

Understanding the PSAT and SAT[®] Score Report in Preparation for Spring Testing



January 29, 2024

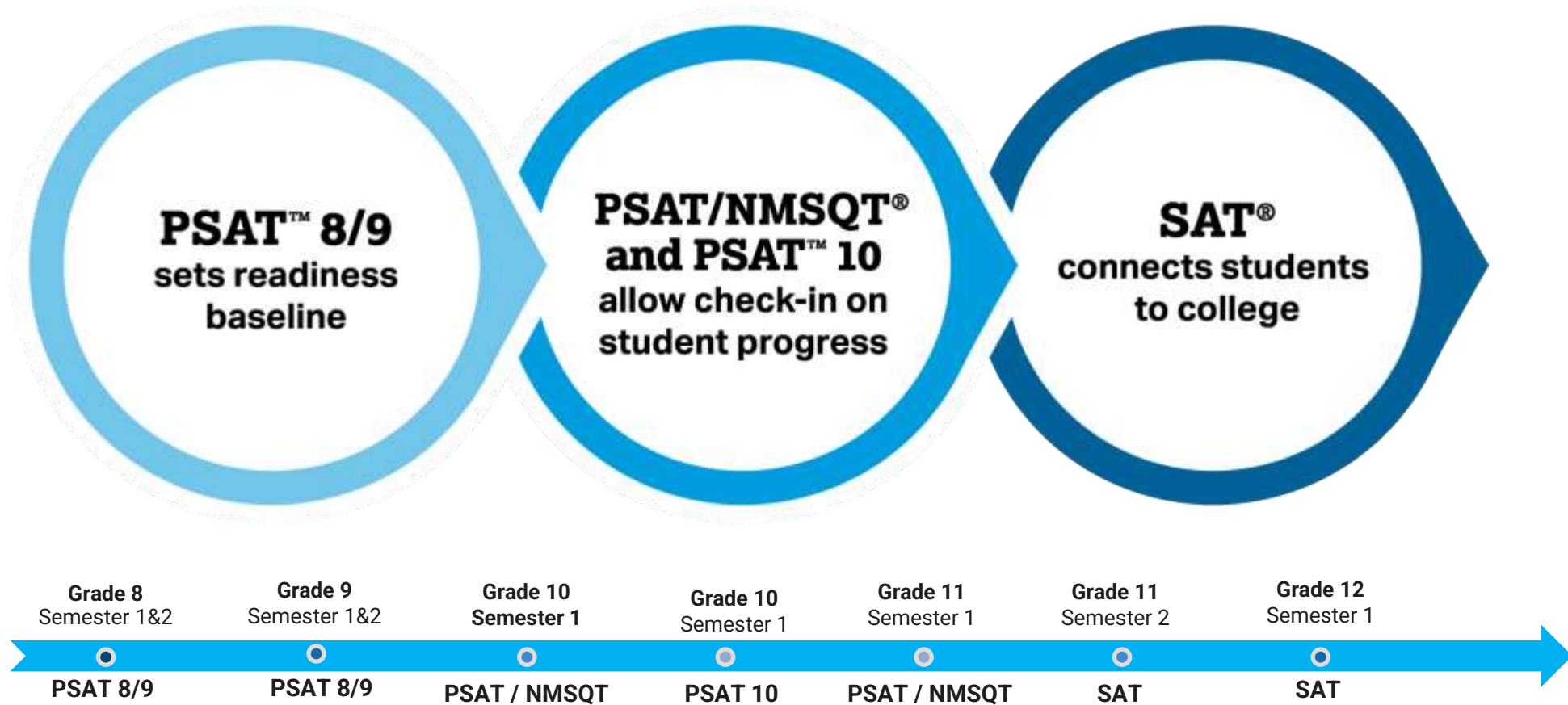


Steps to Understanding the SAT Suite Score Reports

1. Access data by logging in to the K12 Score Reporting Portal
2. Review the Knowledge and Skills Report
3. Use results in conjunction with Skills Insight™
4. Go deeper with the SAT Suite Question Bank (SSQB)
5. Explore the Teacher Implementation Guide to better understand the standards and inform classroom practices

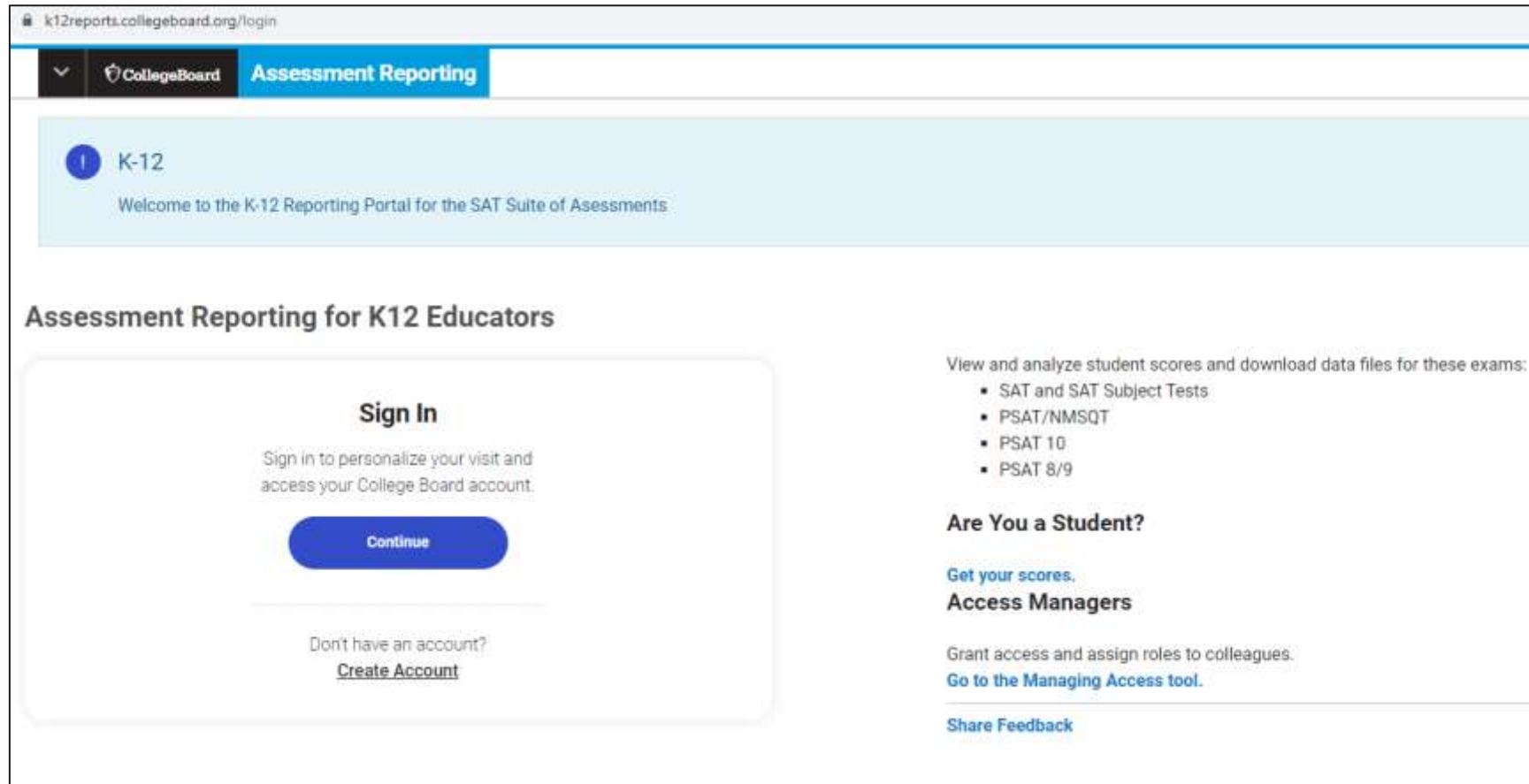
Setting the Stage

The SAT Suite of Assessments



Accessing the K-12 Reporting Portal

Access the K-12 Reporting Portal

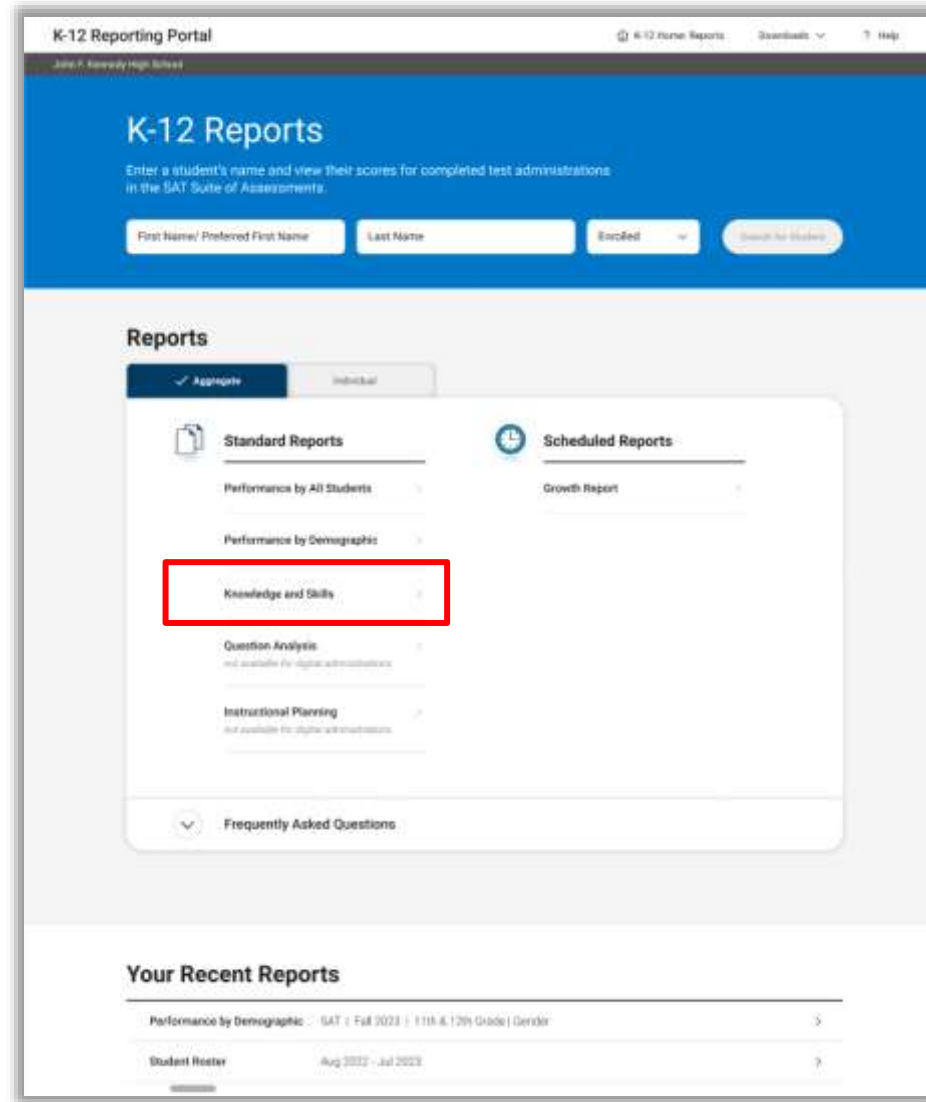


1. Log in to your College Board account.
2. Request and receive **detail** access from the K12 Portal Data Access Manager.
3. Log in to the K-12 Reporting Portal to analyze student scores and download data files.



Review the Knowledge and Skills Report

Reports Home Page – Aggregate Reports



Search for a student
(available to schools and districts)

Run Aggregate Reports

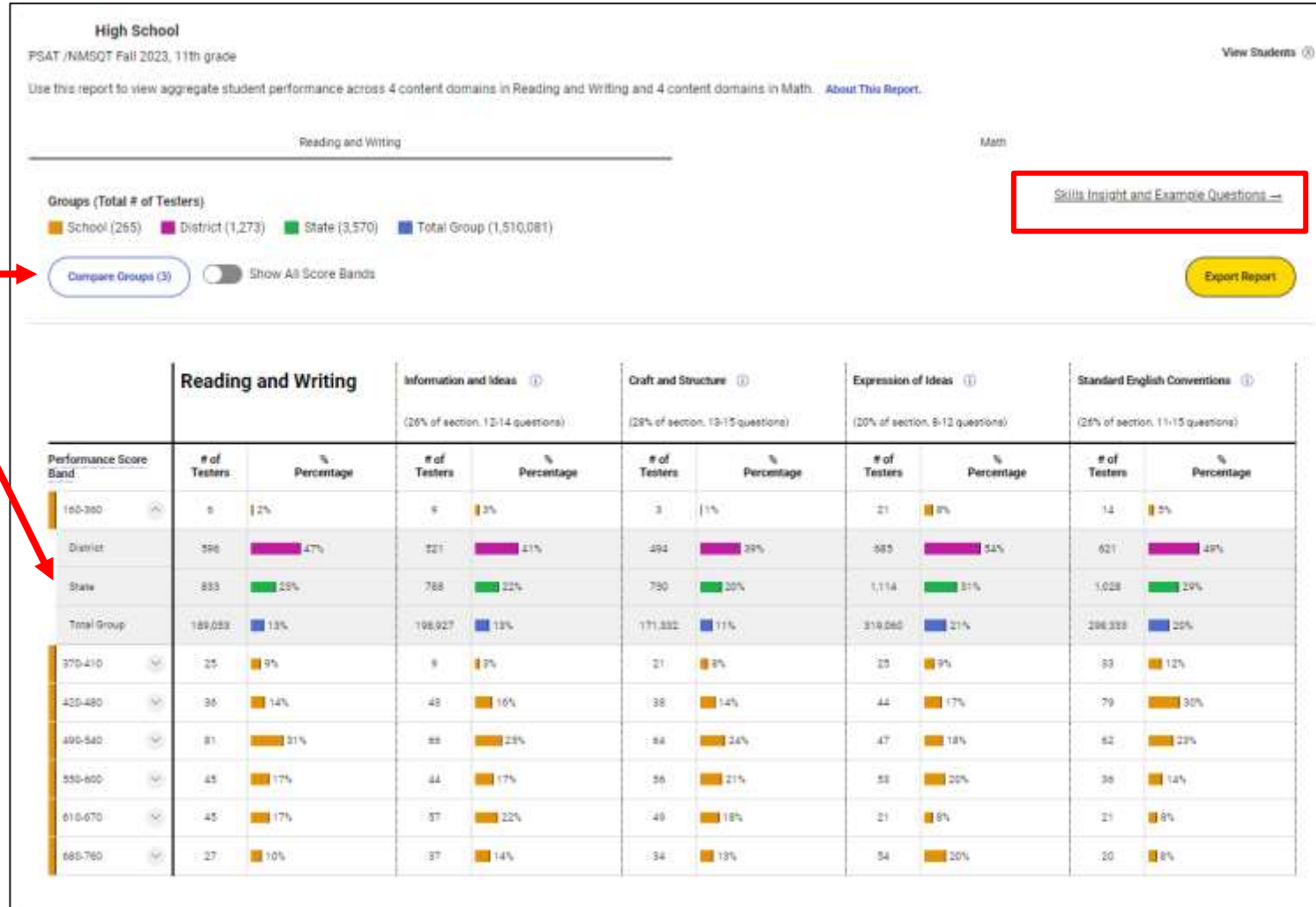
FAQ's
(report descriptions)

Recently Run Reports
(current log in, or since previous)

Make Selections to Run Your Report

The screenshot shows the 'Assessment Reporting' section of the 'K-12 Reporting Portal'. The page title is 'K-12 Reporting Portal' with a 'Reports' link in the top right. Below the title is a '(Switch institution)' button. A navigation breadcrumb shows '< Back'. The main heading is 'Knowledge and Skills'. Underneath, it says 'Make selections to run a report:'. There are four selection fields: 'District | Institution' with a search icon, 'Test' with 'PSAT/NMSQT' selected, 'Administration' with 'PSAT/NMSQT Fall 2023' selected, and 'Grade Level' with '10' selected. At the bottom right, there are 'Cancel' and 'Run Report' buttons.

Knowledge and Skills Report



Knowledge and Skills Content Domains

Reading and Writing

Information and Ideas
Craft and Structure
Explanation of Ideas
Standard English Conventions

Math

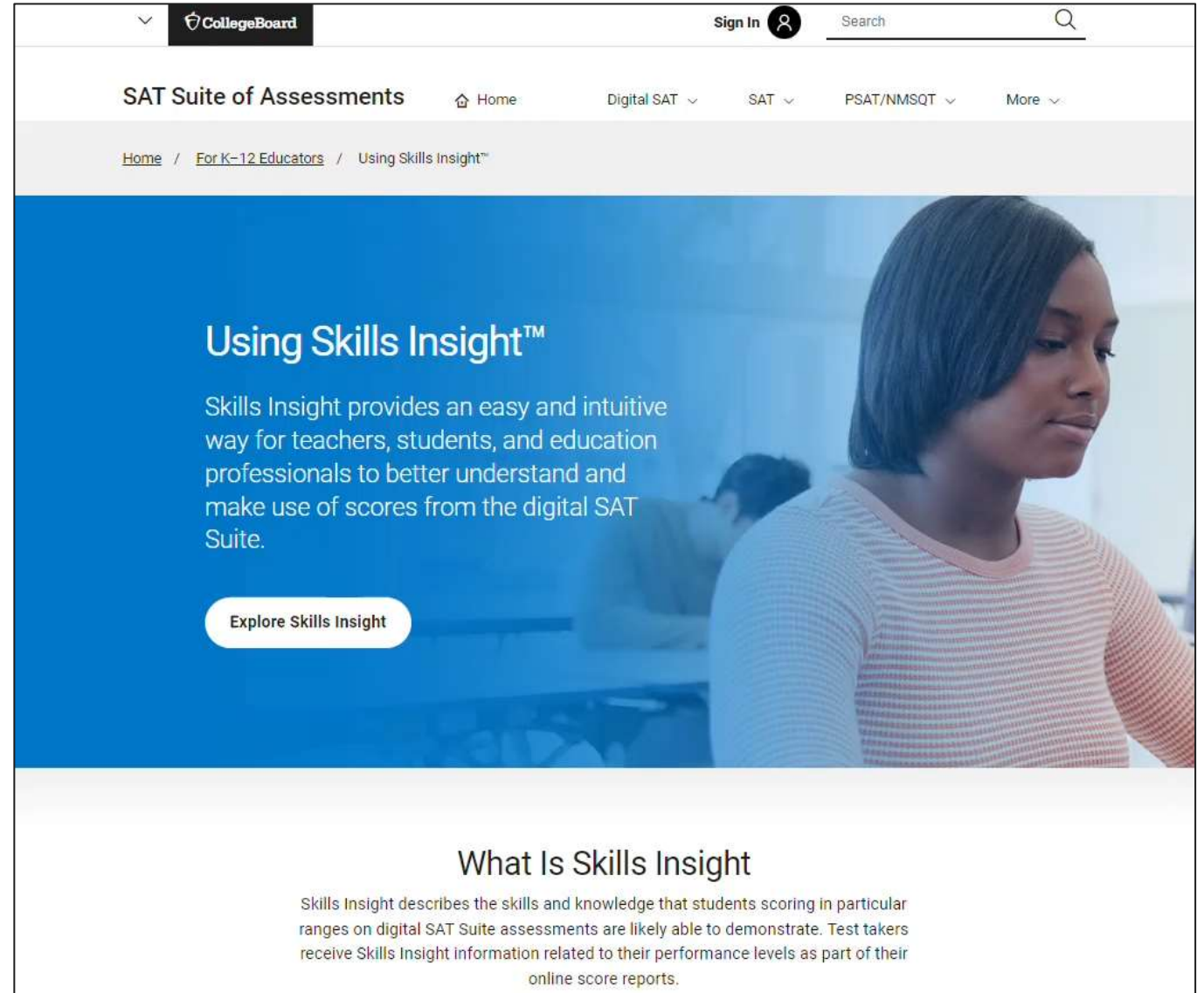
Algebra
Advanced Math
Problem Solving and Data Analysis
Geometry and Trigonometry

Skills Insight

Skills Insight Tool

Describes the skills and knowledge that students scoring in particular ranges on digital SAT Suite assessments are likely able to demonstrate

<https://satsuite.collegeboard.org/skills-insight>



The screenshot shows the top portion of the CollegeBoard website. At the top left is the CollegeBoard logo. To its right are links for 'Sign In' and a search bar. Below this is a navigation menu with 'SAT Suite of Assessments' as the main heading, followed by 'Home', 'Digital SAT', 'SAT', 'PSAT/NMSQT', and 'More'. A breadcrumb trail below the navigation reads 'Home / For K-12 Educators / Using Skills Insight™'. The main content area features a blue background with a photograph of a young woman looking down. The heading 'Using Skills Insight™' is prominently displayed, followed by a paragraph: 'Skills Insight provides an easy and intuitive way for teachers, students, and education professionals to better understand and make use of scores from the digital SAT Suite.' Below this text is a white button with the text 'Explore Skills Insight'. At the bottom of the screenshot, the heading 'What Is Skills Insight' is visible, followed by a paragraph: 'Skills Insight describes the skills and knowledge that students scoring in particular ranges on digital SAT Suite assessments are likely able to demonstrate. Test takers receive Skills Insight information related to their performance levels as part of their online score reports.'

How to Use Skills Insight

Skills Insight consists of two main components:

- Skill/Knowledge Statements
- Exemplar Test Questions

The screenshot shows the CollegeBoard website's Skills Insight Tool. At the top, there is a navigation bar with the CollegeBoard logo, a 'Sign In' button, and a search bar. Below this is a secondary navigation bar with 'SAT Suite of Assessments' and links for 'Home', 'Digital SAT', 'SAT', 'PSAT/NMSQT', 'PSAT 10', and 'More'. The main content area has a blue header with 'READING AND WRITING | MATH' and the title 'SAT Suite of Assessments Skills Insight Tool'. Below the header are two dropdown menus labeled 'Please Select Value' and a 'Go' button. The left dropdown menu is open, showing a list of categories: 'Reading and Writing', 'Information and Ideas', 'Craft and Structure', 'Expression of Ideas', 'Standard English Conventions', 'Math', 'Algebra', 'Advanced Math', 'Problem-Solving and Data Analysis', and 'Geometry and Trigonometry'. The right dropdown menu is closed. Below the dropdowns, there is a section titled 'Tool' with a paragraph of text explaining the tool's purpose: 'productive use of their digital SAT® Suite scores. In this tool, you can view Skills Insight in particular Reading and Writing and Math section score ranges typically know and can do, based on an analysis of the performance of thousands of test takers across hundreds of... they do not necessarily describe the performance of individual students. Example test... culty levels of questions that test takers can generally answer correctly accompany each...'. Below this is another section titled 'Viewing Skills Insight Statements' with a sub-paragraph: 'To view Skills Insight statements, make selections in the drop-down menus above.' At the bottom of the screenshot, a URL is visible: https://satsuite.collegeboard.org/skills-insight#_main in the left drop-down (e.g., Algebra).

Example Question

While researching a topic, a student has taken the following notes:

- Gravitational waves are powerful ripples that originate in deep space and eventually pass through Earth.
- The Laser Interferometer Gravitational Wave Observatory (LIGO) is a physics study that began in 2002.
- LIGO's goal is to detect and analyze gravitational waves.
- LIGO uses a pair of massive gravitational wave detectors called interferometers that are thousands of miles apart.
- In 2015, for the first time in history, LIGO researchers detected a gravitational wave passing through Earth.

The student wants to present LIGO's aim and methodology. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A. In 2015, LIGO's massive interferometers detected a powerful ripple that originated in deep space and eventually passed through Earth.
- B. Though the physics study LIGO began in 2002, its massive interferometers didn't detect a gravitational wave until 2015.
- C. To achieve its aims, LIGO uses a pair of massive interferometers that are thousands of miles apart.
- D. A physics study designed to detect and analyze gravitational waves, LIGO uses a pair of massive interferometers that are thousands of miles apart.

- A. In 2015, LIGO's massive interferometers detected a powerful ripple that originated in deep space and eventually passed through Earth.
- B. Though the physics study LIGO began in 2002, its massive interferometers didn't detect a gravitational wave until 2015.
- C. To achieve its aims, LIGO uses a pair of massive interferometers that are thousands of miles apart.
- D. A physics study designed to detect and analyze gravitational waves, LIGO uses a pair of massive interferometers that are thousands of miles apart.

Key: D

Key Explanation

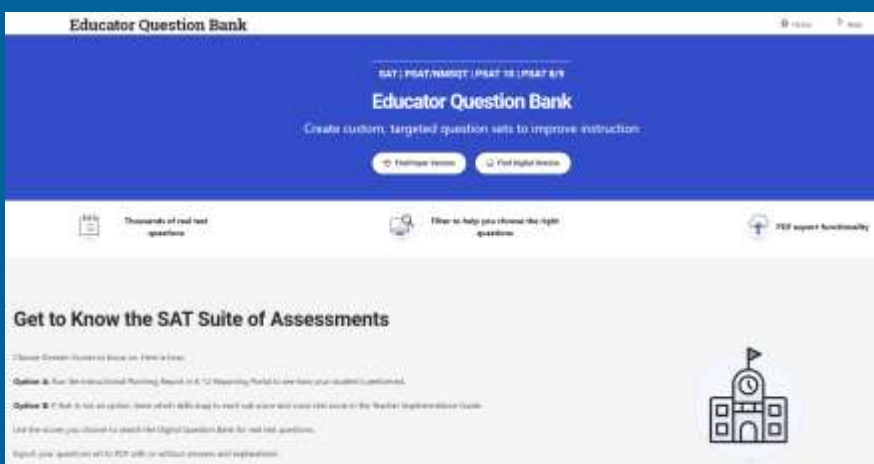
Choice D is the best answer. The sentence effectively presents the LIGO study's aim, noting that it is designed to detect and analyze gravitational waves, and its methodology (it uses two interferometers to detect the waves).

Distractor Explanations

Choice A is incorrect. The sentence describes a finding from the LIGO study; it doesn't effectively present the study's aim or its methodology. **Choice B** is incorrect. The sentence provides background information about the LIGO study's timeline; it doesn't effectively present the study's aim or its methodology. **Choice C** is incorrect. The sentence touches on LIGO's methodology, noting that it uses two interferometers, but doesn't indicate what the study's aims are.

SAT Suite Question Bank

Create custom, targeted question sets and improve instruction



SAT Suite Question Bank (SSQB)

Enables Access

The SAT Suite Question Bank provides educators with access to questions from the SAT , PSAT/NMSQT, PSAT 10 and PSAT 8/9 assessments

Informs Instruction

Educators can view the skills and knowledge that students need to be successful on any SAT Suite Assessment

Easy to Use

Questions grouped into Easy/Medium/Hard (aligned to score performance ranges) and content domains aligned to Knowledge and Skills report. Additional filters can then be applied.

Your Search Criteria

Assessment:
Test:
Domain Scores:

[New Search](#)

SAT
Reading and Writing
Information and Ideas

Difficulty: ?

Please Select ▾

Skill: ?

Please Select ▾

Export

37 questions in results set.

Show selected questions | [Show All](#)



easy X

Command of Evidence X

✓	ID #	Difficulty ?	Domain ?	Skill ?
<input checked="" type="checkbox"/>	75e07a4d	■ □ □	Information and Ideas	Command of Evidence
<input type="checkbox"/>	0770b53d	■ □ □	Information and Ideas	Command of Evidence
<input type="checkbox"/>	6f626ae5	■ □ □	Information and Ideas	Command of Evidence
<input type="checkbox"/>	85439572	■ □ □	Information and Ideas	Command of Evidence
<input type="checkbox"/>	a9040290	■ □ □	Information and Ideas	Command of Evidence

Roasted green chiles are a popular ingredient in Southwestern cuisine, but the traditional roasting method of burning propane is not environmentally friendly. To see if solar power could provide a better alternative, engineer Kenneth Armijo and his team roasted batches of green chiles using between 38 and 42 heliostats, which are devices that concentrate sunlight. The team was successful in reaching the same roasting temperature used in traditional propane roasting, but they found that propane yielded faster results. While the fastest solar-roasted green chiles took six minutes, batches using propane took only four. Armijo hypothesizes that they can reduce the roasting time for solar-roasted green chiles by using more heliostats.

Which finding, if true, would most directly support Armijo's hypothesis?

- A. The temperature inside the roasting drum is distributed more evenly when roasting green chiles with solar power than with propane.
- B. Attempts to roast green chiles using 50 heliostats yields results in fewer than six minutes.
- C. Green chile connoisseurs prefer the flavor of solar-roasted green chiles over the flavor of propane-roasted green chiles.
- D. The skins of solar-roasted green chiles are easier to peel than the skins of propane-roasted green chiles.

Correct Answer: B

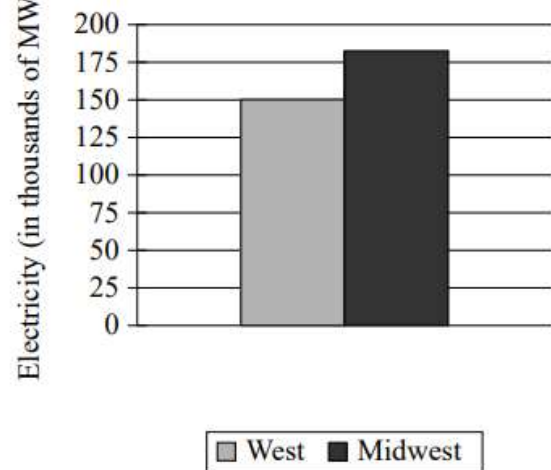
Rationale

Choice B is the best answer. Armijo believes that using more heliostats will speed up the roasting process, and this finding shows that with 50 heliostats—more than the number of heliostats already used—the roasting time is indeed reduced.

Choice A is incorrect. The evenness of temperature in the roasting drum doesn't tell us about the speed of the roasting process, which is what Armijo's hypothesis is concerned with. Choice C is incorrect. Armijo's hypothesis is focused on the speed of the roasting process, not the flavor of the resulting roasted chiles. Choice D is incorrect. Though Armijo's hypothesis mentions a benefit of solar-roasting green chiles (easier peeling), it doesn't address the speed of the roasting process.

Question Difficulty: Easy

Amount of Additional Electricity Wind Turbines Could Generate When Winds Were Stronger Than Forecast



Electric companies that use wind turbines rely on weather forecasts to predict the maximum amount of power, in megawatt-hours (MWh), they can generate using wind so that they can determine how much they'll need to generate from other sources. When winds are stronger than they were forecast to be, however, the predicted maximum amount of electricity wind turbines could generate will be too low. For example, the graph shows that for the West region, the winds were _____

Which choice most effectively uses data from the graph to complete the example?

- A. strong enough to generate about 150 thousand more MWh of electricity from wind turbines.
- B. so weak that the electricity from wind turbines was about 175 thousand MWh less than predicted.
- C. so weak that the electricity from wind turbines was about 150 thousand MWh less than predicted.
- D. strong enough to generate about 175 thousand more MWh of electricity from wind turbines.

Correct Answer: A

Rationale

Choice A is the best answer. The claim is that when winds are stronger than forecasted, wind turbines can generate more energy than predicted. The supporting graph shows the additional amount (above the predicted amount) that the turbines generated under those conditions, with the West generating about 150 thousand additional MWh.

Choice B is incorrect. This choice doesn't complete the example. The graph shows the additional amount of electricity that the wind turbines generated. The West bar is greater than 0, so the West generated more than the predicted amount. Choice C is incorrect. This choice doesn't complete the example. The graph shows the additional amount of electricity that the wind turbines generated. The West bar is greater than 0, so the West generated more than the predicted amount. Choice D is incorrect. This choice misreads the graph. The graph shows us that the West (the bar on the left) generated about 150 thousand additional MWh.

Question Difficulty: Easy

Martin Dančák, Wewin Tjiasmanto, and colleagues have identified a new carnivorous plant species (*Nepenthes pudica*) in Indonesia. Like other carnivorous plants, *N. pudica* has pitfall traps, or pitchers, that capture prey, but unlike others, the pitchers of *N. pudica* are located underground. The researchers unearthed the new species on fairly dry ridges with surfaces that host few other plants and animals. Therefore, the researchers hypothesize that the *N. pudica* species likely _____

Which choice most logically completes the text?

- A. represents one of many undiscovered carnivorous plant species in the region.
- B. formed pitchers early in development to absorb more moisture.
- C. is buried by nearby animals as they forage along the ridges for food.
- D. evolved to have underground traps to access more prey than would surface traps.

Correct Answer: D

Rationale

Choice D is the best answer. The text says that *N. pudica's* prey-catching pitchers are underground. It also says that the ridges where *N. pudica* lives don't have many plants and animals on the surface. This suggests that *N. pudica* evolved underground pitchers in order to catch more prey.

Choice A is incorrect. This inference isn't supported. The text never mentions the possibility of other undiscovered carnivorous plant species in Indonesia, so there's no basis to make this inference. Choice B is incorrect. This inference isn't supported. The text does say that the ridges where *N. pudica* lives are dry, but it also says that the purpose of carnivorous plant pitchers is to capture prey. It never suggests that these pitchers also absorb moisture, so there's no basis to make this inference. Choice C is incorrect. This inference isn't supported. The text never suggests that *N. pudica's* underground pitcher can catch animals on the surface, so there's no basis to make this inference.

Question Difficulty: Easy

Teacher Implementation Guide

Knowledge and Skills Content Domains

Content Domain	Domain Description	Skill/Knowledge Testing Points	Operational Question Distribution
Information and Ideas	Students will use comprehension, analysis, and reasoning skills and knowledge as well as what is stated and implied in texts (including in any accompanying informational graphics) to locate, interpret, evaluate, and integrate information and ideas.	Central ideas and details Command of evidence <ul style="list-style-type: none"> • Textual • Quantitative Inferences	≈26% 12–14 questions
Craft and Structure	Students will use comprehension, vocabulary, analysis, synthesis, and reasoning skills and knowledge to use and determine the meaning of high-utility academic words and phrases in context, evaluate texts rhetorically, and make supportable connections between multiple topically related texts.	Words in context Text structure and purpose Cross-text connections	≈28% 13–15 questions
Expression of Ideas	Students will use revision skills and knowledge to improve the effectiveness of written expression in accordance with specified rhetorical goals.	Rhetorical synthesis Transitions	≈20% 8–12 questions
Standard English Conventions	Students will use editing skills and knowledge to make text conform to core conventions of Standard English sentence structure, usage, and punctuation.	Boundaries Form, structure, and sense	≈26% 11–15 questions

Questions from all domains appear in each module of questions in the Reading and Writing section, and each question belongs to one and only one domain.

Pages 20-21

Content Domain	Domain Description	Skill/Knowledge Testing Points	Operational Question Distribution
Algebra	Students will interpret, create, use, represent, and solve problems using linear representations, and make connections between different representations of linear relationships, all from high school algebra courses preparatory for the math aligned with college and career readiness expectations.	Linear equations in one variable Linear equations in two variables Linear functions Systems of two linear equations in two variables Linear inequalities in one or two variables	≈35% 13–15 questions
Advanced Math	Students will interpret, rewrite, fluently solve, make strategic use of structure, and create absolute value, quadratic, exponential, polynomial, rational, radical, and other nonlinear equations and make connections between different representations of a nonlinear relationship between two variables, all from high school courses preparatory for the math aligned with college and career readiness expectations.	Equivalent expressions Nonlinear equations in one variable and systems of equations in two variables Nonlinear functions	≈35% 13–15 questions
Problem-Solving and Data Analysis	Using quantitative reasoning, students will fluently solve problems using percentages, proportional relationships, ratios, rates, and units; analyze and interpret distributions of data; use various representations of data to find relative frequency, probabilities, and conditional probabilities; fit models to data and compare linear and exponential growth, and calculate, compare, and interpret mean, median, range, and standard deviation, understand basic study design, and interpret margin of error, all from high school courses preparatory for the math aligned with college and career readiness expectations.	Ratios, rates, proportional relationships, and units Percentages One-variable data: distributions and measures of center and spread Two-variable data: models and scatterplots Probability and conditional probability Inference from sample statistics and margin of error Evaluating statistical claims: observational studies and experiments	≈19% 5–7 questions
Geometry and Trigonometry	Students will solve problems associated with length, area, volume, and scale factors using geometric figures; determine congruence, similarity, and sufficiency using concepts and theorems about vertical angles, triangles, and parallel lines cut by a transversal; solve problems using the Pythagorean theorem, right triangle and unit circle trigonometry, and properties of special right triangles; and use properties and theorems relating to circles to solve problems, all from high school courses preparatory for the math aligned with college and career readiness expectations.	Area and volume Lines, angles, and triangles Right triangles and trigonometry Circles	≈15% 5–7 questions

Pages 40-45

SAT® SUITE OF ASSESSMENTS

Teacher Implementation Guide

General Instructional Strategies

- The single best preparation students can undertake for the digital SAT Suite Reading and Writing section is engaging in **wide and/or deep reading** and in **writing routinely** for a range of tasks, purposes, and audiences.
 - ♦ *Wide reading* involves reading a great variety of texts on differing subjects, while *deep reading* involves reading intensively about a single subject. Both kinds of reading are capable of developing students' comprehension skills, metacognitive ability (i.e., the ability to monitor and adjust one's own reading approach), and stamina (i.e., the ability to read over an extended period of time without fatigue or loss of understanding).
 - ♦ Students should be given a range of writing tasks over the course of the school year. These tasks should involve both on-demand writing—first-draft writing to a prompt under time constraints—and writing over extended time periods and involving various aspects of the writing process, including planning, drafting, obtaining and using feedback, revising, editing, and publishing.
 - ♦ Students should engage in numerous **appropriately challenging reading and writing tasks** throughout the school year.

- Students need **extensive exposure to and experience with reading, comprehending, and working with informational graphics**.
 - ♦ Select Reading and Writing passages are accompanied by a table, bar graph, or line graph. Students must be able to locate relevant data points from such graphics, make reasonable interpretations of the data, and integrate information conveyed graphically with that expressed in words.
 - ♦ Students should gain experience working with elements of informational graphics, including the title, the labels used for key elements, the quantitative data represented, and any legend or additional contextual information provided to make the graphic easier to understand.
- Students should have **ample practice demonstrating the kinds of skills and knowledge tested in the Reading and Writing section**. Among the most critical literacy-related skills and knowledge assessed by the digital SAT Suite are the following:
 - ♦ Locating and/or reasonably inferring the main point of a text, and identifying and using supporting details.
 - ♦ Understanding and using textual and quantitative evidence (e.g., quotations, facts, figures, data) to support or challenge points or claims.
 - ♦ Making reasonable text-based inferences.
 - ♦ Determining the meaning of and effectively using high-utility academic vocabulary in context.
 - ♦ Analyzing the structure of texts, including identifying a text's overall organizational pattern and figuring out the contribution that important parts of a text (e.g., particular statements) make to the text as a whole.
 - ♦ Making text-supported connections between two or more texts on the same topic or similar topics, including recognizing where the texts agree and disagree in terms of content and/or point of view.

COMPANION RESOURCE

Chapter 9 of *The Official Digital SAT Study Guide* walks through Reading and Writing informational graphics for students.

"HIGH-UTILITY ACADEMIC VOCABULARY"

High-utility academic vocabulary (sometimes known as *tier two words and phrases*) is commonly encountered in readings, especially complex readings, but less often in conversation and isn't specific to any one domain of knowledge, such as history or science. Chapter 3 of the *Classroom Practice Guide for the Digital SAT Suite: ELA/Literacy (satsuite.org/digital-classroom-practice-english)* contains an extensive discussion of high-utility academic vocabulary and how to help students develop their stores of it.

SAT® SUITE OF ASSESSMENTS

Teacher Implementation Guide

General Instructional Strategies

- Ensure that students practice solving multistep problems. Math questions on assessments in the digital SAT Suite often ask students to solve more than one problem to arrive at the correct answer.
- Separate students into small working groups. Ask them to discuss how to arrive at solutions. When their solutions are incorrect, ask them to discuss how to make corrections. Encourage students to express quantitative relationships in meaningful words and sentences to support their arguments and conjectures.
- Vary the types of problems in homework assignments so that students aren't always using the same strategy to find solutions. Students benefit from the practice of determining the right mathematical strategy to solve problems in addition to solving the problems correctly.
- Assign students some math problems or create some classroom-based assessments that don't allow for the use of a calculator. While all digital SAT Suite Math questions permit the use of a calculator, this practice encourages greater number sense, probes students' understanding of content on a conceptual level, and builds student skill in determining when it's more efficient to answer a question without using a calculator.
- Develop interest and facility in math by having students practice using math to address tasks and problems in a wide range of subject areas. Use tables, expressions, and graphs that students encounter in other courses to present math as a tool that may be applied to many areas of study rather than being relegated to math classes. Provide frequent opportunities for students to interpret and apply math skills and knowledge in real-world and academic studies.

SKILL-BUILDING STRATEGY

Use the sample student essays in [Appendix C](#) of this guide to extend understanding of the SAT Essay prompt. Immerse students in the samples, and help them notice components and characteristics common to all, in addition to analyzing and identifying areas for improvement.

Content

Dimension

SAT Description

PSAT/NMSQT and PSAT 10 Description

PSAT 8/9 Description

Linear inequalities in one or two variables

Linear inequalities in one or two variables

Create and use linear inequalities in one or two variables to solve problems in a variety of contexts.

Identify or create linear inequalities in one or two variables to model constraints or conditions on two quantities.

For linear inequalities in one or two variables, interpret a constant, variable, factor, term, or solution, including situations where seeing structure provides an advantage.

Given a linear inequality or system of linear inequalities, interpret a point in the xy -plane in terms of the solution set.

Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other.

Create and use linear inequalities in one or two variables to solve problems in a variety of contexts.

Identify or create linear inequalities in one or two variables to model constraints or conditions on two quantities.

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Make connections between tabular, algebraic, and graphical representations of linear inequalities in one or two variables by deriving one from the other.

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For linear inequalities in one or two variables, interpret a constant, variable, factor, term, or solution, including situations where seeing structure provides an advantage.

Given a linear inequality or system of linear inequalities, interpret a point in the xy -plane in terms of the solution set.

- ELA p. 20-38
- Math p. 39-63
- Test Taking Strategies p. 84-86
- Essay p. 64-73
- Appendix A – Instructional Strategies
- Appendix B – Essay Rubric and Samples
- Appendix C – Detailed Skills Knowledge and Testing Points

Appendix

Reading and Writing Ideas

What should students be doing?

Pursue inquiries that connect to communities and identities

Wide reading of a diverse array of texts

Read with an analytical lens

Wide informal and formal disciplinary writing

Engage in higher-order discussion of complex texts in varying groupings

Vary speech for audiences and listen to understand

Set goals and reflect on growth

Monitor language, vocabulary, and conceptual knowledge development

Modified from the Michigan Association of Intermediate School Administrators General Education Leadership Network Disciplinary Literacy Task Force (2019) Essential instructional practices for disciplinary literacy: grades 6 to 12 Lansing, MI: Authors

What should teachers be doing?

Establish engaging purposes for students to read, write, and communicate through problem-based instructional frames

Support intentional and standards-aligned instruction in disciplinary reading with abundant, diverse reading opportunities

Implement intentional and standards-aligned instruction in disciplinary writing

Support higher-order discussion of increasingly complex text

Intentionally build vocabulary and conceptual knowledge

Engage in ongoing assessment

Connect with community resources

Build awareness of how talk varies across contexts

Modified from the Michigan Association of Intermediate School Administrators General Education Leadership Network Disciplinary Literacy Task Force (2019) Essential instructional practices for disciplinary literacy: grades 6 to 12 Lansing, MI: Authors

General Instructional Strategies

- ❑ Students should engage routinely in reading and demonstrating understanding of appropriately challenging texts **across subject areas and text types** as well as **writing in various disciplines** and using a range of text types.
 - ❑ The Reading and Writing section includes passages in the subject areas of literature, history/social studies, the humanities, and science. Each subject area constructs and conveys knowledge differently, so students should be familiar with how to productively read texts in a range of academic disciplines.

What does this look like daily?

Support intentional and standards-aligned instruction in disciplinary reading with abundant, diverse reading opportunities

- Implementing interactive, problem-based units of instruction
- Using a variety of text types across disciplinary contexts
- Provide time for collective meaning-making and discussion
- Modeling and guided practice using strategies for comprehension, analysis and synthesis

What's Next for Teachers...

What does this look like daily?

- Use sample SAT reading and writing questions to connect to effective strategies
- Attend to precision of language and detail in reading and writing
 - Name and notice different text structures for students as they move across disciplines
 - Model the use of textual evidence
 - Demonstrate close reading strategies to revisit small chunks of text within extended texts

Math Ideas

In Summary...

Calculator permitted for all questions

Reference sheet & calculator can be accessed throughout the test

Each multiple choice question has one correct answer

Student-produced response questions:

- enter only one answer
- up to 5 characters for a positive answer
- up to 6 characters (including the negative sign) for a negative answer
- fraction and decimal responses are both permitted
 - if the fraction doesn't fit, enter the decimal equivalent
 - if the decimal doesn't fit, enter by rounding
- Don't enter symbols: %, \$, commas, etc.
- Mixed numbers (such as $3 \frac{1}{2}$) should be entered as an improper fraction ($\frac{7}{2}$) or its decimal equivalent 3.5

What should students be doing?

Standards for Mathematical Practice

Make sense of problems and persevere in solving them

Reason abstractly and quantitatively

Construct viable arguments and critique the reasoning of others

Model with mathematics

Use appropriate tools strategically

Attend to precision

Look for and make use of structure

Look for and express regularity in repeated reasoning

What should teachers be doing?

Effective Mathematics Teaching Practices

Establish mathematics goals to focus learning

Implement tasks that promote reasoning and problem solving

Use and connect mathematical representations

Facilitate meaningful mathematical discourse

Pose purposeful questions

Build procedural fluency from conceptual understanding

Support productive struggle in learning mathematics

Elicit and use evidence of student thinking

What's next for our Math Teachers...

What does this look like daily?

- Use sample SAT math questions to connect to effective strategies
 - Look for and make use of structure
 - Use appropriate tools strategically
 - Attend to precision
- Use brief instructional routines frequently with sample SAT problems
 - Three Reads
 - Math Talks
 - Error Analysis (e.g., My Favorite No)

Three Reads

Read 1: Understand the Story Context

- Remove the question
- Make sure students make sense of the story context

Read 2: Identify Quantities

- Keep question removed
- Ask, “What can be counted or measured?”
- Students think deeply about various quantities & how they’re related

Read 3: Reveal Questions and Plan Solution Strategies

- Ask, “What are some ways we might solve this?”
- Students plan and strategize

General Instructional Strategies

- Ensure that students practice solving **multistep problems**. Math questions on assessments in the digital SAT Suite often ask students to solve more than one problem to arrive at the correct answer.
- **Vary the types** of problems in homework assignments so that students aren't always using the same strategy to find solutions. Students benefit from the practice of determining the right **mathematical strategy** to solve problems in addition to solving the problems correctly.

What does this look like daily?

Use and connect
multiple
representations

In the xy -plane, the parabola with equation $y = (x - 11)^2$ intersects the line with equation $y = 25$ at two points, A and B . What is the length of the segment **AB**?

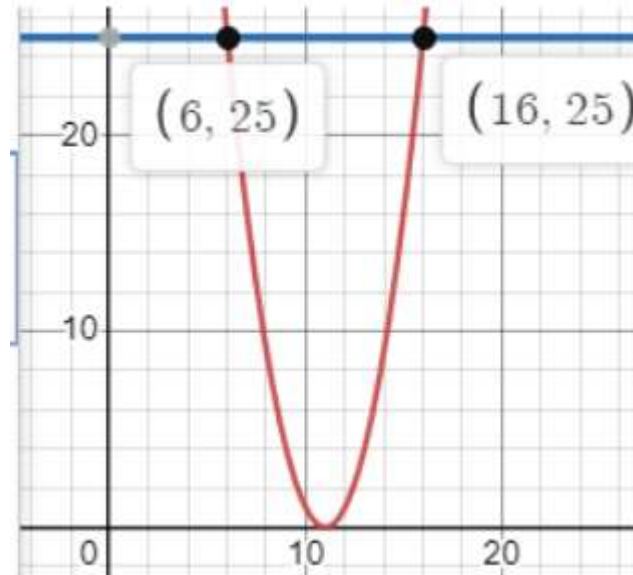
- A) 10
- B) 12
- C) 14
- D) 16

What does this look like daily?

Representation 1:
Table

x	$y = (x - 11)^2$	$y = 25$
5	36	25
6	25	25
7	16	25
8	9	25
9	4	25
...
15	16	25
16	25	25

Representation 2:
Graph



Representation 3:
Algebra

$$\begin{aligned}25 &= (x - 11)^2 \\ \sqrt{25} &= \sqrt{(x - 11)^2} \\ \pm 5 &= x - 11 \\ 5 &= x - 11 & -5 &= x - 11 \\ 16 &= x & 6 &= x \\ 16 - 6 &= 10\end{aligned}$$

What does this look like daily?

Look for and
make use of
structure

Lesson on Solving Systems of Equations

Option 1:
Solve question 1-30

Name: _____ Score: _____
Teacher: _____ Date: _____

System of 2 Equations

Use substitution to solve each system.

1) $-2x - 3y - 3z = 12$ $3x + 2y + z = 10$ $5x + 3y + z = 8$	2) $3x + 2y + 3z = 28$ $3x - 3y - 2z = 45$ $-y + 3z + 2z = 37$
3) $-2x - 3y - 3z = 44$ $3x + 2y + 3z = 153$ $-x + 3y + 2z = 91$	4) $3x + 2y + 3z = 28$ $-4x - 3y + 2z = 36$ $-x + 3y + 2z = 22$
5) $3x + 2y + 3z = 8$ $3x - 3y + 2z = 18$ $-2x + 3y + 2z = 152$	6) $3x + 2y + 3z = 14$ $4x - 3y + 2z = 19$ $-2x + 2y + 2z = 34$
7) $-2x - 3y - 3z = 141$ $-2x + 2y + 2z = 30$ $3x + 2y + 3z = 6$	8) $3x + 2y + 3z = 18$ $-3x + 3y - 2z = 36$ $-4x + 3y + 2z = 42$
9) $x + y + z = 30$ $x + y - 2z = 70$ $3x + 3y + z = 3$	10) $-4x - 3y - 2z = 96$ $3x + 2y + 3z = 56$ $3x - 2y + 2z = 42$
11) $3x + 2y + 3z = 25$ $-2x - 3y - 3z = 23$ $-4x + 3y + 2z = 7$	12) $-4x - 3y - 2z = 184$ $3x + 2y + 3z = 8$ $-x - 3y + z = 18$

What does this look like daily?

Look for and
make use of
structure

Lesson on Solving Systems:

Option 2: Highlight problems that lend themselves to the different approaches for solving systems of equation and explain why:

Blue: graphing

Yellow: substitution

Green: elimination

Choose 2 problems from each and solve.

General Instructional Strategies

- Assign students some math problems or create some classroom-based assessments that **don't allow for the use of a calculator**. While all digital SAT Suite Math questions permit the use of a calculator, this practice encourages **greater number sense**, probes students' understanding of content on a **conceptual level**, and builds student skill in determining when it's more **efficient** to answer a question without using a calculator.
- Separate students into **small working groups**. Ask them to discuss how to arrive at solutions. When their solutions are incorrect, ask them to **discuss** how to make corrections. Encourage students to express quantitative relationships in **meaningful words and sentences** to support their arguments and conjectures.

What does this look like daily?

Construct viable arguments and critique the reasoning of others

Sentence Stems	
Explain	Justify
First, I ____ because ... Then/next, I ... I noticed ____ so I ... I tried ____ and what happened was ... How did you get ... ? What else could we do?	I know ____ because ... I predict ____ because ... If ____ then ____ because ... Why did you ... ? How do you know ... ? Can you give an example?

What does this look like daily?

Number Talk

What is 10% of 200?

How do you know?

20

What is 12% of 200?

How do you know?

24

What is 8% of 200?

How do you know?

16

What is $p\%$ of 200?

General Instructional Strategies

- Develop interest and facility in math by having students **practice using math to address tasks and problems** in a wide range of subject areas. Use tables, expressions, and graphs that students encounter in other courses to present math as a tool that may be applied to many areas of study rather than being relegated to math classes.
- Provide frequent opportunities for students to interpret and apply math skills and knowledge in **real-world and academic contexts**, particularly ones in the sciences and social studies.

What does this look like daily?

Make sense of problems and persevere in solving them

Store A sells raspberries for \$5.50 per pint and blackberries for \$3.00 per pint. Store B sells raspberries for \$6.50 per pint and blackberries for \$8.00 per pint. A certain purchase of raspberries and blackberries would cost \$37.00 at store A or \$66.00 at store B. How many pints of blackberries are in this purchase?

- A) 12
- B) 8
- C) 5
- D) 4

Final Suggestions

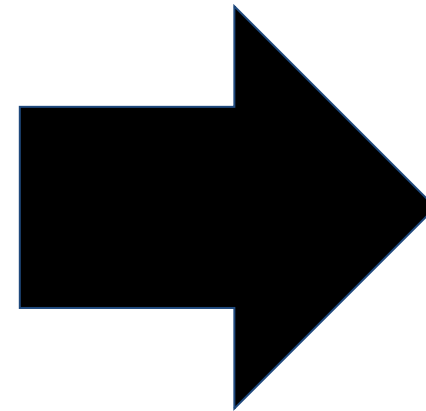
Make connections
among different
strategies
Encourage
efficiency

Standards for
Mathematical
Practice
&
Effective Teaching
Practices

Exposure to the
calculator

Exposure to the
reference sheet

Take a test
yourself!



**Better
prepared**

What should leaders be doing?

Form a leadership team with a shared commitment to continuous improvement and ongoing attention to data

Build a collective sense of responsibility for all students and a focus on developing independence and competence in a safe learning environment

Maintain learning environments that reflect a strong commitment to effective instruction and culturally sustaining approaches

Professional learning opportunities reflect research on adult learning and effective instruction

Allocate academic support equitably in addition to high-quality classroom instruction with multiple supports available to students

Systems assess and respond to individual student needs

High-quality instructional resources are well maintained, available, and effectively utilized

Intentional community networking