Welcome to this presentation on the Next-Generation of ACCUPLACER. Remember that you can pause this video using the controls at the bottom of the window.

ACCUPLACER Redesign

Why we did it

- ACCUPLACER, an assessment system for measuring student readiness for credit-bearing college courses, has been administered for over 30 years.
- We have been paying close attention to
  - user feedback
  - market changes
  - research and evidence on what matters most for college and career readiness and success

CollegeBoard

ACCUPLACER has been used with confidence by higher education institutions for over 30 years to help determine students' readiness for credit-bearing college courses. In recent years, there has been significant change in the ways that colleges assess and place students into their coursework. ACCUPLACER Next-Generation tests have been designed with those changes in mind:

- In response to feedback from our users
- Based on changes to college's placement programs

And

- Based on research and evidence of what is most important for students to understand and be able to do in order to be successful in their first year of college.

ACCUPLACER Redesign

How we did it

Next-generation tests:

- Focus on essential knowledge and skills
- Reflect the changing landscape of higher ed math with math sequences aligned to clear pathways
- Align to the same content domain continuum as the redesigned SAT Suite of Assessments
- Align to states' college and career readiness standards

CollegeBoard

The specifications for ACCUPLACER's Next-Generation tests were designed with several important principles in mind.

- Next-Generation tests now share the same content domains as the redesigned SAT Suite of assessment including the PSAT and SAT.
- Content is now aligned to states' college and career readiness standards.
- Topics assessed are now connected to instruction meaning that students' work in the classroom provides the background they need to be successful on Next-Generation tests.
- All test questions were developed following College Board's overall guiding principles.

Classic & Next-Generation

Major Features Compared

Note that there is *no change* to WritePlacer.

	Classic ACCUPLACER	Next-Generation ACCUPLACER
Test Name	• Reading Comprehension • Sentence Skills • Arithmetic • Elementary Algebra • College-Level Math	• Reading • Writing • Arithmetic • Quantitative Reasoning, Algebra, and Statistics • Advanced Algebra and Functions
Score Reporting	• Scale ranges from 20-120	• Scale ranges from 200-300

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Here is a comparison of the Classic ACCUPLACER test titles to Next-Generation. The new tests will continue to be computer-adaptive in which the testing algorithm chooses the next appropriate test question based on the test blueprint and on the student's performance. Both the Classic and new tests use a 100 point scale but the range for Next Generation is from 200-300.

Note that there is no change to WritePlacer which may be used in conjunction with Next-Generation multiple choice tests.

We will begin by reviewing the Next Generation Reading and Writing tests.

Next-Generation Reading

- The Next-Generation Reading placement test is a broad-spectrum computer-adaptive assessment of test-takers' developed ability to derive meaning from a range of prose texts and to determine the meaning of words and phrases in short and extended contexts.
- The test includes:
  - 20 multiple-choice questions
    - 8 set-based questions
      - 1st set = 4 questions based on a literary passage
      - 2nd set = 4 questions based on a pair of related passages
  - 12 discrete questions
    - Based on brief informational passages

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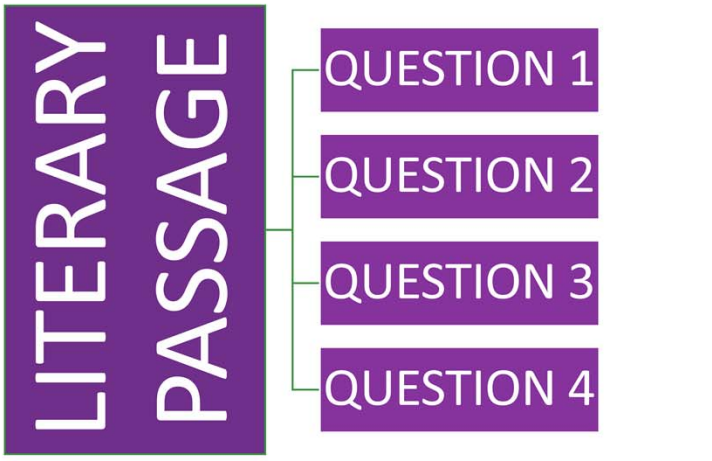
Here is a brief summary of the Next-Generation Reading test.

Next-Generation Reading will be composed of 20 multiple-choice questions. New will be the use of set-based questions which include a longer reading passage with 4 questions. The first set will include 4 questions based on a literary passage while the second set will have 4 questions based on a pair of shorter passages. The remaining 12 questions will have individual, brief informational passages for each question or will be a single-sentence vocabulary question.

Reading Set 1

Literary Passages



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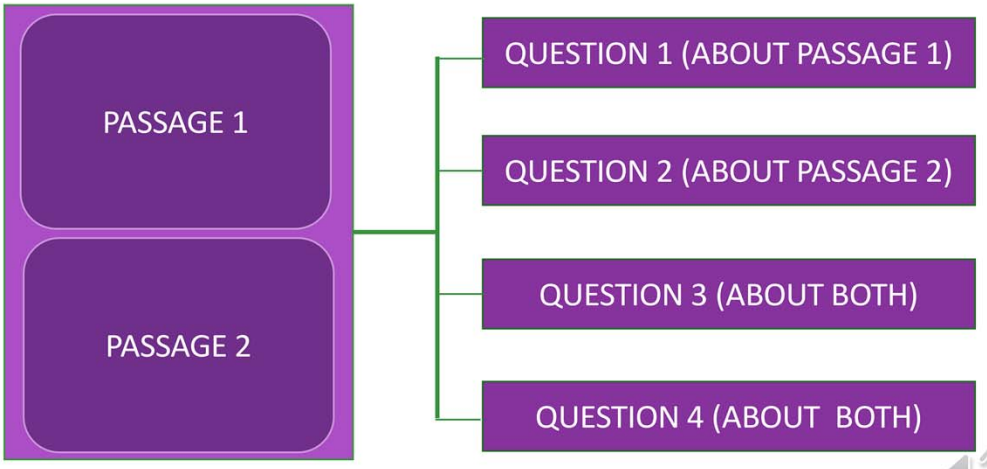
The 1st set of 4 questions will be based on a literary passage which may be either fiction or literary nonfiction. The passage can range between 250 and 400 words in length.

Reading Set 2

Paired Passages



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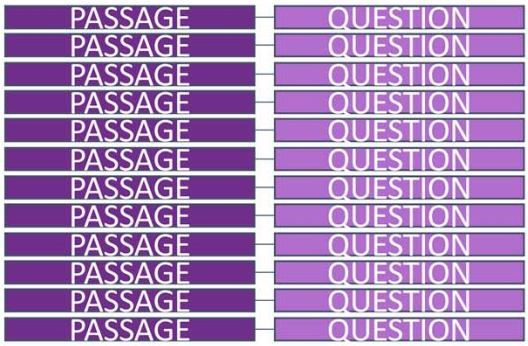
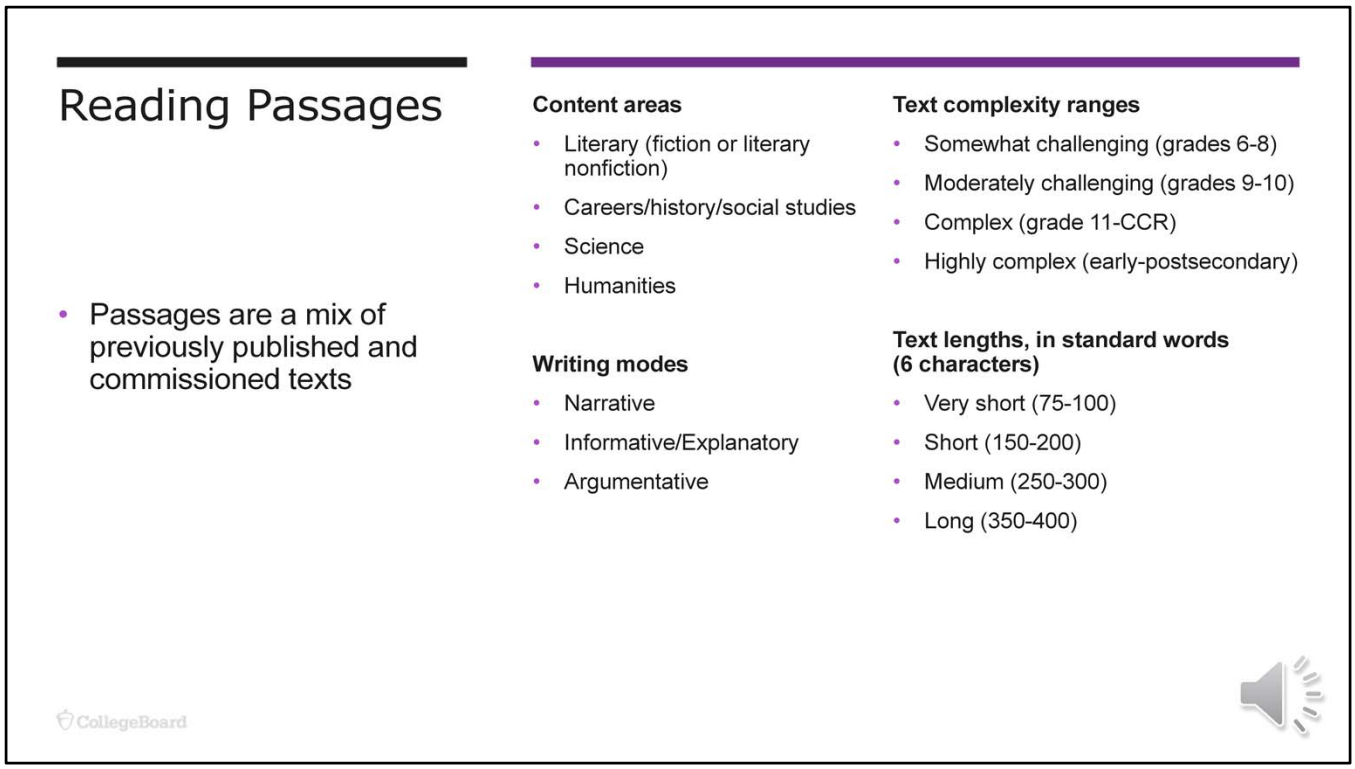
The 2nd set of 4 questions will be based on a pair of related informational passages which will be from content areas that include science, humanities, or careers/history/social studies. The pair passages can total between 250 and 400 words in length.

Discrete Questions

- 12 questions
- Passages are informational and range in content areas from science, humanities, or careers/history/social studies
- Passages are 75-200 words long



After completing the two sets of questions, students will answer 12 discrete questions—that is, questions based on short passages or single-sentence vocabulary questions. The shortest of these, used mainly for discrete vocabulary questions, consist simply of one sentence. The passages for discrete questions range from 75-200 words.

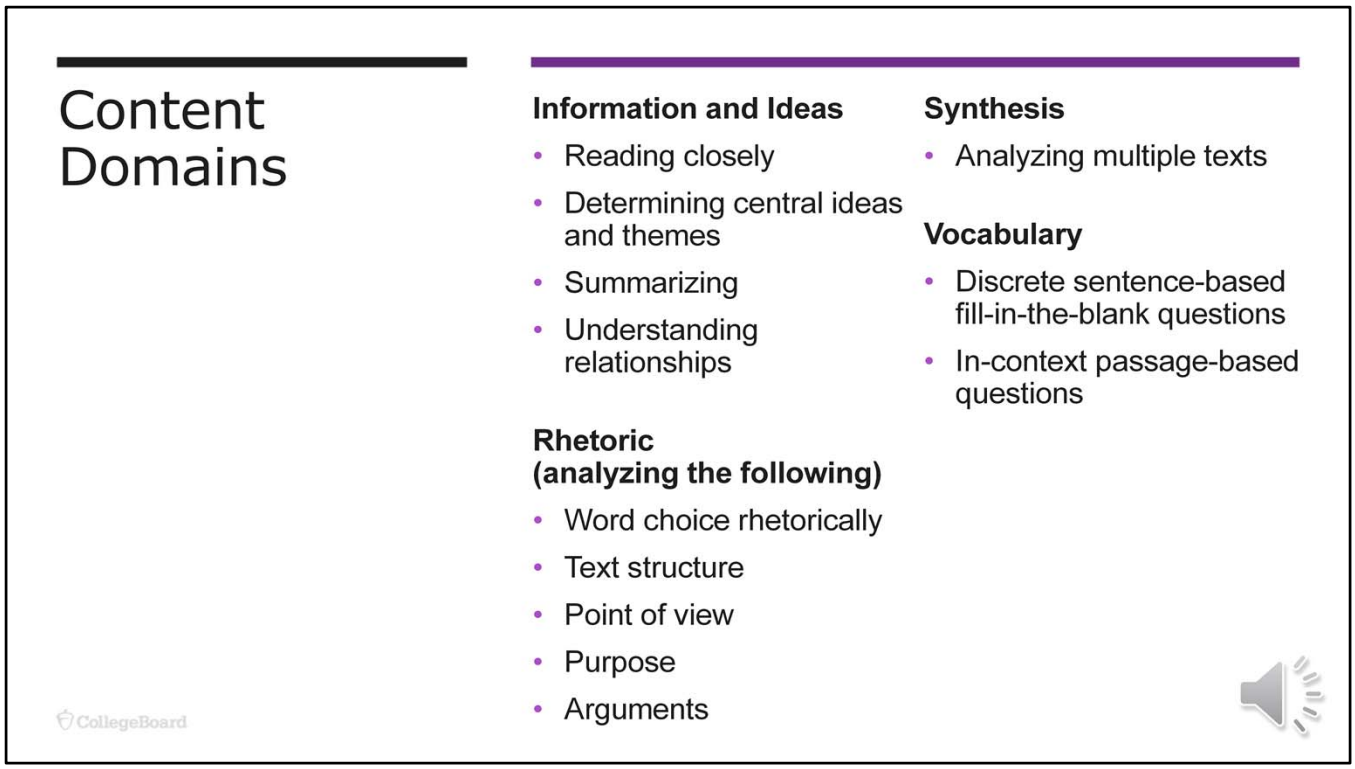


Here are details about the Reading passages on the test.

- Students will read passages that focus on a variety of content areas including:
    - Literary fiction or non-fiction
    - Careers/history/social studies
    - Science
    - And Humanities
- The types of writing a student will encounter will include:
    - Narrative
    - Informative and Explanatory
    - Argumentative

As part of the computer-adaptive nature of the test, the complexity of passages will vary depending on the student's performance. Texts can range in difficulty from Somewhat Challenging, grade levels 6 through 8, up to Highly Complex which is college-level difficulty. The length of the passage will can range from Very Short with a word count of 75-100 words up through Long with a word count of 350-400 words.

More information on the elements we considered when determining Text Complexity can be found in the Test Specifications document and ACCUPLACER Program Manual.



The Content Domains measured by the Next-Generation Reading test fall into these 4 major areas:

- Information and ideas which includes reading closely, determining central ideas and themes of a passage, summarizing passage content, and understanding relationships between ideas presented.
- Rhetoric which includes analyzing a passage for the author's word choice, text structure, point of view, purpose, and arguments used.
- Synthesis of ideas across multiple texts.
- And Vocabulary which is measured through fill-in-the-blank and in-context, passage-based questions.

Remember that more detail about the specifics of each area can be found in the Test Specifications document.

Sample Question

Information & Ideas

PASSAGE

Construction management is ideal for someone who has a general interest in building and design. Working as a construction manager affords the chance to learn a construction project from the planning stage with architects and engineers, to the budgeting stage with cost estimators, to the production stage with laborers. And that's just a small taste of the job's duties: Construction managers also obtain work permits, hire contractors, troubleshoot emergencies, schedule walkthroughs and keep clients informed on work timetables and progress.

Adapted from "Best Construction Jobs: Construction Manager." ©2015 by U.S. News & World Report LP.

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Read the passage(s) below and answer the question based on what is stated or implied in the passage(s) and in any introductory material that may be provided.

The passage most strongly emphasizes which aspect of the job of construction management?

A. The variety of its responsibilities

B. The educational background it requires

C. The kind of person for whom it is suitable

D. The amount of stress it inflicts

Here is a sample question which is measuring the test taker's understanding of information and ideas. This type of question asks students to identify explicitly stated central ideas and themes in text and determine implicit central ideas and themes from text. Note that the content area of the passage focuses on Careers/History/Social Studies. This question is considered moderately challenging.

Sample Question

Rhetoric

In this passage, an amateur theater group called the Laurel Players is putting on its first production.

. . . **(9)** But there wasn't plenty of time, and they all knew it, and a doubling and redoubling of their rehearsal schedule seemed only to make matters worse. **(10)** Long after the time had come for what the director called "really getting this thing off the ground; really making it happen," it remained a static, shapeless, inhumanly heavy weight; time and time again they read the promise of failure in each other's eyes, in the apologetic nods and smiles of their parting and the spastic haste with which they broke for their cars and drove home to whatever older, less explicit promises of failure might lie in wait for them there.

(11) And now tonight, with twenty-four hours to go, they had somehow managed to bring it off . . .

*Partial passage displayed due to space limitations

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Directions:
Read the passage(s) below and answer the question based on what is stated or implied in the passage(s) and in any introductory material that may be provided.

QUESTION

The descriptive language in sentence 10 is mainly intended to reinforce the passage's depiction of the Players'

(A) growing resentment of the director's leadership
(B) increasing reluctance to work as hard as they have been
(C) lingering doubts about their fellow cast members
(D) persistent mood of despair regarding the play

The sample question asks students to engage with how an author's selection of specific words and phrases shapes meaning and tone in text. Note that the passage is a literary example. Based on the text and question complexity, this question is considered to be at the complex level.

Sample Question

Synthesis

QUESTION

Given the evidence in the passages, with which statement would the authors of both passages most likely agree?

(A) Radio telescopes could be used to measure snowfall amounts.

(B) The Green Bank Telescope can detect extremely small amounts of energy.

(C) Increased sales of robotic lawn mowers may require the creation of more radio quiet zones.

(D) The lack of modern technology has made people move away from Pocahontas County.

Passage 1

Green Bank, West Virginia, is a tech-savvy teenager's nightmare. In this tiny town in Pocahontas County—population 143—wireless signals are illegal. No cell phones. No WiFi. No radio. No Bluetooth. No electronic transmitters at all. You're not even allowed to cozy up to an electric blanket.

The remote town is smack in the center of the National Radio Quiet Zone, a 13,000 square mile stretch of land designated by the Federal Communications Commission to protect two government radio telescopes from human-made interference. The rules are most strict in Green Bank. So strict that a police officer roves the streets listening for forbidden wireless signals.

It's necessary, though. The town is home to the Green Bank Telescope, the largest steerable radio telescope in the world—and arguably our most powerful link to the cosmos. Scientists there listen to radio energy that has journeyed light years, unlocking secrets about how the stars and galaxies formed. A rogue radio signal could prevent potential discoveries, discoveries that could answer big questions about how the universe ticks.

Adapted from Lucas Reilly, "The West Virginia Town Where Wireless Signals Are Illegal." ©2013 by Mental Floss, Inc.

Passage 2

Lawn mowers seem to have little in common with astronomy, but they are keeping astronomers at the National Radio Astronomical Observatory up at night. A new type of robotic lawn mower has been proposed that uses beacons to train the lawn mower to stay within property lines. The beacons, placed around the yard, transmit at the same wavelength as interstellar molecules astronomers study to understand how stars form. Humans wouldn't notice the tiny amount of energy given off by the beacons, but the Green Bank Telescope—the size of a football stadium—is so sensitive it can detect the energy given off by a snowflake as it melts. By simply mowing the lawn, a homeowner runs the risk of interfering with one of our greatest tools for studying the universe.

The manufacturer of one "lawnbot" requested a waiver to operate within the National Radio Quiet Zone. Astronomers countered with the suggestion that the beacons be reprogrammed to transmit at another wavelength not emitted by interstellar molecules. Alternately, astronomers want global positioning system (GPS) devices added to each lawnbot to prevent them from operating within the Quiet Zone.

Here is an example of a question with 2 paired passages which are both related by the subject discussed. This question measures the test taker's ability to synthesize across the multiple texts. Based on the text and question complexity, this is a moderately challenging question.

Sample Question

Vocabulary

Directions

The following sentence has a blank indicating that something has been left out. Beneath the sentence are four words or phrases. Choose the word or phrase that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Deciding that none of the nominees was _____ the award, the film committee began reviewing a new group of candidates with better qualifications.

(A) known for

(B) pleased with

(C) worthy of

(D) interested in

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This is an example of a discrete-type vocabulary question. Similar questions test words in the context of even longer passages. This is a moderately complex question.

Reading: Major Features Compared

Categories	Classic Reading Comprehension Test	Next-Generation Reading Test

Item Number and Format	• 20 Discrete questions
	(each question based on a short passage)
		• 20 questions
		  • 12 discrete questions—either single-sentence vocabulary or based on a short passage)
		  • **8 Set-based questions—presented in two sets of four**

Skills Assessed	• Ability to derive meaning from 4 main content categories:
	  ○ Main ideas
	  ○ Direct statements/Secondary ideas
	  ○ Inferences
	  ○ Applications
		• Ability to derive meaning from 4 main content categories:
		  ○ **Information and ideas**
		  ○ **Rhetoric**
		  ○ **Synthesis**
		  ○ **Vocabulary**

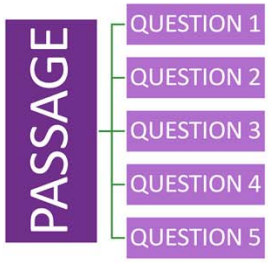
Text Type	• Commissioned • Informational	• **Authentic** • Informational • **Literary**
Text Length	• 40-150 words • Single texts	• **75-400 words** • Single texts (75-400 words) • **Paired texts (~400 words across 2 texts)**
Range of Content Areas	• Arts • Practical affairs • Social sciences • Science • Human relationships	• Careers/history/social studies • Humanities • Science • (The above content areas apply mainly to informational texts. Literary texts are either fiction or literary nonfiction)
Writing Modes (text types)	• Mostly Informative/Explanatory • Occasionally narrative or argument	• Narrative • Informative/Explanatory • Arguments
Text Complexity	• Passages of varying complexities written for a primarily late secondary/early postsecondary audience	• **Defined text complexity scale (middle school to early postsecondary)** • **Qualitative and quantitative measures of passages' reading challenge**

Now that we have reviewed Next Generation Reading, here is a side-by-side comparison with the Classic Reading Comprehension test. Items listed in bold-face print highlight new features of the test.

Remember that you can pause the video to review this screen in more detail.

Next-Generation Writing

- The Next-Generation Writing placement test is a broad-spectrum computer-adaptive assessment of test-takers' developed ability to revise and edit a range of prose texts for effective expression of ideas and for conformity to the conventions of Standard Written English sentence structure, usage, and punctuation.
- The test includes:
  - 25 questions total
  - 5 passage-based sets consisting of 5 questions each



Here is a brief overview of the Next-Generation Writing test.

The Writing test has 25 questions composed of 5 passage-based sets made of 5 questions each.

Writing Passages

Content areas

- Literary (literary nonfiction)
- Careers/history/social studies
- Science
- Humanities

Writing modes

- Narrative
- Informative/Explanatory
- Argumentative

Text complexity ranges

- Somewhat complex (grades 6-8)
- Moderately complex (grades 9-10)
- Complex (grade 11-CCR)
- Highly complex (early-postsecondary)

Text length

- 300-350 standard words (6 characters)

Passages are commissioned texts written specifically for the test. They are presented to students as “early drafts” in need of revision. Note that the content areas, writing modes, and text complexity ranges, are similar to the Reading test.

Content Domains

Expression of Ideas

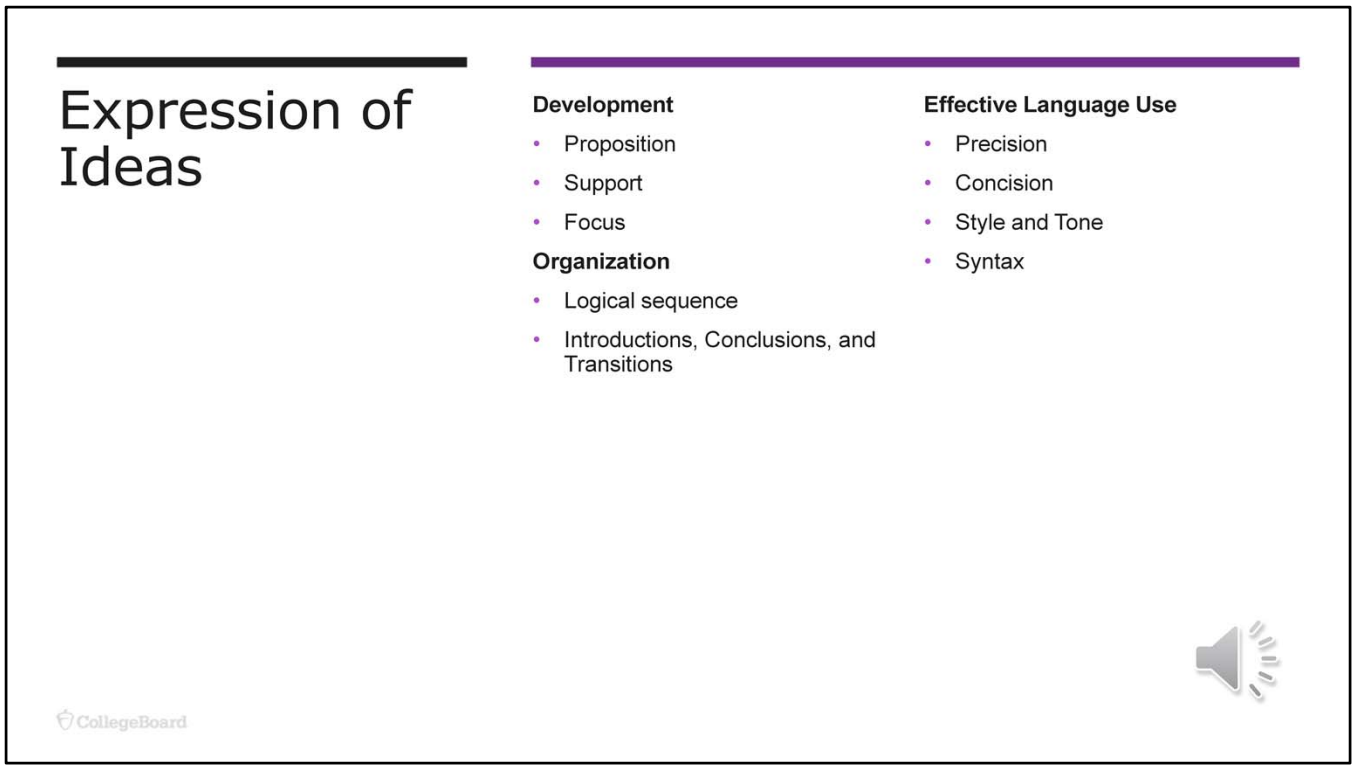
- Development
- Organization
- Effective Language Use

Standard English Conventions

- Sentence Structure
- Conventions of Punctuation
- Conventions of Usage

CollegeBoard

There are two broad categories of question types in the Writing placement test: Expression of Ideas and Standard English Conventions. Each of these categories contains three subcategories: The Expression of ideas questions—Development, Organization, and Effective Language Use—make up 60 percent of the test. The Standard English Conventions questions—Sentence Structure, Punctuation, and Usage—make up 40 percent of the test. In the following slides, we'll look at each of these content domains in more detail.



The first domain assessed is Development. These questions focus on revising text in relation to its rhetorical purpose. Note that the test taker's prior knowledge of the topic is not assessed, although their understanding of the consistency of material within a passage may be. The three types of development questions that a student may see include:

- Proposition questions which ask the student to add, revise, or retain central ideas, main claims, topic sentences, and the like to structure texts and to convey arguments, information, and ideas clearly and effectively.
- Support questions which ask the student to add, revise, or retain information and ideas (for example: details, facts, statistics) intended to support claims or points in text.
- Focus questions ask the student to add, revise, retain, or delete information and ideas in text for the sake of relevance to topic and purpose.

The next domain on the Writing test is Organization. These questions focus on revision of text to improve the logic and cohesion of text at the sentence, paragraph, and whole-text level. There are two types of organization questions:

- Logical Sequence questions ask the student to revise text as needed to ensure that information and ideas are presented in the most logical order.
- Questions on Introductions, conclusions, and transitions ask the student to revise text as needed to improve the beginning or ending of a text or paragraph or to ensure that transition words, phrases, or sentences are used effectively to connect information and ideas.

The final domain measures the student's understanding of Effective Language Use. These questions focus on revision of text to improve the use of language to accomplish particular rhetorical purposes. Students will see questions on these 4 different areas:

- Precision questions ask the student to revise text as needed to improve the exactness or content appropriateness of word choice.
- Concision questions ask the student to revise text as needed to improve the economy of word choice (i.e., to eliminate wordiness and redundancy).
- Style and tone questions ask the student to revise text as needed to ensure the consistency of style and tone within a text or to improve the match of style and tone to purpose.
- Syntax questions ask the student to use various sentence structures to accomplish needed rhetorical purposes.

Sample Question

Development

PASSAGE*

(14) Few spiders propel themselves as *C. rechenbergi* do, and none do so as comprehensively. **(15)** Golden rolling spiders of Namibia, for instance, can tumble, but they do so only using gravity to roll downhill. **(16)** *C. rechenbergi*, by contrast, elude predators by rolling uphill, downhill, or on flat ground. **(17)** Their reproductive organs distinguish them from other *Cebrennus* spiders. **(18)** While these spiders run only 3.3 feet per second, they can tumble at 6.6 feet per second. **(19)** Even if this speedy escape method proves effective, however, it can be costly: tumbling away too many times a day will ultimately exhaust the spiders and lead to their demise.

*Partial passage displayed due to space constraints

CollegeBoard

Read the following early draft of an essay and then choose the best answer to the question or the best completion of the statement.

QUESTION

Which sentence blurs the focus of the last paragraph and should therefore be deleted?

(A) Sentence 14
(B) Sentence 15
(C) Sentence 16
(D) Sentence 17

This is sample of a question on Development addressing the Focus of the passage. This type of question asks the student to add, revise, retain, or delete information and ideas in text for the sake of relevance to topic and purpose. This is an example of an informative passage on Science content. Both the text and question complexity are considered moderately challenging.

Sample Question

Organization

PASSAGE*

(5) A spider of this species was discovered in the Erg Chebbi. **(6)** It is a sandy desert in southeastern Morocco. **(7)** A German robotics researcher who makes yearly treks to the region to study how desert creatures thrive in that climate caught one of the spiders and brought it back to his caravan. **(8)** The next morning, he was amazed to see the creature try to escape by flipping itself quickly away. **(9)** The researcher turned the spider over to an arachnid specialist for identification. **(10)** Ultimately, the spider was determined to be a member of a previously unknown species.

*Partial passage displayed due to space constraints

CollegeBoard

Read the following early draft of an essay and then choose the best answer to the question or the best completion of the statement

QUESTION

In context, which is the best version of the underlined portion of sentence 10 (reproduced below)?

Ultimately, the spider was determined to be a member of a previously unknown species.

(A) (As it is now)

(B) For example,

(C) Nevertheless,

(D) At the same time,

This sample question measures the student's understanding of Organization and the use of Introductions, conclusions, and transitions in writing. Questions of this type ask the student to revise text as needed to improve the beginning or ending of a text or paragraph or to ensure that transition words, phrases, or sentences are used effectively to connect information and ideas. The text in this example is Informative/Explanatory. The text and question complexity are considered to be moderately challenging.

Sample Question

Effective Language Use

PASSAGE*

(10) Clifton's powerful and innovative poems have been widely recognized and appreciated. **(11)** Poet Remica Bingham called Clifton a "master of economy and minimalism." **(12)** Of Clifton's ambitious lines, poet Kevin Young said, "There is a kind of quietude in that lowercase, but also a boldness of speech" that achieves a "powerful intimacy." **(13)** One of her former students, poet Elisabeth Whitehead, recalls fondly Clifton's college classroom as a place of quiet where poetry was loved and celebrated. **(14)** A fellow student hosted dinner for their final class, and before everyone had left that evening, Clifton had them gather and join hands. **(15)** "Then we went around the circle," Whitehead recounts, "sharing an idea or a quote or passage from a poem in our last moments together."

*Partial passage displayed due to space constraints

CollegeBoard

Directions: Read the following early draft of an essay and then choose the best answer to the question or the best completion of the statement.

QUESTION

In sentence 12 (reproduced below), the writer wants to echo Bingham's observation from sentence 11. Which version of the underlined portion best accomplishes that goal?

Of Clifton's ambitious lines, poet Kevin Young said, "There is a kind of quietude in that lowercase, but also a boldness of speech" that achieves a "powerful intimacy."

(A) (as it is now)
(B) spare
(C) nuanced
(D) vivid

This sample question measures the student's understanding of Effective Language Use with a focus on Precision. This type of question asks the student to revise text as needed to improve the exactness or content appropriateness of word choice. This is an example of an Informative/Explanatory passage. The text and question complexity are both considered to be highly complex.

Standard English Conventions

Sentence Structure

- Sentence boundaries, subordination and coordination, parallel structure, modifier placement, inappropriate shifts in verb tense and mood, inappropriate shifts in pronoun person and number

Conventions of Usage

- Possessive determiners, noun agreement, pronoun clarity, pronoun-antecedent agreement, subject-verb agreement, frequently confused words, logical comparison, conventional expression

Conventions of Punctuation

- End of sentence punctuation, within-sentence punctuation, possessive nouns and pronouns, questions in series, nonrestrictive and parenthetical elements, hyphenation conventions, unnecessary punctuation

The final domain on the Writing test measures understanding of Standard English Conventions. The 3 major areas assessed include Sentence Structure, Conventions of Usage, and Conventions of Punctuation.

Sample Question

Standard English Conventions

PASSAGE*

(1) The prevalence of nectarines in US supermarkets today is directly related to the company started by two unrelated men who shared a last name, an inventive bent, and a drive to succeed. **(2)** Moving from Korea to the United States in 1914, Ho "Charles" Kim founded the Kim Brothers trucking company in California in 1921 with his friend Harry Kim. **(3)** Much of the freight their trucks carried in the early years were fruit grown in the San Joaquin valley. **(4)** Kim Brothers soon expanded to include nurseries, orchards, and fruit-packing sheds. **(5)** Eventually the operation became a major employer, providing year-round jobs for about two hundred people and up to four hundred part-time jobs during harvest season coming after growing season.

*Partial passage displayed due to space constraints

CollegeBoard

Directions:
Read the following early draft of an essay and then choose the best answer to the question or the best completion of the statement.

QUESTION

Which is the best version of the underlined portion of sentence 3 (reproduced below)?

Much of the freight their trucks carried in the early years <u>were</u> fruit grown in the San Joaquin valley.

(A) (as it is now)
(B) have been
(C) are
(D) was

This sample question measures the student's understanding of Conventions of Usage, specifically Subject-Verb agreement. The passage type here is Informative/Explanatory. The text and question complexity are both considered to be moderately challenging.

Writing: Major Features Compared

Categories	Classic Writing Test (Sentence Skills)	Next-Generation Writing Test
Item format	20 discrete questions	**25 questions** (in 5 sets of 5)

Skills Assessed	• Assesses ability to revise single sentences to achieve:
	  ○ Complete sentences
	  ○ Proper coordination and subordination
	  ○ Clear sentence logic
		• Assesses ability to revise and edit **multi-paragraph texts for:**
		  ○ **Expression of Ideas (Development, Organization, and effective language use)**
		  ○ **Standard English Conventions (Sentence Structure, Conventions of Punctuation, Conventions of Usage)**

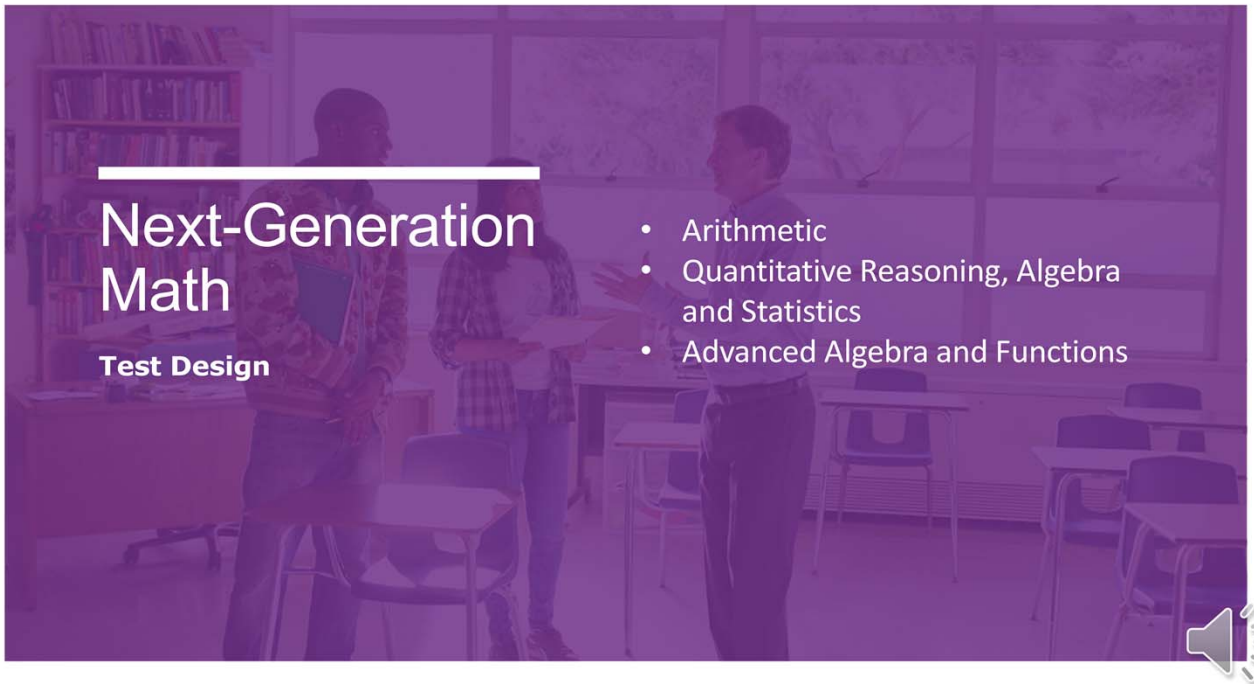
Text Type	• Commissioned sentence	• **Commissioned essay**
		  ○ **Literary**
		  ○ **Informational**

Text Length	• Single sentence
	  ○ 5-25 words
		• **Extended prose**
		  ○ **Single, unified texts (300-350 words)**

Range of content areas	• Arts • Practical affairs • Social sciences • Science • Human relationships	• Careers/history/social studies • Humanities • Science
Writing modes (text types)	• Informative/Explanatory	• **Narrative** • Informative/Explanatory • **Arguments**
Text Complexity	• Measures students' understanding of sentence structure, using a range of sentences appropriate to the testing population	• **Defined text complexity scale (middle school to early postsecondary)** • **Qualitative and quantitative measures of passages' reading challenge**

Here is the side-by-side comparison with the Classic Sentence Skills test. Items listed in bold-face print highlight new features of the test.

Remember that you can pause the video to review this screen in more detail.



Here are the titles of the 3 new Math tests in Next-Generation: Arithmetic, Quantitative Reasoning, Algebra, and Statistics, known as QAS, and Advanced Algebra and Functions, known as AAF.

Key New Features

- Content coverage driven by the same research "math that matters most" underlying the redesigned SAT
- Content aligned to state college and career readiness standards
- Test design approach considers both STEM and non-STEM math pathways
- Content strands cover prerequisites for Quantitative Reasoning and Statistics pathways

CollegeBoard

When creating the Next-Generation Math tests, careful consideration was given to the changing landscape of what's happening in higher ed math sequences. By responding to the increasing surge of Quantitative Reasoning and Statistics math pathways, the QAS test was designed to include content that is prerequisite to successful enrollment in these areas, and to focus on the math that matters most for success in careers that do not require a "traditional" college algebra sequence. Likewise, the AAF test was designed to focus on math that matters most for success in STEM careers, but we recognize that higher level math is not limited to only STEM, as students with majors in economics, finance, architecture and medicine will also require rigorous math sequences. So, QAS vs. AAF is not intended to be a split between non-STEM and STEM, but not surprisingly, one will find that will QAS can place many students in math sequences for non-STEM majors, and AAF can place many students in math sequences for STEM majors.

We also wanted to be responsive to college and career readiness standards across the country, in that the number of students who have been taught math in K-12 via Common Core (or CCSS-alike standards, whether the state acknowledges it or repudiates it) will continue to grow year after year, so the makeup of the ACCUPLACER question bank should reflect some of those keystones. These include making use of structure in traditional algorithm solution methods, as well as focusing on conceptual understanding question-types in addition to fluency (rote solving) and application (word problem) question-types. More on this later in the deck.

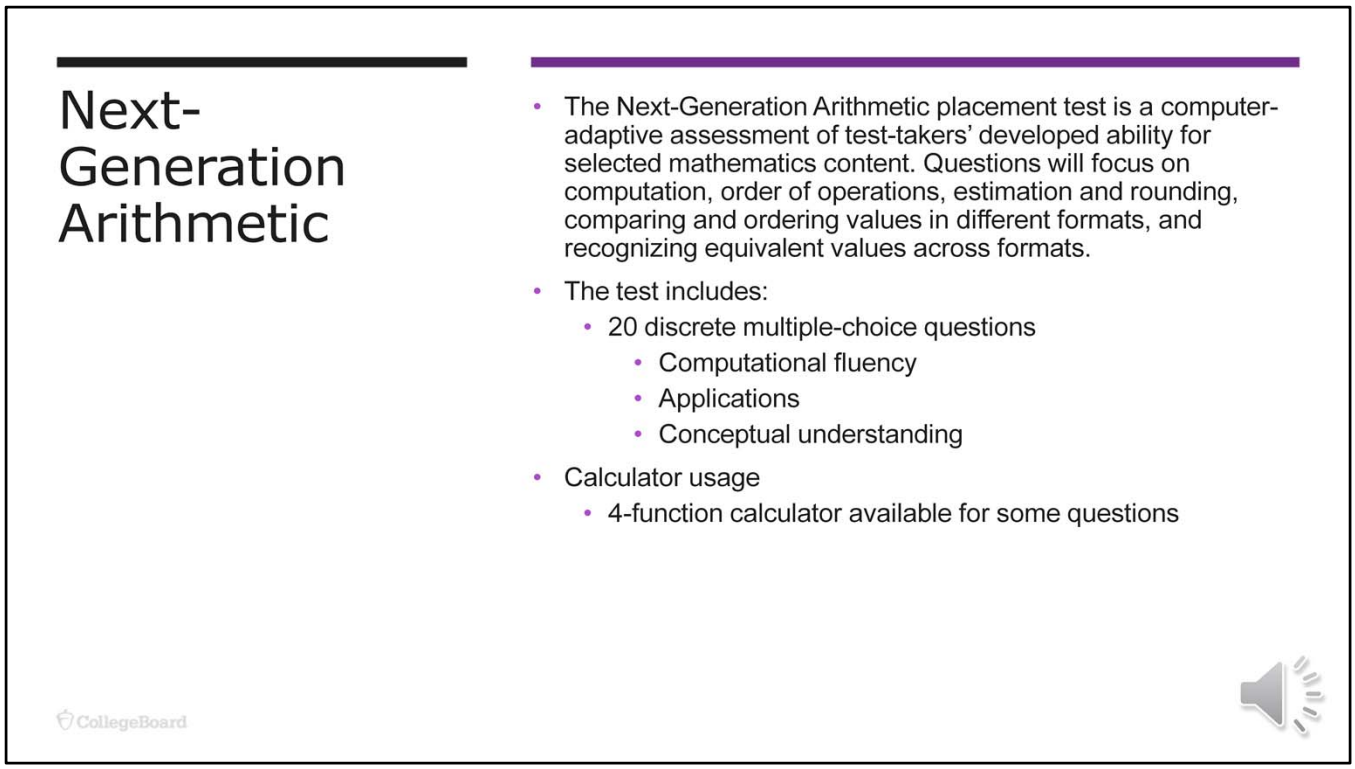
Regarding Calculators

- Students will have access to online calculators during the administration of next-generation math tests.
- Depending on the content of the question, a student may be presented with a virtual drawer of calculators to use as a solution aid.
  - 4-function calculator
  - 4-function calculator w/ square root
  - Graphing calculator (TI-84)
- For questions in which a certain type of calculator would compromise the integrity of the question, that type of calculator is not made available.
  - Example 1:
    - What is the value of 25 x 17? (No calculator available)
  - Example 2:
    - Which of the following is the graph of the line y = 3x – 2? (4-function only available)

CollegeBoard

Next-Generation Math tests provide students with access to online calculators during the test. If students progress to more difficult tests, depending on your institution's decisions about test branching, they will encounter a drawer giving them a choice of calculators. Note that a calculator will not be available if it would compromise the integrity of the construct being measured.

Note that use of calculators as specified in each test question is critical to its reliability and validity as the test measures each student's abilities.



Here is a brief overview of the Next-Generation Arithmetic test.

The Next Generation Arithmetic test consists of 20 multiple-choice questions.

The skills assessed on the Arithmetic tests, along with the higher level tests, include:

- Computational fluency
- Applications
- And Conceptual Understanding

Next-Generation Math tests provide students with access to online calculators for some of the questions of the math tests. A calculator is made available to students if the use of it does not compromise the integrity of the construct being measured, and will only aids in performing calculations. Up to three online calculators can be made available to a student on a question: 4-function, 4-function with square root, and graphing.

Note that use of calculators as specified in each test question is critical to its reliability and validity as the test measures each student's abilities.

Content Strands

20 Questions

Whole number operations (3-5 questions)

- Addition, subtraction, multiplication and division of whole numbers, including order of operations, estimation and rounding, and applying operations to real-life contexts

Fraction operations (3-5 questions)

- Addition, subtraction, multiplication and division of fractions and mixed numbers, including order of operations, estimation and rounding, and applying operations to real-life contexts

Decimal operations (3-5 questions)

- Addition, subtraction, multiplication and division of decimal numbers, including order of operations, estimation and rounding, and applying operations to real-life contexts

Percent (3-5 questions)

- Calculation with percent with or without a context, including percent increase, percent decrease, determining the percent of a number, and applying percent to real-life contexts

Number comparisons and equivalents (3-5 questions)

- Comparisons of differently formatted values by ordering, using the number line, and using equality/inequality symbol notation; and evaluation of equivalent number statements (to assess mental math strategies)

CollegeBoard

The skills assessed on the Arithmetic tests, along with the higher level tests, include:

- Applications
- Computational fluency
- And Conceptual understanding

Applications are often referred to as “word problems,” and require students to apply math concepts to a particular scenario. Computational fluency is the skill in carrying out procedures efficiently and accurately. Conceptual understanding, which is complementary to fluency, is the ability to recognize structure in mathematical relationships in order to apply and extend in multiple useful ways.

Sample Question 1

Arithmetic

What is the value of 2.84 × 3.9?

(A) 3.408
(B) 11.076*
(C) 34.08
(D) 110.76

Alignment: Decimal operations
Calculator available: None

CollegeBoard

Here is a sample question on Decimal Operations. Note that a calculator is not provided.

Sample Question 2

Arithmetic

If Gabriel deposits 25% of $130 into a savings account, what is the amount of his deposit?

(A) $5.20

(B) $25.00

(C) $32.50*

(D) $97.50

Alignment: Percent
Calculator available: 4-function

CollegeBoard

Here is a sample question on calculating with percents. Note that a calculator is available.

Sample Question 3

Arithmetic

Which of the following is equivalent to (4 x 10) + (7 x 1)?

(A) (3 x 10) – (3 x 1)
(B) (3 x 10) – (7 x 1)
(C) (5 x 10) – (3 x 1)*
(D) (5 x 10) – (7 x 1)

Alignment: Number comparisons and equivalents
Calculator available: None

CollegeBoard

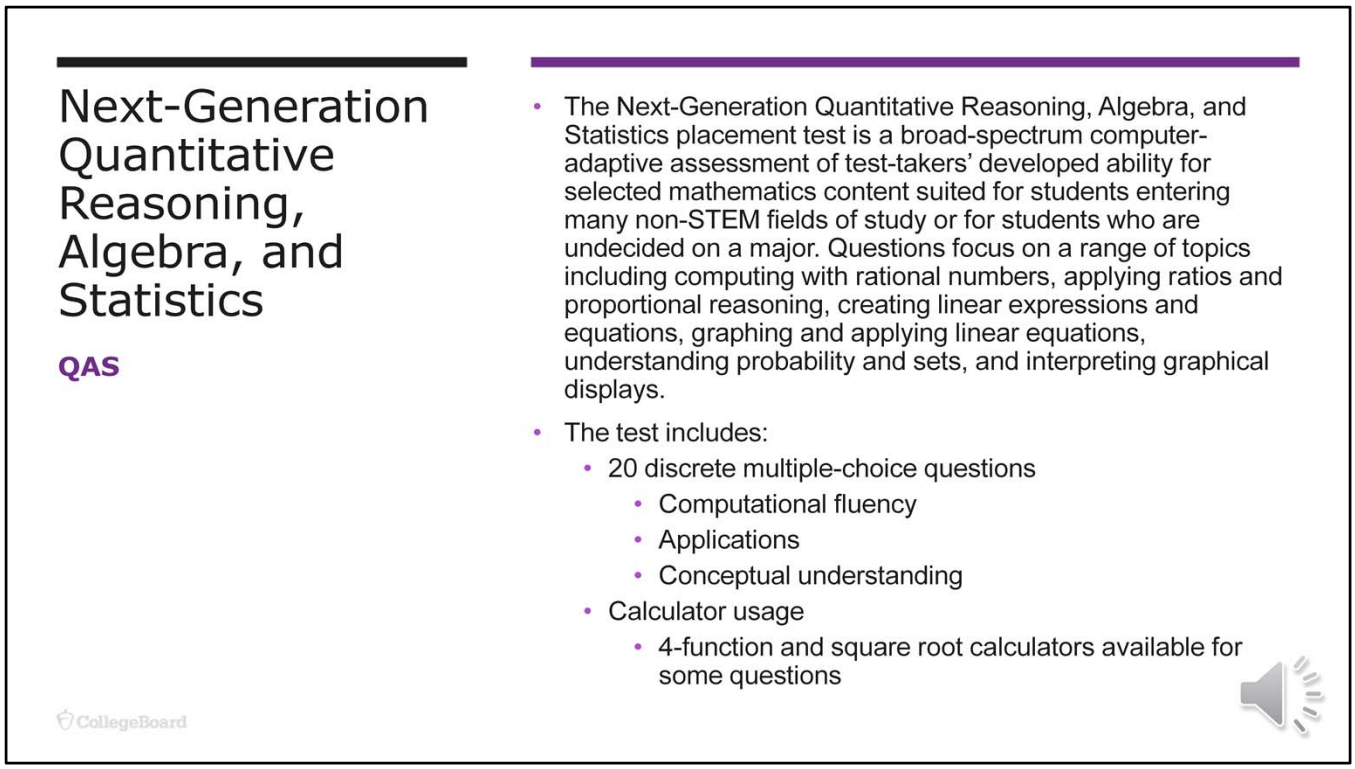
Here is a sample question on Number Comparisons and Equivalents. Note that a calculator is not available.

Arithmetic: Major Features Compared

Categories	Classic Arithmetic Test	Next-Generation Arithmetic Test
Test Length	• 17 items	• 20 items
Content Assessed	• **Whole numbers and fractions** • **Decimals and percents** • **Applications**	• **Whole number operations** • **Fraction operations** • **Decimal operations** • **Percent** • **Number comparisons and equivalents**
Skills Assessed	• Computation/fluency • Applications sectioned out in 1 strand only	• Computation/fluency • Conceptual understanding • Applications woven throughout most strands
Item types	• Discrete	• Discrete
Calculator Availability	• 4-function available for some items that do not assess computation	• 4-function available for some items that do not assess computation

Here is the side-by-side comparison with the Classic Arithmetic test. Items listed in bold-face print highlight either features of the test or content topics which are common to both tests.

Remember that you can pause the video to review this screen in more detail.



Here is a brief overview of the Next-Generation Quantitative Reasoning, Algebra, and Statistics test known as QAS.

The Next Generation QAS test consists 20 multiple-choice questions.

The skills assessed include:

- Computational fluency
- Applications
- And Conceptual Understanding

An on-screen calculator is available to the student only on selected questions. For QAS, the student can select either a square root calculator or the 4-function option if the question allows a choice.

Content Strands

20 Questions

Rational numbers (1-3 questions)
- Calculating and applying rational numbers (with or without a context), including usage of absolute value

Ratio and proportional relationships (3-4 questions)
- Calculating with rates, ratios, and proportions (with or without a context), and using unit conversions

Exponents (2-3 questions)
- Calculating with exponents, radicals, fractional exponents, and applying scientific notation

Algebraic expressions (2-3 questions)
- Creating and evaluating expressions to represent situations, and using properties of operations to combine like terms and identify equivalent expressions

Linear equations (2-4 questions)
- Creating linear equations in one or two variables, solving linear equations, simplifying linear equations and inequalities, and solving systems of two linear equations

Linear applications and graphs (2-4 questions)
- Applying linear equations to real-life contexts, using elementary linear functions to describe relationships, and graphing linear equations in two variables, linear inequalities, parallel and perpendicular lines, and systems of equations

Here are the content strands tested on QAS. Beside each strand, you will see the range of questions given based by the testing algorithm based on the student's performance. The list of strands continues on the next screen.

Content Strands

Continued

Probability and sets (1-3 questions)
- Calculating probability (simple, compound, and conditional), and defining sample spaces and events using set notation

Descriptive statistics (1-3 questions)
- Interpreting graphical displays of data (histograms, box plots, and scatterplots), describing shape and spread of a sample set, and calculating measures of center

Geometry concepts for HS Pre-Algebra (1-2 questions)
- Determining area and perimeter, circle area and circumference, and volume of prisms

Geometry concepts for HS Algebra 1 (1-2 questions)
- Creating expressions for area, perimeter, and volume, using distance formula and Pythagorean theorem, and evaluating basic geometric transformations

Sample Question 1

QAS

Water runs from a pump at a rate of 1.5 gallons per minute. At this rate, how long would it take to fill a tub with a 150-gallon capacity?

(A) 10 minutes
(B) 100 minutes*
(C) 225 minutes
(D) 2,250 minutes

Alignment: Ratio and proportional reasoning
Calculator available: 4-function

Here is a sample question on Ratio and Proportional Reasoning. Note that a calculator is available.

Sample Question 2

QAS

Country	Approximate population (millions)
France	65.9
Germany	80.8
Italy	60.8
Spain	46.5
United Kingdom	64.3

The table above gives the population of the 5 largest countries in the European Union in the year 2014. Which of the following is the closest to the mean population of these countries?

(A) 80.8 million

(B) 64.3 million

(C) 63.7 million*

(D) 60.8 million

Alignment: Descriptive statistics

Calculator available: 4-function

Here is a sample question on Descriptive Statistics. A calculator is available.

Sample Question 3

QAS

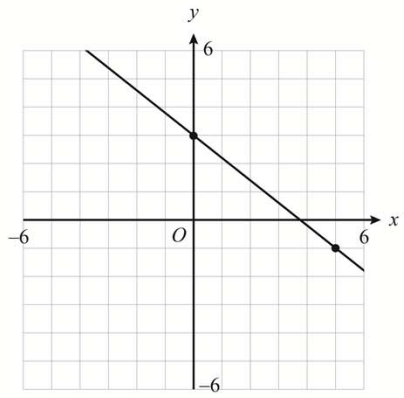
Which of the following is an equation of the line that passes through the point (0, 0) and is perpendicular to the line shown to the right?

(A) $y = \frac{5}{4}x$ *

(B) $y = \frac{5}{4}x + 3$

(C) $y = -\frac{4}{5}x$

(D) $y = -\frac{4}{5}x + 3$



Alignment: Linear applications and graphs

Calculator available: 4-function

CollegeBoard

This question is on Linear Applications and Graphs. A calculator is available.

Sample Question 4

QAS

The linear equation is in the form $ax + by = c$, where a, b, and c are constants. If the line is graphed in the xy-plane and passes through the origin (0, 0), which of the following constants must equal zero?

(A) a

(B) b

(C) c*

(D) It cannot be determined.

Alignment: Linear applications and graphs

Calculator available: 4-function

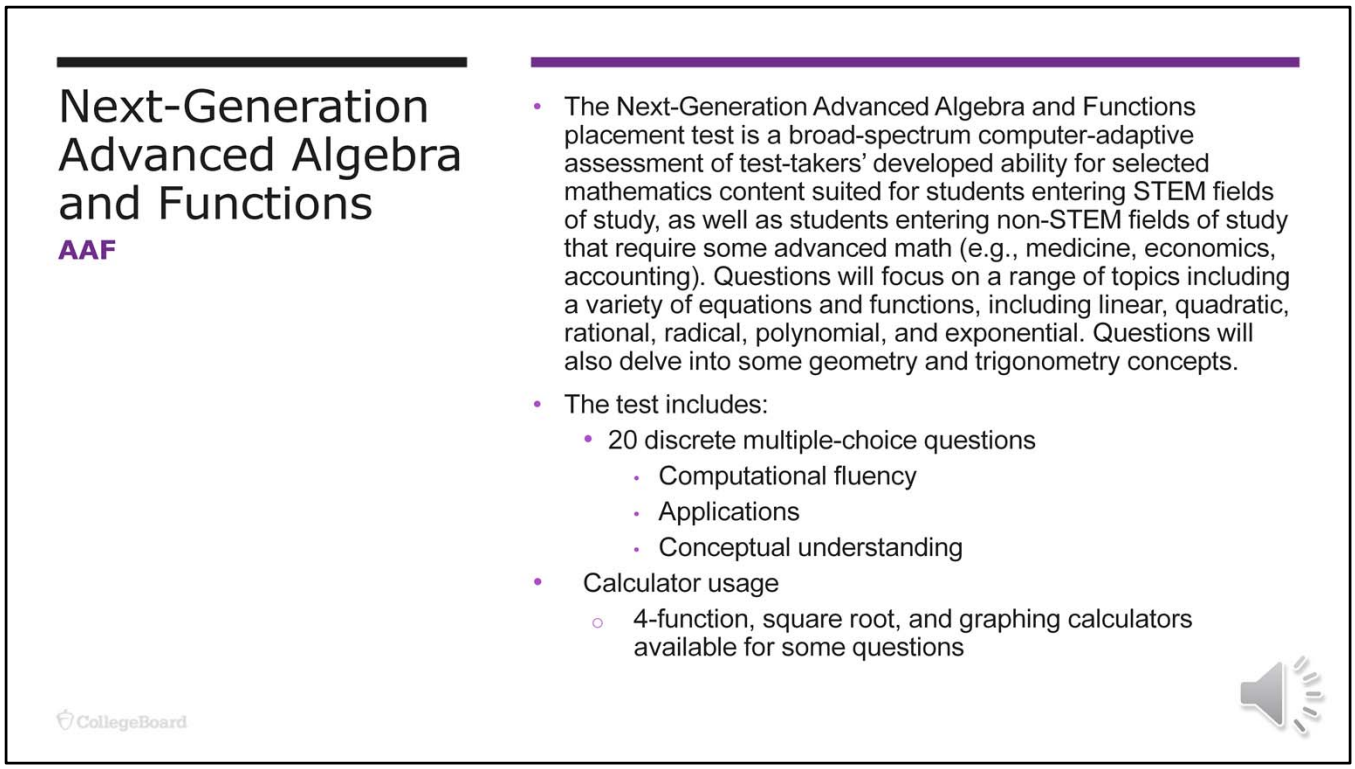
Here is another question on Linear Applications and Graphs. A calculator is available.

Quantitative Reasoning, Algebra, and Statistics: Major Features Compared

Categories	Classic Elementary Algebra Test	Next-Generation QAS Test
Test Length	• 12 items	• 20 items
Content Assessed	• **Integers and rationals** (ordering and operations) • **Algebraic expressions** (monomial and polynomial operations, rational roots and exponents, factoring quadratics and polynomials, operations with rational expressions) • **Equations, inequalities, and word problems** (solving linear equations, inequalities, and systems; quadratic equations via factoring or graphing; applications and geometric reasoning)	• **Rational numbers** • **Ratio and proportional relationships** • **Exponents** • **Algebraic expressions** • **Linear equations** • **Linear applications and graphs** • **Probability and sets** • **Descriptive statistics** • **Geometry concepts**
Skills Assessed	• Computation/fluency • Applications sectioned out in 1 strand only	• Computation/fluency • Conceptual understanding • Applications woven throughout many strands
Item types	• Discrete	• Discrete
Calculator Availability	• 4-function calculators available for some items	• 4-function and square-root calculators available for some items

Here is the side-by-side comparison with the Classic Elementary Algebra test. Items listed in bold-face print highlight either features of the test or content topics which are common to both tests.

Remember that you can pause the video to review this screen in more detail.



Here is a brief overview of the Next-Generation Advanced Algebra and Functions test.

The Next Generation AAF test consists 20 multiple-choice questions.

The skills assessed include:

- Computational fluency
- Applications
- And Conceptual Understanding

An on-screen calculator is available to the student only on selected questions. For AAF, the question may provide access to a graphing calculator if appropriate.

Content Overview

20 Questions

Linear equations (2-3 questions)
- Creating linear equations in one or two variables, solving linear equations, simplifying linear equations and inequalities, and solving systems of two linear equations

Linear applications and graphs (2-3 questions)
- Applying linear equations to real-life contexts, using elementary linear functions to describe relationships, and graphing linear equations in two variables, linear inequalities, parallel and perpendicular lines, and systems of equations

Factoring (1-2 questions)
- Factoring methods applied to quadratics, cubics, and polynomials

Quadratics (2-3 questions)
- Creating quadratic equations in one or two variables, solving quadratic equations (via factoring or using the quadratic equation), simplifying quadratic equations and inequalities, and solving systems that involve a quadratic equation

Functions (2-4 questions)
- Creating functions using function notation, evaluating linear and quadratic functions, graphing functions, and interpreting functions within a context

Polynomial equations (1-3 questions)
- Creating polynomial equations in one and two variables, solving polynomial equations, and graphing polynomial functions

Here are the content strands tested on AAF. Beside each strand, you will see the range of questions given by the testing algorithm based on the student's performance. The list of strands continues on the next screen.

Content Overview
Continued

Radical and rational equations (1-3 questions)
- Creating radical and rational equations and functions in one variable, determining domain and range for radical and rational functions, graphing radical and rational functions, and simplifying radical and rational expressions and equations

Exponential and logarithmic equations (1-3 questions)
- Creating exponential and logarithmic equations in one and two variables, solving exponential and logarithmic equations, graphing exponential and logarithmic functions, and interpreting exponential and logarithmic functions

Geometry concepts for HS Algebra 1 (1-2 questions)
- Creating expressions for area, perimeter, and volume, using distance formula and Pythagorean theorem, and evaluating basic geometric transformations

Geometry concepts for HS Algebra 2 (1-2 questions)
- Determining volume of nonprism objects, using intersecting line theorems, using triangle similarity and congruency theorems, and using circle equations in the coordinate plane

Trigonometry (1-3 questions)
- Solving trigonometric equations, using right triangle trigonometry including special triangles, evaluating equivalent trigonometric functions, graphing trigonometric relationships, determining arc length and radian measures, and using the law of sines and the law of cosines

Sample Question 1

AAF

Function g is defined by $g(x) = 3(x + 8)$. What is the value of $g(12)$?

(A) –4

(B) 20

(C) 44

(D) 60*

Alignment: Functions

Calculator available: 4-function

CollegeBoard

Here is a sample test question on Functions which has a calculator available.

Sample Question 2

AAF

A biologist puts an initial population of 500 bacteria into a growth plate. The population is expected to double every 4 hours. Which of the following equations gives the expected number of bacteria, n, after x days? (24 hours = 1 day)

(A) $n = 500(2)^x$

(B) $n = 500(2)^{6x}$ *

(C) $n = 500(6)^x$

(D) $n = 500(6)^{2x}$

Alignment: Exponential and logarithmic equations

Calculator available: 4-function

CollegeBoard

This sample test question is on Exponential and Logarithmic Equations which has a calculator available.

Sample Question 3

AAF

The graph of $y = f(x)$ is shown in the xy-plane on the right.

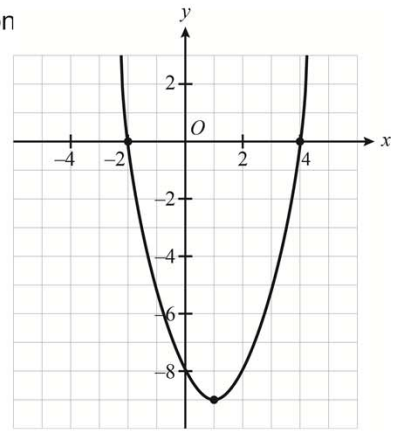
Which of the following equation

(A) $f(x) = x^2 - 2x - 8$ *

(B) $f(x) = -x^2 + 2x - 8$

(C) $f(x) = (x - 2)(x + 4)$

(D) $f(x) = -(x - 1)^2 - 9$



Alignment: Quadratics

Calculator available: Square root

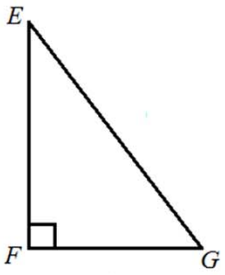
This question is on Quadratics and has a square root calculator available.

Sample Question 4

AAF

Triangle *EFG* has right angle *F*, *EG* =10, and *EF* = 6. Which of the following is closest to the measure of angle *E*?

(A) 31°
(B) 37°
(C) 53°*
(D) 64°



Note: Figure not to scale.

Alignment: Trigonometry
Calculator available: Graphing

This question focuses on Trigonometry and has a Graphing Calculator available.

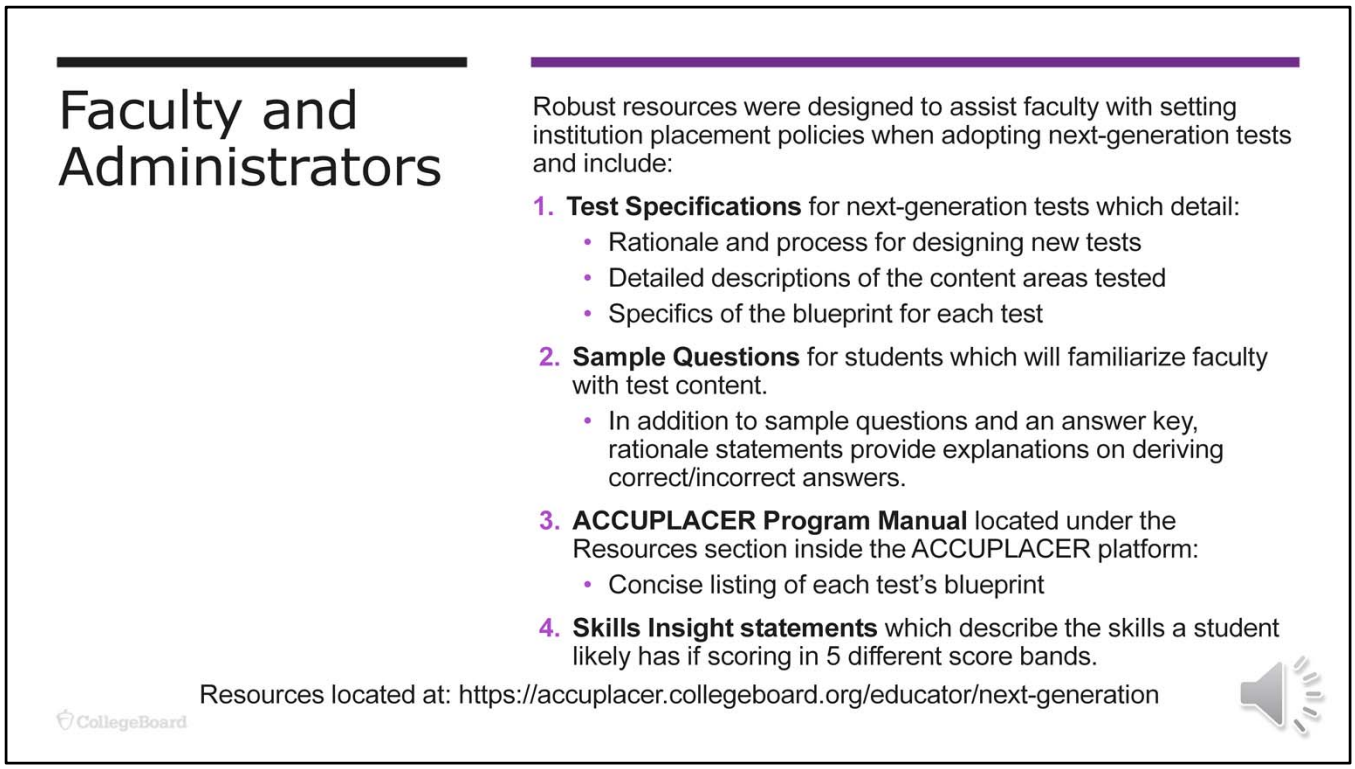
Advanced Algebra and Functions: Major Features Compared

Categories	Classic College Level Math Test	Next-Generation AAF Test
Test Length	• 20 items	• 20 items
Content Assessed	• **Algebraic operations** (rationals, radicals, polynomials, exponents, factoring, quadratics) • **Solutions of equations and inequalities** (linear equations and inequalities, quadratics, systems, exponentials, polynomials) • **Coordinate geometry** • **Applications and other algebra topics** • **Functions** (linear, quadratic, polynomial, exponential, logarithmic, composition, inverse) • **Trigonometry**	• **Linear equations** • **Linear applications and graphs** • **Factoring** • **Quadratics** • **Functions** • **Polynomial equations** • **Radical and rational equations** • **Exponential and logarithmic equations** • **Geometry concepts** • **Trigonometry**
Skills Assessed	• Computation/fluency • Applications sectioned out in 1 strand only	• Computation/fluency • Conceptual understanding • Applications woven throughout many strands
Item types	• Discrete	• Discrete
Calculator Availability	• 4-function available for some items	• 4-function, square-root, and graphing calculators available for some items

Here is the side-by-side comparison with the Classic College Level Math test. Items listed in bold-face print highlight either features of the test or content topics which are common to both tests.

Remember that you can pause the video to review this screen in more detail.

Next we will review resources available to support your institution’s adoption of Next-Generation.



The ACCUPLACER Program has created a robust set of resources designed to help faculty and leadership with the process of adopting Next-Generation tests. All of these are published at the web address you see on the screen.

First is the Test Specifications document which provides detailed information for faculty including:

- The rational and process we employed when designing our new tests.
- Detailed descriptions of the contact areas tested.
- Specifics of the blueprint for each test.

Next is the Sample Questions for Students which are available for each test. They documents include sample questions with an answer key; but more importantly contain a rationale for determining correct and incorrect answers for each question.

Finally, the Program Manual, available inside ACCUPLACER under the Resources section, provides a concise listing of the blueprint for each test. In addition, Skills Insight Statement describe the skills a student likely has when their score falls in 5 different score bands. These 5 bands are divided by scores at the 25th, 50th, 75th, and 90th%iles. Note that these documents are available to the student as they review their Individual Score Report after testing.

Free Student Practice

- Information for students is posted at https://accuplacer.collegeboard.org
  - Inside the Test gives the student brief information on test content
  - Taking the Test which gives tips on the testing process itself:
    - No Time Limit
    - Making an Appointment
    - Disability Accommodations
    - What to Bring on Test Day
    - What to Do If Your School is Located in Another State
- Information and access to the free Web Study App
  - https://accuplacerpractice.collegeboard.org
  - Runs on computer, tablet, or smartphone with Internet access
  - Practice questions with scoring and rationale for correct/incorrect answers
  - Access to both classic and next-generation versions of the test
  - Inform your students about the proper version to use!
  - Great for faculty review of test content

CollegeBoard

ACCUPLACER also offers rich resources for students which can also be useful as faculty and leadership consider adoption of Next-Generation tests.

Published at the web address shown, there are many different aspects of testing discussed:

- Inside the Test gives a student-facing description of test content.
- Taking the Test provides information and suggestions on the testing process itself including:
  - Reminding students that ACCUPLACER is untimed
  - Suggestions on how to make an appointment and request disability accommodations
  - What is and what is not allowed on testing day
  - And how to request remote testing

- Also posted is information on the free Web Study App which is available at the address shown. The app, which requires Internet access, runs on any device including a computer, tablet, or smartphone. It provides practice questions which are scored and also provides rational for both correct and incorrect answers. The app allows students to practice for the Classic or Next-Generation versions of ACCUPLACER tests so be sure to inform students about which version to use. The Study App is also a great tool for faculty to use when reviewing test questions.

Updating Placement Policies

Recommendations

While considering how to implement next-generation tests, your institution may wish to review placement policies and practices in addition to setting new cut scores. Options include:

- Setting matching scores comparable to those currently used
- Enhancing placement decisions by incorporating additional data points such as High School GPA

Additional resources from the ACCUPLACER Program are posted at on our website and include videos on:

- Methods for Setting Cut Scores
- Policy Development
- Using Multiple Measures with ACCUPLACER
- ACCUPLACER Reliability and Validity

Resources located at accuplacer.collegeboard.org/educator/resources-support

CollegeBoard

Reviewing Next-Generation test content is just part of the process of setting or updating your institution's placement policy. Your institution may choose to maintain your current policy by determining Next-Generation test scores that approximate your existing cut scores or you may wish to take this opportunity to incorporate additional measures such as High School GPA to your policy. Either way, we have resources available to help you with the process.

Posted at the address shown are several recordings on topics including:

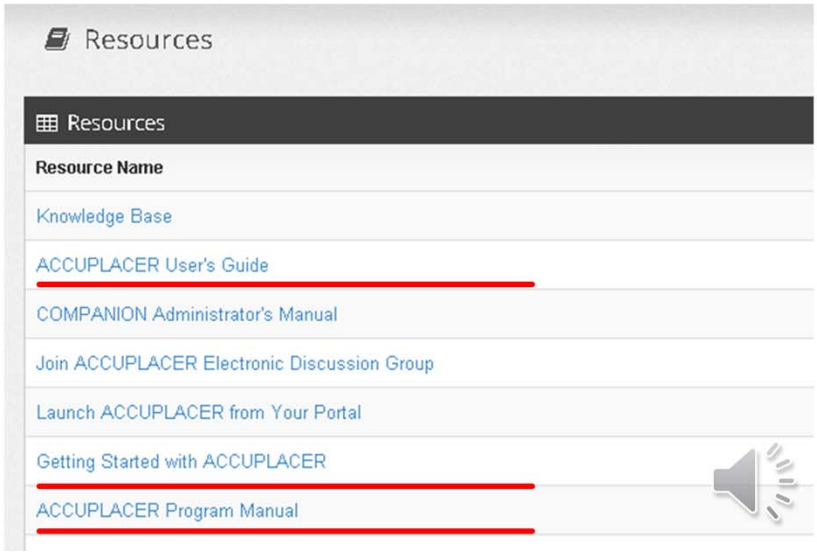
- Methods for Setting Cut Scores
- Policy Development
- Using Multiple Measures with ACCUPLACER

And

- Details on the Reliability and Validity of ACCUPLACER

ACCUPLACER Platform

- Getting Started with ACCUPLACER
- ACCUPLACER User's Guide
- ACCUPLACER Program Manual



The ACCUPLACER Program offers a wide range of resources to support our users. Many of these are available on-demand 24/7.

Inside ACCUPLACER is the Resources option which contains a variety of tools including:

- Getting Started with ACCUPLACER includes a Quick Start Guide to account setup.
- The ACCUPLACER User's Guide contains step-by-step instructions on account setup and use of features.
- The ACCUPLACER Program Manual includes information about the tests within the platform as well as information on testing policies and practices.

Professional Development Resources

accuplacer.collegeboard.org

- Live and recorded sessions on a variety of topics
- ACCUPLACER Account Setup presentation
  - Setup process overview
  - Step by step instructions
  - Links to video demonstrations

CollegeBoard

The ACCUPLACER Outreach Team provides professional development in many different formats. A listing of all the resources available is at the address shown.

- Some topics are presented through a live webcast. The Professional Development page provides a list of sessions available along with a link to register. Once registered, you will receive an email with instructions on joining the session.
- Many topics are available as on-demand videos and are available 24/7.
- The ACCUPLACER Account Setup presentation contains details of the process of setting up an ACCUPLACER account along with detailed step-by-step instructions. Also included are video demonstrations of each step in the process.

Outreach and Support Teams

The Outreach Team

- Senior Assessment Managers
- Provide service to institutions at the campus, system, and state levels
- Consultation, training, professional development, and advocacy
- On campus, face-to-face service
- Virtual service via webcast and phone

ACCUPLACER Support

- Staff dedicated to troubleshooting, problem solving, Q/A
- Available 12 hours/day – 6 days/week
- Phone: 866-607-5223
- Email: info@accuplacer.org
- Live chat

CollegeBoard

The ACCUPLACER Program has teams of staff members dedicated to providing support and service to our users.

The Outreach Team of Sr. Assessment Managers provides service to institutions at the campus, system, and state levels which can include consultation, training, professional development, and advocacy for student college readiness. Services can be provided through on campus, face-to-face events or virtually.

ACCUPLACER Support provides a staff of trained service agents ready to answer questions and resolve issues. Support is available 12 hours/day and can be contacted using a toll-free number, through email, and also live chat.