

Module 2:
How the ACT Measures Student
Readiness
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Module 2: How the ACT Measures Student Readiness

Objectives

- Articulate defining characteristics about the ACT assessment, including its format, subject-area components, readiness benchmarks, research-base, and score reporting
- Examine the knowledge and skills students need to be successful on both the ACT and state assessments
- Create personal action steps to ensure student readiness and success on the ACT by reflecting on current instructional practices and personal mindset

Rationale: Call to Action

“The Condition of College & Career Readiness 2015 points to the need for federal, state, and local policymakers and agency heads to support the **readiness of all students for college and career**. Over the last several years, the average national ACT Composite score and ACT College Readiness Benchmark attainment of students taking the ACT has remained relatively constant. Because the current direction and aim of our education system is to **prepare all students for postsecondary and career success**, this year’s results continue to signal the need for increased wholesale systemic supports and reforms”.

- Retrieved from www.act.org/readiness/2015 (The Condition of College & Career Readiness Report, 2015.)

In Tennessee

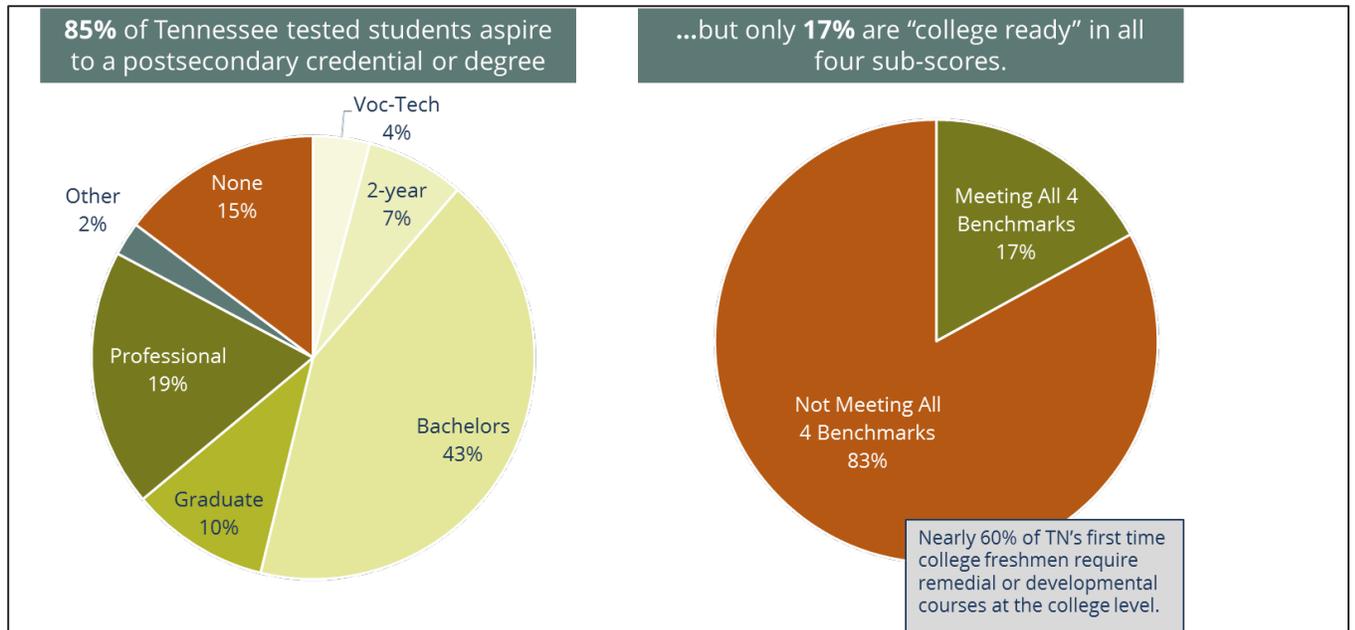
- An estimated 83 percent of the 2015 graduating class (60,405 students) were tested
 - 51 percent of students scored 19 or higher
 - 20 percent scored 19-21
 - 31 percent scored above 21

Tennessee Success

ACT data is at an all-time high! Tennessee reached 19.4 as the average composite in 2015. ACT recognized the state for an increase of 0.3 in 2014 raising the score for 19 to 19.3 in one year. The current state goal is to reach 21 by 2020 and prepare more students for postsecondary completion. This score is the cut mark for the Tennessee HOPE scholarship and represents the 50th percentile of national ACT data, representative of both postsecondary and career preparation.

State Postsecondary Challenges

- In 2015, 85 percent of high school graduates aspired to postsecondary degree (*ACT State Report*).
- However, only 17 percent were college ready in all 4 subjects.
- Almost 60 percent of first-time freshmen in Tennessee took at least one remedial or developmental course (*Tennessee Succeeds*).



Reflection:

Independently reflect on the data for "Aspiration vs Reality" in Tennessee.

- Which statistic is most startling or compelling to you? Why?
- How can we best eliminate the gap between students' aspiration and readiness?

Characteristics of the ACT

ACT – Its Purpose

- The ACT is a nationally recognized benchmark assessment for college and career readiness that provides a snapshot of a student’s K-12 academic career.
- ACT assesses students’ cumulative knowledge from grades K-12.
- By taking the ACT, students gain valuable information on their readiness for postsecondary and the workforce.

ACT – Test and Overview

Get to know the test:

- The ACT® test contains four multiple-choice tests: English, mathematics, reading, and science.
- The ACT with writing includes the four multiple-choice tests and a writing test.

Subject	Number of Questions	Length in Minutes	What does it measure?
English	75	45	Standard written English and rhetorical skills
Mathematics	60	60	Mathematical skills students have typically acquired in courses taken up to the beginning of grade 12
Reading	40	35	Reading comprehension
Science	40	35	Interpretation, analysis, evaluation, reasoning and problem-solving skills required in the natural sciences
Optional Writing Portion	1 prompt	40	Writing skills emphasized in high school English classes and in entry-level college composition courses

Exercise: Score Report

- Directions: Independently review the sample ACT student score report on the following two pages and identify data facts that you feel are important. Think about teacher actions you would take and answer the reflection questions below.
- When done, discuss your findings in your group. Record results on chart paper.

The ACT[®] Student Report

ACT, Inc.—Confidential Restricted when data present

Ann C Taylor (ACT ID: -54116290)

Wheat Ridge Sr High School (061-450) | Apr 2016 National

Composite Score **21**

U.S. Rank 56% | State Rank 58%

Test Results

	Score	U.S. Rank	Scores in Relation to Benchmarks
English	24	74%	
Usage/Mechanics	12	72%	
Rhetorical Skills	12	71%	
Mathematics	19	47%	
Pre-Algebra/Elem. Algebra	11	57%	
Algebra/Coord. Geometry	10	51%	
Plane Geometry/Trig.	09	39%	
Reading	23	66%	
Social Studies/Sciences	12	67%	
Arts/Literature	11	58%	
Science	18	32%	
Writing	25	79%	
Ideas and Analysis	10		
Development and Support	08		
Organization	07		
Language Use and Conventions	08		

Composite and Subscores: ACT test scores and the Composite score range from 1 to 36; subscores range from 1 to 18. Your Composite score is the average of your scores on the four subject tests. Subscores do not necessarily add up to your score for a subject test.

ACT College Readiness Benchmarks: If your scores are at or above the ACT benchmark scores, you will likely be ready for first-year college courses.

U.S. Rank and State Rank: Your ranks tell you the approximate percentages of recent high school graduates in the U.S. and your state who took the ACT and received scores that are the same as or lower than yours.

Interpreting Your Scores: Test scores are not precise measures of your educational development. ACT scores reported are the midpoint of a score range that represents your educational development at the time you took the ACT. For example, the score range is plus or minus one point for the Composite score. You will find more information about interpreting your scores in the *Using Your ACT Results* booklet provided with this report and at www.actstudent.org.

Writing: The score ranges from 1 to 36. Writing domain scores range from 2 to 12. Domain scores do not necessarily add up to your score for the Writing test.

ELA 24 70%

STEM 19 40%

Understanding Complex Texts
Proficient

Progress Toward Career Readiness
You are making progress toward a Gold level on the ACT NCRC.



English Language Arts (ELA): An average of your English, Reading, and Writing scores. The score ranges from 1 to 36.

Science, Technology, Engineering, and Mathematics (STEM): An average of your Math and Science scores. The score ranges from 1 to 36.

Understanding Complex Texts: Measures level of proficiency on a subset of items in the Reading test assessing the ability to identify the central meaning and purposes for a range of increasingly complex texts.

Progress Toward Career Readiness: Based on your ACT Composite score, Progress Toward Career Readiness is an indicator of your potential level of achievement on the ACT National Career Readiness Certificate (ACT NCRC). The ACT NCRC is an assessment-based credential that certifies skills critical to your future education and career success.

Learn how NCRC performance relates to job skill requirements at www.act.org/workkeys/briefs/files/NCRCRequirements.pdf.

This information is not to be considered a substitute for actual performance on the ACT NCRC.

Your College Reports

At your direction, your scores from this test date are being reported to the colleges shown below. College planning information is provided for the first four choices you listed when you registered or tested. Check with colleges for recent changes in information. Note: Your GPA was calculated from the grades you reported.

College Name (Code)	Profile of Enrolled 1st-Year Students				Approximate Annual Tuition and Fees		Percentage of 1st-Year Students Receiving Financial Aid	
	ACT Composite Score	High School Class Rank	High School GPA	Preferred Program of Study Availability	In-state	Out-of-state	Need-based	Merit-based
University of Omega (9521) Omega, CO www.universityofomega.edu	Middle 50% between 18–24	Majority in top 50%	2.76	4-Yr Degree	\$5,600	\$12,000	67%	20%
Alpha University (9059) University Center, IA www.alpha.edu	Middle 50% between 21–26	Majority in top 25%	3.12	4-Yr Degree	\$9,000*	\$15,000*	85%	27%
Beta Community College (8866) Clarkston, CO www.betaacc.edu	Middle 50% between 16–21	Majority in top 75%	2.49	Program Available	\$4,000	\$4,000	58%	18%
Magna College (8905) Plainview, OH www.magna.edu	Middle 50% between 21–26	Majority in top 50%	2.71	4-Yr Degree	\$8,500	\$14,000	90%	35%

Student Information	Composite Score	Class Rank	Calculated GPA	Selected Major
	21	Top 25%	3.29	Accounting

College and Career Planning

Many people consider several possibilities before making definite career plans. Before you took the ACT, you had the opportunity to respond to questions about your educational and career plans. Use this information to consider possibilities that you may like to explore.

Interest Inventory Results

YOUR RESULTS INDICATE A PREFERENCE FOR WORKING WITH PEOPLE AND DATA.

SEE MAP REGIONS 2, 3, 4

THE SHADED REGIONS SHOW CAREER AREAS HAVING WORK TASKS YOU PREFER.

RELATED CAREER AREAS:

COMMUNICATIONS & RECORDS
EMPLOYMENT-RELATED SERVICES
FINANCIAL TRANSACTIONS
MANAGEMENT
MARKETING & SALES
REGULATION & PROTECTIONS

College Major Selected

ACCOUNTING

THIS MAJOR PRIMARILY INVOLVES WORKING WITH DATA AND THINGS.

RELATED MAJORS:

BANKING & FINANCIAL SUPPORT SERVICES
BUSINESS ADMINISTRATION & MGMT, GEN
FINANCE, GENERAL
FINANCIAL PLANNING & SERVICES
INSURANCE & RISK MANAGEMENT
INVESTMENTS & SECURITIES
PURCHASING/PROCUREMENT/CONTRACTS MGMT
SMALL BUSINESS MANAGEMENT/OPERATIONS

Occupational Field Selected

INSURANCE & RISK MANAGEMENT

SEE MAP REGION 2

THE OCCUPATIONAL FIELD YOU CHOSE IS IN CAREER AREA C: MANAGEMENT

RELATED OCCUPATIONS:

ASSOCIATION EXECUTIVE
FINANCIAL MANAGER
FOREIGN SERVICE OFFICER
GENERAL MANAGER/TOP EXECUTIVE
HOTEL/MOTEL MANAGER
MANAGEMENT CONSULTANT
PROPERTY/REAL ESTATE MANAGER

The World-of-Work Map

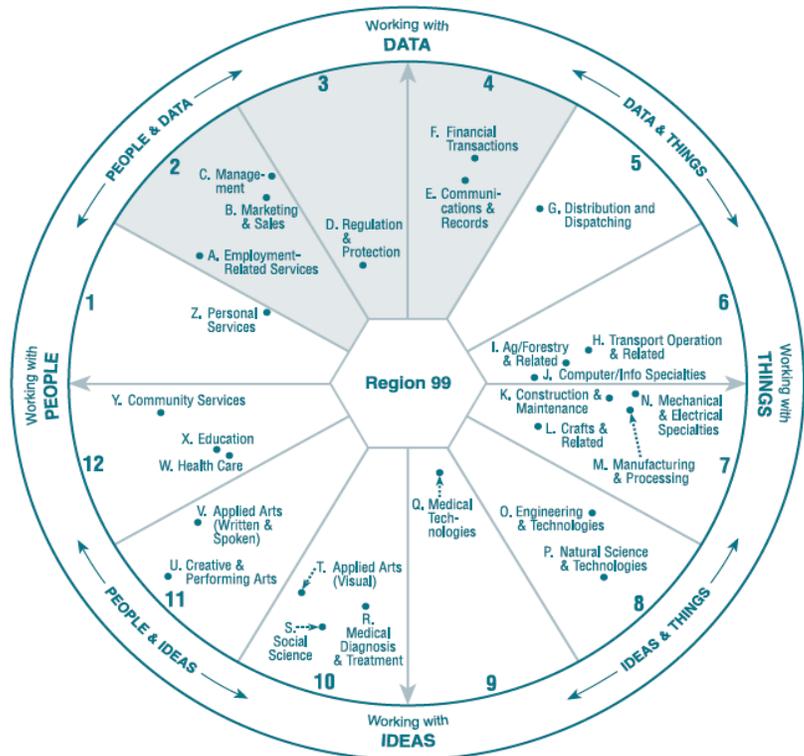
(Your Interest Inventory results are shaded.)*

Four Basic Work Tasks: All college majors and occupations differ in how much they involve working with four basic work tasks: working with **People** (care, services), **Things** (machines, materials), **Data** (facts, records), and **Ideas** (theories, insights). These four basic work tasks are the compass points on the World-of-Work Map.

Regions and Career Areas: The map is divided into 12 regions, each with a different mix of work tasks. The map shows the locations of 26 occupational fields, called Career Areas (A–Z). Each Career Area contains many occupations that share similar work tasks.

*If no regions are shaded, you did not answer enough interest items to permit scoring.

For more information about your college and career planning, visit www.actstudent.org or check the booklet provided with this report.



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ACT Subject Area Components

Directions:

Use the chart below to capture your key takeaways and new information you are learning about the ACT over the course of the next section of the module. At the end, you will be given reflection time to share your key insights with your group.

ACT-Subject Area Recording Sheet			
Subject Area	Key Takeaways & New Information	Important Content & Test Prep Considerations	Percent of TN Students Meeting Benchmark
English			
Math			
Reading			
Science			

Readiness Benchmark	Percent of 2015 ACT-Testing High School Graduates meeting benchmark	
	Tennessee	Nation
English	54	64
Math	30	42
Reading	35	46
Science	29	38

English Subject Area Exam

Why English Matters

- The English sub-test is important because it gives us information on how well a student can use the conventions of language, organize ideas, and choose words and sentence elements to develop a given topic.
- A study from the National Commission on Writing says that two-thirds of salaried workers have jobs that require extensive writing.
(Report of the National Commission on Writing for America's Families, Schools, and Colleges, College Board)
- Communication matters in EVERY job no matter the level or industry, and the skills your students graduate with will affect their employability for the rest of their lives.

English Practice Test Questions

DIRECTIONS: Turn to page 12 in the Preparing for the ACT Test booklet. Answer the first five questions. An answer sheet is provided on page 68. You may also use the text box to record your answers below.

<p>Answers:</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p>

Quick Reflection:

- Any key takeaways?
- What was exciting?
- What was challenging?
- Based on the sample questions you have completed, what are your initial thoughts about implications for your instruction?
- What changes might you make to instruction to support your students on this sub-test?

English Test Structure

- 75 questions in 45 minutes
- Questions are based on five passages
- Students have about nine minutes for each passage and corresponding questions
- Content is broken down into usage/mechanics (about 55 percent) and rhetorical skills (about 45 percent)

English Test Design

	Category	Questions in this Category Test:
Usage/Mechanics	Punctuation (10-15 percent)	Conventions of internal and end-of-sentence punctuation, with emphasis on the relationship of punctuation to meaning (e.g., avoiding ambiguity, including appositives)
	Grammar and Usage (15-20 percent)	Agreement between subject and verb, between pronoun antecedent, and between modifiers and the word modified; verb formation, pronoun case; formation of comparative and superlative adjectives and adverbs; idiomatic usage
	Sentence Structure (20-25 percent)	Relationships between and among clauses, placement of modifiers, and shifts in construction
Rhetorical Skills	Strategy (15-20 percent)	How well students develop a given topic by choosing expressions appropriate to an essay's audience and purpose; judging the effects of adding, revising, or deleting supporting material; judging the relevance of statements in context
	Organization (10-15 percent)	How well students organize ideas and choose effective opening, transitional, and closing sentences
	Style (15-20 percent)	How well students choose precise and appropriate words and images, maintain the level of style and tone in an essay, manage sentence elements for rhetorical effectiveness, and avoid ambiguous pronoun references, wordiness and redundancy

English Standards Connections

- All of the usage/mechanics skills tested by the ACT are covered in Tennessee state standards.
- The rhetorical skills assessed on the ACT are covered in our standards expectations of reviewing, editing, and revising students' written work.
- Many English teachers (particularly at higher grade levels) may not be offering explicit instruction in rhetorical skills, as these are introduced in earlier grades. These skills should continue to be taught and practiced, especially as they are applied to increasingly sophisticated and complex writing and speaking.

For more information on connections between the ACT Standards and Tennessee State Standards in English, please read pages 9-14 in the "ACT Connections" document found online at:

https://gallery.mailchimp.com/b28b453ee164f9a2e2b5057e1/files/ACT_Connections_2_3_16.pdf

English Readiness Characteristics

The English section measures readiness because:

- The speed of the section demands problem solving and critical thinking skills.
- Rhetorical skills are important to oral and written communications in the workforce.
- Score on this section is predictive of success in the introductory English Composition course required by both Tennessee community colleges and universities.

This section is important for students' futures:

- Required course for liberal arts and sciences fields.
- Employers consistently mention importance of communication skills.

English Test Tips

- ACT assesses understanding of standard conventions of English.
 - In casual conversation, emails, or other informal communication we often use slang that is not correct in standard written English.
- Usage/Mechanics questions often refer to an underlined portion of the passage.
 - Students can save time by going to the questions first, and then referring back to the passage when needed.
 - It is often important, however, to read the sentence before and/or after the underlined portion to determine the meaning and the best answer choice.
- The style of the writing used in each of the five passages is important. Passages are written in a variety of styles and some questions will ask for the best answer based on the style as a whole.
- Students should reread the sentence substituting the answer they have selected in the passage context as a way of checking their work.

Math Subject Area Exam

Why Math Matters

- The mathematics sub-test is important because it gives us information on how well a student can use computation and problem solving skills needed to be successful in typical entry-level jobs and introductory college algebra courses.
- Employers typically request students with basic numeracy skills that can be quickly applied in context, not for students who have memorized complex theories or formulas.

Math Practice Test Questions

DIRECTIONS: Turn to page 24 in the Preparing for the ACT Test booklet. Answer the first six questions. An answer sheet is provided on page 68. You may also use the text box to record your answers below.

Answers:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Quick Reflection:

- What are your key takeaways from these questions?

- What was exciting?

- What was challenging?

- Based on the sample questions you have completed, what are your initial thoughts about implications for your instruction?

- What changes might you make to instruction to support your students on this sub-test?

Math Test Structure

- Students have about one minute for each multiple-choice question (60 questions, 60 minutes)
- Some questions may belong to a set of several questions (e.g., several questions about the same graph or chart)
- Knowledge of basic formulas and computational skills are assumed as background, but recall of complex formulas and extensive computation is not required
- Students may use a calculator on the entire mathematics test.

Math Test Design

In the mathematics test, three sub-scores are based on six content areas, which range from Grade 3 to Pre-Calculus.

- Pre-Algebra / Elementary Algebra
 - Pre-Algebra (20-25 percent)
 - Elementary Algebra (15-20 percent)
- Intermediate Algebra / Coordinate Geometry
 - Intermediate Algebra (15-20 percent)
 - Coordinate Geometry (15-20 percent)
- Plane Geometry/Trigonometry
 - Plane Geometry (20-25 percent)
 - Trigonometry (5-10 percent)

Math Standards Connections

- All of the ACT standards in mathematics, with the exception of five standards, are covered in Tennessee state standards K-11 in the same domain areas.
 - Missing standards are around matrices, can be calculated easily with a calculator, and can be quickly covered in ACT-prep activities
- The majority of skills students need to hit the readiness benchmark score are found in standards grades 2-9.
- The chart below shows the overlap of the ACT math domains with the Tennessee State Standards math domains

K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
Geometry →									Geometry
ACT Readiness Domain: Geometry									
Measurement & Data →						Statistics & Probability →			Statistics & Probability
ACT Readiness Domain: Statistics & Probability									
Number & Operations in Base Ten →						The Number System →			Number & Quantity
ACT Readiness Domain: Number and Quantity									
Operations in Algebraic Thinking →						Expressions & Equations →			Algebra
ACT Readiness Domain: Algebra									
Counting & Cardinality	Numbers & Operations—Fractions →		Ratios & Proportional Relationships →		Functions →		Functions		
ACT Readiness Domain: Functions									

For more information on connections between the ACT Standards and Tennessee -State Standards in Math, please read pages 17-19 in the “ACT Connections” document found online at:

https://gallery.mailchimp.com/b28b453ee164f9a2e2b5057e1/files/ACT_Connections_2_3_16.pdf

Math Readiness Characteristics

The Math Section measures readiness because:

- The speed of the section demands problem solving and critical thinking skills.
- Ability to appropriately use references (such as choosing appropriate common formula and compute on a calculator) is similar to how students are required to solve problems in the workplace.
- Score on this section is predictive of success in the introductory math courses required by both Tennessee community colleges and universities.

This section is important for students' futures:

- College Algebra is a common introductory math course, and algebra-based calculus is required for STEM fields.
- Employers consistently mention importance of basic numeracy and problem solving, in context.

Math Test Tips

- Calculators are allowed, but are not necessary.
 - There is a list of approved calculators. All calculators are not accepted.
- Because the test is multiple choice, the correct answer is always among the answer choices. For some problems, it is possible to check your answer or test all options.
- Because of the speed of this section, students should answer easier questions first, going back to more difficult ones if they have time. Showing their work can help.
- There is no penalty for wrong answers – attempt or guess on all questions!
- Students should memorize and fluently be able to use common formulas and concepts (Pythagorean Theorem, area, volume, slope, mean, etc.)

Reading Subject Area Exam

Why Reading Matters

- The reading sub-test is important because it gives us information on how well a student can use and comprehend complex text.
- “Regardless whether a student aspires to postsecondary education, a job, the military, or just to be an informed citizen, the reading ability required is likely to be higher than what is typically required in high school.” (*Williamson, 2004*)
- **Typical Lexile levels of text:**

- 11 th /12 th grade textbook: 1090	- Agriculture/Natural resources: 1270-1510
- Military training manual: 1180	- Architecture/Construction: 1210-1340
- Newspapers/sample ballot materials: 1230	- Arts/AV Technology/Communications: 1100-1190
- Postsecondary materials: 1355	- Business and Administration: 1210 – 1310
- Child’s car seat instructions: 1170	- Education and Training: 1320-1370
- Federal tax forms: 1260	- Health Science: 1260-1300
- Workplace expectation average: 1260	- Hospitality and Tourism: 1230-1260
	- Human Services: 1050-1200
	- Law and Public Safety: 1420-1740
	- Manufacturing: 1200-1310
	- Retail/Wholesale Sales and Service: 1180-1270
	- Scientific Research/Engineering: 1190-1250
	- Transportation, Distribution and Logistics: 1170-1350

More information on Lexile measures may be found at: <https://ttac.gmu.edu/telegram/article-1>

Reading Practice Test Questions

DIRECTIONS: Turn to pages 32-33 in the Preparing for the ACT Test booklet. Answer the first six questions. An answer sheet is provided on page 68. You may also use the text box to record your answers below.

Answers:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Quick Reflection:

- Any key takeaways?
- What was exciting?
- What was challenging?
- Based on the sample questions you have completed, what are your initial thoughts about implications for your instruction?
- What changes might you make to instruction to support your students on this sub-test?

You can add changes you want to make to your daily instruction to your action plan in Module 1.

Reading Test Structure

- 40 questions in 35 minutes: Students have less than one minute to answer each multiple choice question.
- All questions belong to one of four passages, for about nine minutes per passage.
- Questions will show a student’s understanding of:
 - What is directly stated
 - Statements with implied meanings

Test Design

Selection	Questions in this category are based on passages in the content areas of...
Social Studies (25 percent)	Anthropology, archaeology, biography, business, economics, education, geography, history, political science, psychology and sociology
Natural Sciences (25 percent)	Anatomy, astronomy, biology, botany, chemistry, ecology, geology, medicine, meteorology, microbiology, natural history, physiology, physics, technology and zoology
Literary Narrative or Prose Fiction (25 percent)	Short stories, novels, memoirs, and personal essays Short stories and novels
Humanities (25 percent)	Architecture, art, dance, ethics, film, language, literary criticism, music, philosophy, radio, television, theater, memoirs and personal essays

There are specific types of questions:

- Main Idea
 - Understanding main theme/thesis
 - Understanding author’s purpose
- Supporting Details
 - Understand sequence of events
 - Make comparisons
- Inference/Evaluation
 - Make judgments
 - Determine the meaning of context-dependent words, phrases
 - Draw conclusions based on reading the passage
 - Determine the author’s idea through generalization of the facts

Reading Standards Connections

- Standards covered in the ACT (such as “main idea”) are introduced as early as grade 3 in Tennessee state standards.
- However, the complexity of texts on the ACT is appropriate to grades 11-13. Therefore, students need regular practice with these concepts in increasingly complex, grade-appropriate text to be able to be successful on the ACT.
- Students should read a range of nonfiction/informational text from the natural sciences, social sciences, technical subjects, and humanities throughout the school year in all grades.

For more information on connections between the ACT Standards and Tennessee -State Standards in Reading, please read pages 21-26 in the “ACT Connections” document found online at:

https://gallery.mailchimp.com/b28b453ee164f9a2e2b5057e1/files/ACT_Connections_2_3_16.pdf

Reading Readiness Characteristics

The Reading Section measures readiness because:

- The biggest differentiator of success for our students is the ability to read complex text proficiently. We know that the majority of passages on the ACT are nonfiction/informational texts. Because of this, we need to further develop the literacy skills in our students to access all types of texts.

This section is important for students’ futures:

- Predictive of success in introductory social science postsecondary courses.
- Ability to find information in text and understand complex text is extremely valuable for employers.
- Complexity of text necessary for everyday life (ballot, car seat instructions) requires comprehension skills measured by ACT.

Science Subject Area Exam

Why Science Matters

The science sub-test is important because it gives us information on how well a student can interpret, analyze, and apply information that is representative of the type of problems and research they would be exposed to in a postsecondary or career environment:

- Predictive of success in introductory Biology or life science course, required for community college and university degrees
- Data representation section reflective of how technical, mechanical, and agricultural problems are approached
- Conflicting viewpoints and research summaries sections are reflective of how many “knowledge workers” approach their daily work (comparing inputs, synthesizing recommendations)

Science Practice Test Questions

DIRECTIONS: Turn to pages 40-41 in the Preparing for the ACT Test booklet. Answer the first five questions. An answer sheet is provided on page 68. You may also use the text box to record your answers below.

Answers:

- 1.
- 2.
- 3.
- 4.
- 5.

Quick Reflection:

- Any key takeaways?
- What was exciting?
- What was challenging?
- Based on the sample questions you have completed, what are your initial thoughts about implications for your instruction?
- What changes might you make to instruction to support your students on this sub-test?

Science Test Structure

- 40 questions in 35 minutes, students have less than one minute per question
- Questions belong to passages in three different formats: data representation, research summaries, and conflicting viewpoints.
- Test parallels science information typical of 7-12 grade classrooms, but measures reasoning skills, **NOT** recall of scientific knowledge.

Science Test Design

Type of Question	Description	Number of Passages	Number of Questions
Data Representation	Graphs, tables, and schematics.	3 passages	(30-40 percent)
<i>Measures data reading and interpretation. Data focused, small amount of text.</i>			
Research Summary	Description of set(s) of experiments.	3 passages	(45-55 percent)
<i>Focuses on design of experiments and interpreting results. Data and text mixed.</i>			
Conflicting Viewpoints	Conflicting hypothesis presented with rationale	1 passage	(15-20 percent)
<i>Focuses on understanding, analysis, and comparing viewpoints. Text only.</i>			

Science Standards Connections

- Do Tennessee Science Standards prepare for:
 - Data Representation? YES
 - **Skills** pertaining to data analysis and interpretation
 - Research Summary? NO
 - Indirectly prepared through **literacy** focus
 - Instructionally dependent
 - Conflicting Viewpoints? NO
- What is the difference?
 - Tennessee State Standards are focused on subject specific understanding, comprehension, and knowledge.
 - The ACT focuses on broad problem-solving skills with an emphasis on analytical reading.
- Best preparation for our students is intentional, thoughtful and rigorous teaching of our current K–12 science standards with particular emphasis on science literacy and the embedded inquiry and technology and engineering standards.

For more information on connections between the ACT Standards and Tennessee -State Standards in Science, please read pages 28-30 in the “ACT Connections” document found online at:

https://gallery.mailchimp.com/b28b453ee164f9a2e2b5057e1/files/ACT_Connections_2_3_16.pdf

Science Readiness Characteristics

The science section measures readiness because:

- It focuses on reasoning skills, not specific content knowledge. This is reflective of how our students will need to find and use information in the future.
- Students’ ability to quickly locate and synthesize information is typical of problem solving required in postsecondary and workforce.

This section is important for students’ futures:

- Predictive of success in introductory natural science postsecondary course.
- Ability to find information in text, interpret basic numerical data, and synthesize different viewpoints are extremely valuable for employers.

Sample Question Answers

English	Math	Science	Reading
1. A	1. D	1. A	1. C
2. J	2. H	2. J	2. G
3. D	3. E	3. C	3. D
4. H	4. F	4. H	4. G
5. B	5. E	5. B	5. C
	6. H	6. J	

References: ACT Practice Questions and Answers

English Reference

<http://www.act.org/content/dam/act/unsecured/documents/Preparing-for-the-ACT.pdf>

Math Reference

<http://www.act.org/content/dam/act/unsecured/documents/Preparing-for-the-ACT.pdf>

Reading Reference

<http://www.act.org/content/dam/act/unsecured/documents/Preparing-for-the-ACT.pdf>

Science Reference

<http://www.act.org/content/dam/act/unsecured/documents/Preparing-for-the-ACT.pdf>

ACT and TN Assessment Connections

English and math ACT questions are based on skills and standards taught from elementary school through high school. This means that **students who have a strong foundation** in math and reading and **who consistently perform well on Tennessee state standardized assessments** will use the same skills to perform well on the ACT. Additionally, all academic areas have a crucial part to play in preparing students for ACT success. **Science and social studies teachers at all grade levels should be preparing students to read text in their content areas.**

- *ACT Connections: Tennessee Academic Standards and ACT Subtests, p. 7*

ACT Exam	State Assessments
Less than one minute per question: Rewards speed	Typically more time per question: Rewards deep thinking
Survey-level assessment covers concepts between grades 2-11	Displays a deeper understanding of grade-specific content standards
Selected response only	Have included selected and constructed responses, including writing
Basic computation, majority of problem solving is locating and interpreting information	Recall of complex formulas and extensive computation is required

Critical Connections

- ACT is a comprehensive test of entire K-12 career.
- The majority of skills needed to score in 19-21 range on ACT, students should acquire between 3rd – 9th grade in Tennessee state standards.
- However, there are some standards and item types on the ACT that students will not be familiar with by their junior year.
- State assessments are subject and standard specific for a given year.
- ACT success is in part based on speed.

ACT and TN Connections with Instructional Standards

Multiple Tennessee academic standards are embedded within a single ACT Readiness Standard for mathematics and ELA.

- If you have a personal device with you, please visit the “ACT Connections” document found online at https://gallery.mailchimp.com/b28b453ee164f9a2e2b5057e1/files/ACT_Connections_2_3_16.pdf and chose a specific subject-area to review
 - Students should be consistently exposed to all of the Tennessee Academic Standards to be successful on the ACT.
 - ACT subtests assess the entirety of a student’s academic career (snapshot of K-12).
 - **If building blocks are left out—even in the early grades—students are less prepared to be successful on this important measure of college and career readiness.**

Tennessee's Approach to ACT Growth

All schools must develop a culture of student readiness, focused on high-quality instruction:

- The behaviors and practices, beliefs, and values modeled by all educators support our vision that all students will be prepared for their chosen path in life.
- Adults encourage and empower students, never limit them.
- **Preparation for the ACT is embedded in the academic culture of all districts for all students (K-12).**





Key Idea #5



While ACT is a survey-level assessment that measures skills acquired over an entire K-12 career and state assessments are grade-level and subject-specific to measure deep content knowledge, rigorous daily **instruction** will prepare students for success on both assessments.

Reflection: ACT & Tennessee Standards/Assessment Alignment

- In what ways might exposure to ACT practice and state standards alignment help educators plan for instruction?

- Thinking about planning and instruction, what excites you about learning for students? What is still a concern for you?

- Considering your experience with ACT practice questions and TN standards comparison, what are your new thoughts about the implications for instruction with college and career ready expectations?

Readiness for All Students

The Governor's college-going initiatives have made college-going a possibility for more students.



Series of linked initiatives aimed at bringing the percentage of Tennesseans with college degrees or certifications to 55 percent by the year 2025.



Offers all Tennessee high school graduates the opportunity to attend a community college or college of applied technology free of tuition and fees and provides a mentor to all who enroll.

As a state, we recognize that high school graduation is no longer the goal of K-12 education. Rather, it is our job to prepare our students to successfully complete a postsecondary certificate, degree, or credential.

However, 17 percent of 2015 high school graduates did not take the ACT.

If we allow current trends to continue, only **24 percent** of high school graduates will earn a **postsecondary certificate** or degree **within six years** of their high school graduation.

Students who graduate with a high school diploma in Tennessee but don't go on to postsecondary:

- are earning minimum-wage (for an average salary of about \$9,000 a year) in part-time and service positions
- are not on a pathway to a sustaining wage position
- are not qualified for a majority of the new jobs being developed in the state

In order for jobs to remain in Tennessee, significantly more students need to be ready for postsecondary and career following high school graduation. This involves addressing three critical factors:

- Increase students who enroll in and complete postsecondary
- Decrease students requiring remediation by identifying and addressing their deficiencies while still in high school
- Ensure students who are entering the workforce directly from high school are prepared to move out of entry-level jobs quickly and on to advanced training in order to earn a sustainable wage

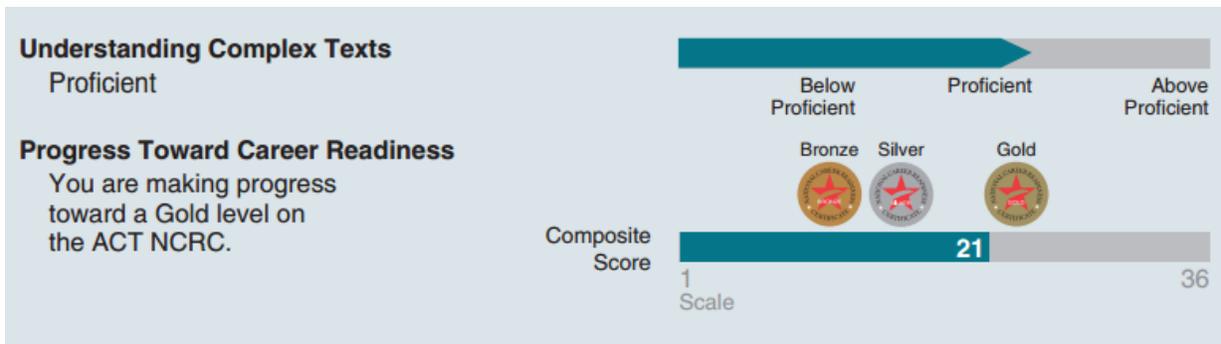
2006 ACT Study: “Ready for College and Ready for Work: Same or Different?”

“We should be educating all high school students according to common academic expectation, one that prepares them for both postsecondary education and workforce.”

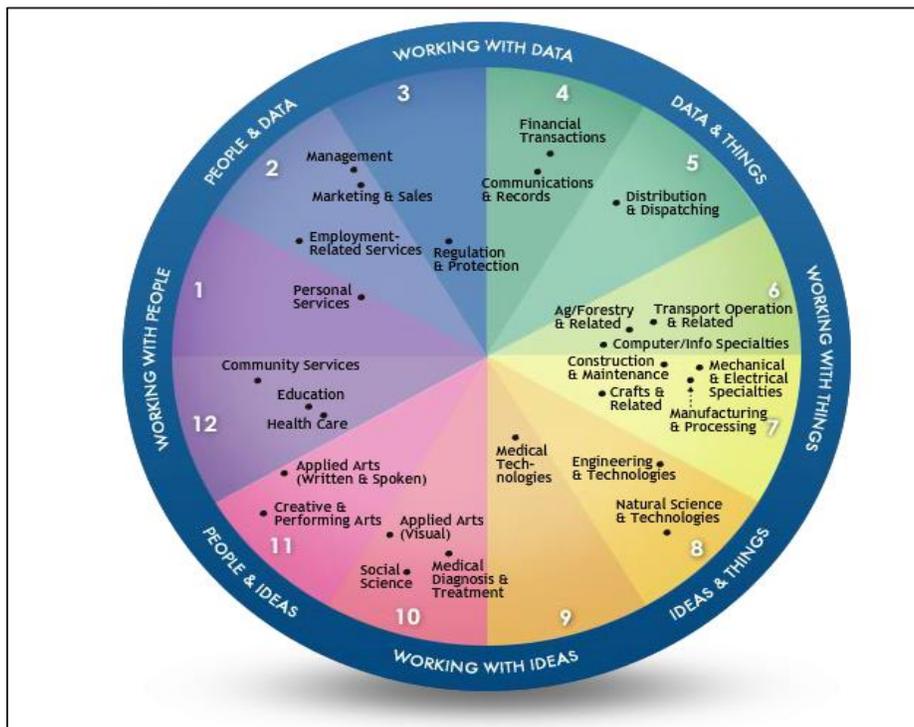
- Defined workforce readiness as being able to obtain a Zone 3 Occupational Information Network (O*Net) job
 - Does not require a bachelor’s degree, but does often require additional training
 - Percentage of jobs available to student based on level of achievement on NCRC

“Progress Toward Career Readiness” score directly on student score reports. This is a potential level of achievement on the National Career Readiness Certificate (NCRC), recognized by numerous employers in Tennessee

NCRC levels	Skill levels demonstrates ability for*
Bronze	16% of jobs
Silver	67% of jobs
Gold	93% of jobs
Platinum	99% of jobs



ACT World of Work Map



- Graphically shows how occupations relate to each other based on work tasks.
- Personalized report included on each student score report
- Suggested map regions and career areas can be explored:
 - ACT provides “profiles of success” for each occupation
 - Provides range of typical ACT composite scores of successful majors in these fields
 - Students can compare their score to those needed in a specific area

<http://www.act.org/content/dam/act/unsecured/multimedia/wvmap/world.html>



Key Idea #6



Student readiness and success on the ACT has implications for more than just 4-year college preparation. It is also an important predictor of success in the workforce and other postsecondary **pathways**.

Closing Reflection:

What are your most important takeaways about each key idea from today? How can you apply the Key Ideas to your current role in your school?

Key Idea	Your Takeaways
<p>Key Idea #4 The ACT measures readiness using comprehension, problem solving, and critical thinking, not just academic content knowledge.</p>	
<p>Key Idea #5 While ACT is a survey-level assessment that measures skills acquired over an entire K-12 career and state assessments are grade-level and subject-specific to measure deep content knowledge, rigorous daily instruction will prepare students for success on both assessments.</p>	
<p>Key Idea #6 Student readiness and success on the ACT has implications for more than just 4-year college preparation. It is also an important predictor of success in the workforce and other postsecondary pathways.</p>	