Common Core State Standards and the SAT/ACT

Aligning Curriculum to Enhance Student Outcomes
Scott Farber- Presenter

- President and Co-Founder
- 10,000+ hours with students one-on-one and in classroom settings to help them improve their SAT/ACT scores.
- Average score improvements of 351 points on the SAT and 8 points on the ACT.
- Facilitated SAT/ACT professional development for hundreds of teachers and administrators from high schools, nonprofit organizations, and educational groups across the U.S.
About A-List:

• In school classes taught by A-List trained teachers, students improve SAT/ACT scores by more than 3 times the national average.

• Offer Student and Teacher Materials, E-Learning Tools

• SAT/ACT Professional Development: tools and resources to effectively integrate SAT/ACT content and strategies into existing curricula and/or to run a stand-alone test prep course.

• Partnered with over 60 nonprofit organizations, high schools and colleges across the country

www.alisteducation.com
The SAT and the ACT

What do they test?

• Content and Reasoning Ability

• ELA – Grammar, Writing Skills, Vocabulary, Reading Comprehension

• Math – Arithmetic, Geometry, Algebra, Functions and other concepts
The SAT and the ACT

Why do the scores matter?

• Assessment of College Readiness

• College Admission

• Scholarships and Merit-based Aid

• Achieving benchmark scores allows those enrolling in community college to avoid remedial classes
Average SAT Scores

* indicates less than 7% of eligible Juniors took the test

http://research.collegeboard.org/programs/sat/data
Average ACT Score

* indicates less than 25% of eligible Juniors took the test

http://www.act.org/newsroom/data/2012/states.html
4 Year Degree Completion Rates

http://collegecompletion.chronicle.com/state/#state=SC&sector=public_four
2 Year Degree Completion Rates

http://collegecompletion.chronicle.com/college-stats/
ACT Score Improvement

Proven Results
A-List trained faculty in schools have helped students increase scores by more than twice the National Average*
A-List Staff Results

A-List Top 25%:
- SAT: +350 points
- ACT: +6 points

A-List Average:
- SAT: +259 points
- ACT: +4.8 points

National Average:
- SAT: +55 points
- ACT: +1 point

Score Improvement:
National average score improvement from PSAT to SAT

(using a conversion scale)
What is the Common Core?

• Provide standards for core competencies
• Offer curriculum guidance
• Leverage research and evidence
Combining the CCSS and SAT/ACT

What does it take?

• Engaged and Innovative School/Faculty

• Professional Development

• Curriculum Alignment

• Assessments – Traditional (SAT/ACT)
  Conceptual (CCSS aligned with SAT/ACT questions)

• Materials and Classroom Resources
Combining the CCSS and SAT/ACT

Expected Outcomes

• Improved core competencies for students
• Integrated curriculum for schools
• Increased scores on standardized tests
• Higher levels of college admission success
• Better performance in college classes

www.alisteducation.com
Advantages of Integrated Curriculum:

**Level the Playing Field**

- **Shifts the cost burden** away from students by eliminating the need for 3rd party instruction.
- **Gives all students an equal opportunity** to receive exceptional test preparation regardless of socioeconomic status.
- **Students take school sponsored courses more seriously** than they would independent classes.
- **Reaching certain score thresholds can also help students qualify for scholarships, grants and other sources of financial aid.**
Advantages of Integrated Curriculum:

**Improve Student Outcomes**

- Strategies can help **students increase scores** on a myriad of different tests (State Assessments, SAT, ACT, Subject Tests).

- Holding courses during the school day makes it **easier for students to attend without sacrificing time** for schoolwork, sports or extracurricular activities.

- Achieving benchmark scores allows those enrolling in community college to **avoid remedial classes** and graduate sooner with less debt.
Advantages of Integrated Curriculum:

**Build Capacity**

- Faculty trained in SAT/ACT subject matter will gain a **new level of valuable expertise and strategies**, providing a significant **return on PD year after year**.

- **Turn-key** PD content can be easily shared amongst faculty.

- **Aligned with Common Core State Standards**, integrated materials help teachers adapt existing curriculum to the Common Core while simultaneously raising standardized test scores.
### ELA Alignment

<table>
<thead>
<tr>
<th>Common Core State Standard</th>
<th>ACT alignment</th>
<th>SAT alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>READING</strong></td>
<td></td>
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</tr>
<tr>
<td>Reading Anchor Standards [R]</td>
<td>100%</td>
<td>90%</td>
</tr>
<tr>
<td>Reading Standards for Literature [RL]</td>
<td>67%</td>
<td>78%</td>
</tr>
<tr>
<td>Reading Standards for Informational Text [RI]</td>
<td>60%</td>
<td>70%</td>
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<tr>
<td>Reading Standards for History/Social Studies [RH]</td>
<td>30%</td>
<td>**</td>
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<tr>
<td>Reading Standards for Literacy in Science and Technical Subjects [RST]</td>
<td>100%</td>
<td>**</td>
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<td><strong>WRITING</strong></td>
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<td></td>
</tr>
<tr>
<td>Writing Anchor Standards [W]</td>
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<td>60%</td>
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<tr>
<td>Writing Standards</td>
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<td>83%</td>
</tr>
<tr>
<td>Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]</td>
<td>11%</td>
<td>**</td>
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<tr>
<td><strong>SPEAKING AND LISTENING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking and Listening Anchor Standards [SL]</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Speaking and Listening Standards</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td><strong>LANGUAGE</strong></td>
<td></td>
<td></td>
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<tr>
<td>Language Anchor Standards [L]</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>Language Standards</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Language Progressive Skills</td>
<td>100%</td>
<td>82%</td>
</tr>
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</table>

**not included in the scope of alignment study**
## Math Alignment

<table>
<thead>
<tr>
<th>Category</th>
<th>ACT alignment</th>
<th>SAT alignment</th>
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<tbody>
<tr>
<td>Standards for Mathematical Practice [MP]</td>
<td>78%</td>
<td>100%</td>
</tr>
<tr>
<td>Number and Quantity [N]</td>
<td>100%</td>
<td>27%</td>
</tr>
<tr>
<td>Algebra [A]</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Functions [F]</td>
<td>100%</td>
<td>75%</td>
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<tr>
<td>Geometry [G]</td>
<td>100%</td>
<td>91%</td>
</tr>
<tr>
<td>Statistics and Probability [S]</td>
<td>100%</td>
<td>91%</td>
</tr>
<tr>
<td><strong>All Standards for Mathematical Content (high school)</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>Modeling (*)</td>
<td>100%</td>
<td>93%</td>
</tr>
<tr>
<td>Advanced (+)</td>
<td>100%</td>
<td>45%</td>
</tr>
<tr>
<td>College and Career Ready (not (+))</td>
<td>100%</td>
<td>90%</td>
</tr>
</tbody>
</table>
**Build Vocabulary**

Leverage verbal, auditory, and visual cues
Great for ESL and High School vocabulary
Create multimedia flashcards for ANY subject

**Memorable Videos**

- Watch words in action
- Gripping original stories
- Hilarious characters

**Vocab Film Festival**

**Cutting Edge Learning Tools**

- Test your skills
- Create digital flashcards
- Special teacher features

**Educator and Student Accounts**

Digital Quizzes: follow each episode
Download digital tools for printing
Track individual or class progress
Questions 1-2 refer to the following passage.

One consequence of the sudden outpouring of precious minerals in the West was an unusual confluence of wealth and wildness. Take, for example, the city of Leadville, Colorado, founded in 1877 after the discovery of huge silver deposits nearby. It was the second most populous city in Colorado and had a renowned opera house that often hosted celebrities, including the writer Oscar Wilde. Yet it was still very much a city of the West. Wilde, who called Leadville “the richest city in the world”, spent one evening in a saloon where he reported seeing “the only rational method of art criticism I have ever come across. Over the piano was printed a notice: ‘Please do not shoot the pianist. He is doing his best.’”

1. The tone of the passage as a whole is
   (A) cautionary
   (B) nostalgic
   (C) exuberant
   (D) dispassionate
   (E) laudatory

2. Wilde’s statement “the only … across” (lines 6-7) can best be described as
   (A) earnest
   (B) contemptuous
   (C) ironic
   (D) analytical
   (E) confounded
# CRAFT AND STRUCTURE

## Meaning of words

<table>
<thead>
<tr>
<th>Code</th>
<th>Standard</th>
<th>ACT</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.CCR.4</td>
<td>Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>RL.11-12.4</td>
<td>Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)</td>
<td>P</td>
<td>Y</td>
</tr>
<tr>
<td>RL.11-12.4</td>
<td>Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
Alignment

Both the ACT and the SAT will ask questions about the specific meaning of a word in a specific context in the passage. Both tests will also ask questions about the tone of words or sections of a passage.

- **A-List Book of Knowledge** concepts:
  - Vocabulary-in-Context Questions, Meaning Questions, Tone Questions, Sentence Completions

- **Sample SAT Questions:**
  - Vocabulary-in-Context Questions: 1.2.21, 3.4.20, 5.7.17, 7.8.16, 9.4.16
  - Tone Questions: 1.2.13, 2.4.10, 3.9.7, 5.9.11, 9.6.15

- **Sample ACT Questions:**
  - Vocabulary-in-Context Questions: 1.3.16, 4.3.25, 4.3.39, 5.3.7
  - Meaning Questions: 1.3.14, 1.3.36, 2.3.17, 2.3.36, 3.3.19
Drill 2

If \( f(x) = x^2 - 2 \), then \( f(x + h) = ? \)

F. \( x^2 + h^2 \)
G. \( x^2 - 2 + h \)
H. \( x^2 + h^2 - 2 \)
J. \( x^2 + 2xh + h^2 \)
K. \( x^2 + 2xh + h^2 - 2 \)

ACT question 1.2.56
## Functions

<table>
<thead>
<tr>
<th>Code</th>
<th>Standard</th>
<th>ACT</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interpreting Functions  [F-IF]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Understand the concept of a function and use function notation.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-IF.1</td>
<td>1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If ( f ) is a function and ( x ) is an element of its domain, then ( f(x) ) denotes the output of ( f ) corresponding to the input ( x ). The graph of ( f ) is the graph of the equation ( y = f(x) ).</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>F-IF.2</td>
<td>2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>F-IF.3</td>
<td>3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by ( f(0) = f(1) = 1, f(n + 1) = f(n) + f(n - 1) ) for ( n \geq 1 ).</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Interpret functions that arise in applications in terms of the context.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-IF.4</td>
<td>4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <em>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</em></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>F-IF.5</td>
<td>5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <em>For example, if the function ( h(n) ) gives the number of person-hours it takes to assemble ( n ) engines in a factory, then the positive integers would be an appropriate domain for the function.</em></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>F-IF.6</td>
<td>6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. *</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
Alignment

The SAT is fully aligned with all 9 standards in this domain. The ACT is fully aligned with 8 of the standards in this domain. It is partially aligned with standard F-IF.7, unaligned with the phrase “by hand in simple cases and using technology for more complicated cases.

Summary
Alignment: Both the SAT and the ACT contain many questions that test knowledge of functions in many different ways.

- **A-List Book of Knowledge Concepts:**
  Math Techniques, Functions (Funny Symbols, F(x) format, Graphing)

- **Sample SAT questions:**
  1.3.18, 1.8.16, 2.2.15, 3.2.16, 4.9.5, 4.9.11

- **Sample ACT questions:**
  1.2.56, 2.2.54, 3.2.24, 3.2.53, 5.2.60
Thank You!

For more information please visit [www.alisteducation.com](http://www.alisteducation.com)

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