

# Navigating the Changes to College Admissions Testing

Maxwell Smith  
*Senior Director*

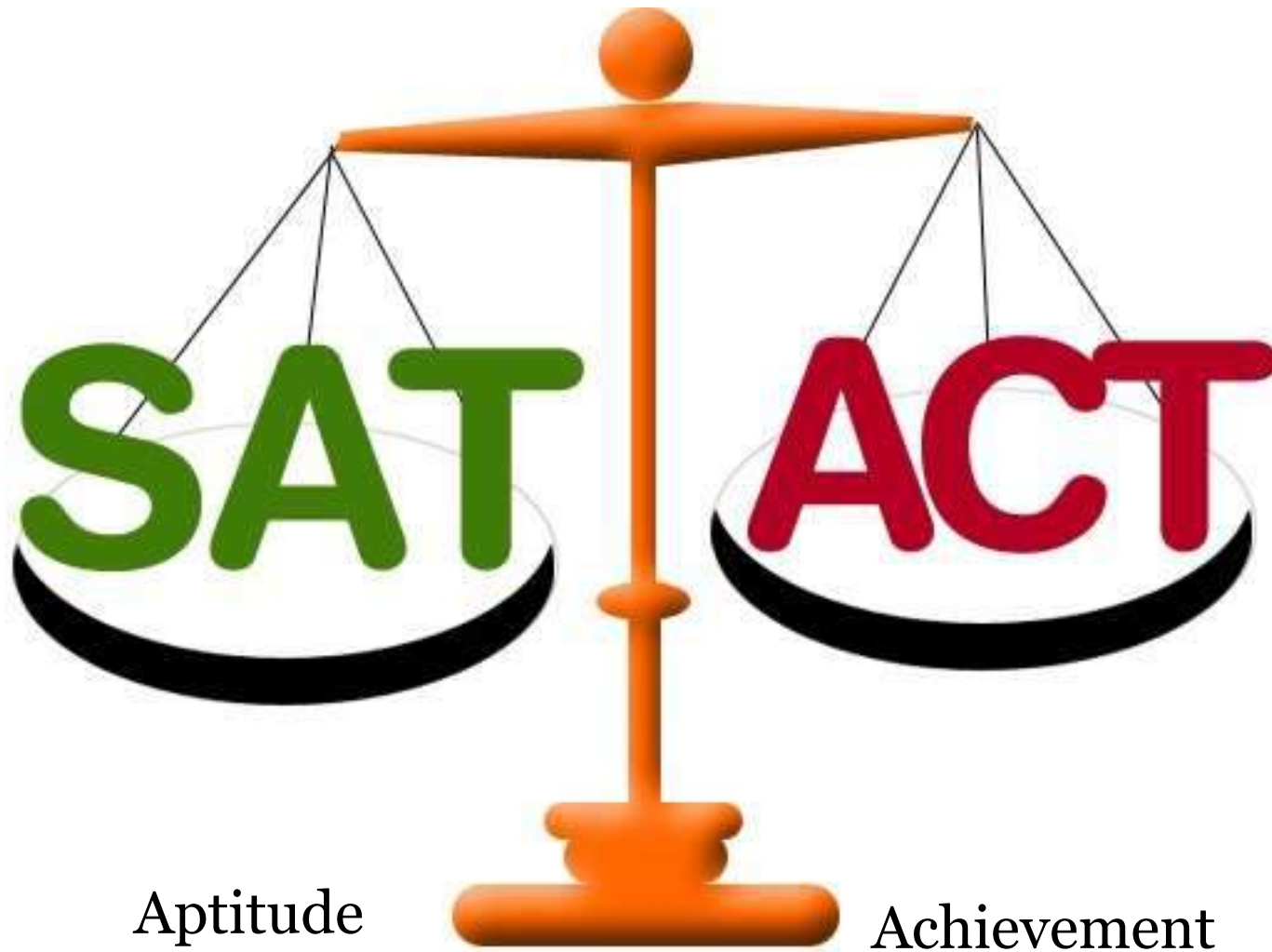


applerouth

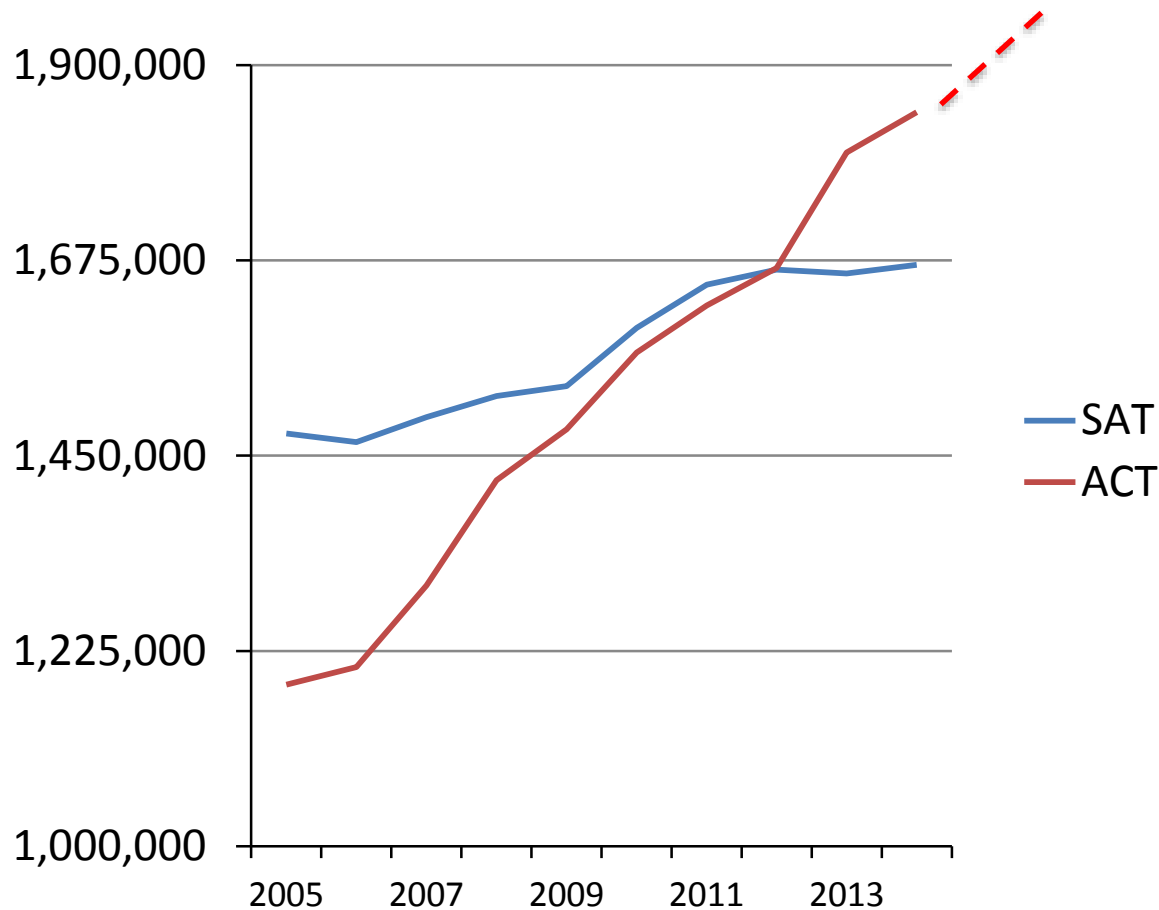
Why is the SAT Changing?



The two tests were initially created to measure different things

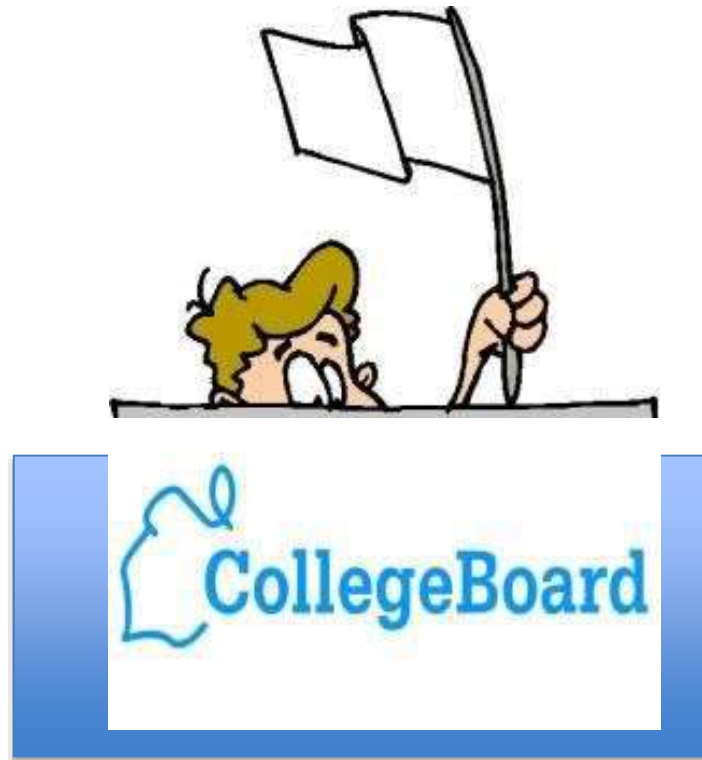


# The ACT is clearly dominating



College Board's School day testing initiative is preventing a more precipitous SAT decline

To battle shrinking market share, College Board committed to major changes to its assessments

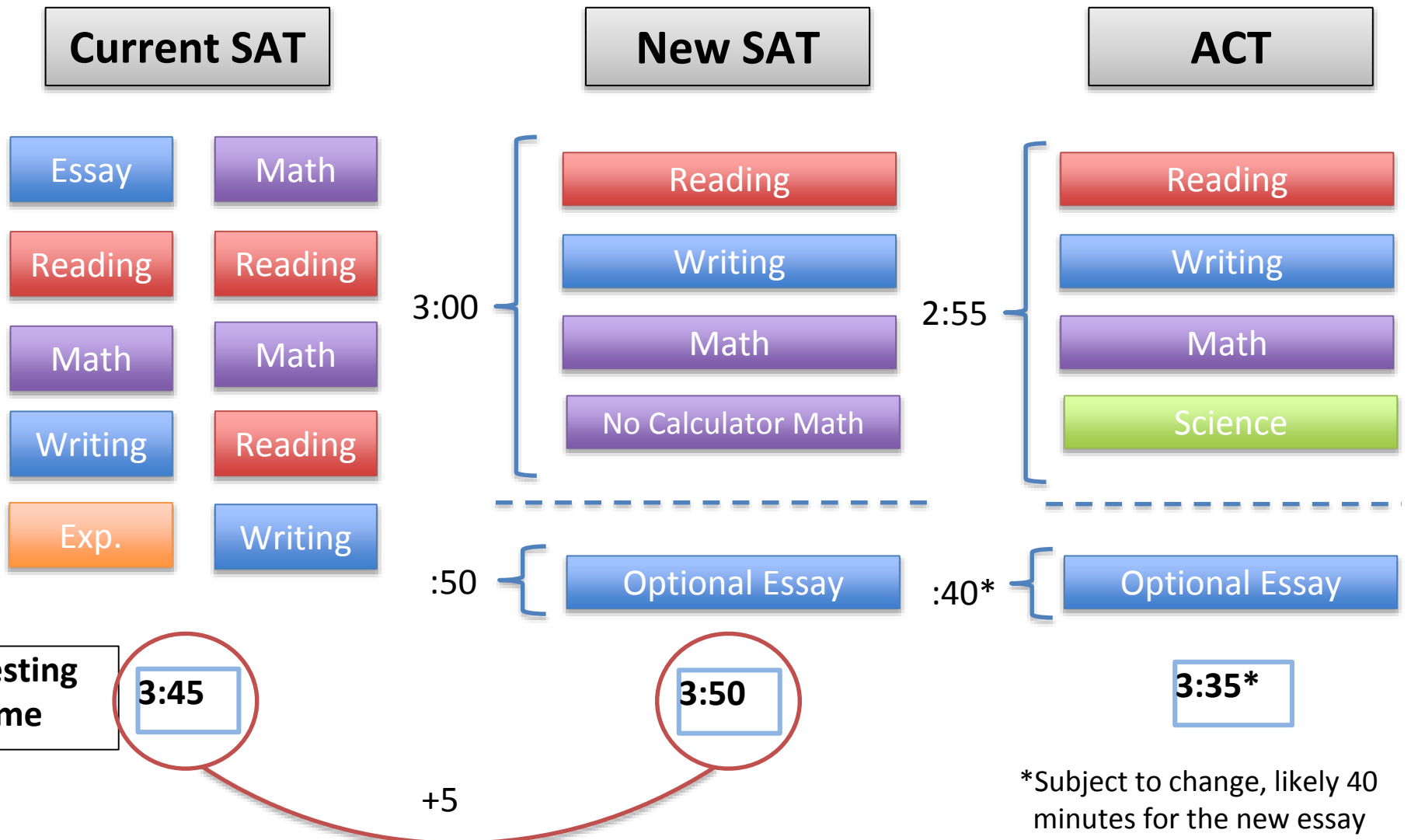


CB hired a Common Core Standards writer to run the shop and hired away top talent from the ACT, Inc.

- 2013, College Board opened an office **3** miles from ACT HQ in Iowa City
- SAT began using its \$70m annual “profits” to poach dozens of top ACT execs and developers



# What's the Basic Structure of each Test?

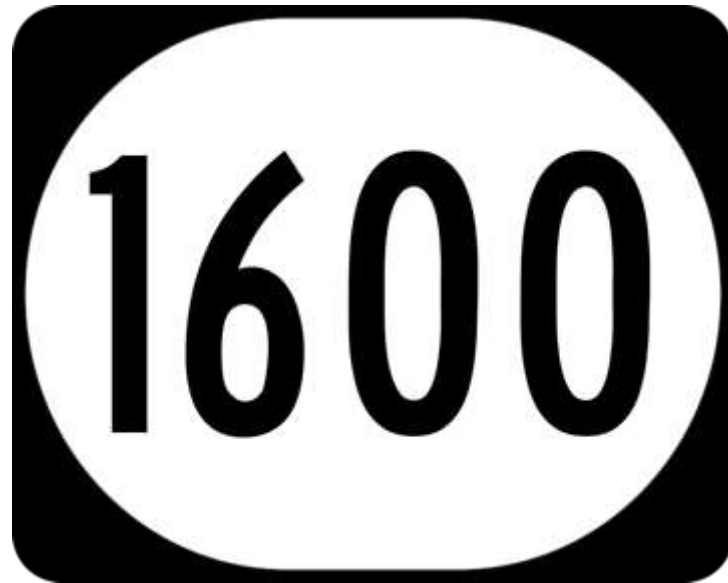


# The Great SAT Overhaul!





The SAT also returned to the 1600 scale



Lumping Reading and Writing into a single section

# The New SAT appears to be a better test than the current SAT or ACT

- We believe it will be a better predictor of college readiness than the current SAT or ACT, but we'll need to wait several years for the data to prove that hypothesis
- The New SAT will raise the bar for students, emphasize rigorous standards, and critical thinking
- In time, colleges may even come to prefer this test: Yale and U. Rochester have stated they prefer the revised SAT to the current SAT

However, the new SAT is harder than either the current SAT or the ACT



This alone will push many students towards the ACT.  
In the short term, the CB will lose share.

# the new Math curve is much more forgiving

Math Section Scaled Score	Current SAT (54 items)		Redesigned SAT (58 items)	
	Incorrect Answers	Percent Accuracy	Incorrect Answers	Percent Accuracy
700	<b>4</b>	93%	<b>8</b>	84%
600	13	76%	20	66%
500	21	57%	32	45%
400	32	41%	43	26%

Students can miss twice as many problems (at a 700) on the new test and receive the same score. This is comparable to the Math 2 curve being much more forgiving than Math 1, an easier test

# The new Reading curve is much closer to the current curve

Reading Section Scaled Score	Current SAT (67 items)		Redesigned SAT (52 items)	
	Incorrect Answers	Percent Accuracy	Incorrect Answers	Percent Accuracy
700	<b>8</b>	88%	<b>8</b>	84%
600	16	76%	18	65%
500	29	57%	27	52%
400	41	39%	37	29%

# As is Writing

	Current SAT (49 items)		Redesigned SAT (44 items)	
Writing Section Scaled Score	Incorrect Answers	Percent Accuracy	Incorrect Answers	Percent Accuracy
700	<b>4</b>	92%	<b>5</b>	88%
600	9	82%	10	75%
500	17	65%	17	58%
400	27	49%	24	40%

# A few basics about the new SAT



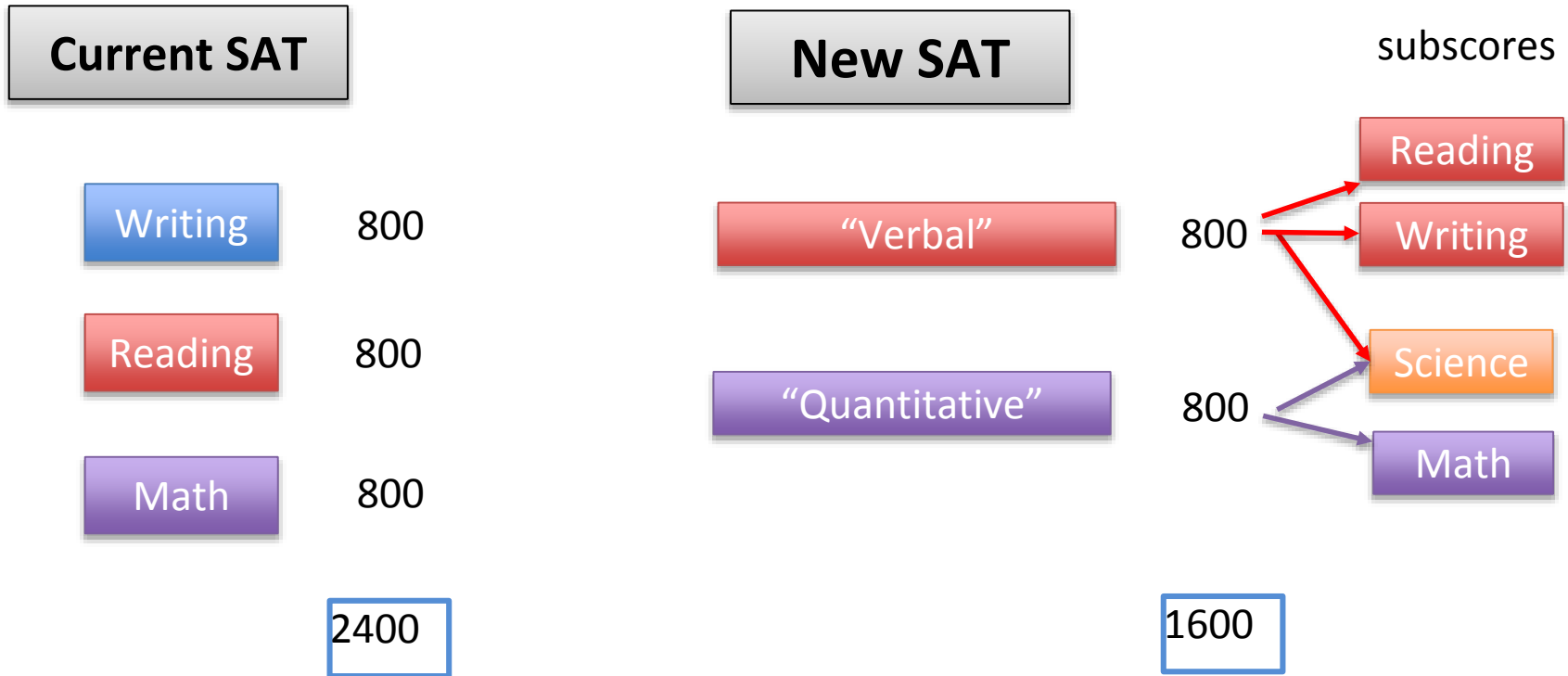
# The SAT nixed the guessing penalty



So students will never again have to worry about that pesky quarter point.



# Returns to the 1600 Scale with subscores



Subscores will be meaningful for colleges and programs looking for students with particular skill sets

CB allowed more time per question, but many students will need more time for the harder question types



Seconds Per Question			
Section	ACT	Current SAT	New SAT
Grammar	36.0	42.9	<b>47.7</b>
Reading	52.5	62.7	<b>75.0</b>
Math	60.0	77.8	<b>84.2</b>

<b>33 %</b>
<b>43 %</b>
<b>40 %</b>

Science 52.5

-

Extended time  
SAT over ACT!

Even considering the more difficult items on the New SAT, the extra time will help students with slower processing speeds

# Reading



# Reduced its emphasis on vocabulary, but did not eliminate it entirely

Section	College Board Standard	Examples
Reading	Measure students' understanding of words and phrases that are <b>neither highly obscure nor specific to any field of study</b> , whose specific meaning and purpose are derived in large part through the <b>context</b> in which they are used.	bearing, flat, expert, directly, form, ambivalent, channel
Writing	Recognize and correct confusion between <b>commonly confused words</b> (e.g., affect and effect)	fair/fare, site/sight/cite, their/they're/there
	Choose between similar words with <b>different connotations</b> Decide which word or phrase expresses an idea most clearly	“devour” / “dispatch” / “overindulge on” / “dispose of”
	Recognize and correct cases of <b>nonstandard expression</b> (when words and phrases are used in a way not typical to standard written English)	“law troubles” vs. “legal issues”  “sharing advice” vs. “giving wisdom”

# Vocabulary in context is remarkably easy on Critical Reading

Common words with multiple meanings have replaced the most challenging words from sentence completions. Students must use context to discern the intended meaning.

bearing, flat, expert, directly, form, ambivalent,  
convey, hold, demands, embraced, clashes, plastic

25

As used in line 40, "plastic" most nearly means

- A) creative.
- B) artificial.
- C) malleable.
- D) sculptural.



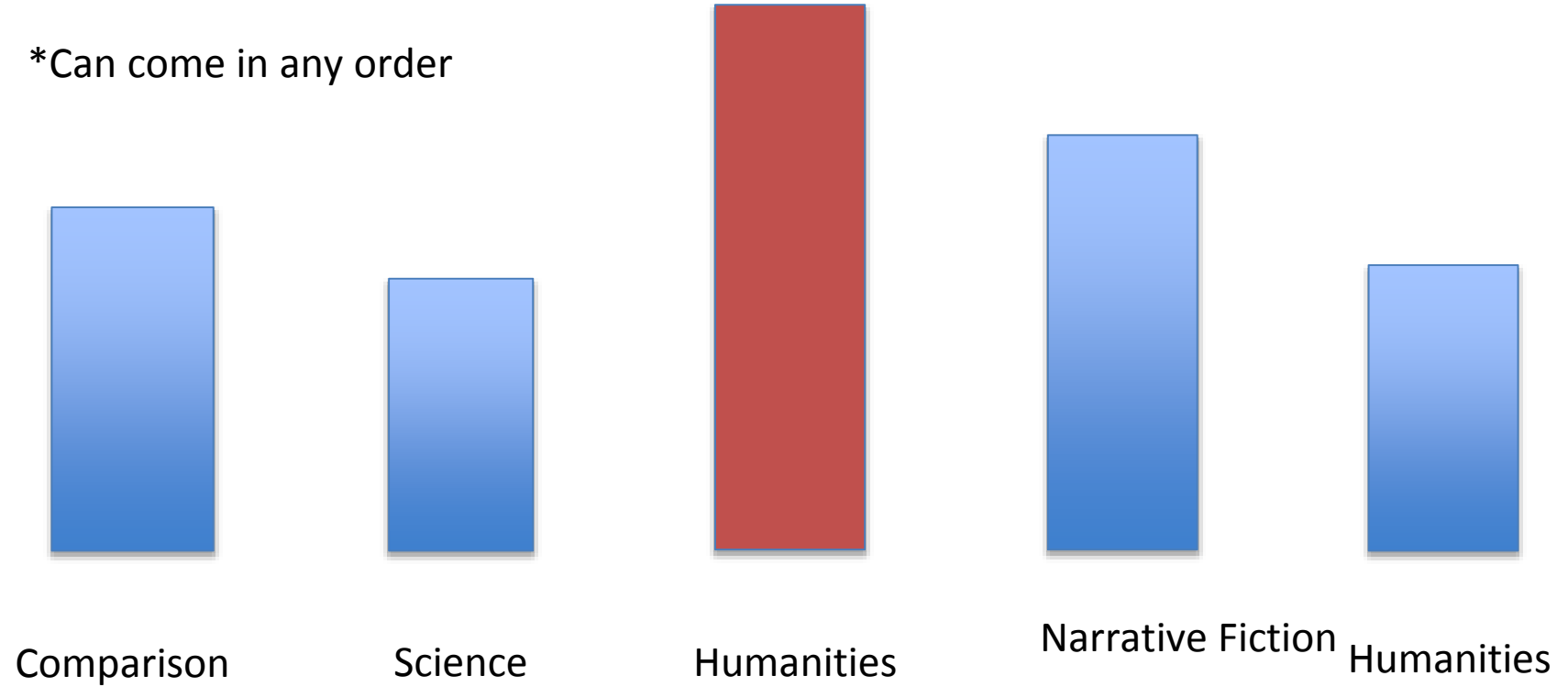
Students will occasionally have to pull out a harder definition such as translating "plastic" into "malleable"

# New SAT Reading borrows heavily from the ACT

- Like the ACT, the SAT Reading section consists of long passages from the domains of Science, Literature, and Humanities/Social Studies.
- SAT has added ACT Science-style charts, graphs, and figures into the science passages.
- Textual complexity varies by passage, with some passage as difficult as those found on the SAT Literature test or AP English test.

# Expect an extremely hard passage on each test

\*Can come in any order



Students need to be prepared for the spikes in difficulty. Certain student populations need to be coached not to abandon hope when they hit a really hard passage.

# Spikes in difficulty

- **Test 1:** Implications of structure of DNA, Watson and Crick (1953) Scientific Paper: jargon, and complexity
- **Test 2:** Charlotte Bronte, *the Professor* (1857): levels of meaning, structure, archaic language, 40 words per sentence (compared to 26- rest of test)
- **Test 3:** Decline of the bees: scientific jargon, vocabulary and structure, 36 words per sentence (compared to 24- rest of test)
- **Test 4:** Edmund Burke, Reflections on the French Rev. (1790) and Thomas Paine, Rights of Man (1791): archaic language, complex sentence structure



# Sample evidence item

12

In the passage, the author anticipates which of the following objections to criticizing the ethics of free markets?

- A) Smith's association of free markets with ethical behavior still applies today.
- B) Free markets are the best way to generate high profits, so ethics are a secondary consideration.
- C) Free markets are ethical because they are made possible by devalued currency.
- D) Free markets are ethical because they enable individuals to make choices.

13

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 4-5 ("Some . . . ethical")
- B) Lines 7-10 ("But . . . about")
- C) Lines 21-22 ("Smith . . . outcome")
- D) Lines 52-54 ("When . . . way")



Students will need to scour a fairly large section of the passage to find the necessary evidence. This will take more time per item, but students will have more time.

# Tough Passage: Charlotte Brontë

25 my darling, my cherished-in-secret, Imagination, the  
tender and the mighty, should never, either by  
softness or strength, have severed me. But this was  
not all; the antipathy which had sprung up between  
myself and my employer striking deeper root and  
30 spreading denser shade daily, excluded me from  
every glimpse of the sunshine of life; and I began to  
feel like a plant growing in humid darkness out of the  
slimy walls of a well.

Antipathy is the only word which can express the  
35 feeling Edward Crimsworth had for me—a feeling, in  
a great measure, involuntary, and which was liable to  
be excited by every, the most trifling movement,  
look, or word of mine. My southern accent annoyed

Hard core sentence structure, typically found on AP  
English or SAT Literature exam

# Tough Passage: Edmund Burke

## Passage 1

To avoid . . . the evils of inconstancy and versatility, ten thousand times worse than those of obstinacy and the blindest prejudice, we have  
*Line* consecrated the state, that no man should approach  
5 to look into its defects or corruptions but with due caution; that he should never dream of beginning its reformation by its subversion; that he should approach to the faults of the state as to the wounds of a father, with pious awe and trembling solicitude. By  
10 this wise prejudice we are taught to look with horror on those children of their country who are prompt rashly to hack that aged parent in pieces, and put him into the kettle of magicians, in hopes that by their poisonous weeds, and wild incantations, they may  
15 regenerate the paternal constitution, and renovate their father's life.

*Pious and trembling solicitude*: some students will be intimidated by this level of difficulty

# Tough Passage: DNA

**Questions 22-31 are based on the following passage and supplementary material.**

This passage is adapted from J. D. Watson and F. H. C. Crick, "Genetical Implications of the Structure of Deoxyribonucleic Acid." ©1953 by Nature Publishing Group. Watson and Crick deduced the structure of DNA using evidence from Rosalind Franklin and R. G. Gosling's X-ray crystallography diagrams of DNA and from Erwin Chargaff's data on the base composition of DNA.

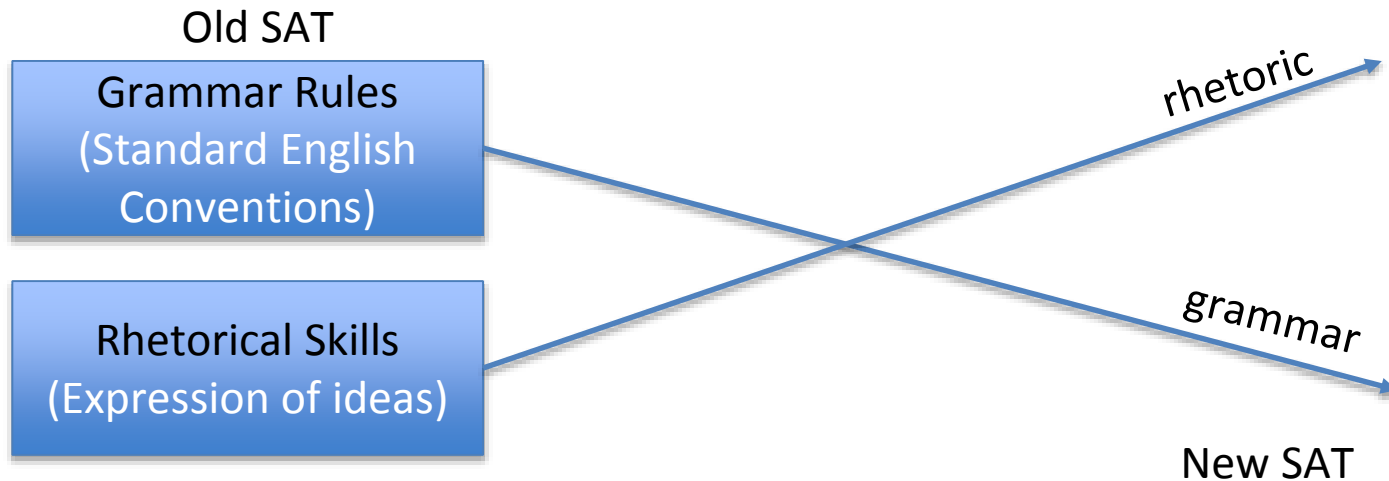
The chemical formula of deoxyribonucleic acid (DNA) is now well established. The molecule is a very long chain, the backbone of which consists of a regular alternation of sugar and phosphate groups.  
*Line* 5 To each sugar is attached a nitrogenous base, which can be of four different types. Two of the possible bases—adenine and guanine—are purines, and the other two—thymine and cytosine—are pyrimidines. So far as is known, the sequence of bases along the  
10 chain is irregular. The monomer unit, consisting of phosphate, sugar and base, is known as a nucleotide.

Students need to be able to wade through the jargon and answer specific questions about the concepts

# Writing



# Rhetorical skills now trump grammar



	Old SAT	New SAT	ACT
Standard English Conventions	80%	45%	51%
Expression of Ideas/ Rhetorical Skills	20%	<b>55%*</b>	49%*

Far more tasks focus on subtle transitions, introductions, or supporting examples, mirroring the ACT

# A few high level observations about the new Writing test

- Increased passage complexity (and significant fluctuations in complexity)
- Passages are more relevant to students
- Increased focus on rhetorical skills
- Requirement for students to understand the passage holistically (a departure from ACT, where students can do most tasks in isolation)
- Vocabulary shows up in a bigger way on this section.

# Writing is completely in context

Embracing the Common Core standards, like the ACT, the SAT is placing all of its writing items in the context of paragraphs

He wasn't always so resistant to flying, although he has always been afraid  
of it. As to the former, when he was eleven years old, my parents took him  
on a trip to Disneyland. He got on the plane without incident, but  
as soon as he heard the engines start up he covered his ears with his  
hands and kept them there for the duration of the three-hour flight. On the  
way home, he did precisely the same thing.

4.

Choices

A NO CHANGE

B owing to the fact that he heard

C because of his hearing

D since he will have heard

Where the current SAT has a mere 6 of 49 items in a paragraph form, the new SAT has every item in a long paragraph form



# SAT Writing places a greater focus on reading comprehension

4

Which choice best connects the sentence with the previous paragraph?

- A) NO CHANGE
- B) All three sections of the mural were on display
- C) The community turned out in large numbers
- D) Siqueiros was informed of people's reactions

10

Which choice most effectively sets up the information that follows?

- A) NO CHANGE
- B) being cleaned and restored.
- C) at risk of destruction.
- D) awaiting its moment of appreciation.

11

At this point, the writer is considering adding the following sentence.

When it was painted in 1932, Siqueiros's mural was considered offensive, but now it is acclaimed.

Should the writer make this addition here?

- A) Yes, because it provides historical context for the changes discussed in the passage.
- B) Yes, because it provides a useful reminder of how people once viewed Siqueiros's work.
- C) No, because it unnecessarily repeats information from earlier in the passage.
- D) No, because it makes a claim about Siqueiros's work that is not supported by the passage.

# Math

If  $y = 3$ , what is  $6y$ ?

Hmmm... 63 ?



# The CB made a Common Core math test emphasizing conceptual understanding

- Interpreting trumps solving.
- Understanding how to build and manipulate functions and equations.
- It's more of an applied math test, gauging fluency and understanding, rather than systematic solving.
- No more immediate roadmap to an answer, students must be more discriminating and find a path to an answer.
- Overlapping content with fewer items assessing a solitary concept.

# How does the new SAT content compare?

Test	Algebra	Geometry	Arithmetic/Data Analysis	Trigonometry
<i>Old SAT</i>	<b>50%</b>	<b>24%</b>	<b>26%</b>	<b>0%</b>
<i>ACT</i>	<b>46%</b>	<b>23%</b>	<b>24%</b>	<b>7%</b>
<i>New SAT*</i>	<b>62%</b>	<b>6%</b>	<b>30%</b>	<b>2%</b>

Algebra is up and Geometry is way down

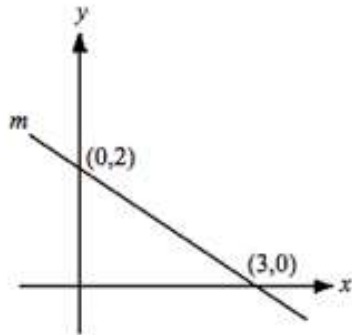
\*based on analysis of 4 released tests, using College Board's new categories, which reclassify some SAT topics we traditionally called "Geometry" as "Algebra"

The calculator section puts the greatest emphasis on word problems in a real-world context

Section	Contextual	Conceptual
<i>No Calculator</i>	<b>24%</b>	<b>76%</b>
<i>Calculator</i>	<b>69%</b>	<b>32%</b>
<i>Overall</i>	<b>53%</b>	<b>47%</b>

Whereas the No Calc section primarily tests algebraic concepts in the abstract

The Old SAT tested slope in isolation as a singular concept



1. In the figure above, what is the slope of line  $m$ ?

- (A)  $-\frac{3}{2}$
- (B)  $-\frac{2}{3}$
- (C)  $\frac{2}{3}$
- (D)  $\frac{3}{4}$
- (E)  $\frac{3}{2}$

5. Which of the following is an equation of the line in the  $xy$ -plane that passes through the point  $(4, 1)$  and is parallel to the line  $y = 3x - 4$ ?

- (A)  $y = -\frac{1}{3}x$
- (B)  $y = -3x - 4$
- (C)  $y = 3x - 11$
- (D)  $y = 3x + 4$
- (E)  $y = 3x + 13$

Slope is Rise/Run. I can memorize that!

*versus*

I have to understand how slope actually works

# Solving is less important than being able to generate an equation or interpret a constant or variable

9

A worker uses a forklift to move boxes that weigh either 40 pounds or 65 pounds each. Let  $x$  be the number of 40-pound boxes and  $y$  be the number of 65-pound boxes. The forklift can carry up to either 45 boxes or a weight of 2,400 pounds. Which of the following systems of inequalities represents this relationship?

A) 
$$\begin{cases} 40x + 65y \leq 2,400 \\ x + y \leq 45 \end{cases}$$

B) 
$$\begin{cases} \frac{x}{40} + \frac{y}{65} \leq 2,400 \\ x + y \leq 45 \end{cases}$$

C) 
$$\begin{cases} 40x + 65y \leq 45 \\ x + y \leq 2,400 \end{cases}$$

D) 
$$\begin{cases} x + y \leq 2,400 \\ 40x + 65y \leq 2,400 \end{cases}$$

3

A landscaping company estimates the price of a job, in dollars, using the expression  $60 + 12nh$ , where  $n$  is the number of landscapers who will be working and  $h$  is the total number of hours the job will take using  $n$  landscapers. Which of the following is the best interpretation of the number 12 in the expression?

- A) The company charges \$12 per hour for each landscaper.
- B) A minimum of 12 landscapers will work on each job.
- C) The price of every job increases by \$12 every hour.
- D) Each landscaper works 12 hours a day.

# There are significant content changes

- Algebra is king of the redesigned SAT Math section
- Geometry takes a major backseat
- Deeper Algebra 2 content and some Trigonometry



$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



# Expect tougher algebra than ever before

15

$$x^2 - \frac{k}{2}x = 2p$$

In the quadratic equation above,  $k$  and  $p$  are constants. What are the solutions for  $x$ ?

- A)  $x = \frac{k}{4} \pm \frac{\sqrt{k^2 + 2p}}{4}$
- B)  $x = \frac{k}{4} \pm \frac{\sqrt{k^2 + 32p}}{4}$
- C)  $x = \frac{k}{2} \pm \frac{\sqrt{k^2 + 2p}}{2}$
- D)  $x = \frac{k}{2} \pm \frac{\sqrt{k^2 + 32p}}{4}$

18

$$x^3 - 5x^2 + 2x - 10 = 0$$

For what real value of  $x$  is the equation above true?

Quadratic formula and polynomial factoring are staples of the new test

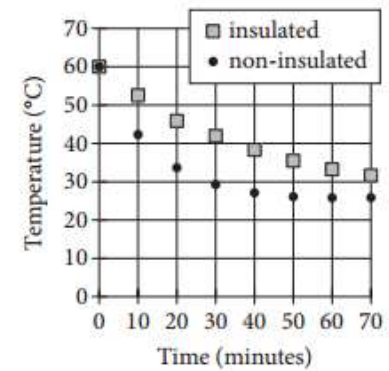
# The integration of statistics and applied math

13

A researcher conducted a survey to determine whether people in a certain large town prefer watching sports on television to attending the sporting event. The researcher asked 117 people who visited a local restaurant on a Saturday, and 7 people refused to respond. Which of the following factors makes it least likely that a reliable conclusion can be drawn about the sports-watching preferences of all people in the town?

- A) Sample size
- B) Population size
- C) The number of people who refused to respond
- D) Where the survey was given

# Where Math meets Science



This problem is very much like one found on the ACT, with a greater degree of reading than one would expect on a math section

Two samples of water of equal mass are heated to 60 degrees Celsius ( $^{\circ}\text{C}$ ). One sample is poured into an insulated container, and the other sample is poured into a non-insulated container. The samples are then left for 70 minutes to cool in a room having a temperature of  $25^{\circ}\text{C}$ . The graph above shows the temperature of each sample at 10-minute intervals. Which of the following statements correctly compares the average rates at which the temperatures of the two samples change?

- A) In every 10-minute interval, the magnitude of the rate of change of temperature of the insulated sample is greater than that of the non-insulated sample.
- B) In every 10-minute interval, the magnitude of the rate of change of temperature of the non-insulated sample is greater than that of the insulated sample.
- C) In the intervals from 0 to 10 minutes and from 10 to 20 minutes, the rates of change of temperature of the insulated sample are of greater magnitude, whereas in the intervals from 40 to 50 minutes and from 50 to 60 minutes, the rates of change of temperature of the non-insulated sample are of greater magnitude.
- D) In the intervals from 0 to 10 minutes and from 10 to 20 minutes, the rates of change of temperature of the non-insulated sample are of greater magnitude, whereas in the intervals from 40 to 50 minutes and from 50 to 60 minutes, the rates of change of temperature of the insulated sample are of greater magnitude.

# Essay



# The New Essay: A document based question

As you read the passage below, consider how Jimmy Carter uses

- evidence, such as facts or examples, to support claims.
- reasoning to develop ideas and to connect claims and evidence.
- stylistic or persuasive elements, such as word choice or appeals to emotion, to add power to the ideas expressed.

Write an essay in which you explain how Jimmy Carter builds an argument to persuade his audience that the Arctic National Wildlife Refuge should not be developed for industry. In your essay, analyze how Carter uses one or more of the features listed in the box above (or features of your own choice) to strengthen the logic and persuasiveness of his argument. Be sure that your analysis focuses on the most relevant features of the passage.

Your essay should not explain whether you agree with Carter's claims, but rather explain how Carter builds an argument to persuade his audience.

The Essay is “optional,” is 50 minutes long, is at the end of the test, and is more analytical and challenging

*“Your essay should not explain whether you agree with [the author’s] claims, but rather explain how [the author] builds an argument to persuade his audience.”*

New scoring rubric grants a max of 4 points for reading, 4 points for analysis, 4 points for writing.



Not all schools will require the new SAT (or ACT)  
essay



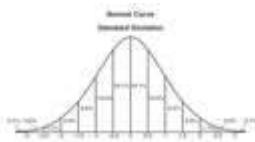
Citing cost and validity issues as decision factors



# EXPECT DELAYS

College Board is intentionally delaying the March and possibly May 2016 SAT score returns. CB psychometricians will use May scores to help validate the new scoring scale from the March norming group.

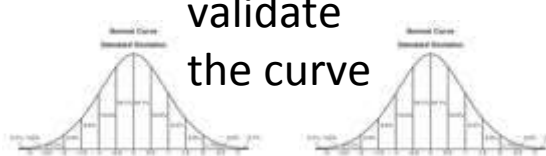
Establish the curve, raw to scaled scores



March  
2016

Is March is a truly representative sample?

validate the curve



May 2016

Release the results

Late  
May/June  
2016

Waive late fees for June



# The ACT shifts, albeit more subtly

- Essay Changes
- Extra Scores/Reporting
- Digital Assessments
- Reading Changes
- Optional Constructed Response subject tests



ACT is getting itself more Common-Core aligned,  
gradually and without fanfare

# Responding to the harder SAT essay, the ACT essay is changing

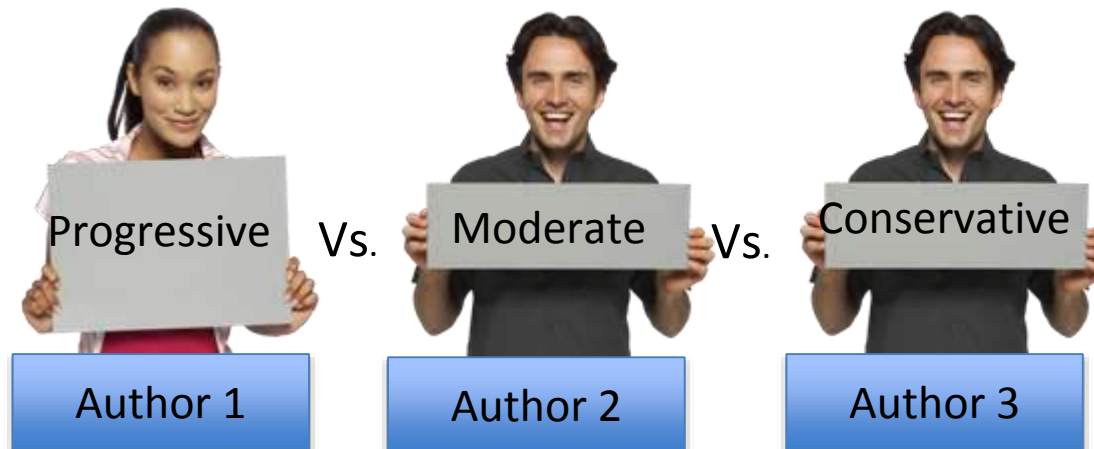
- will evaluate 4 areas: ideas and analysis, development and support, organization, and language use.
- It will likely be 40 minutes long
- Students will be provided several perspectives and asked to create their own analysis of a complex issue

## Old Essay

Should students who have C averages in high school be allowed to get driving permits?



## New Essay



ACT Reading has been changing gradually since  
October 2013

New ACT reading sections have **compare and contrast** dual passages! Taking a note directly from the SAT playbook

How is Author 1's tone distinct from that of Author 2?



Author 1

VS



Author 2

Rhetorical Device Questions: students must now know the following terms

- Alliteration
- Allusion
- Anecdote
- Figurative language
- Idiomatic expressions
- Metaphor
- Personification
- Rhetorical question
- Simile



# Harder ACT math examples

- Expanding use of matrices (e.g., multiplication)
- Adding more conic sections (e.g., working with ellipses and parabolic equations)
- Understanding the domain of a function
- Trig: Using Radians, Terminal Sides and Coterminal Angles (e.g.,  $30^\circ$ ,  $-330^\circ$  and  $390^\circ$ )

# Plan for Testing



# Timeline for SAT-ACT changes

Preliminary SAT scoring tables

Digital ACT and ACT changes

**New PSAT** for Class of 2017 and 2018

Old SATs

**Final** Old SAT

**New SAT!** (delayed score return)  
First digital SAT

July-Aug  
2015

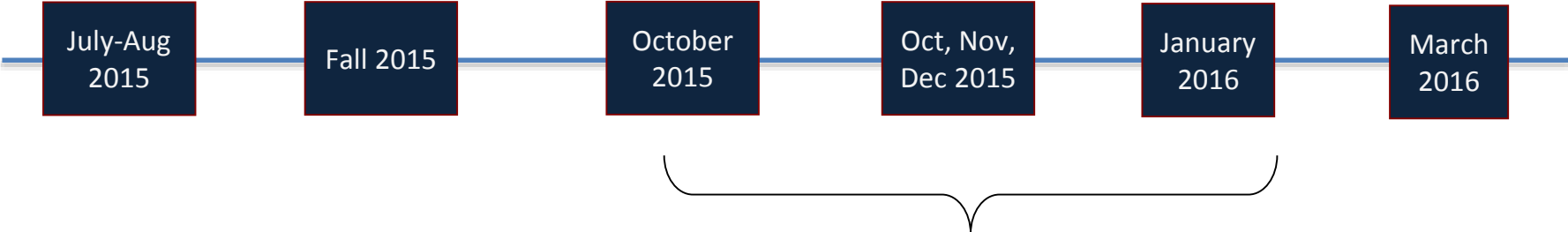
Fall 2015

October  
2015

Oct, Nov,  
Dec 2015

January  
2016

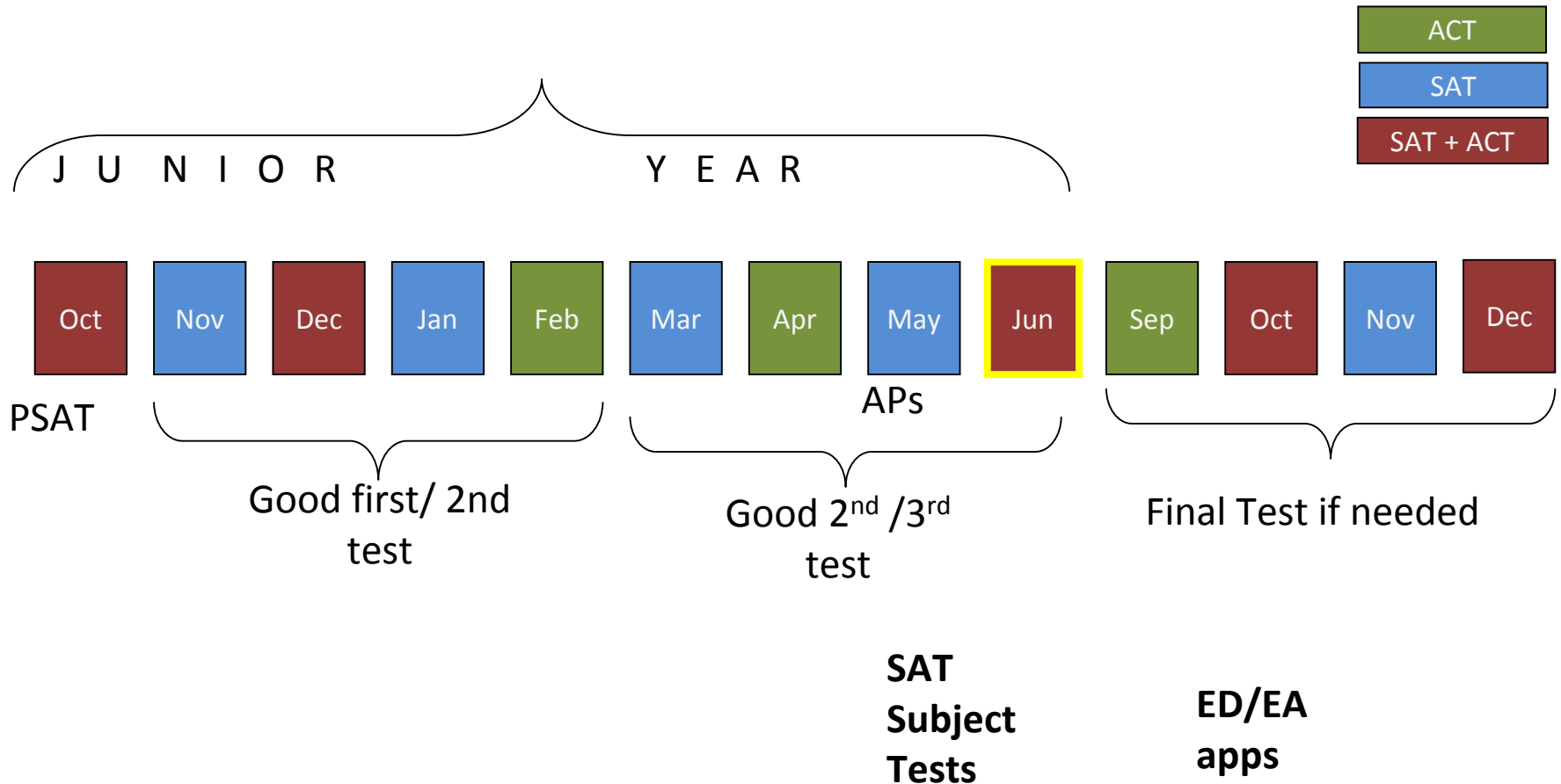
March  
2016



Class of 2017 (rising juniors) will straddle the old and new SAT. Many will take practice exams to determine their optimal test.

# The ideal time to prep

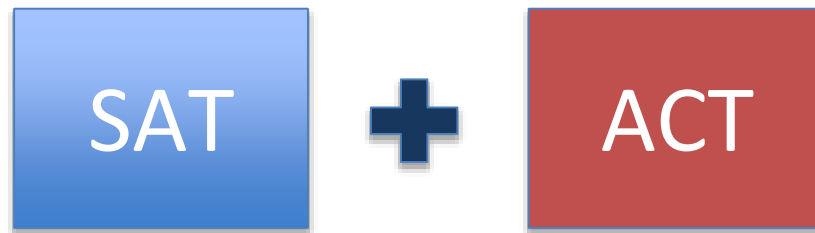
Testing typically lives in Junior year, but in this year of transition, some sophomores may take an SAT in May or June





Students don't need to take both tests, though more students are hedging their bets

2014: over 30% of Princeton applicants submitted both SAT and ACT, as did roughly 25% of applicants to Harvard, UVA, and UCLA.



It's more efficient and cost-effective to select one test and focus all the energies in that direction. Baseline test scores help determine the optimal test.

## ACT Test Dates

October 24th, 2015  
December 12th, 2015  
February 6th, 2016  
April 9th, 2016  
June 11, 2016  
September 10th, 2016  
October 22nd, 2016  
December 10th, 2016

## SAT Test Dates

November 11th, 2015  
December 5th, 2015  
January 23rd, 2016 \*last old SAT  
*March 5th, 2016 (new)*  
*May 7th, 2016 (new)*  
*June 4th, 2016 (new)*

# How will colleges perceive the new SAT compared to the old?

- The vast majority of feedback we have received from colleges pertaining to the new test has been positive, though many unhappy to lose years of data.
- Changes to SAT subject test policies TBA.
- The new SAT may correlate more closely with freshman and 4-year GPA. Colleges will have early data by Summer of 2018.

Some responses from colleges on the New SAT:

<https://www.applerouth.com/blog/2015/02/16/how-will-top-colleges-use-the-redesigned-sat/>

# Virginia Tech



The Hokies are the first and currently only school in the country who will require current juniors to submit either a new SAT score or an ACT score

Will many schools follow? Unlikely, from all the feedback we've received. A small number of schools will take this position, but the overwhelming majority will not.

If you would like a copy of this presentation, please give me your information.

## Our Services

- SAT & ACT prep (online, private, group)
- SAT Subject and AP prep
- Academic Support
- Study Skills

