

## **Appendix A**

### **Historical Overview of the Standards of Learning Program**

The Standards of Learning (SOL) have provided a foundation for increased student achievement for nearly two decades. The standards are at the core of a statewide system of support and accountability that has helped make Virginia’s public schools among the nation’s best.

#### **Origins of reform**

While the term “Standards of Learning” dates to the early 1980s, what Virginians today regard as the SOL program began in the mid 1990s in the wake of several ineffective attempts at reform and dramatic declines in the achievement of Virginia students on national assessments.

In 1994, the reading scores of Virginia fourth graders on the National Assessment of Educational Progress (NAEP) plummeted. This jolt, coupled with a decade of declining SAT scores, led to a bipartisan consensus around the need for more rigorous academic and instructional standards in the Commonwealth’s public schools.

The structure of the reform took shape through Governor George Allen’s Commission on Champion Schools and the work of the Virginia Board of Education and then-Superintendent of Public Instruction William C. Boshers Jr.

In June 1995, the Board of Education revised the Standards of Learning in English, mathematics, history and science to increase specificity and content rigor. Boshers described the revised SOLs as “the most rigorous set of standards in math, science, English and social studies Virginia has ever known.”

Seven months later, Allen’s commission made its recommendations on the creation of an accountability program based on the new standards. The recommendations included statewide testing in all four content areas, an achievement-based school accreditation system and the publication of annual school report cards.

In September 1997, the Board of Education revised its *Regulations Establishing Standards for Accrediting Public Schools in Virginia* to carry out the Commission on Champion Schools’ recommendations and create what we now call the SOL program.

#### **SOL testing begins**

SOL testing began in 1998 as students in grades 3, 5, 8 and in high school took assessments in reading, writing, mathematics, history and science. Results from the 1998 tests were used to establish proficiency standards for students.

The following year, schools were assigned accreditation ratings based on student achievement on the SOL tests. In 1999, only 116, or 6.5 percent, of the Commonwealth’s 1,791 schools met the accreditation standard, although achievement increased on all tests. Under the new accreditation standards, all schools were expected to have pass rates of at least 70 percent in all four content areas by 2006-2007.

Despite the initially low pass rates on the new state tests, results from the 1998 national reading tests provided an early indication that the SOL program was having a positive impact on student

achievement. The percentage of students meeting NAEP's rigorous standard for proficiency jumped four points. Then-Board of Education President Kirk Schroder described the 1998 NAEP results as tangible evidence that Virginia schools were moving in the right direction.

### **Creating a statewide system of support**

SOL-related initiatives were launched by Allen and his successor, Governor James Gilmore, to support schools in their efforts to improve reading skills and identify and assist students at risk of not meeting new, more rigorous graduation requirements. These efforts marked the beginning of the development of a statewide system of support linked to the standards.

The General Assembly approved the Virginia Early Reading Initiative in 1997 to provide early intervention for kindergartners and first graders (in 2000, this Allen-era initiative was expanded to include students through grade 3). The initiative included the development of a powerful diagnostic assessment to enable teachers and reading specialists to identify and correct reading problems sooner rather than later.

New algebra-related courses and professional development opportunities were developed for middle and high school mathematics teachers, and in 2000, the General Assembly approved Gilmore's Algebra Readiness Initiative to support diagnostic and intervention services for students in grades 6-9 at risk of not passing the Algebra I SOL test.

During their 2000 session, state lawmakers also approved Gilmore's SOL Technology Initiative, setting Virginia on a course to become a national leader in online assessment. The initiative authorized annual grants to school divisions, funded through the issuance of notes by the Virginia Public School Authority, to create the infrastructure and purchase the hardware required for online testing, as well as to increase students' access to technology. By fall 2001, students in 15 school divisions were taking at least some SOL tests online.

The 2000 General Assembly also responded to requests from school divisions by directing the Virginia Department of Education (VDOE) to develop three new course-specific history/social science tests to administer in grades 5-8 as an alternative to the cumulative grade-8 history/social science assessment. The cumulative test was ultimately phased out in 2008.

Also in 2000, VDOE academic review teams began visiting low-performing schools and assisting in the development and implementation of improvement plans. The Board of Education required schools reviewed because of low student achievement in reading and mathematics to implement instructional programs of proven effectiveness.

During this same year, the Board of Education revised its accountability regulations to provide additional options and flexibility for students in meeting assessment-related diploma requirements that were scheduled to become effective with the class of 2004. The changes included allowing students to substitute Advanced Placement, International Baccalaureate and other rigorous assessments for end-of-course SOL tests in the same subjects.

### **Support for students and schools**

After his election in 2001, Governor Mark R. Warner signaled his support for the Standards of Learning reform program by re-appointing Jo-Lynne DeMary as superintendent of public

instruction. Warner subsequently endorsed the SOLs explicitly during remarks to the Board of Education and the Virginia Association of School Superintendents.

At Warner's direction, an Office of School Improvement was created within VDOE to work closely with low-performing schools to implement best practices.

Warner built on the Board's academic review process with his Partnership for Achieving Successful Schools (PASS) initiative. PASS paired Title I schools that had become subject to sanctions under the federal *No Child Left Behind Act of 2001* with similar schools that were meeting state and federal standards. The initiative also identified community and private sector partners to provide resources and opportunities for students and teachers.

### **Continued improvement and innovation**

Year-to-year increases in achievement on the SOL tests resulted in ever-higher percentages of schools earning full accreditation. By the fall of 2002, 64 percent of the Commonwealth's schools had met or exceeded the standards.

"In schools where principals and teachers are implementing best practices and working collaboratively with the department's academic review teams, instruction is improving and student achievement is rising," DeMary said.

Virginia's online assessment system continued to grow as more high schools began administering SOL end-of-course tests online. During the spring 2003 test administration, students in 94 school divisions took approximately 76,000 online assessments. Schools reported that students were comfortable with the online format and that the web-based tests allowed initially unsuccessful students the benefit of speedier retakes.

Results from the 2002 national reading tests showed that the skills of Virginia students continued to improve and that the Commonwealth's students were among the nation's strongest readers. The percentage of Virginia fourth graders at or above grade level in reading rose seven points to 37 percent. An equal percentage of Virginia eighth graders met or exceeded the NAEP proficiency standard in reading, a four-point improvement from 1998.

Mark C. Christie, who led the Board of Education during the final year of the Gilmore administration and the first year of the Warner administration, responded to criticism that the gains on the state and national tests did not represent real increases in learning. Christie's May 2004 article in Weldon Cooper Center for Public Service's Virginia News Letter also compared the SOL program with earlier attempts at reform.

*Critics claim that these dramatic gains merely reflect "teaching to the test." This cliché is the most intellectually shallow of all the arguments made against the SOL program. The SOL tests measure student learning of the SOL academic content, and our academic content standards in English, math, science and history are among the best in the nation. The SOL reading tests measure a student's ability to read, the SOL writing tests measure the ability to write, the SOL math tests measure the student's ability to do math. Do we want teachers to teach these skills? Of course we do.*

The performance of Virginia students on the SAT — the dominant college admissions test in the Commonwealth — in 2002 and 2003 provided additional evidence that the SOL program was making an impact on achievement. Virginia high school seniors posted a five-point increase in mathematics on the 2002 SAT and four-point improvement in reading the following year.

The 2003 SAT scores represented an 11-point improvement in mathematics since the beginning of SOL testing in 1998 and a seven-point improvement in reading. Nearly 8,400 more Virginia high school seniors took the SAT in 2003 compared with participation five years earlier.

“By taking the SAT in ever-greater numbers, Virginia students are showing that they are increasingly confident of their academic abilities,” said Thomas M. Jackson Jr., who succeeded Christie as state board president.

### **New diploma standards take effect**

In 2003, Warner launched Project Graduation to help struggling rising seniors pass the SOL tests required to earn a standard or advanced diploma. At the same time, Warner said there would be no retreat from the new diploma requirements due to take effect in 2004.

Project Graduation, which remains part of the SOL program’s statewide system of support, included regional summer academies — where students received focused instruction in reading, writing, and Algebra I — and opportunities to retake corresponding SOL tests.

Thanks to Project Graduation and similar local initiatives — and the efforts of Virginia teachers in preparing students for the higher diploma standards — predictions that tens of thousands of seniors would be denied diplomas in 2004 did not materialize.

Statewide, 2004 graduates equaled 73.5 percent of ninth-grade enrollment four years earlier, compared with an average estimated four-year graduation rate over the previous five years of 74.7 percent.

Warner had fulfilled his promise not to “blink” — as other states had — when new, more rigorous diploma standards were about to take effect.

### **A 10-year trend of higher achievement**

By 2005, 92 percent of Virginia schools had earned full accreditation as student achievement on the SOLs increased. "This year's accreditation ratings cap a long, bipartisan process in which we stood firm in our efforts to raise standards and insist on accountability," Warner said.

“The commitment of successive administrations, the General Assembly, and the Board of Education to the Standards of Learning has allowed Virginia to increase student achievement and provide students and schools with a foundation for even greater success,” DeMary said.

The performance of Virginia students on national reading and mathematics tests in 2005 continued what DeMary described as a 10-year trend of higher achievement in reading and mathematics reflecting the improving quality of instruction in the Commonwealth’s public schools. Virginia fourth- and eighth-grade students again performed at higher levels than their national and regional counterparts.

The percentage of Virginia fourth graders meeting or exceeding the NAEP proficiency standard in mathematics increased in 2005 to 39 percent (compared with only 19 percent in 1996), and the percentage of eighth graders meeting the standard in mathematics increased to 33 percent (compared with 21 percent in 1996).

Virginia fourth-graders led the nation on the 2005 NAEP in science. Forty percent met or exceeded the rigorous NAEP standard for science proficiency, compared with 32 percent five years earlier. Nationwide, only 27 percent of fourth-graders achieved at the proficient level or above. Thirty-five percent of Virginia students in grade 8 met or exceeded the NAEP standard, compared with 29 percent five years earlier. Nationwide, 27 percent of eighth-graders performed at the proficient level or above.

The performance of Virginia high school seniors on the SAT also improved significantly in 2005. The average mathematics score of Virginia public school seniors increased by six points, which was the largest increase in mathematics achievement in the nation.

Virginia also was poised to join a select group of states in which 20 percent or more of high school seniors qualified for college credit by earning a grade of 3 or more on an Advanced Placement (AP) examination. During 2005, 19.3 percent of the Commonwealth's public high school seniors earned a grade of 3 or better on at least one AP test, compared with 15.9 percent in 2000. Only four states had a higher percentage of seniors earning grades of 3 or better.

### **New tests challenge middle schools**

In 2006, new reading and mathematics SOL tests were introduced in grades 4, 6 and 7 to comply with the NCLB requirement for annual testing in these subjects in grades 3-8. The new grade-level assessments represented a significant increase in expectations as students were required to demonstrate a deeper mastery of content, especially in math. Mathematics pass rates plunged in middle schools across the state. While nine out of 10 schools still earned full accreditation for 2006-2007, 86 of the state's 307 middle schools were accredited with warning.

The 2006-2007 school year also was the first to see schools denied accreditation because of persistently low-achievement on the state tests. Four of the six schools denied accreditation were in Petersburg and two were in Sussex County. VDOE's Office of School Improvement began intensive interventions in these and other low-performing school divisions.

The challenge presented by the more rigorous middle school assessments was met as VDOE and school divisions collaborated to develop new resources, especially for mathematics teachers. The department invited top middle school mathematics teachers from around the Commonwealth to participate in the creation of a series of videos illustrating how various concepts and operations could be effectively presented to diverse learners.

These resources, and others developed as part of this effort, were distributed to school divisions and posted on the VDOE website. The response to the middle school mathematics challenge created a template for future state-division collaborations.

### **Expanding accountability and recognizing excellence**

At the start of his administration in 2006, Governor Timothy M. Kaine called on the Board of Education to include graduation as an accountability factor in the accreditation of high schools.

“Most of Virginia’s high school students are meeting or exceeding the Commonwealth’s diploma standards but we must redouble our efforts to address the issues that historically have caused students to dropout or complete high school without earning a diploma,” said Mark E. Emblidge, a former Richmond school board chairman who became president of the state board shortly after Kaine took office.

The board revised the Commonwealth’s accreditation standards to require high schools to meet an annual benchmark for graduation. This addition to the board’s accountability standards became effective with accreditation ratings for the 2011-2012 school year and was made possible by the development in 2008 of a longitudinal student data system that allowed VDOE to calculate cohort graduation and dropout rates for schools, divisions and the state.

School divisions began preparing for the new accountability measure by improving student-data systems and developing new programs to identify and assist students at risk of dropping out.

In 2008, VDOE reported a statewide four-year graduation rate of 81.3 percent for the class of 2008. The following March, VDOE reported a statewide dropout rate of 8.7 percent. By 2013, the graduation rate had risen to 89.1 percent and the dropout rate had fallen to 5.9 percent.

Kaine also urged the Board of Education to create a mechanism within the SOL program to recognize and reward schools and school divisions that far exceed state and federal accountability standards. The Board responded in 2007 by approving the Virginia Index of Performance (VIP) incentive program.

Virginia’s progress under the SOL program was recognized by Education Week in its January 2007 Quality Counts report. The report described Virginia students as the most likely to succeed in the nation and said that the typical student in the Commonwealth “enjoys higher achievement and is more likely to finish high school and continue on to college than in other states.” Virginia continues to rank among the top states — most recently fourth — in the annual Quality Counts report.

The College Board’s 2007 Advanced Placement Report to the Nation provided what Kaine described as another milestone on Virginia’s journey from “competence to excellence” under the SOL program as Virginia joined the handful of states in which 20 percent or more of high school seniors earned a grade of 3 or more on an AP examination. Only three states had higher percentages of seniors with scores qualifying for college credit.

Virginia fourth and eighth graders achieved significant overall gains in mathematics on the 2007 NAEP, compared with performance on the national tests two years earlier. And for the first time since the beginning of the national assessment program in the early 1990s, a majority – 60 percent – of black fourth graders in the Commonwealth demonstrated reading proficiency at or above the basic level.

Billy K. Cannaday Jr., who succeeded DeMary as state superintendent, said the improvements made 2007 a “watershed year” for the 12-year-old SOL program. “Because of the efforts of thousands of teachers and other educators – and the Commonwealth’s commitment to the

Standards of Learning – students who traditionally have lagged behind are now achieving at higher levels," Cannaday said.

Virginia was the only state to receive a perfect score for academic standards from the American Federation of Teachers (AFT) in the union's Sizing Up Standards 2008 report. The AFT evaluated Virginia's SOLs and the academic standards of other states for clarity, specificity and content. The report by the nation's second-largest teachers' union cited Virginia as the only state in the nation to meet the AFTs' criteria for strong standards in English, mathematics, science and history at all grade levels and in all subject areas.

### **College- and career-ready standards**

As it prepared to carry out legislatively mandated reviews of the Standards of Learning in mathematics and English, the Board of Education directed VDOE to study factors contributing to success in postsecondary education. As part of that effort, the department asked the College Board, ACT and the bipartisan education reform organization Achieve to compare their respective standards for postsecondary readiness with the English and mathematics SOLs.

The board's determination to increase the rigor of the SOL program — by shifting its focus from grade-level competency to college and career readiness — was reinforced by the relatively flat performance of Virginia students on the 2009 NAEP. "Our challenge is to build on the progress Virginia students have already made under the Standards of Learning program — especially in middle school and among minority students," then-Board President Eleanor B. Saslaw said.

The 2009 revision of Virginia's mathematics standards and the 2010 revision of the English and science SOLs reflected the input of the College Board, ACT and Achieve, as well as recommendations from college faculty and the business community.

"If Virginia's students master the state standards, they will likely be well prepared for both workplace and college success," Achieve reported.

After taking office in 2010, Governor Robert F. McDonnell signaled his support for increasing the rigor of the SOL program as Virginia came under pressure from the US Department of Education to replace the SOLs with the newly developed Common Core State Standards.

"We can't go back," McDonnell told the Washington Post in May 2010. "We've been working on this for 15 years."

The following month, the Board of Education reaffirmed its commitment to the SOL program and opposition to adoption of the Common Core as a prerequisite for participation in federal competitive grant programs.

"The Standards of Learning are clear and rigorous and have won the acceptance and trust of Virginia educators," the board said in a unanimously approved resolution. "Whatever adjustments might be warranted to ensure alignment of the SOL with the Common Core State Standards can be made within the process through which the Board of Education exercises its constitutional authority to establish standards for the Commonwealth's public schools."

In January 2011, Superintendent of Public Instruction Patricia I. Wright, who succeeded Cannaday during the Kaine administration and was reappointed by McDonnell, warned state

lawmakers that the transition to more rigorous standards would lead to short-term declines in pass rates on state tests.

“Our schools will begin a new trend line as these more rigorous standards and benchmarks become effective over the next few years,” Wright said. “But we must not become alarmed or discouraged. And we must not give in to the temptation to preserve the status quo when we know in our hearts that we must raise standards for our young people to remain competitive in the 21st century.”

Also in January, the National Center for Education statistics released results from revamped national science assessments administered in 2009. Virginia fourth graders again led the nation in science, with 46 percent meeting or exceeding the NAEP proficiency standard. Thirty-six percent of Virginia eighth graders performed at or above the proficiency level, with students in only six states ranking higher.

By spring 2011, 2.2 million SOL tests were being taken online. Pleased with the growth and success of the online assessment program, the General Assembly mandated that all SOL tests be administered online by spring 2013, except in cases where a student’s disability necessitated a paper-and-pencil test.

In a July 2011 commentary published by the Richmond Times-Dispatch, Wright addressed questions about the growth of testing in the Commonwealth’s schools:

*Is there too much testing in Virginia’s public schools? Is “test preparation” crowding out real teaching and learning in some schools? You may be surprised that my answer, as one of the architects of the SOL program, is “yes” to both questions.*

*But in considering the amount of testing, it is important to distinguish between the actual SOL tests required by the Commonwealth and the myriad assessments that local administrators have put in place to identify students at risk of not passing the SOLs and potentially jeopardizing a school’s accountability rating.*

Wright also noted the concerns of Board of Education members that local decisions sometimes prevented teachers from weaving SOL content into engaging curriculum, as originally intended by the Board. She pointed out that the overemphasis on “test prep” in some divisions was also counter to research showing that the best way to prepare students is to provide instruction that exceeds the depth and rigor of the standards.

Accreditation ratings announced in the fall of 2011 marked an all-time high, despite the introduction of new history and social science SOL tests during 2010-2011. Ninety-six percent of schools were fully accredited and only eight middle schools remained on academic warning.

Additional evidence of the continuing impact of the SOL reform was provided by results from the 2011 NAEP. In mathematics, the percentage of grade-8 students who met or exceeded the NAEP standard for proficiency increased by four points to 40 percent and the percentage of fourth-grade students at or above proficiency rose three points to 46 percent.

Wright said the gains on the national mathematics tests confirmed the improvements in teaching and learning that followed the introduction of grade-level SOL testing in 2006, and mirrored increases in achievement on the middle school mathematics and Algebra I SOL tests.

### **Beyond multiple choice**

Students began taking SOL tests based on the 2009 mathematics standards in 2011-2012, and new tests in reading, writing and science were introduced in 2012-2013. The new online assessments included innovative technology-enhanced items that required students to apply their content knowledge and employ problem-solving and critical-thinking skills. The items mirrored students' classroom experiences and were widely praised by mathematics teachers and division-level instructional leaders.

As predicted, the new SOLs produced lower pass rates. But during 2012-2013, the second year for the new mathematics assessments, students made gains on every grade-level and end-of-course mathematics test.

“As schools adapt to the new SOLs and as our talented, hardworking teachers continue to engage students, I am confident that we will see improvement in English and science scores just as we did in math scores,” Board of Education President David M. Foster said. “In turn, we will improve the odds that our graduates are equipped to succeed in a competitive, fast-changing world. We owe it to our students and to ourselves to set high expectations — and then to do all that we can to help each student meet those expectations.”

In response to concerns from school divisions about the amount of time it took some students to complete the new mathematics SOL tests, VDOE surveyed teachers and other educators from 16 relatively high-scoring divisions. High expectations for students, thorough knowledge of the 2009 Mathematics SOL Curriculum Framework, and an emphasis on multistep problem solving and vocabulary throughout the year were cited as contributing to the success of students who completed the new tests in three or fewer hours.

An online survey conducted at the close of the 2011-2012 school year found overwhelming support among teachers for increasing the flow of SOL-related information and resources from VDOE directly to classroom teachers. As a result, the department in January 2013 launched TeacherDirect, a weekly e-mail bulletin informing teachers of the latest SOL resources and professional development opportunities. This marked a significant break from the long-standing practice of channeling information through school division central offices.

By the fall of 2013, the impact of the Commonwealth's college- and career-ready standards and assessments was clear in the accreditation ratings by VDOE.

Seventy-seven percent, or 1,413, of Virginia's 1,828 public schools were rated as fully accredited for 2013-2014, compared with 93 percent for 2012-2013. The number of schools accredited with warning nearly quadrupled to 395, and six schools have been denied state accreditation because of chronically low achievement.

“Over the last five years, the accreditation bar has been raised through the introduction of more rigorous curriculum standards and challenging new assessments that test students' problem-solving and critical-thinking skills as well as their content knowledge,” Wright said. “In addition,

the benchmark pass rates required for full accreditation have increased, and high schools must meet goals for improving graduation rates.”

“The focus of the SOL program has shifted to the ambitious but vital goal of college and career readiness for all students,” Foster added. “Temporary declines in SOL scores and accreditation ratings are signs that the Commonwealth is expecting more, not that students are learning less.”

The 2013-2014 school year opened on an encouraging note as results from both the ACT and SAT college-admissions tests showed across-board-gains for Virginia students, despite nationwide declines in student achievement on both assessments.

The percentage of Virginia public school students meeting ACT’s college-readiness benchmarks in English, reading, mathematics and science was 10 or more points higher than the percentages nationwide. Black students narrowed the achievement gap in all three SAT subject areas by achieving larger gains than Virginia public school students overall.

Foster said the SAT and ACT results demonstrated that Virginia students were continuing to make progress under the SOL program and the college- and career-ready expectations introduced by the Board since 2009.

### **International Comparisons**

In October 2013, a long-awaited National Center for Education Statistics study connecting 2011 NAEP mathematics and science scores of American students with results from the 2011 Trends in International Mathematics and Science Study (TIMSS) ranked Virginia eighth graders above international averages in both subjects.

The study ranked the mathematics achievement of Virginia eighth graders higher than that of peers in 39 countries and systems, including Finland. Finland’s public schools are frequently held up as a model for states to emulate. Only students in South Korea, Singapore, Taiwan (Chinese Taipei), Hong Kong, Japan, Russia and Quebec ranked higher. Mathematics achievement in one country — Israel — was found to be similar to achievement in Virginia.

The study found that Virginia eighth graders achieved at a statistically higher level in science than students in 37 countries and systems, including Hong Kong and Russia. Students in only four countries — Singapore, Taiwan, South Korea and Japan — were ranked higher. The study rated the science achievement of students in six countries and systems — including Finland — as equivalent to that of Virginia students.

### **2013 NAEP**

The 2013 NAEP reading and mathematics tests showed that the reading skills of Virginia fourth-grade students improved significantly between 2009 and 2013. Forty-three percent of the commonwealth’s grade-4 students met or exceeded the NAEP proficiency, compared with 38 percent four years earlier.

In mathematics, 47 percent of the state’s fourth graders achieved scores at or above the proficient level, compared with 46 percent in 2011, 43 percent in 2009 and 42 percent in 2007. The improvement since 2007 was seen as statistically significant.

The reading achievement of Virginia eighth graders on the 2013 NAEP was flat. Thirty-six percent achieved at or above the proficient level in reading, the same percentage as in 2011.

“The 2010 revisions to the English SOL place increased emphasis on strengthening adolescent literacy and equipping students with the reading skills they will need during their first year of college or in the work force,” Superintendent of Public Instruction Wright said. “As schools implement these more challenging standards and state tests, I expect to see an improvement in the performance of Virginia middle and high school students on national reading assessments.”

Thirty-eight percent of Virginia eighth graders achieved proficient or advanced mathematics scores on the 2013 NAEP, compared with 40 percent in 2011. The two-point decline was not statistically noteworthy. Eighth graders in only five states — Massachusetts, New Hampshire, New Jersey, Minnesota and Vermont — achieved higher average math scores. The National Center for Education Statistics described the increase in grade-8 mathematics achievement in Virginia since 2005 — when 33 percent earned proficient or advanced scores — as significant.

### **In Conclusion**

As his term as president of the Board of Education neared its end, Foster reflected on how far Virginia’s public schools have come under the SOL program and on the challenges that remain:

*“In education as elsewhere, those who would make sound policy look at long-term trends and multiple measures. All of the trends and measures point in the same direction: SAT scores are up, ACT scores are up, NAEP scores are up, Advanced Placement scores are up, graduation rates are up, and minority achievement is up. Remarkably, Virginians are even competing favorably with Finland and three dozen other countries in math and science assessments.*

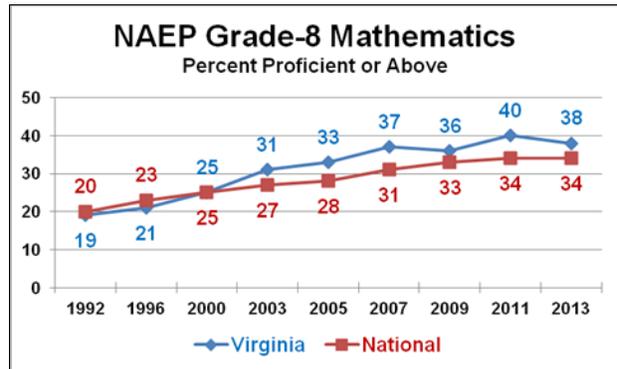
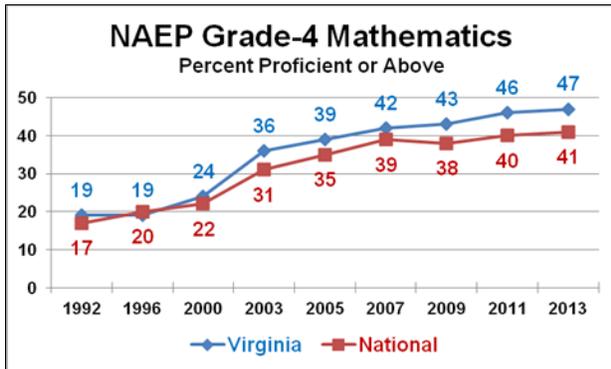
*“None of this has been easy, of course, nor will pursuing the road ahead to universal proficiency and the elimination of achievement gaps be easy. We still have a lot of hard work to do. But as President Kennedy famously said of the space race, ‘We do not do these things because they are easy; we do them because they are hard.’ Those who value the future of our young people, our Commonwealth, and our nation will not do the easy thing and abandon the SOL-based reforms that have taken us this far. They will stay the course until we have accomplished even harder things.”*

# Impact of the Standards of Learning Program on National Assessment of Educational Progress

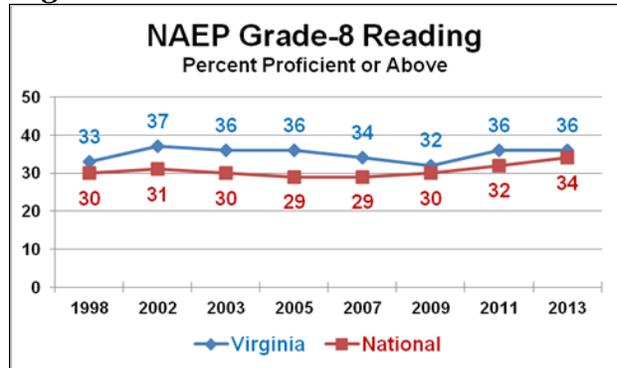
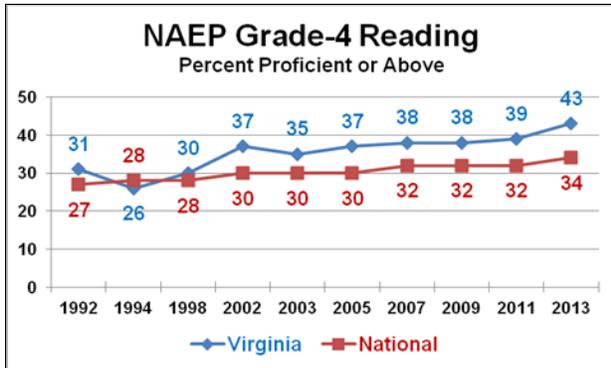
## Key Dates:

- 1995:** Board of Education adopts revised Standards of Learning (SOL)
- 1998:** SOL testing begins
- 1999:** First school accreditation ratings awarded
- 2006:** Reading and mathematics SOL tests given to students in previously untested grades (4, 6 & 7)
- 2009:** Board approves college- and career-ready Mathematics SOL
- 2010:** Board approves college- and career-ready English and Science SOL

## Mathematics



## Reading



## Science

