COLLEGE BOARD + PENNSYLVANIA

SAT® Suite of Assessments: Alignment to Pennsylvania Standards

CollegeBoard

SAT®

Executive Summary

While the College Board's redesigned SAT Suite of Assessments was not designed to assess the attainment of any single set of standards, its tests measure knowledge and skills that the best available evidence shows are essential for college and career readiness and success. The SAT Suite, which includes the redesigned SAT®, PSAT/NMSQT® and PSAT™ 10, and PSAT™ 8/9, provides states and schools with a longitudinal, evidence-based assessment system that measures growth in relation to essential college and career readiness and success outcomes from grade 8 through grade 12. The College Board is committed to ensuring that students are ready to make successful transitions to college and career by the time they leave high school. This report demonstrates that the SAT Suite strongly aligns with your state's standards and thereby supports your students' progress toward educational and workplace success.

The alignment of the Pennsylvania state standards with the SAT Suite of Assessments is strong to very strong. There is a very strong alignment between the Pennsylvania state standards in reading, writing, and language and the Reading Test, the Writing and Language Test, and the SAT Essay in the SAT Suite. In Math, the alignment of the Pennsylvania state standards and the SAT Suite is strong. The SAT Suite of Assessments do not assess speaking and listening and therefore, we do not align to the Pennsylvania state standards in speaking and listening.

The key features of the redesigned SAT Suite's English language arts/literacy–related assessments are

- the use of a specified range of text complexity consistent with college and workforce training requirements;
- an emphasis on source analysis and use of evidence;
- the inclusion of data and informational graphics, which students must analyze in conjunction with text;
- a focus on words in context and on word choice for rhetorical effect;
- attention to a core set of important English language conventions and to effective written expression; and
- the requirement that students work with texts across a wide range of disciplines.

The key features of the redesigned SAT Suite's math assessments are

- a strong focus on content that matters most for college and career readiness;
- an emphasis on rich applied problems in real-life settings where the use of mathematical practices is integrated with the content;
- a balance of fluency, conceptual understanding, and application items within and across all content topics;
- an emphasis on problem solving and data analysis; and
- the inclusion of both calculator and no-calculator portions as well as strategic attention to the use of a calculator as a tool.

The heart of the report is a series of tables indicating both the alignment of the Pennsylvania standards to the elements measured by the SAT Suite of Assessments and the alignment of the elements measured by the SAT Suite of Assessments to the Pennsylvania standards. As these tables and the

associated documentation demonstrate, the alignment between Pennsylvania's standards and the SAT Suite is robust.

Summary of the English Language Arts/Literacy alignment:

The College Board's Assessment Design and Development English Language Arts team conducted the following alignments between the SAT Suite of Assessments and the Pennsylvania Core Standards for English Language Arts:

> Pennsylvania's English Language Arts standards (grades 11–12, grades 9–10, and grade 8 English Language Arts standards to the redesigned SAT Suite Reading, Writing and Language, and (optional; SAT only) Essay testing domains; and the redesigned SAT Suite Reading, Writing and Language, and (optional; SAT only) Essay testing domains to Pennsylvania's English Language Arts standards (grades 11–12, 9–10, and 8).

The overall alignment is clear and robust, as summarized below.

- **Grades 11–12 English Language Arts (aligned to SAT, including Essay):** All twelve of the Reading Informational Text standards 11–12 and nine of the eleven Reading Literature standards 11–12 are addressed in whole or in part on the redesigned SAT. (CC.1.3.11–12.G, requiring synthesis of multiple literature texts, was not aligned to, as the SAT Reading Test's paired-passage format is restricted to history/social studies and science texts; CC.1.3.11–12.H, which requires demonstration of knowledge of foundational literature from different periods, is largely outside of the Reading Test domain.) Twenty-one of the twenty-four Writing standards 11–12 are addressed in whole or in part, with elements of technology (CC.1.4.11–12.U), research (CC.1.4.11–12.V), and source use (CC.1.4.11–12.W) not aligned to.
- **Grades 9–10 English Language Arts (aligned to PSAT/NMSQT and PSAT 10):** Eleven of the twelve Reading Informational Text standards 9–10 and nine of the eleven Reading Literature standards 9–10 are addressed in whole or in part. Not aligned to are CC.1.2.9–10.G, which focuses on different mediums for accounts, CC.1.3.9–10.G, which focuses on artistic media, and CC.1.3.9–10.H, which focuses on a very specific form of intertextuality. Nineteen of the twenty-four Writing standards 9–10 are addressed in whole or in part, the difference from 11–12 accounted for by the fact that drawing evidence from literary or informational texts (CC.1.4.9–10.S) and direct writing (CC.1.4.9–10.X) were aligned to the SAT Essay. As was true for 11–12, elements of technology (CC.1.4.9–10.U), research (CC.1.4.9–10.V), and source use (CC.1.4 9–10.W) were not aligned to.
- **Grade 8 English Language Arts (aligned to PSAT 8/9):** Eleven of the twelve Reading Informational Text standards 8 and eight of the eleven Reading Literature standards 8 are addressed in whole or in part. Not aligned to are CC.1.2.8.G, which concerns the use of media, CC.1.3.8.E, which involves synthesis of multiple literature texts, CC.1.3.8.G, which involves filmed and live productions of stories or dramas, and CC.1.3.8.H, which (like CC.1.3.9–10.H) focuses on a very specific form of intertextuality. Nineteen of the twenty-four Writing standards 8 are addressed in whole or in part, the difference from 11–12 accounted for by the fact that drawing evidence from literary or informational texts (CC.1.4.8.S) and direct writing (CC.1.4.8.X) were aligned to the SAT Essay. As was true for 11–12 and 9–10, elements of technology (CC.1.4.8.U), research (CC.1.4.8.V), and source use (CC.1.4.8.W) were not aligned to.

- Inclusion of the redesigned SAT's Essay improves the alignment in numerous ways, including by addressing Writing standards not directly measured by the selected-response SAT Writing and Language Test.

Alignment of SAT Suite assessments to Pennsylvania standards

- All but two of the elements in the SAT Suite of Assessments are addressed directly by Pennsylvania standards.
- The two exceptions are text complexity in Writing and Language, which is not addressed by Pennsylvania standards, and the SAT Essay's requirement for accuracy in representation of source texts, which is implicit in Pennsylvania's research-related standards (for example, in the provision in CC.1.4.8W to avoid plagiarism).
- In addition, the SAT Reading testing element requiring students to analyze multiple texts was not addressed by Pennsylvania's standards for grades 11–12. This testing element is implicit in Pennsylvania's Reading standards CC.1.2.11–12.H and CC.1.2.11–12.I, which require students to analyze seminal texts and foundational U.S. and world documents. The SAT Reading Test includes either a selection or pair from a US founding document or documents, or a selection or pair from a text or texts in the Great Global Conversation.
- The PSAT/NMSQT and PSAT 10 and PSAT 8/9 Reading testing element, analyzing quantitative information, was not addressed by Pennsylvania's standards for grades 9–10 or grade 8.

Summary of the Math alignment:

- The alignment between the redesigned SAT content specifications and the Pennsylvania Standards for High School Mathematics is strong in the Number and Quantity, Algebra, Functions, Modeling, Geometry, and Statistics and Probability conceptual categories. The SAT's domain sampling approach covers standards from 20 of the 22 domains within these conceptual categories. The two domains not covered, Vector and Matrix Quantities (from Number and Quantity) and Using Probability to Make Decisions (from Statistics and Probability), are intentionally excluded as they are composed entirely of (+) standards. The (+) standards throughout the Pennsylvania Standards for High School Mathematics are intended as preparation for advanced courses and are not essential for all students to learn to be college and career ready.
- Ideas from the conceptual category of Modeling are interspersed in problems aligned to the other conceptual categories, as suggested by the standards themselves in the statement, "Modeling is best interpreted not as a collection of isolated topics, but rather in relation to the other standards." Modeling is emphasized throughout the redesigned SAT Math Test.
- All skills measured in the redesigned SAT appear in the Pennsylvania Standards for High School Mathematics.
- Additionally, an emphasis on the Pennsylvania Standards for Mathematical Practice is apparent throughout the redesigned SAT. In order to do well on the varied item types they will see, students must make sense of problems and persevere in solving them (Math Practice 1). Students have many opportunities to make use of structure (Math Practice 7) in the Heart of Algebra and Passport to Advanced Math domains, while they must evaluate claims (Math Practice 3) in the Problem Solving and Data Analysis domain. They represent quantities in context with mathematical relationships and interpret their results (Math Practice 2) in all three of those domains. Mathematical modeling (Math Practice 4) is especially important in Heart of

Algebra and Passport to Advanced Math. Finally, students must solve a carefully selected set of items that rewards strategic, rather than indiscriminant, use of the calculator in the Calculator portion of the Math Test (Math Practice 5).

- The alignment between the PSAT/NMSQT and PSAT 10 content specifications and the Pennsylvania Standards for High School Mathematics is strong in Algebra and Functions. PSAT/NMSQT and PSAT 10 content specifications also draw from the conceptual categories of Number and Quantity, Geometry, and Statistics and Probability.
- All skills measured in the PSAT/NMSQT and PSAT 10 appear in the Pennsylvania Standards for High School Mathematics.
- Like the redesigned SAT, the PSAT/NMSQT and PSAT 10 include ideas from the conceptual category of Modeling and aligned to the Pennsylvania Standards for Mathematical Practice interspersed in problems aligned to other conceptual categories.
- Like the redesigned SAT, the PSAT/NMSQT and PSAT 10 have a cross-disciplinary focus, drawing topics from Science and Social Studies.
- The alignment between the PSAT 8/9 content specifications and the Pennsylvania Standards for Grades 6, 7, and 8 is strong in Expressions and Equations and in Statistics and Probability. There is also a strong alignment between the PSAT 8/9 content specifications and the Grade 8 Functions content category, the Grade 6 Ratios and Proportional Relationships content category, and the High School Mathematics Algebra and Functions content categories. PSAT 8/9 content specifications also draw from the conceptual categories of Grade 7 and High School Geometry as well as High School Number and Quantity, Geometry, and Statistics and Probability.
- All skills measured in the PSAT 8/9 appear in the Pennsylvania Standards for grades 6, 7, 8, or High School Mathematics.
- Like the redesigned SAT, the PSAT 8/9 includes ideas from the conceptual category of Modeling and aligned to the Pennsylvania Standards for Mathematical Practice interspersed in problems aligned to other conceptual categories.
- Like the redesigned SAT, the PSAT 8/9 has a cross-disciplinary focus, drawing topics from Science and Social Studies.

The redesigned SAT Suite of Assessments aligns well with the Pennsylvania standards. Both have been designed to promote in a clear and transparent way the goal of college and career readiness and success for all students, and both are grounded in high-quality evidence about essential postsecondary requirements.

Section 1: Introduction

This report conveys the results of a College Board–conducted alignment study between the SAT Suite of Assessments and state standards.

The SAT Suite of Assessments measures the knowledge and skills that the best available evidence shows are essential for college and career readiness and success. The College Board works in partnership with states, districts, and schools to prepare all students to attain their post–high school educational goals, and our evidence-based assessments align closely with high-quality state standards that focus on essential college and career readiness and success outcomes.

While the revised SAT Suite of Assessments are not specifically aligned to any single set of standards; they measure the skills and knowledge that most current research and evidence shows are essential for college and career success, and are focused on what is familiar to students in their classrooms today regardless of their location. The College Board is committed to ensuring that students are ready to make successful transitions to college and career by the time they leave high school. This report shows that the SAT Suite of Assessments strongly aligns with your state's standards and thereby supports your students' progress toward educational and workplace readiness and success.

The SAT Suite of Assessments

The SAT Suite of Assessments (consisting of the SAT, PSAT/NMSQT and PSAT 10, and PSAT 8/9) focuses on the knowledge and skills that high-quality research shows are essential for college and career readiness and success. The assessments reflect the work students are doing in classrooms across the country.

The SAT Suite makes it easier for students to navigate a path through high school, college, and career by providing unmatched benefits to students, educators, and states/districts, including

- focused, clear, and useful assessments that reflect the knowledge and skills that research shows are essential for college and career readiness and success;
- free, personalized, focused practice resources for all students;
- college opportunities through scholarships, fee waivers, and AP credit; and
- career opportunities through powerful career-planning partnerships and a focus on coding and STEM.

The assessments in the SAT Suite are scored on the same underlying scale, which provides a powerful tool for measuring growth. Taken together, these assessments provide benchmarks and consistent feedback, showing student progress over time and allowing teachers to accelerate students who are either ahead or behind.

PSAT 8/9. Taken in the fall or spring of eighth or ninth grade, the PSAT 8/9 serves as a foundation for student progress in high school and helps ensure students are on target for being college and career ready by the time they leave high school.

PSAT/NMSQT and PSAT 10. Students take the PSAT/NMSQT in the fall of tenth or eleventh grade (though only eleventh graders are eligible for the National Merit Scholarship Program); some schools may instead deliver the PSAT™ 10 in the spring of students' tenth-grade year. Both assessments cover the same content domain and serve as a "check-in" on student progress and to pinpoint areas for development.

SAT. The SAT is offered throughout the school year and provides a powerful connection to college. Most students take the SAT for the first time during the spring of their junior year and a second time during the fall of their senior year.

The Alignment Approach

Point-by-point technical alignments between a test's or program's domain and a state's standards have been the centerpiece of traditional alignment study reports. Such alignments are valuable in that they illustrate in detail how and to what extent specific elements of a state's standards are assessed by an assessment program. They also identify any content in the assessments that is not included in the state's standards. Point-by-point alignments, however, tell only part of the story. While it is critical to know how well the elements of assessments and standards align, these types of studies often miss how well the broader aims and emphases of the assessment and standards mesh. Even extensive overlap between the elements of assessment and standards is not a guarantee that the two programs are well aligned at a broad, conceptual level.

As section 2 of this report outlines, several dominant themes emerge from in-depth study of educational standards and research literature on what knowledge and skills are most valuable in both postsecondary education and workforce training. For instance, a principal theme is that students are generally better served by learning core knowledge and skills in depth rather than undertaking a surface-level exploration of a wider range of topics. Therefore, it makes sense to identify the evidence-based core knowledge and skills on which college and career readiness and success rely and then to develop tests of that core. This has been the College Board's approach in redesigning its SAT Suite of Assessments.

Another important theme is that, even for assessments (such as the College Board's) concentrated on measuring attainment of core knowledge and skills, it is a practical impossibility to assess every possible element in depth in a reasonable time frame. However, when each element belongs to a cohesive knowledge and skill domain, as is the case with the SAT Suite's assessments, careful, strategic sampling of that domain permits valid and reliable inferences about an examinee's level of learning. Careful domain sampling enables tests of reasonable length and time to render technically sound educational measurements.

This report includes both conceptual and point-by-point alignments in a way that we believe is open, clear, transparent, and reader friendly. Section 2 outlines the evidentiary foundation for key elements of the redesigned SAT Suite's Reading Tests, Writing and Language Tests, Essay (SAT only), and Math Tests. For a detailed account of the test specifications for the redesigned SAT (which also applies to the PSAT/NMSQT, PSAT 10, and PSAT 8/9), please refer to *Test Specifications for the Redesigned SAT* at https://www.collegeboard.org/pdf/sat/delivering-opportunity/test_specifications_for_the_redesigned_sat_102414.pdf.

Sections 3 through 6 detail the technical alignment between the redesigned assessments and the state standards. Section 3 provides a summary of the match between the key features of the redesigned SAT Suite assessments and the state standards. Sections 4, 5, and 6 offer point-by-point comparisons of assessment domains to standards, presented first with the state's standards as the organizing principle and second with the elements of the redesigned assessments as the principle.

Section 2: Evidentiary Foundation

This section outlines the evidence base supporting the redesigned SAT Suite of Assessments. The discussion focuses first on Evidence-Based Reading and Writing (Reading; Writing and Language) and the optional Essay (SAT only) and then on Math. The section offers a global description of the key evidence undergirding the major choices guiding the redesign of the SAT Suite. As new evidence about the essential requirements for college and career readiness and success emerges from our ongoing research, we will incorporate it in our evidence base and document the results.

For a detailed account of the evidence base, see "The Redesigned SAT: Evidentiary Foundation," section II of the *Test Specifications for the Redesigned SAT* at https://www.collegeboard.org/pdf/sat/delivering-opportunity/test_specifications_for_the_redesigned_sat_102414.pdf.

Evidence-Based Reading and Writing; Essay

The Evidence-Based Reading and Writing (ERW) section of each assessment in the SAT Suite is composed of two required multiple-choice tests:

- a **Reading Test** focused on the assessment of students' comprehension and reasoning skills in relation to appropriately challenging prose passages (sometimes paired, or associated with one or more informational graphics) across a range of content areas; and
- a **Writing and Language Test** focused on the assessment of students' revising and editing skills in the context of extended prose passages (sometimes associated with one or more informational graphics) across a range of content areas.

The optional **Essay (SAT only)** is focused on the assessment of students' skill in developing a cogent and clear written analysis of a provided source text.

The scores on the Reading Test and the Writing and Language Test are multiplied by ten and combined to yield an Evidence-Based Reading and Writing section score. The three scores yielded by the SAT Essay (Reading, Analysis, Writing) complement those from the multiple-choice English language arts/literacy assessments but are not combined with them or with each other.

A number of key design elements strongly supported by evidence are interwoven throughout the Evidence-Based Reading and Writing and the Essay sections of the assessments. These include

- the use of a specified range of text complexity aligned to college and career readiness levels of reading, based on extensive research on requirements for reading and comprehension in college, career, and life;
- an emphasis on source analysis and use of evidence, based on current curricular and career emphases;
- the inclusion of data and informational graphics, which students must analyze in conjunction with text, based on studies showing the ever-increasing importance of visual displays of information;

- a focus on relevant words in context and on word choice for rhetorical effect, based on studies going back nearly a century;
- attention to a core set of important English language conventions and to effective written expression, based on recent research in metalinguistic understanding; and
- the requirement that students work with texts across a wide range of disciplines, based on extensive research showing the importance of developing discipline-specific literacy skills.

Math

The overall aim of the Math section in each of the SAT Suite's assessments is to assess students' fluency with, understanding of, and ability to apply the mathematical concepts, skills, and practices that are most strongly prerequisite and useful for a range of college majors and careers. The Math Test rewards a much stronger command of fewer, more important topics than has traditionally been assessed. To succeed on the Math Test, students need to exhibit command of mathematical practices, fluency with mathematical procedures, and conceptual understanding of mathematical ideas. In keeping with the best available evidence on essential college and career readiness and success outcomes, the assessment also provides opportunities for students to engage with rich applied problems.

Among the key evidence-based design elements that shape the Math Test are

- a focus on content that matters most for college and career readiness and success, based on extensive research and on national surveys of teachers of mathematics;
- an emphasis on problem solving and data analysis in real-world settings where the use of mathematical practices is integrated with content, based on recent studies and on recent results of the Programme for International Student Assessment (PISA);
- a balance of fluency, conceptual understanding, and application items within and across all content topics; and
- the inclusion of both calculator and no-calculator portions as well as attention to the use of a calculator as a tool, based on clear data reflecting the expectations of postsecondary instructors of mathematics.

Summary

All of the tests that are part of the redesigned SAT Suite of Assessments are informed by evidence about essential requirements for college and career readiness and success and are designed to measure robustly students' attainment of those key requirements. The Reading, Writing and Language, and (optional; SAT only) Essay sections of the assessments share a focus on text—its complexity, its use of evidence, its relationship to data, its disciplinary roots—and on language, particularly its use in communicating information and ideas clearly and purposefully. The redesigned SAT Suite also supports sustained attention on a core of math concepts, skills, and understandings rather than encouraging a race through a vast array of math soon forgotten. An important element of math is that knowing a few things very well gives students a wide-ranging readiness. The math in the SAT Suite reflects what

students can expect to see and use throughout a range of college courses, workforce training programs, and career opportunities.

The College Board's commitment to focus across all the sections in the SAT Suite can be summed up as follows: The redesigned assessments are not mysterious or tricky. They are completely transparent. They focus on the knowledge and skills that are worthy of practice. They are designed to offer clear signals to instruction and to resemble the best of classroom work and work outside of the classroom. The redesigned assessments are reliable, measuring durable knowledge and skills needed in all levels of postsecondary education, work, and life. Rather than covering a great number of topics and concepts that most examinees will never see again, the assessments focus on study of a deep core that students can draw upon again and again in college and career.

Section 3: Pennsylvania Standards Alignment Summary

Section 3 outlines the alignment of the SAT Suite of Assessments to Pennsylvania's standards conducted by the College Board and provides a high-level summary of the results.

English Language Arts Alignment Summary

The College Board's Assessment Design and Development English Language Arts team conducted the following alignments between the SAT Suite of Assessments and the Pennsylvania Core Standards for English Language Arts:

> Pennsylvania's English Language Arts standards (grades 11–12, grades 9–10, and grade 8 English Language Arts standards to the redesigned SAT Suite Reading, Writing and Language, and (optional; SAT only) Essay testing domains; and the redesigned SAT Suite Reading, Writing and Language, and (optional; SAT only) Essay testing domains to Pennsylvania's English Language Arts standards (grades 11–12, 9–10, and 8).

The overall alignment is clear and robust, as summarized below.

- **Grades 11–12 English Language Arts (aligned to SAT, including Essay):** All twelve of the Reading Informational Text standards 11–12 and nine of the eleven Reading Literature standards 11–12 are addressed in whole or in part on the redesigned SAT. (CC.1.3.11–12.G, requiring synthesis of multiple literature texts, was not aligned to, as the SAT Reading Test's paired-passage format is restricted to history/social studies and science texts; CC.1.3.11–12.H, which requires demonstration of knowledge of foundational literature from different periods, is largely outside of the Reading Test domain.) Twenty-one of the twenty-four Writing standards 11–12 are addressed in whole or in part, with elements of technology (CC.1.4.11–12.U), research (CC.1.4.11–12.V), and source use (CC.1.4.11–12.W) not aligned to.
- **Grades 9–10 English Language Arts (aligned to PSAT/NMSQT and PSAT 10):** Eleven of the twelve Reading Informational Text standards 9–10 and nine of the eleven Reading Literature standards 9–10 are addressed in whole or in part. Not aligned to are CC.1.2.9–10.G, which focuses on different mediums for accounts, CC.1.3.9–10.G, which focuses on artistic media, and CC.1.3.9–10.H, which focuses on a very specific form of intertextuality. Nineteen of the twenty-four Writing standards 9–10 are addressed in whole or in part, the difference from 11–12 accounted for by the fact that drawing evidence from literary or informational texts (CC.1.4.9–10.S) and direct writing (CC.1.4.9–10.X) were aligned to the SAT Essay. As was true for 11–12, elements of technology (CC.1.4.9–10.U), research (CC.1.4.9–10.V), and source use (CC.1.4 9–10.W) were not aligned to.
- **Grade 8 English Language Arts (aligned to PSAT 8/9):** Eleven of the twelve Reading Informational Text standards 8 and eight of the eleven Reading Literature standards 8 are addressed in whole or in part. Not aligned to are CC.1.2.8.G, which concerns the use of media, CC.1.3.8.E, which involves synthesis of multiple literature texts, CC.1.3.8.G, which involves filmed and live productions of stories or dramas, and CC.1.3.8.H, which (like CC.1.3.9–10.H) focuses on a very specific form of intertextuality. Nineteen of the twenty-four Writing standards 8 are addressed in whole or in part, the difference from 11–12 accounted for by the fact that drawing evidence from literary or informational texts (CC.1.4.8.S) and direct writing (CC.1.4.8.X) were aligned to the SAT Essay. As was true for 11–12 and 9–10, elements of technology (CC.1.4.8.U), research (CC.1.4.8.V), and source use (CC.1.4.8.W) were not aligned to.

- Inclusion of the redesigned SAT's Essay improves the alignment in numerous ways, including by addressing Writing standards not directly measured by the selected-response SAT Writing and Language Test.

Alignment of SAT Suite assessments to Pennsylvania standards

- All but two of the elements in the SAT Suite of Assessments are addressed directly by Pennsylvania standards.
- The two exceptions are text complexity in Writing and Language, which is not addressed by Pennsylvania standards, and the SAT Essay's requirement for accuracy in representation of source texts, which is implicit in Pennsylvania's research-related standards (for example, in the provision in CC.1.4.8W to avoid plagiarism).
- In addition, the SAT Reading testing element requiring students to analyze multiple texts was not addressed by Pennsylvania's standards for grades 11–12. This testing element is implicit in Pennsylvania's Reading standards CC.1.2.11–12.H and CC.1.2.11–12.I, which require students to analyze seminal texts and foundational U.S. and world documents. The SAT Reading Test includes either a selection or pair from a US founding document or documents, or a selection or pair from a text or texts in the Great Global Conversation.
- The PSAT/NMSQT and PSAT 10 and PSAT 8/9 Reading testing element, analyzing quantitative information, was not addressed by Pennsylvania's standards for grades 9–10 or grade 8.

Math Alignment Summary

- The alignment between the redesigned SAT content specifications and the Pennsylvania Standards for High School Mathematics is strong in the Number and Quantity, Algebra, Functions, Modeling, Geometry, and Statistics and Probability conceptual categories. The SAT's domain sampling approach covers standards from 20 of the 22 domains within these conceptual categories. The two domains not covered, Vector and Matrix Quantities (from Number and Quantity) and Using Probability to Make Decisions (from Statistics and Probability), are intentionally excluded as they are composed entirely of (+) standards. The (+) standards throughout the Pennsylvania Standards for High School Mathematics are intended as preparation for advanced courses and are not essential for all students to learn to be college and career ready.
- Ideas from the conceptual category of Modeling are interspersed in problems aligned to the other conceptual categories, as suggested by the standards themselves in the statement, "Modeling is best interpreted not as a collection of isolated topics, but rather in relation to the other standards." Modeling is emphasized throughout the redesigned SAT Math Test.
- All skills measured in the redesigned SAT appear in the Pennsylvania Standards for High School Mathematics.
- Additionally, an emphasis on the Pennsylvania Standards for Mathematical Practice is apparent throughout the redesigned SAT. In order to do well on the varied item types they will see, students must make sense of problems and persevere in solving them (Math Practice 1). Students have many opportunities to make use of structure (Math Practice 7) in the Heart of Algebra and Passport to Advanced Math domains, while they must evaluate claims (Math Practice 3) in the Problem Solving and Data Analysis domain. They represent quantities in context with mathematical relationships and interpret their results (Math Practice 2) in all three of those domains. Mathematical modeling (Math Practice 4) is especially important in Heart of

Algebra and Passport to Advanced Math. Finally, students must solve a carefully selected set of items that rewards strategic, rather than indiscriminant, use of the calculator in the Calculator portion of the Math Test (Math Practice 5).

- The alignment between the PSAT/NMSQT and PSAT 10 content specifications and the Pennsylvania Standards for High School Mathematics is strong in Algebra and Functions. PSAT/NMSQT and PSAT 10 content specifications also draw from the conceptual categories of Number and Quantity, Geometry, and Statistics and Probability.
- All skills measured in the PSAT/NMSQT and PSAT 10 appear in the Pennsylvania Standards for High School Mathematics.
- Like the redesigned SAT, the PSAT/NMSQT and PSAT 10 include ideas from the conceptual category of Modeling and aligned to the Pennsylvania Standards for Mathematical Practice interspersed in problems aligned to other conceptual categories.
- Like the redesigned SAT, the PSAT/NMSQT and PSAT 10 have a cross-disciplinary focus, drawing topics from Science and Social Studies.
- The alignment between the PSAT 8/9 content specifications and the Pennsylvania Standards for Grades 6, 7, and 8 is strong in Expressions and Equations and in Statistics and Probability. There is also a strong alignment between the PSAT 8/9 content specifications and the Grade 8 Functions content category, the Grade 6 Ratios and Proportional Relationships content category, and the High School Mathematics Algebra and Functions content categories. PSAT 8/9 content specifications also draw from the conceptual categories of Grade 7 and High School Geometry as well as High School Number and Quantity, Geometry, and Statistics and Probability.
- All skills measured in the PSAT 8/9 appear in the Pennsylvania Standards for grades 6, 7, 8, or High School Mathematics.
- Like the redesigned SAT, the PSAT 8/9 includes ideas from the conceptual category of Modeling and aligned to the Pennsylvania Standards for Mathematical Practice interspersed in problems aligned to other conceptual categories.
- Like the redesigned SAT, the PSAT 8/9 has a cross-disciplinary focus, drawing topics from Science and Social Studies.

The redesigned SAT Suite of Assessments aligns well with the Pennsylvania standards. Both have been designed to promote in a clear and transparent way the goal of college and career readiness and success for all students, and both are grounded in high-quality evidence about essential postsecondary requirements.