

Kansas

THE CONDITION OF  
**College & Career Readiness**

CLASS OF 2010



**ACT**<sup>®</sup>

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# Introduction

## The Condition of College & Career Readiness: Class of 2010

### Our Unique Added Value

ACT is uniquely qualified to help states and school districts prepare more of their students for college and career.

ACT has been measuring the academic achievement of 11th- and 12th-grade students since 1959, their career aspirations since 1969, and their academic preparation in high school since 1985. ACT's data system includes each of these areas for 8th and 10th graders and has been monitoring student readiness and success for nearly two decades.

Moreover, since 1996 and every 3 to 5 years thereafter, most recently in 2009, ACT surveys thousands of high school and college educators to pinpoint the knowledge and skills needed for first-year college coursework. (See page 11.)

ACT is the only organization with decades of empirical data showing exactly what happens to high school graduates once they get to college or to work and how they can maximize success — based on their preparation from kindergarten through high school.

These unique data sets are an invaluable resource as ACT works closely with states and school districts to transform the nation's P-16 education system.

Readiness for college and career is the measure of educational excellence at the K-12 level. In an increasingly complex, diverse, and technology-driven world, simply earning a high school diploma is no longer enough. High school graduates must be prepared to succeed at the next level, whether they choose to attend college or begin a career. The goal of a high school education is clear: to prepare graduates for life after high school by teaching them the skills and knowledge that are *essential to college and workforce training readiness*.

Despite encouraging progress, too many American students are not prepared for 21st-century opportunities.

ACT, a mission-driven not-for-profit organization, is helping national, state, and local leaders respond to this challenge. In the process, we are committed to sharing our expertise with policymakers and practitioners.

Working together, we envision a day soon when every American student will benefit from the following six policy recommendations, put forth in ACT's report *Making the Dream a Reality*, which have been shown to be critical for college and career success.

- Fewer — but essential — high school standards that are valued by colleges and employers;
- Common academic expectations recognizing the reality that students need a comparable level of knowledge and skills whether they're going to college or work;
- Clear and consistent messages about what level of performance is “good enough” to demonstrate college and career readiness;
- A rigorous curriculum that guarantees both the right number and the right kinds of courses taught by well-qualified teachers;
- An early monitoring and intervention system that ensures younger students are on target to be ready for college and career; and
- A longitudinal data system that helps students stay on target by monitoring their performance from the early years through college.

# State Facts: Class of 2010

## Kansas at a Glance

### ACT's College Readiness Benchmarks

The minimum ACT® test scores that indicate whether high school graduates are likely ready for entry-level college coursework are:

- English = 18
- Mathematics = 22
- Reading = 21
- Science = 24

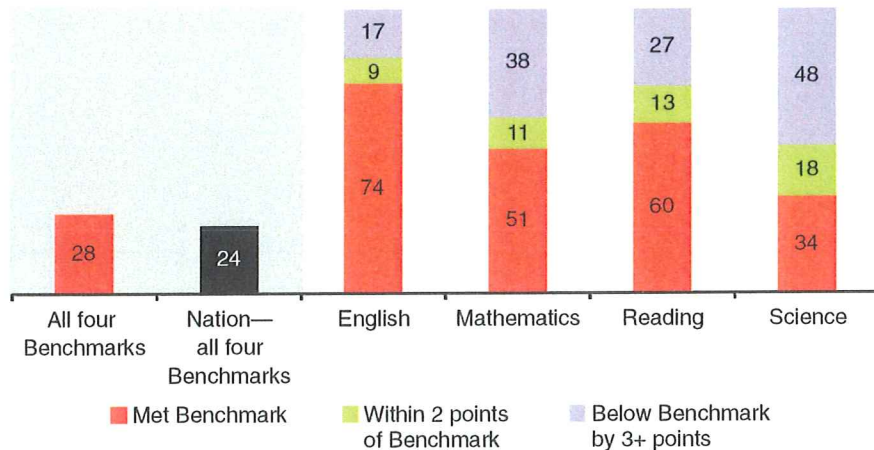
These Benchmarks reflect the level of preparation needed for students to have at least a 50 percent chance of achieving a grade of B or higher, or at least a 75 percent chance of a grade of C or higher, in entry-level credit-bearing college English Composition, Algebra, Social Science, and Biology courses. (The maximum ACT score is 36.)

The results shown in this report reflect student performance based on ACT's College Readiness Benchmarks, which may or may not be equal to your state's college readiness indicators. ACT is available to help establish or review your state-set indicators.

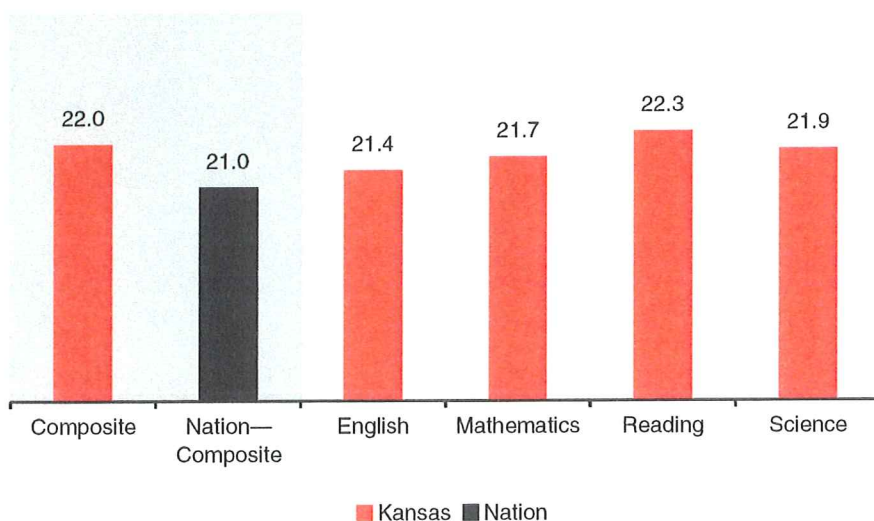
- 23,342 graduates took the ACT.
- 75 percent of graduates took the ACT.
- 15,654 10th-grade students took PLAN®.
- 7,656 8th-grade students took EXPLORE®.
- Kansas's ACT Composite score increased by 0.1, compared to the class of 2009.

### State of college readiness in Kansas

Percent of ACT-tested high school graduates meeting College Readiness Benchmarks, 2010



Average ACT scores, 2010



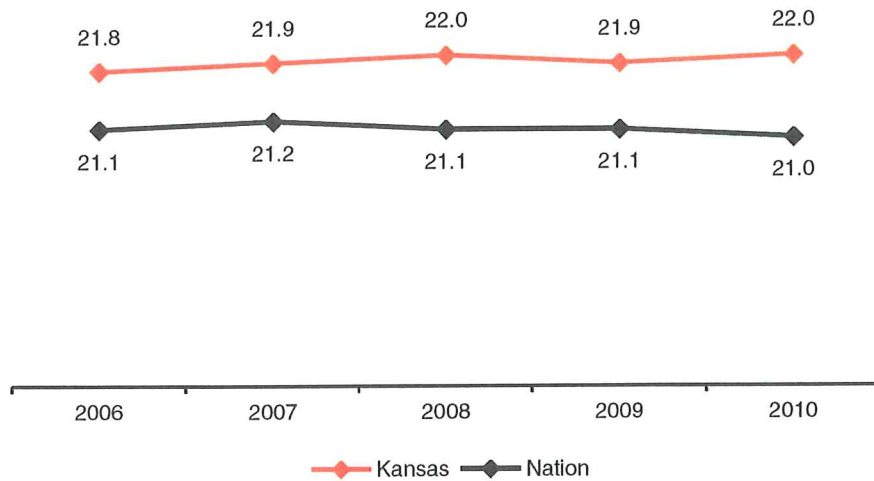
# State Facts *(continued)*

## Kansas at a Glance

Five-year trends show the extent to which student performance has changed and whether more students in your state are getting the access and opportunity they need.

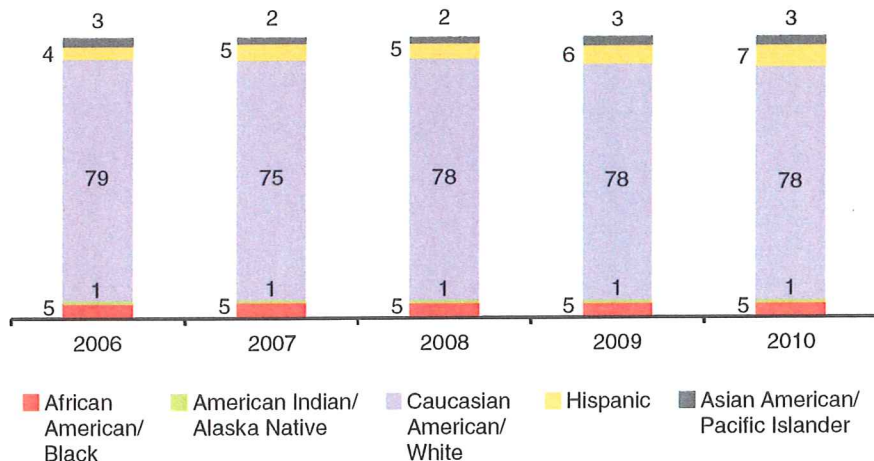
### Trends in student performance in Kansas

*ACT Composite scores, 2006–10*



### Level of participation in Kansas

*Percent of ACT-tested high school graduates by race/ethnicity, 2006–10*



# State Facts *(continued)*

## Kansas at a Glance

- ACT and the ACT State Organization jointly collaborated with the Department of Education and the Kansas School Counselor Association to provide a 20-year service award for school counselors.
- ACT continues to support the Board of Regents and the 12 flagship universities in the state with a wide array of research service reports.
- All Kansas community colleges continue to utilize COMPASS®/ESL for placement and diagnostics.
- 68,021 COMPASS units and 6,135 ASSET® units were purchased by Kansas institutions during a 12-month period ending August 31, 2009.
- The Kansas graduating class of 2010 sent 53,367 ACT scores to postsecondary institutions.
- 88 percent of Kansas graduates indicated an interest in obtaining a bachelor's degree or higher.
- The most frequently listed majors are in Health Sciences & Allied Health Fields.
- Seventeen Kansas high school graduates earned a score of 36 on the ACT (perfect score).
- ACT offers professional development opportunities through ACT's annual College and Career Readiness Workshops held throughout the state. Locations can be found by visiting [www.act.org/ccrw](http://www.act.org/ccrw).

# Key Questions

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This annual report from ACT provides a snapshot of the ACT-tested graduates in the class of 2010, focusing on their readiness for college and career.

ACT offers this report as a service to inform policymakers and practitioners about selected indicators of effectiveness. It is designed to stimulate discussion, inquiry, and action.

In interpreting and using the results, keep in mind that the number and percentage of students who took the ACT in your state determine how representative these findings are.

The report is organized around six questions that are driving national efforts to strengthen P–16 education.

- Are your students prepared for college and career?
- Do your standards reflect college and career readiness?
- Are enough of your students taking core courses?
- Are your core courses rigorous enough?
- Are your younger students on target for college and career?
- Are you collecting the right data to keep students on target for college and career?

# Readiness

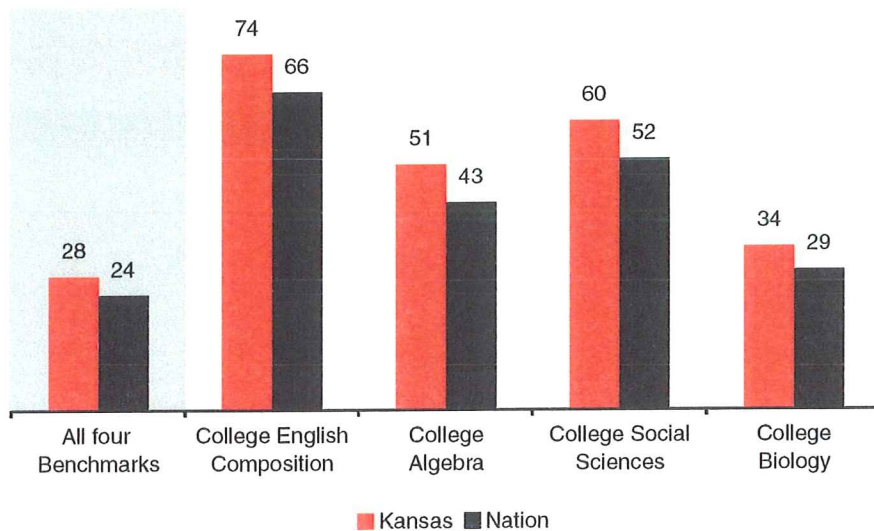
## Are your students prepared for college and career?

In today's more competitive and diverse world, earning a high school diploma alone is not enough. A more accurate measure of success is whether students are prepared for college and career. ACT is at the forefront of a national movement to help states raise awareness of these higher expectations, expand opportunities for more students to take challenging courses, and ensure in the process that they are ready to succeed after high school, whichever postsecondary path they choose.

This first section addresses the current level of college and career readiness in your state, and the following sections address key steps that policymakers and educators can take to increase college and career readiness.

### More students need to be ready for college-level courses

*Percent of ACT-tested high school graduates meeting College Readiness Benchmarks, 2010*



### ACT College Readiness Benchmarks\*

College Course	ACT Subject-Area Test	ACT Benchmark
English Composition	English	18
Algebra	Mathematics	22
Social Sciences	Reading	21
Biology	Science	24

\* See the sidebar on page 3 for a definition of ACT's College Readiness Benchmarks.

# Readiness *(continued)*

Are your students prepared for college and career?

## ACT's Role in the Common Core State Standards Initiative

ACT's empirical, longitudinal data and commitment to the readiness of all students uniquely qualifies ACT as a valuable partner in — and advocate for — the Common Core State Standards Initiative.

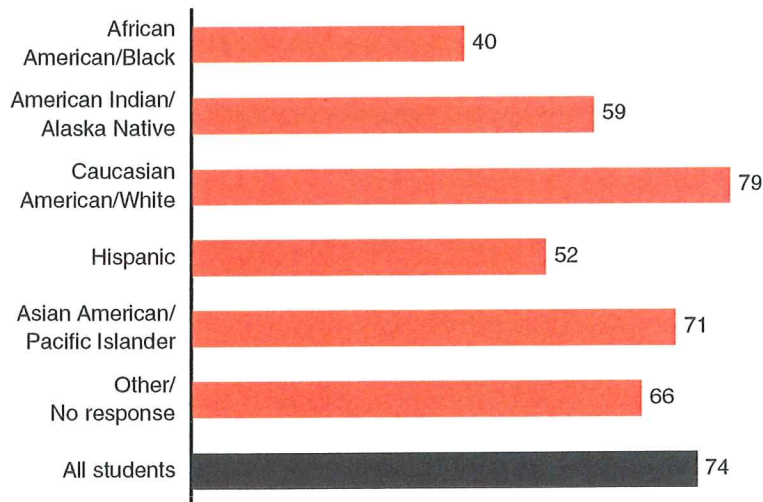
ACT's College Readiness Standards™ (on which EXPLORE, PLAN, and the ACT are based) and the ACT Course Standards (on which QualityCore®, ACT's instructional improvement and end-of-course assessment program, is based) align with the Common Core State Standards. ACT data were among data used to develop the Common Core State Standards, which are based on empirical research and reflect the goal of preparing students for readiness in credit-bearing college courses and in careers, consistent with international standards that promote high student performance.

Because of this, the alignment between ACT's College Readiness Standards and the Common Core State Standards is strong. Visit [www.act.org/commoncore](http://www.act.org/commoncore) for standard-by-standard comparisons, as well as more information regarding ACT's relationship with the Common Core State Standards Initiative.

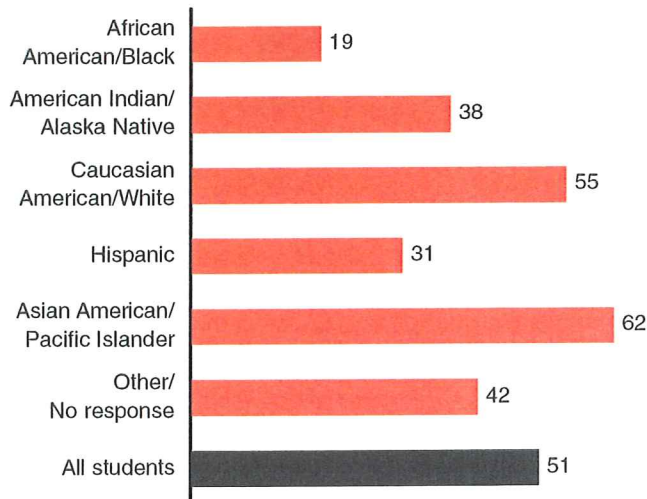
## Some student groups are more prepared than others for ...

*Percent of your ACT-tested high school graduates meeting College Readiness Benchmarks, 2010*

### ... College English Composition



### ... College Algebra





# Readiness *(continued)*

Are your students prepared for college and career?

## The Need for Science and Math Readiness

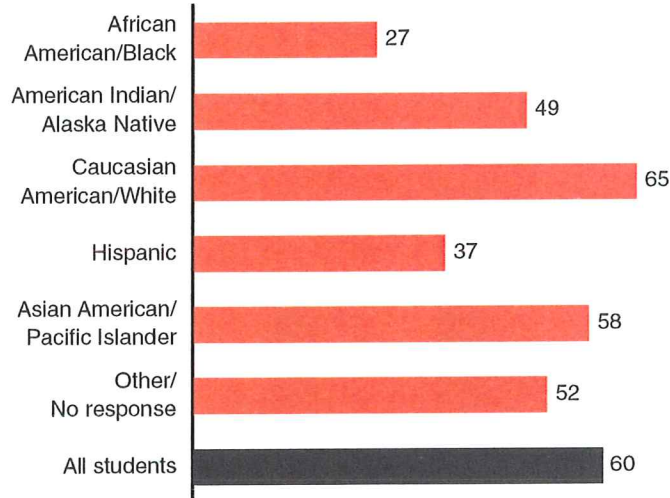
ACT research points to several key steps policy-makers and educators can take to strengthen science, technology, engineering, and mathematics education — critical in light of the growing importance of STEM careers in our increasingly competitive global economy. Some steps include:

- Raise expectations that all students need strong skills in math, science, and technology and can meet rigorous college and workplace readiness standards.
- Align rigorous, relevant academic standards across the P-16 system.
- Establish and support model programs that identify students with STEM academic potential and interests and expose them to STEM opportunities.
- Assess foundational reading, science, and math skills in elementary school while there is still time to intervene and strengthen the skills of those falling behind.
- Help all students develop the foundational reading skills they need to enter high school ready to benefit from rigorous math, science, and technology courses.

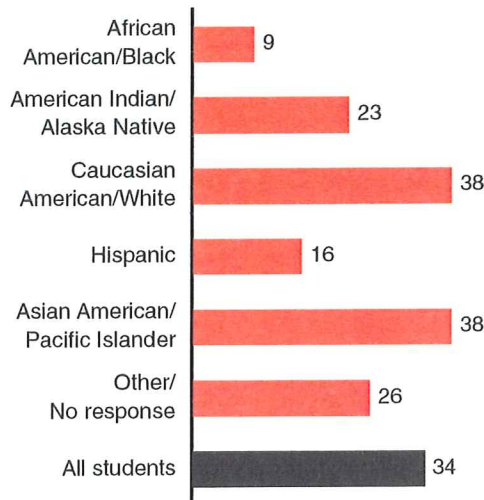
## Some student groups are more prepared than others for ...

*Percent of your ACT-tested high school graduates meeting College Readiness Benchmarks, 2010*

### ... College Social Sciences



### ... College Biology



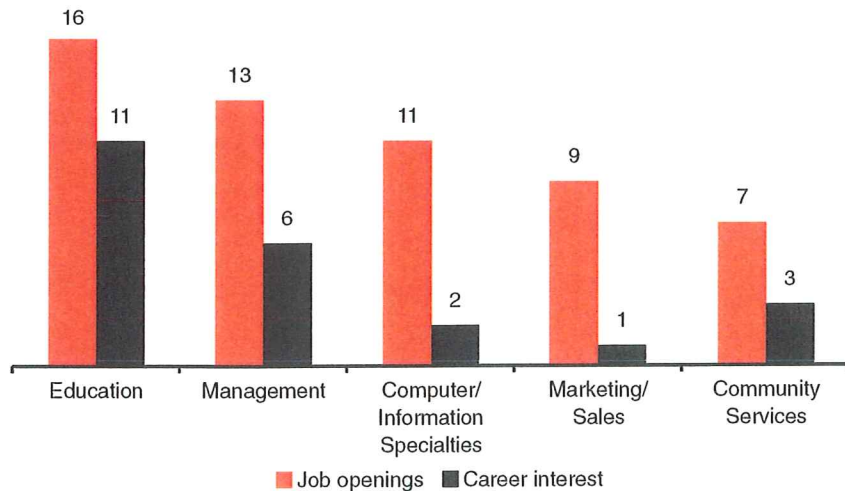
# Readiness *(continued)*

## Are your students prepared for college and career?

Even more to the point from an economic development perspective, are students interested in and prepared for the projected high-growth jobs in your state?

### Job openings and students' interests don't coincide<sup>1</sup>

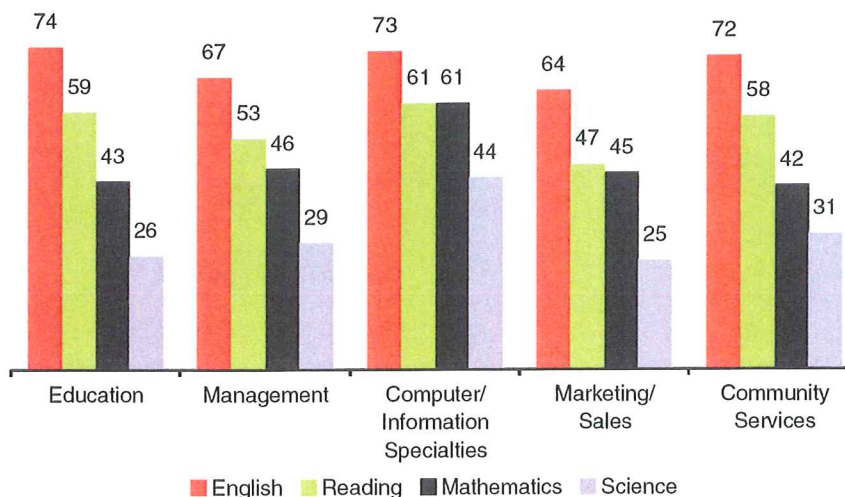
*Percent of projected annual job openings in high-growth fields in your state requiring a two-year college degree or more and 2010 ACT-tested graduates interested in those jobs*



Many students who are interested in these career areas fall short of meeting ACT's College Readiness Benchmarks, suggesting that they are not on the right path to take advantage of career opportunities in these high-growth fields.

### Preparation varies for careers in high-growth fields<sup>2</sup>

*Percent of your 2010 ACT-tested graduates interested in high-growth careers meeting College Readiness Benchmarks, by subject*



# Standards

## How well do your state standards reflect college and career readiness?

### How Does Your State Compare to ACT's College Readiness Standards?

A full list of ACT's College Readiness Standards is available at [www.act.org/standard](http://www.act.org/standard). Find out how your state compares by visiting [www.act.org/education/statematch](http://www.act.org/education/statematch).

### ACT National Curriculum Survey®

ACT conducts a one-of-a-kind survey every 3 to 5 years of thousands of secondary and postsecondary educators. The survey compares the knowledge and skills postsecondary institutions require of their entering students to what middle and high school teachers are teaching, and it details the gap between high school preparation and college expectations. States use the survey — which also discusses specific subject-area knowledge and skills — to align their standards and close expectation gaps. Visit [www.act.org/research/curricsurvey.html](http://www.act.org/research/curricsurvey.html) to access results of the latest (2009) survey.

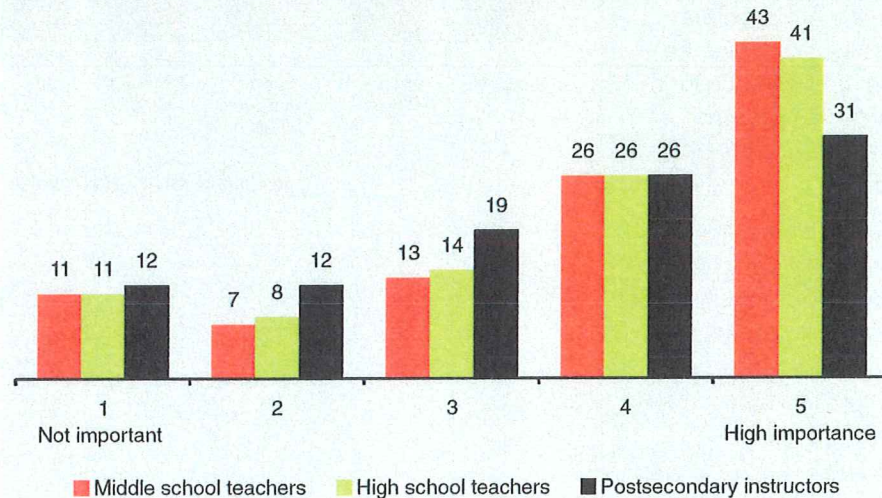
Too often, high school students graduate to find that what they learned in high school has not truly prepared them for first-year courses in college or workforce training programs. States should adopt fewer — but essential — college and career readiness standards as their new high school graduation standards.

ACT's research has identified essential standards — the ACT College Readiness Standards — that reflect a range of knowledge and skills. The Standards have been “backmapped” to K–8. And an independent, third-party international study has revealed a high degree of alignment and consistency between ACT's College Readiness Standards and the national frameworks and standards of two high-performing countries, Singapore and Finland.

In addition, ACT has identified the minimum ACT scores in each subject area — the ACT College Readiness Benchmarks — that indicate whether students are prepared for college and career (see page 3). These Benchmarks are based on the actual performance of college students in typical entry-level credit-bearing courses who have taken ACT's assessments over the past few decades.

### High School and College Educators Disagree

*Percent of high school content and skills considered important by educators*



ACT's 2009 National Curriculum Survey shows a misalignment in the content and skills considered important by educators. Postsecondary instructors gave fewer skills the top rating of “high importance” than did middle school or high school teachers. Postsecondary instructors also viewed more content and skills as being of low importance. This pattern was consistent across all content areas, but was most prevalent in science.

# Core Courses

## Are enough of your students taking core courses?

### Core Curriculum

High school students should take, at a minimum, the number of courses recommended in *A Nation at Risk*, the National Commission on Excellence in Education's research report. The report recommends four years of English and three years each of mathematics, science, and social studies.

A sample core mathematics course sequence includes Algebra I, Algebra II, and Geometry. A sample core science course sequence includes Biology, Chemistry, and Physics. Many other course options and sequences are possible, but the key is whether the courses are based on high standards that prepare students for success after high school.

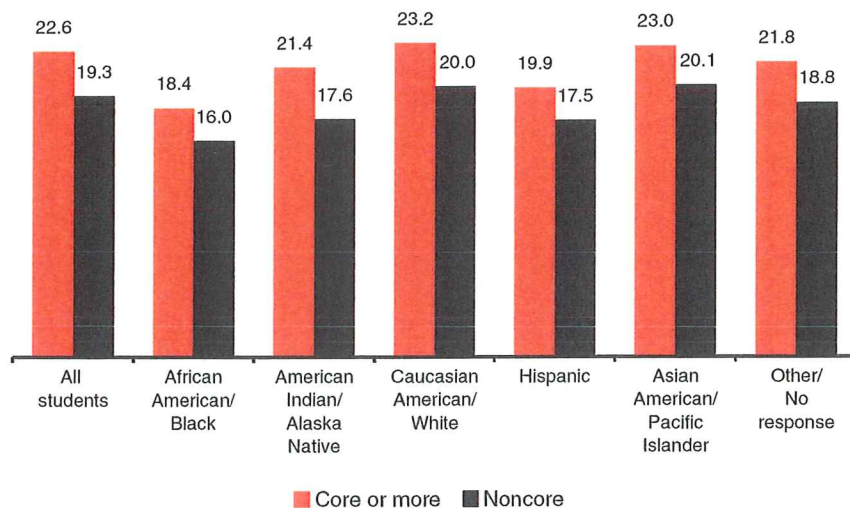
ACT research validates that college students who take a core curriculum in high school are more likely to meet the ACT College Readiness Benchmarks and, as a result, are more likely to:<sup>3</sup>

- Earn a B or higher in first-year college courses.
- Earn a first-year college GPA of 2.5 or higher.
- Persist to a second year at the same postsecondary institution.
- Progress toward a college degree.
- Complete a college degree.

A growing number of states are raising their standards and, just as important, ensuring that their curriculum is aligned with these higher expectations. They are doing this to give more students access to the courses that ACT's research shows better prepare them for college and career — preparation that results in consistent positive impacts on student performance.

### Students who take a core curriculum or more perform better than students who do not

Average scores of your ACT-tested high school graduates who took a core curriculum and those who did not, 2010



# Course Rigor

## Are your core courses rigorous enough?

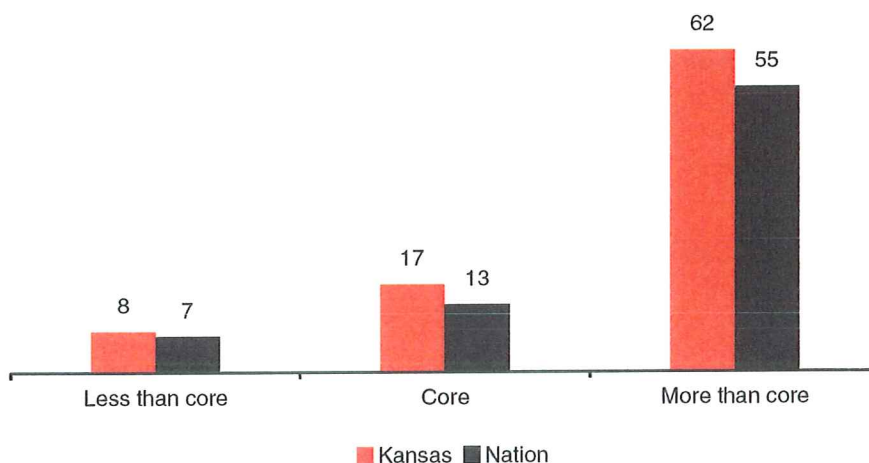
### Rigor at Risk

ACT's 2007 research (*Rigor at Risk*) found that under current conditions, students do not have a reasonable chance of becoming ready for college unless they take additional higher-level courses beyond the minimum core. And even when students take substantial numbers of additional courses, no more than three-fourths of them are ready for first-year college coursework. This suggests that the quality and intensity — in other words, the rigor — of the high school curriculum need to be improved.

Taking the right kind of courses — rigorous courses — matters as much as, if not more than, taking the right number of courses. Students taking high-level mathematics and science courses beyond the core curriculum are more prepared for college and career than those taking only the core curriculum or less.

### Students taking math courses beyond the core curriculum are more prepared than their peers

Percent of your ACT-tested high school graduates meeting or exceeding College Readiness Benchmarks in Mathematics, 2010



# Course Rigor *(continued)*

## Teacher Quality Affects Course Rigor

Another important contributor to the rigor of the high school core curriculum is teacher quality. Teacher quality has the most significant impact on high school students' readiness for college and career. Schools need to determine whether they are assigning the right teachers to the right core courses — and to the students who need them most.

According to a recent study:<sup>5</sup>

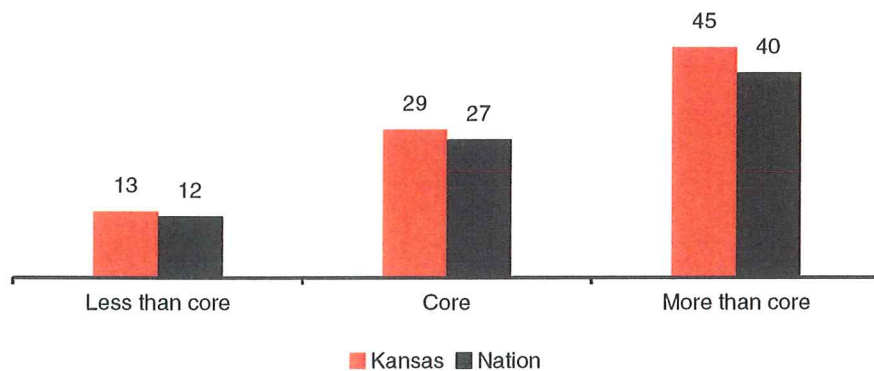
- Students in high-poverty and high-minority schools are disproportionately assigned to new teachers.
- Teachers in high-poverty and high-minority secondary schools are more likely to be lacking a major — or even a minor — in the subjects they teach.

States need to strengthen professional development and examine instructional practices to make sure courses are focused on college and career preparation.

## Are your core courses rigorous enough?

### Students taking science courses beyond the core curriculum are more prepared than their peers

*Percent of your ACT-tested high school graduates meeting or exceeding College Readiness Benchmarks in Science, 2010*



ACT research shows that rigor pays off. In its 2007 report *Rigor at Risk*, ACT analyzed close to 400 schools across the country that have shown greater-than-average increases in ACT Mathematics or Science Test scores. The study found that students at these high-performing schools who took rigorous courses such as Algebra II (over and above Algebra I and Geometry) or Chemistry (over and above Biology) improved their college and career readiness at about double the rate of all ACT-tested students who took the same courses in their high schools. Students at these high-performing schools also had greater success in college: both college enrollment and retention were higher for students in these schools than for all ACT-tested students nationally.

# Early Preparation

## Are your younger students on target for college and career?

### Early Exposure

Early exposure to rigorous core courses can help ensure that students are on target for college and career.

ACT research shows that using solutions such as EXPLORE (for 8th and 9th graders) and PLAN (for 10th graders) results in better performance on the ACT and also:<sup>6</sup>

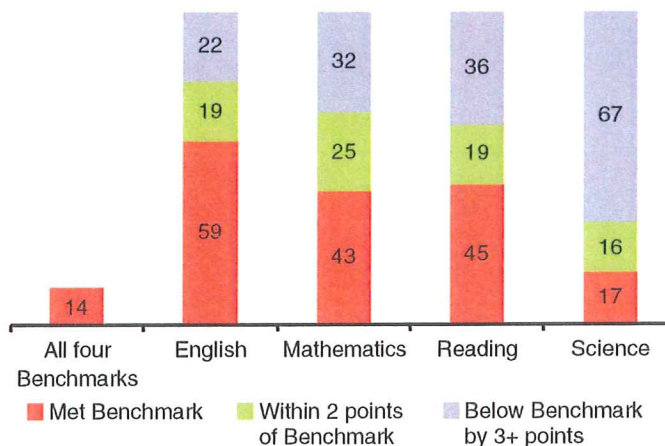
- Increases educational achievement.
- Encourages students to take more college-preparatory courses in high school.
- Increases students' readiness for college.
- Promotes educational and career planning.
- Promotes college enrollment, persistence, and achievement.

High school is too late to learn whether your students are on — or off — target for college and career. We know from our research that younger students who take rigorous curricula are much better prepared to graduate from high school ready for college and career. Moreover, recent ACT research (*The Forgotten Middle*, 2008) found that “the level of academic achievement that students attain by 8th grade has a larger impact on their college and career readiness by the time they graduate from high school than anything that happens academically in high school.”

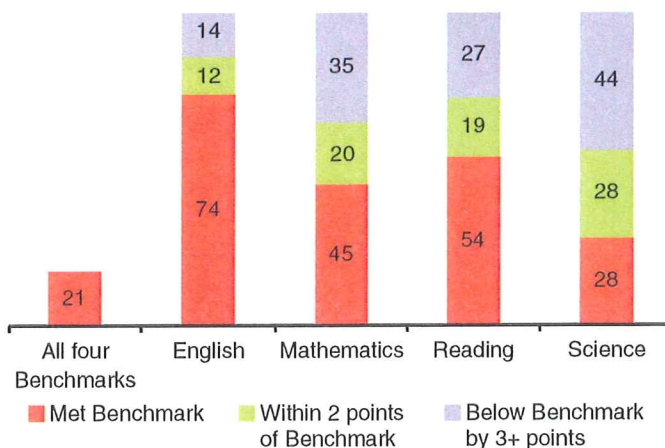
That’s why ACT is working closely with states to raise parent and student awareness about the importance of the middle grades, to begin monitoring student progress in middle school to make sure younger students are on target for college and career, and to help teachers intervene in more timely ways.

Nationally, 13 percent of students met all four EXPLORE Benchmarks in 2009–10 and 17 percent met all four PLAN Benchmarks in 2009–10.

### Early preparation is essential to college and career readiness and success



Percent of your 8th graders on target to meet College Readiness Benchmarks, 2009–10



Percent of your 10th graders on target to meet College Readiness Benchmarks, 2009–10

# Data-Driven Education

Are you collecting the right data to keep students on target for college and career?

## 10 Essential Elements of a State Longitudinal Data System

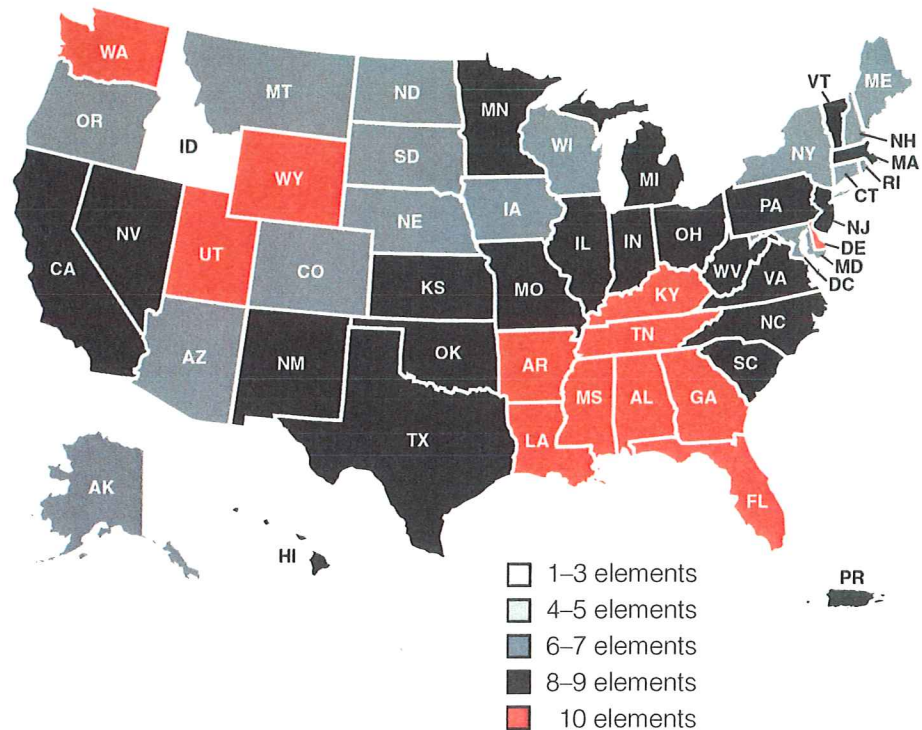
1. Statewide student identifier (50 states have this element)\*
2. Student-level enrollment data (51 states)
3. Student-level test data (50 states)
4. Information on untested students (47 states)
5. Statewide teacher identifier with a teacher-student match (24 states)
6. Student-level course completion (transcript) data (23 states)
7. Student-level SAT, ACT, and AP exam data (36 states)
8. Student-level graduation and dropout data (51 states)
9. Ability to match student-level P-12 and higher education data (33 states)
10. State data audit system (51 states)

\* Data include the 50 states, District of Columbia, and Puerto Rico.

If states are serious about ensuring that more of their students are prepared for college and career in the 21st century, they must establish longitudinal P-16 data systems to closely monitor student performance at every stage of the learning pipeline from preschool through the elementary, middle, and high school grades and all the way through college and into the workforce.

That's why ACT supports and is engaged in the Data Quality Campaign (DQC), a national collaborative effort to improve the collection, availability, and use of high-quality education data to boost student achievement. In its 2009-10 annual survey, the DQC identified 10 essential elements for building a longitudinal data system (see list at left). It is also working with states to ensure that all policymakers, educators, parents, and others have access to this information and know how to use it ([www.dataqualitycampaign.org](http://www.dataqualitycampaign.org)). In addition, ACT is available to help make the most out of ACT's state data and explore how to use it as a vehicle for improving students' college and career readiness.

## Kansas has 8 of the 10 essential data elements<sup>7\*</sup>





# Notes

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- Please visit [www.act.org/crr/2010](http://www.act.org/crr/2010) for additional information, interactive charts, and a listing of other state and national data.
- ACT offers professional development opportunities through ACT's annual College and Career Readiness Workshops. Locations can be found by visiting [www.act.org/ccrw](http://www.act.org/ccrw).
- EXPLORE® is a curriculum-based educational and career planning program that measures achievement in English, math, reading, and science. As an early indicator of college readiness, EXPLORE gives educators the means to structure high school planning and career exploration for students and parents.
- PLAN® is a curriculum-based educational and career planning program that measures achievement in English, math, reading, and science. PLAN is designed to help 10th graders build rigorous high school course plans and identify areas of academic need so they can stay on target for college and work success.
- ACT conducted a study to correlate PLAN scores with AP® success. The study can be found at [www.act.org/research/policymakers/pdf/UsingPlan.pdf](http://www.act.org/research/policymakers/pdf/UsingPlan.pdf).
- QualityCore® is a research-driven solution used to raise the quality and intensity of high school core courses. Featuring six components to support academic curriculum — rigorous ACT Course Standards, instructional resources, formative item pools, end-of-course assessments, progress monitoring, and professional development — QualityCore allows educators, administrators, and policymakers to focus on fewer, clearer, and higher course standards essential for college and career readiness.
- The ACT® is a curriculum-based educational and career planning tool that assesses mastery of state and college readiness standards. The ACT is accepted by all four-year colleges and universities nationwide.
- COMPASS® is a computer-adaptive assessment program that allows postsecondary educators to evaluate students' skill levels, place them in appropriate courses, and provide the support needed to achieve academic success. COMPASS features diagnostic and placement tests in reading, writing skills, writing essay, mathematics, and English as a second language (ESL).
- ACT has developed College Readiness Benchmarks for the COMPASS program, which is scored on a 1–99 scale, and produces Entering Student Descriptive Reports for the nation and specific states and systems each year. The reports can be found at [www.act.org/compass/reports/research.html](http://www.act.org/compass/reports/research.html).

# Resources

## ACT's College Readiness Standards (excerpt)

ACT's College Readiness Standards are detailed, research-based descriptions of the skills and knowledge students are likely to know and to be able to do based on their performance on ACT's assessments. Standards are provided for different score ranges on EXPLORE, PLAN, and the ACT.

This table provides an excerpt of the Standards covering the knowledge and skills students need to meet the ACT College Readiness Benchmarks in English, Mathematics, Reading, and Science. For a complete list of the Standards, go to [www.act.org/standard/pdf/CRS.pdf](http://www.act.org/standard/pdf/CRS.pdf).

### English (ACT College Readiness Benchmark score = 18)

#### Topic Development in Terms of Purpose and Focus

- Identify the basic purpose or role of a specified phrase or sentence
- Delete a clause or sentence because it is obviously irrelevant to the essay

#### Organization, Unity, and Coherence

- Select the most logical place to add a sentence in a paragraph

#### Word Choice in Terms of Style, Tone, Clarity, and Economy

- Delete obviously synonymous and wordy material in a sentence
- Revise expressions that deviate from the style of an essay

#### Sentence Structure and Formation

- Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences
- Decide the appropriate verb tense and voice by considering the meaning of the entire sentence

#### Conventions of Usage

- Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts
- Recognize and use the appropriate word in frequently confused pairs such as "there" and "their," "past" and "passed," and "led" and "lead"

#### Conventions of Punctuation

- Provide appropriate punctuation in straightforward situations (e.g., items in a series)
- Delete commas that disturb the sentence flow (e.g., between modifier and modified element)

### Mathematics (ACT College Readiness Benchmark score = 22)

#### Basic Operations and Applications

- Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average

#### Probability, Statistics, and Data Analysis

- Calculate the missing data value, given the average and all data values but one
- Translate from one representation of data to another (e.g., a bar graph to a circle graph)
- Determine the probability of a simple event
- Exhibit knowledge of simple counting techniques

#### Numbers: Concepts and Properties

- Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor

#### Expressions, Equations, and Inequalities

- Evaluate algebraic expressions by substituting integers for unknown quantities
- Add and subtract simple algebraic expressions
- Solve routine first-degree equations
- Perform straightforward word-to-symbol translations
- Multiply two binomials

#### Graphical Representations

- Locate points in the coordinate plane
- Comprehend the concept of length on the number line
- Exhibit knowledge of slope

#### Properties of Plane Figures

- Find the measure of an angle using properties of parallel lines
- Exhibit knowledge of basic angle properties and special sums of angle measures (e.g.,  $90^\circ$ ,  $180^\circ$ , and  $360^\circ$ )

# Resources *(continued)*

## ACT's College Readiness Standards

### Measurement

- Compute the area and perimeter of triangles and rectangles in simple problems
- Use geometric formulas when all necessary information is given

### Functions

- Evaluate quadratic functions, expressed in function notation, at integer values

### Reading *(ACT College Readiness Benchmark score = 21)*

#### Main Ideas and Author's Approach

- Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives
- Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages

#### Supporting Details

- Locate important details in uncomplicated passages
- Make simple inferences about how details are used in passages

#### Sequential, Comparative, and Cause-Effect Relationships

- Order simple sequences of events in uncomplicated literary narratives
- Identify clear relationships between people, ideas, and so on in uncomplicated passages
- Identify clear cause-effect relationships in uncomplicated passages

#### Meanings of Words

- Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages

#### Generalizations and Conclusions

- Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages
- Draw simple generalizations and conclusions using details that support the main points of more challenging passages

### Science *(ACT College Readiness Benchmark score = 24)*

#### Interpretation of Data

- Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)
- Compare or combine data from a complex data presentation
- Interpolate between data points in a table or graph
- Determine how the value of one variable changes as the value of another variable changes in a complex data presentation
- Identify and/or use a simple (e.g., linear) mathematical relationship between data
- Analyze given information when presented with new, simple information

#### Scientific Investigation

- Understand the methods and tools used in a complex experiment
- Understand a complex experimental design
- Predict the results of an additional trial or measurement in an experiment
- Determine the experimental conditions that would produce specified results

#### Evaluation of Models, Inferences, and Experimental Results

- Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models
- Determine whether given information supports or contradicts a simple hypothesis or conclusion and why
- Identify strengths and weaknesses in one or more models
- Identify similarities and differences between models
- Determine which model(s) is(are) supported or weakened by new information
- Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion

## Resources *(continued)*

### Average State ACT Scores and Percent of High School Graduates Tested, 2010

This table provides a list by state of the averages and percentages of graduates who took the ACT in 2010. In providing this table, ACT does not advocate ranking the various states' educational systems. In most states, students who take the ACT are self-selected and do not represent the state's entire student population.

Further, the percentages of students who take the ACT vary significantly by state, as do the backgrounds and characteristics of those students. Many factors — among them, motivation, the desire to learn, parental support, the quality of teaching received, socioeconomic status, and extracurricular experiences — contribute to individual and group student achievement. However, ACT research has shown a core college-preparatory program to be a significant precondition to success both on the ACT and in postsecondary studies.

State	Percent of graduates tested*	Average Composite score	Average English score	Average Math score	Average Reading score	Average Science score
Alabama	78	20.3	20.4	19.5	20.7	20.2
Alaska	28	21.1	20.3	21.2	21.7	20.9
Arizona	28	20.0	18.9	20.4	20.2	19.9
Arkansas	81	20.3	20.1	19.9	20.6	20.2
California	22	22.2	21.7	22.9	22.3	21.5
Colorado	100	20.6	19.9	20.4	21.1	20.7
Connecticut	24	23.7	23.8	23.5	23.9	22.9
Delaware	13	23.0	22.8	22.7	23.4	22.5
District of Columbia	29	19.8	19.5	19.9	20.2	19.2
Florida	65	19.5	18.6	19.7	20.1	19.1
Georgia	44	20.7	20.1	20.7	20.9	20.5
Hawaii	22	21.6	20.9	22.2	21.5	21.2
Idaho	60	21.8	21.2	21.4	22.4	21.6
Illinois	100	20.7	20.3	20.7	20.8	20.5
Indiana	26	22.3	21.7	22.4	22.6	21.9
Iowa	60	22.2	21.8	21.8	22.6	22.3
Kansas	75	22.0	21.4	21.7	22.3	21.9
Kentucky	100	19.4	18.9	19.1	19.7	19.5
Louisiana	98	20.1	20.1	19.6	20.2	20.2
Maine	10	23.2	23.2	23.0	23.6	22.5
Maryland	18	22.3	22.0	22.3	22.4	21.8
Massachusetts	21	24.0	24.0	24.3	24.2	23.1
Michigan	100	19.7	18.9	19.7	19.7	19.9
Minnesota	70	22.9	22.3	22.9	23.2	22.8
Mississippi	96	18.8	18.6	18.3	18.8	18.8
Missouri	69	21.6	21.5	21.0	22.0	21.6
Montana	58	22.0	21.3	21.7	22.7	21.9
Nebraska	73	22.1	21.8	21.6	22.4	22.0

## Resources *(continued)*

### Average State ACT Scores and Percent of High School Graduates Tested, 2010

State	Percent of graduates tested*	Average Composite score	Average English score	Average Math score	Average Reading score	Average Science score
Nevada	30	21.5	20.8	21.5	22.0	21.3
New Hampshire	17	23.7	23.6	23.5	24.1	22.9
New Jersey	17	23.2	23.1	23.6	23.2	22.4
New Mexico	66	20.1	19.3	19.7	20.5	20.2
New York	27	23.3	22.7	23.6	23.3	23.1
North Carolina	16	21.9	21.1	22.3	22.2	21.6
North Dakota	81	21.5	20.7	21.4	21.7	21.6
Ohio	66	21.8	21.2	21.5	22.1	21.8
Oklahoma	73	20.7	20.4	19.9	21.2	20.6
Oregon	34	21.5	20.5	21.5	22.0	21.3
Pennsylvania	17	21.9	21.3	22.1	22.1	21.4
Rhode Island	11	22.8	22.8	22.4	23.3	22.0
South Carolina	52	20.0	19.2	20.1	20.0	20.0
South Dakota	79	21.8	21.1	21.6	22.0	21.9
Tennessee	100	19.6	19.4	19.0	19.9	19.6
Texas	33	20.8	19.7	21.4	20.8	20.9
Utah	71	21.8	21.4	21.1	22.5	21.7
Vermont	26	23.2	22.8	22.8	23.7	22.8
Virginia	22	22.3	22.0	22.1	22.5	21.9
Washington	19	23.0	22.6	23.1	23.5	22.5
West Virginia	64	20.7	20.7	19.6	21.3	20.6
Wisconsin	69	22.1	21.5	22.0	22.3	22.2
Wyoming	100	20.0	19.0	19.8	20.4	20.1
<b>National</b>	47	21.0	20.5	21.0	21.3	20.9

\* Totals for graduating seniors were obtained from *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1992 to 2022*, 7th edition. © March 2008 by the Western Interstate Commission for Higher Education.

# Resources *(continued)*

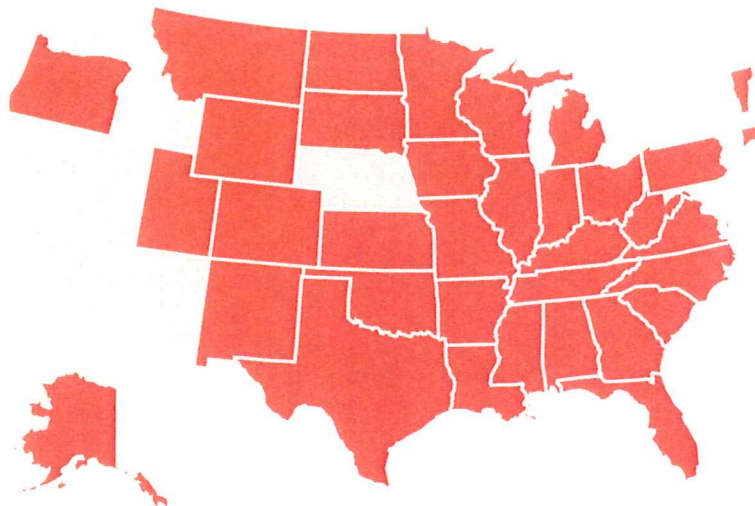
## Statewide Partnerships in College and Career Readiness



### The Importance of State Administration

States that incorporate ACT's college and career readiness solutions as part of their statewide assessments provide greater access to higher education and increase the likelihood of student success in postsecondary education. Educators also have the ability to establish a longitudinal plan using ACT's assessments, which provide high schools, districts, and states with unique student-level data that can be used for effective student intervention plans.

State administration of ACT's programs and services:

- Increases opportunities for minority and middle- to low-income students.
- Promotes student educational and career planning.
- Reduces the need for remediation.
- Correlates with increases in college enrollment, persistence, and student success.
- Aligns with state standards.



<b>EXPLORE<sup>®</sup></b>	<b>PLAN<sup>™</sup></b>	<b>The ACT<sup>™</sup></b>	<b>WorkKeys<sup>™</sup></b>		
<b>8th- and 9th-grade students</b>	<b>10th-grade students</b>	<b>11th- and 12th-grade students</b>	<b>11th- and 12th-grade students</b>	<b>National Career Readiness Certificates</b>	<b>WorkKeys<sup>®</sup>-based certificates</b>
Alabama	Arkansas	Arkansas	Illinois	Alaska	Alabama
Arkansas	Florida	Colorado	Michigan	Connecticut	Arkansas
Illinois	Illinois	Illinois	North Dakota	Iowa	Colorado
Kentucky	Kentucky	Kentucky	Wyoming	Kentucky	Florida
Louisiana	Louisiana	Michigan		Louisiana	Georgia
Minnesota	Minnesota	North Dakota		Michigan	Indiana
Oklahoma	Oklahoma	Tennessee		Missouri	Kansas
South Carolina	South Carolina	Texas		Montana	Mississippi
Tennessee	Tennessee	Wyoming		New Mexico	North Carolina
Texas	Texas			North Dakota	Oklahoma
West Virginia	West Virginia			Ohio	South Carolina
Wyoming				Oregon	Virginia
				Pennsylvania	West Virginia
				South Dakota	Wyoming
				Tennessee	
				Utah	
				Vermont	
				Wisconsin	

# Resources *(continued)*

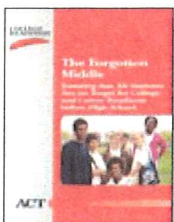
## ACT Research



### **ACT National Curriculum Survey, April 2009**

A one-of-a-kind nationwide survey that collects a wealth of information about what middle school, secondary, and postsecondary educators believe entering college students should know and be able to do to be ready for college-level work.

[www.act.org/research/curricsurvey.html](http://www.act.org/research/curricsurvey.html)



### **The Forgotten Middle, December 2008**

The percentage of 8th graders on target to be ready for college-level work by the time they graduate from high school is so small that it raises questions not just about the prospect that these students can eventually be ready for college but also about whether they are even ready for high school.

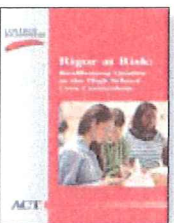
[www.act.org/research/policymakers/reports/ForgottenMiddle.html](http://www.act.org/research/policymakers/reports/ForgottenMiddle.html)



### **College Readiness Standards, October 2008**

The College Readiness Standards are research-based descriptions of the skills and knowledge associated with what students are likely to know and to be able to do based on their EXPLORE, PLAN, and ACT test scores. The Standards offer learning strategies designed to help students meet state standards and acquire the more advanced concepts associated with higher ACT assessment scores and, more important, increased college readiness.

[www.act.org/standard/pdf/CRS.pdf](http://www.act.org/standard/pdf/CRS.pdf)



### **Rigor at Risk, May 2007**

It has become increasingly apparent that although taking the right number of courses in high school is better than not, it is no longer enough to guarantee that students will graduate ready for life after high school. This report identifies the large gap between secondary and postsecondary education in the United States and focuses on successful strategies for eliminating that gap.

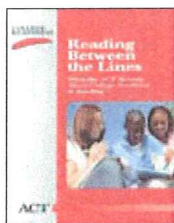
[www.act.org/research/policymakers/reports/rigor.html](http://www.act.org/research/policymakers/reports/rigor.html)



### **Ready for College and Ready for Work: Same or Different? May 2006**

High school students who plan to enter workforce training programs after they graduate need academic skills similar to those of college-bound students. ACT research suggests that the math and reading skills needed to be ready for success in workforce training programs are comparable to those needed for success in the first year of college.

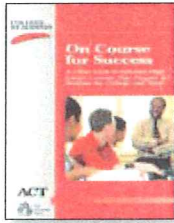
[www.act.org/research/policymakers/reports/workready.html](http://www.act.org/research/policymakers/reports/workready.html)



### **Reading Between the Lines, March 2006**

Too many high school students are graduating without the reading skills they will need. This report shows that the clearest differentiator in reading between students who are ready for college and students who are not is the ability to comprehend complex texts.

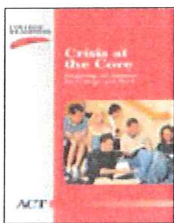
[www.act.org/research/policymakers/reports/reading.html](http://www.act.org/research/policymakers/reports/reading.html)



### **On Course for Success, February 2005**

The study defines the specific rigorous academic skills that need to be taught in English, math, and science courses for high school graduates to be ready for college and work. The report provides detailed descriptions of courses that prepare students for college coursework.

[www.act.org/research/policymakers/reports/success.html](http://www.act.org/research/policymakers/reports/success.html)



### **Crisis at the Core, October 2004**

This policy report clearly shows the relationship between the rigor of high school coursework and increased college readiness.

[www.act.org/research/policymakers/reports/crisis.html](http://www.act.org/research/policymakers/reports/crisis.html)

# Endnotes

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1. State long-term occupational projections for 2006-2016 (based on job growth and job replacement provided by Kansas Department of Labor, Labor Market Information Services). Career interests and achievement results based on 2010 ACT-tested Kansas students (n = 15,177) with valid career information and subject scores. Example occupations of state high-growth career fields are Education (secondary teachers, administrators, etc.); Management (convention planners, hotel/restaurant managers, etc.); Computer/Information Specialties (computer programmers, database administrators, etc.); Marketing/Sales (insurance agents, buyers, etc.); Community Services (social workers, school counselors, etc.).
2. Ibid.
3. ACT (2006). *ACT's College Readiness System: Meeting the Challenge of a Changing World*. Iowa City, IA: Author.
4. ACT (2006). *Reading Between the Lines: What the ACT Reveals About College Readiness in Reading*. Iowa City, IA: Author.
5. Peske, H. G., & Haycock, K. (2006). *Teaching Inequality: How Poor and Minority Students Are Shortchanged on Teacher Quality*. Washington, DC: The Education Trust.
6. ACT (2006). *EPAS: A System that Works*. Iowa City, IA: Author.
7. Data Quality Campaign, [www.dataqualitycampaign.org](http://www.dataqualitycampaign.org).



# ACT National and Field Offices

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## ACT National Office

500 ACT Drive  
P.O. Box 168  
Iowa City, IA 52243-0168  
Telephone: 319/337-1000

## West Region

### Denver Office

3131 S. Vaughn Way, Suite 218  
Aurora, CO 80014-3507  
Telephone: 303/337-3273

### Sacramento Office

2880 Sunrise Boulevard, Suite 214  
Rancho Cordova, CA 95742-6103  
Telephone: 916/631-9200

## Midwest Region

### Chicago Office

300 Knightsbridge Parkway  
Suite 300  
Lincolnshire, IL 60069-9498  
Telephone: 847/634-2560

### Columbus Office

700 Taylor Road, Suite 210  
Gahanna, OH 43230-3318  
Telephone: 614/470-9828

### Lansing Office

1001 Centennial Way, Suite 400  
Lansing, MI 48917-8249  
Telephone: 517/327-5919

## Southwest Region

### Austin Office

8701 N. MoPac Expressway  
Suite 200  
Austin, TX 78759-8364  
Telephone: 512/345-1949

## Northeast Region

### Boston Office

144 Turnpike Road, Suite 370  
Southborough, MA 01772-2121  
Telephone: 508/229-0111

## Southeast Region

### Atlanta Office

3355 Lenox Rd. N.E., Suite 320  
Atlanta, GA 30326-1332  
Telephone: 404/231-1952

### Tallahassee Office

1315 E. Lafayette St., Suite A  
Tallahassee, FL 32301-4757  
Telephone: 850/878-2729