



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF EDUCATION

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October 22, 2007

The Honorable John A. Cosgrove, Chairman  
Joint Subcommittee Studying Science, Mathematics, and  
Technology Education (HJR 25)  
P.O. Box 15483  
Chesapeake, Virginia 23328

Dear Delegate Cosgrove:

As you and the members of the joint subcommittee consider recommendations for the 2008 General Assembly, I would like to take this opportunity to direct your attention to several Science, Technology, Engineering, and Mathematics (STEM) related initiatives that the Department of Education has implemented and to several STEM-related initiatives that the Department intends to implement over the next two years:

### **STEM-Related Initiatives Currently Being Administered**

In its deliberations, I hope that the joint subcommittee will consider affirming its support for the programs described below because of their role in stimulating student interest in careers in the STEM field:

- **Path to Industry Certification** – This program enables high school students to earn an industry-recognized certification or professional license while in high school, or immediately following graduation by enrolling in a Virginia community college. The number of students earning industry certifications, licenses, and assessments has increased almost fourfold in three years, from 3,508 in 2003-2004 to 13,204 in 2006-2007.

The program also enables career and technical education teachers to earn industry certifications through Industry Certification Teacher Training Academies. The number of teachers who earned an industry certification or license through the

training academies has increased sevenfold, from 300 in 2003-2004 to 2,123 in 2006-2007.

- **Mathematics and Science Partnership Grants** - The Virginia Department of Education has recently awarded nine Mathematics and Science Partnership (MSP) federal grants for implementation during the 2007-2008 school year. The grants total approximately \$2.5 million and will support professional-development activities for mathematics and science teachers to increase their content knowledge and improve their teaching skills. Projects supported by these grants must be classroom focused, aligned with the Standards of Learning (SOL) and result in measurable growth in student achievement in mathematics and/or science.
- **Virginia Middle Teacher Corps** – This program provides the structure and incentives for school divisions to hire experienced mathematics teachers for middle schools (grades 6, 7, and 8) that have been designated as “at risk in mathematics.” A salary differential of \$10,000 was provided to a teacher who is a new hire to a school or school division, and a \$5,000 salary differential is provided to a teacher currently at an eligible school. In the first year of the program, 2005-2006, 21 teachers were placed. In 2006-2007, 18 teacher corps members remained in the program and five were added. Recruiting successful, high quality middle school mathematics teachers to work in at-risk schools continues to be a challenge.

In 2006-2007, Standards of Learning pass rates on the grade 6 test increased in 13 or the 16 participating schools in which at least 10 students participated. The pass rates on the grade 7 test increased in all the participating schools in which at least 10 students participated. The pass rate on the grade 8 test increased or did not change for 12 of the 19 participating schools in which at least 10 students participated.

- **Career and Technical Education Seal and Seal of Advanced Mathematics and Technology** – The Board of Education has created two diploma seals to recognize student achievement in these areas. The Career and Technical Education Seal is awarded to students who earn a Standard or Advanced Studies Diploma and complete a prescribed sequence of courses in a career and technical education concentration or specialization that they choose and maintain a "B" or better average in those courses; or pass an industry certification, licensure, or occupational competency assessment approved by the Board of Education.

The Seal of Advanced Mathematics and Technology is awarded to students who earn either a Standard or Advanced Studies Diploma and satisfy all of the mathematics requirements for the Advanced Studies Diploma (four units of credit including Algebra II; two verified units of credit) with a "B" average or better;

and either pass an industry certification, licensure, or occupational competency assessment approved by the Board of Education or pass an examination approved by the Board that confers college-level credit in a technology or computer science area.

- **Mathematics Specialists** – The Board of Education has amended its teacher licensure regulations, effective September 21, 2007, to include an endorsement for a mathematics specialist, similar to the current endorsement for the reading specialist, to serve as a resource for mathematics for teachers in grades K-8. To be endorsed as a mathematics specialist, a teacher must have a master's degree in mathematics and must have completed three successful years of teaching mathematics.

### **STEM-Related Initiatives Currently In the Planning Process**

In its deliberations, I hope that the joint subcommittee will consider affirming its support for the concepts and principles underlying the following initiatives:

- **Technical diplomas** - The 2007 General Assembly passed legislation to require the establishment of technical diplomas that would be similar to the current Standard and Advanced Studies Diplomas, but would require a concentration in career and technical education. These new diplomas would have to be established by regulation in the Standards of Accreditation. The Board invited educators and representatives from business and industry to make recommendations on the requirements for these two new diplomas to the Board's School and Division Accountability Committee at its July, September, and October meetings. The Board will continue to work with stakeholders to develop the requirements for these diplomas during the fall. It is anticipated that the diplomas will be effective with the school year beginning in the fall of 2009.
- **Governor's Career and Technical Academies** - Virginia has received a \$500,000 grant from the National Governors Association Center for Best Practices to improve science, technology, engineering, and mathematics education. It provides the opportunity to develop STEM-focused Governor's Career and Technical Academies that are partnerships of business and industry; public school divisions; higher education institutions, including community colleges, universities, and/or private postsecondary institutions, as applicable; and may also include local government, including workforce and economic development entities. These academies will have the primary focus of increasing the readiness of high school graduates for college-level work and other postsecondary pathways in STEM areas. It is anticipated that these academies will be operational in the fall of 2008.

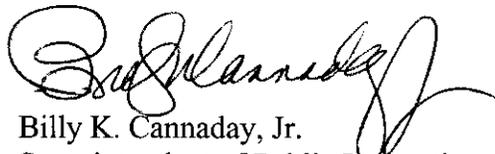
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All the aforementioned programs offer exciting opportunities and pathways to assist students in Virginia's schools to pursue careers in challenging and lucrative industries. I look forward to discussing these initiatives and other recommendations that the joint subcommittee might wish to consider at the October 25 subcommittee meeting.

Sincerely,



Billy K. Cannaday, Jr.  
Superintendent of Public Instruction

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