biology-M, followed by **20** specialized questions for each test.

Cell and Molecular Biology Approximate % of Test

Cell structure and organization, mitosis, photosynthesis, cellular respiration, enzymes, biosynthesis, biological chemistry **25%**

Ecology **12%**

Energy flow, nutrient cycles, populations, communities, ecosystems, biomes, biodiversity, effects of human intervention

Genetics **25%**

Meiosis, Mendelian genetics, inheritance patterns, molecular genetics

Organismal Biology **25%**

Structure, function and development of organisms (with emphasis on plants and animals), animal behavior

Evolution and Diversity **12%**

Origin of life, evidence of evolution, patterns of evolution, natural selection, speciation, classification and diversity of organisms



Skills Covered

- Knowledge of core concepts; ability to recall specific facts; familiarity with terminology (about 30% of test).
- Ability to reformulate information into equivalent forms; application of knowledge to unfamiliar and/or practical situations; proficiency at problem solving using mathematical relationships (about 35% of test).
- Interpreting, inferring, and deducing from qualitative and quantitative data; integrating information in order to form conclusions; recognizing unstated assumptions



Content Related to Your Courses

AP Biology Course **100%**

Covers **100%** of the content on the Subject Test

IB Biology (SL) Course **70%**

Covers **70%** of the content on the Subject Test

What test content is not covered?

- Greater understanding of topics tested on Molecular Emphasis section.
- Lab design

IB Biology (HL) Course **80%**

Covers **80%** of the content on the Subject Test

What test content is not covered?

- Greater understanding of topics tested on Molecular Emphasis section.
- Lab design



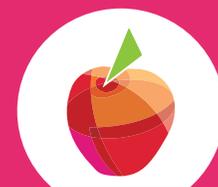
Applerouth Tutor Tips

- On test day, make sure you fill in the appropriate circle on your answer sheet to indicate you will be talking Biology-E or Biology-M.
- There's a lot of vocabulary! Make sure you study early and find the study style that works for you.





Chemistry



Format + Content

85 multiple-choice questions.*

Topics Covered	Approximate % of Test
Structure of Matter Atomic structure, molecular structure, and bonding	25%
States of Matter Gases, liquids and solids, and solutions	16%
Reaction Types Acids and bases, oxidation-reduction, and precipitation	14%
Stoichiometry Mole concept and chemical equations	14%
Equilibrium and Reaction Rates Equilibrium systems, rates of reactions	5%
Thermochemistry	6%
Descriptive Chemistry	12%
Laboratory	8%



Skills Covered

- Understanding of core concepts, ability to recall specific details, knowledge of terminology (about 20% of test).
- Ability to apply a single principle to an unfamiliar and/or practical situation and obtain a qualitative result or solve a quantitative problem (about 45% of test).
- Facility at synthesizing knowledge by inferring and deducing from qualitative and/or quantitative data; ability to integrate two or more relationships to draw conclusions or solve problems (about 35% of test).

* **25 Classification questions:** For these questions you will be given a set of answer choices that belong to a set of questions. Each of the choices may be used once, more than once, or not at all across its set of questions.

15 Relationship Analysis questions: These questions take the form Statement 1 BECAUSE Statement 2. Your job is to individually determine whether Statement 1 is True or False and whether Statement 2 is True or False. IF both statements are true, then you also need to determine whether the causal relationship is correct. This means you will bubble in 2 or 3 bubbles per question in this section and you must get all three components correct to get the point for the problem.

45 standard 5 answer multiple choice



Content Related to Your Courses

AP Chemistry Course **100%**

Covers **100%** of the content on the Subject Test

IB Chemistry (SL) Course **80%**

Covers **80%** of the content on the Subject Test

What test content is not covered?

- Greater understanding of: oxidation/reduction, rate expression, reaction mechanism, bond hybridization, acids/bases.
- Experience with measurement and analysis.

IB Chemistry (HL) Course **100%**

Covers **100%** of the content on the Subject Test



Applerouth Tutor Tips

- Make sure you practice your estimation skills before you take this test! You have no calculator and less than a minute per question, but the test will still ask you to do messy looking computations. The answer choices are generally different enough that rough estimations will narrow you down to only one reasonable answer.
- The Relationship Analysis questions may seem very strange when you first look at them. Make sure you practice with the question style before you take the test.

Learn more about SAT Subject prep by giving us a call at **866-789-PREP**. We're here to answer questions about test choice, testing timeline, you name it!

We would love to help you navigate this process.



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