

2976

Cooper, Kathy

From: Elliott Seif <elliottseif@verizon.net>
Sent: Friday, November 08, 2013 2:01 PM
To: IRRC
Subject: Comments on Chapter 4 revised regulations #6-326 (IRRC # 2976)
Attachments: --Chpter 4 IRRC Commentary, November, 2013.pdf; ATT00001.htm

Dear IRRC Staff:

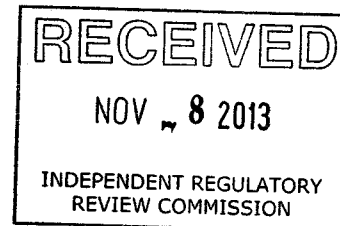
Attached is commentary for IRRC commissioners to review prior to voting on the Chapter 4 revised regulations #6-326 (IRRC #2976), submitted by the State Board of Education.

The commentary contains seven detailed arguments in opposition to approval of the revised regulations. I would greatly appreciate it if each commissioner could receive a copy of this commentary in advance of the November 21 meeting so that they could review these arguments.

Please note that ***I intend to attend and to testify at the November 21 meeting.*** I will at that time bring hard copies of the commentary and make a much shorter oral presentation to the IRRC commissioners. Please include me on the list of presenters.

Thank you for your consideration.

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2976.

**Comments to the IRRC opposing the
implementation of the Chapter 4 Keystone
exam graduation requirements and other
changes to the Chapter 4 regulations
(Regulation #6-326: Academic Standards and Assessment)
(IRRC # 2976)
November, 2013**

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*Elliott Seif is a long time educator with a Ph.D. in educational research from Washington University, Saint Louis, Missouri. He is a former social studies teacher, Professor of Education at Temple University, and Director, Curriculum/Instruction Services for the Bucks County Intermediate Unit, Doylestown, PA. He is also a faculty member and trainer for the *Association for Supervision and Curriculum Development*, a National Professional Education Organization (ASCD).

Currently he is a school volunteer, public school advocate, author, and researcher.

Overview

The newly revised Chapter 4 regulations add a requirement that all Pennsylvania students must pass new Keystone exams in order to graduate. Initially, proficiency on three exams will be required for current ninth grade students to graduate (English, Biology and Mathematics). Two other exam requirements will be added in the next few years (English Composition and Civics and Government) for a total of five required exams. If money is appropriated by the legislature, five additional exams will be added in future years that will be voluntary for school districts to administer.

Surprisingly, the regulations also eliminate the graduation project requirement, which has had little controversy and been part of the State graduation requirements for at least fifteen years.

The purpose of this commentary is to make a strong case in opposition to the implementation of this new requirement. An initial reading of the regulations may lead many to believe that these new Keystone exam graduation requirements will benefit schools, students, and society at large. However, my belief is that a deeper and closer look will create a better understanding of their serious negative consequences. My basic argument is that these additional graduation requirements will be *bad for schools, bad for students, and bad educational policy.*

Seven specific arguments against the implementation of these new policies are described in detail on the following pages:

- *The Keystone exams create a new layer of graduation requirements that will harm many students.*
- *High schools will find it difficult and burdensome to implement and effectively use the Keystone exams.*
- *The Keystone exam requirements will significantly increase State and individual high school costs.*
- *Keystone exam requirements will not improve the quality of high school education or help motivate students to learn.*
- *The Keystone exams will not help to demonstrate whether students are "college and career ready".*
- *Less innovation will result from adding the Keystone Exam requirement.*
- *The new regulations eliminate the graduation project requirement.*

As part of this commentary, I also suggest two alternatives to the exam requirement. First, instead of being a requirement for graduation, the exams should be used diagnostically to improve teaching and learning. A second possibility is to use the exams to determine who should receive a special diploma called a *Keystone Academic Honors Diploma*. Either or both of these alternatives would eliminate most of the negative consequences of the exam requirements. It would also enable both the State and districts to use funds that would have been used to implement the graduation requirement much more effectively to strengthen school programs and assessments.

I also propose that the graduation project requirement be restored to the Chapter 4 regulations.

Why these exams should not be required for graduation

1. The Keystone exams create a new layer of graduation requirements that will harm many students. Pennsylvania's K-12 education system, with its many locations, districts, schools, programs, and students, thrives on diversity. Pennsylvania's students, during their high school years, take a variety of courses and programs. They are involved with many different teachers and experiences, in and out of school, that provide them with both a core and customized quality education. By graduation, major differences appear. Some students are good at math; others in English. Some demonstrate their talents in the arts; others in sports; some have a lot of trouble in some subjects, but excel in others. Some get high marks and honors, while others do less well. Some focus their energies around general academic programs, some around honors programs, and some take technical and vocational programs. In other words, there is great variety among students in their skills, their talents, their interests, and their achievements. All this is consistent with a 21st century American society that is highly diverse, varied, and offers complex career and college paths.

Diversity extends to the variety of types of high schools across the State, including Vo-Tech and "themed" schools. Students choose to go to these special high schools or high school community options, and the elective work that students do there is usually concentrated in certain areas, such as in the arts, culinary arts, technical careers, communications, science, math and engineering, and politics and law. Some "alternative" schools enable students to focus their learning around relevant, interesting, authentic projects, or to go back to an individualized school experience that helps them to complete a high school program after they have dropped out of school, or to develop a customized learning experience that fits their special needs.

In all these settings, in order to graduate, students must meet many requirements, including passing courses in many different subjects, taking tests, doing research projects, completing labs, and so on. Students take courses on many different levels, usually honors and academic. Most are required to pass varied core courses and take final exams in many subjects, some of which overlap with the initial Keystone exams - science, mathematics, and English. Students are also offered elective course options to motivate them and help them develop their individual interests, talents, knowledge and skills. Currently, Chapter 4 regulations also require all students to complete a major project in order to graduate (note: the revised Chapter 4 regulations eliminate this requirement).

After students successfully navigate all these hurdles, and are awarded a diploma, most go on to some kind of post high school experience that includes continued learning, such as four-year universities or colleges with different emphases and majors, two-year community colleges, technical or specialized schools, or the armed forces. Some students go directly into business, industry, or other types of work.

Keystone exam requirements ignore the reality of this wide diversity of students and high schools across Pennsylvania. ***Implementation of the Keystone exam requirements will mean that if any student, no matter what their interests, talents, cognitive abilities, or specialties fails to pass any single one of the required tests, he or she***

will not get a degree. All of their four years of hard work is out the window. Period. They might pass two of the three exams (or later four out of five), or miss passing one because they missed two questions below the proficient cutoff score. It won't matter.

Some students will not be bothered by these new exam requirements, and will pass them with ease. But others will struggle. Many students across the State will take one or more of these exams, or part of them, twice in order to pass, and some will fail twice and then be required to do a project in order to pass. Some students will struggle because of their "test phobias", and the pressure to pass these exams will actually prevent them from doing so. ***For a variety of reasons, there will be a number of students who will not pass one or more exams, even with three tries, and even if they work hard at their high school courses and pass them, they will not be able to graduate.***

This patently unfair requirement for EVERY student will prevent many students who meet all their high school requirements from getting a diploma and from going to some form of post high school experience suited to their interests, talents and abilities.

2. High schools will find it difficult and burdensome to implement and effectively use the Keystone exams. If the Keystone exams are implemented, there will be interruptions to the school program, duplication of effort, and numerous bureaucratic headaches for administrative staff and teachers. Time and energy devoted to the exams by staff members will also take its toll.

High school leaders will have to find ways to administer and monitor each test three times a year as required by the law. Once the five required exams are in place, fifteen tests will need to be administered throughout the year. Each school will need to develop and maintain a complex record-keeping system in order to track who passes and who doesn't pass the several modules within each test. Schools will have to arrange and pay for tutoring time and supplemental instruction if a student doesn't pass a test or a module of the test (the tests are divided into two separate modules). If a student fails a test twice, he or she must develop an on-line project that could take 15 hours to complete that must be monitored by a project administrator, and will be scored by educators across the State through the Department of Education. All of these requirements will take a great deal of time and money away from other productive types of educational activity. The more courses that are added, the more time and money!

The Department of Education expects these exams to replace final exams in many instances, but the reality is that it will be very difficult to use these tests as final exams. Since many schools across the State are on different yearly time schedules, the tests will probably be offered for some courses at times awkward for use as final exams (such as before a course is completed). The inevitable delays in getting back the results of the exams will most likely mean that they will not be returned to a teacher in time for him or her to use the results in lieu of a final exam. The different levels of courses offered by high schools (for example, academic and honors) in all three subjects make it unlikely that the same standardized test can be used for every course. And many courses in these subjects are offered at many different grade levels and schools (for example, algebra in some districts is offered as early as sixth grade to some students). In sum, these tests will place significant burdens on schools. They will add another layer of testing and test preparation to an already crowded set of requirements, and most

probably cause the narrowing the school curriculum for many students. They will create significant personnel and staff difficulties due to the need to administer, monitor, record test data information, and tutor students. It will be difficult to use these tests to replace traditional final exams, thus placing an additional test burden on students and teachers.

3. The Keystone exam requirements will significantly increase State and individual high school costs. The development and implementation costs and resulting fiscal consequences for both Pennsylvania and its school districts will be high, diverting scarce resources from the many current needs of schools and students.

The State's costs include the continued development of these tests every year, along with the scoring of all the tests and evaluating the projects that result when students fail the test twice (probably thousands of students across the state). Start-up costs have already been estimated to run close to two hundred million dollars, with additional millions to maintain, develop, update and score the exams and projects in future years. As additional tests are added, the costs will significantly increase.

There are also significant unfunded, mandated costs associated with these requirements for every high school in the State. Pennsylvania's high schools will have to figure out ways to administer, monitor, record test data information, tutor students, and use the tests and test results as part of their course requirements and assessments. Imagine what additional costs will be required for a large high school with 2500 or 3000 students! For districts with several high schools. What will be the cost burdens for a District like Philadelphia, with so many high schools?

Other major costs at the local level will include the need to support professional development, retool the curriculum to align with each test, purchase new curriculum materials, add more test-prep activities, and have enough computers available for students who need to complete a project.

In order to estimate financial costs to the State and schools, I am assuming at least \$50 million dollars a year at the State level will be spend on these tests (I think that the costs will be much more). In addition, let us assume that there are 400 high schools in the Commonwealth (a low figure), and that each spends an average of about \$200,000 to administer, monitor, record keep, and provide supplemental instruction for these tests (a low figure). Multiply 400 by \$200,000 – that comes to \$80,000,000 dollars across the State. That means that it will take at least \$130,000,000 (a very conservative estimate) every year to develop, score, administer, support, and record information about these three tests and projects. This figure does not include technology and curriculum-instruction reform costs. Some estimates have been much higher. The figure will increase significantly as more exams are added.

All this will be happening at a time when education budgets, programs and services are being cut across the State. Is this what we want our education money to be spent on? Are these exams worth the additional costs that it will take to implement them? Do we want to implement these exams and spend this money on required exams that will have such negative effects on schools and so many students?

4. Keystone exam requirements will not improve the quality of high school education or help motivate students to learn. With the harm done to many students and the burdens and additional costs placed on high schools and the State, one would hope that at least these required exams would at least significantly improve student motivation and high school programs. Unfortunately, this will not be the case. The truth is that Pennsylvania's schools already do a very decent job in educating students to be college and career ready. Over 83% of students in Pennsylvania graduate from high school, and a large percentage go on to some form of higher education. While the graduation rates for Blacks and Latinos are lower (about 65% each) the graduation rate for whites is 88%. Often the problem today for students who go on to complete a college degree is not that they are not prepared for career and work, but that there are too few jobs waiting for them that demand the high level skills that they now possess.

However, even with these successes, high schools across the Commonwealth still need to improve on what they currently do to prepare students for a 21st century world. There are still too many students who drop out of school or are apathetic learners. High schools need to do more to get students engaged in learning, make learning more relevant, develop individual student talents and interests, promote thinking and problem solving, improve student comprehension and writing skills, and develop connections to the outside world of work and citizenship. Greater emphasis needs to be placed on engaging students so they become interested in STEM subjects (Science, Technology, Engineering and Math) and better understand core STEM concepts. Schools need to better use emerging technologies in the service of 21st century learning.

Will the Keystone exams help to solve these and other problems? NOT LIKELY. Exams such as these do not help to engage students in learning and make learning more interesting and relevant – in fact, they will most likely lower motivation to learn, since the types of questions asked on the exams are divorced from real world issues and problems (see sample questions in the appendix). For example, it is unlikely that requiring students to take multiple-choice biology and mathematics Keystone exams will engage students in learning or motivate them to become more interested in careers in biology and mathematics. Requiring that all students pass all the Keystone exams will probably increase the dropout rate. The exams will narrow the high school curriculum, promote more test-prep activities, and “suck the oxygen” out of efforts to broaden the educational experience of students, improve thinking or writing, help reduce apathy towards learning, or use technology more effectively.

In short, the required exams will do little or nothing to improve the educational climate, curriculum, and instruction practices necessary to help prepare students for a 21st century world. In fact, they will be a drag on making changes that would really help students prepare for today's and tomorrow's world.

5. The Keystone exams will not help to demonstrate whether students are “college and career ready”. The Pittsburgh school district has conducted research on its own graduates and concluded that, “the most important predictors of post-secondary education success are grade point average and attendance, not state test scores.”¹ Yet these regulations will add a new set of State exam requirements that will determine whether each and every student is able to graduate and go on to a post secondary education experience. Does that make sense?

The test questions themselves are often irrelevant indicators of successful learning and do not indicate whether students have prerequisite skills for future work. To illustrate this point, pages 11 and 12 in this commentary provide examples of questions in biology and math that I randomly selected from the Department of Education's sample question booklets. Here's a sample biology question found on p. 12:

Living organisms can be classified as prokaryotes or eukaryotes. Which two structures are common to both prokaryotic and eukaryotic cells?

As you peruse the sample biology and math questions on pages 11 and 12, think about whether every student needs to answer these types of questions correctly in order to indicate preparedness for career or college level work. Think about whether EVERY SINGLE STUDENT across this great State of ours, whatever their interests, majors, and talents, should be required to know the answers to these types of questions in order to graduate. Think about whether you have had any need to know the answers to these questions in order to be successful in your own chosen field. Think about whether college and career success depends on whether a student is able to score proficiently on these types of exams.

To illustrate the problems that this requirement will present: currently, in a school in Philadelphia that I volunteer in, between 65-75% of the students now pass the English PSSA exam. But 90% of the students go on to college. Some of those who pass the PSSA exam don't make it through college, while others who do not pass are successful. In other words, the current PSSA results do not predict how students will perform in college when they graduate! Thank goodness they are not now required for graduation.

Imagine that your own children were in high school, suddenly confronted with a new set of gatekeeper tests, and your child had trouble passing one of them. Think about the frustrations and anxieties that would ensue. Would your child begin to give up on school? Would you be frustrated for your child? Imagine that your child was able to do the work in his or her courses, that he or she was an average student, but simply had trouble with one of those subjects. Would you want that to happen to your own child?

Ironically, several other states are now beginning to move to eliminate their graduation testing requirements because of the problems they have caused for many of their students and to use them instead as diagnostic tools to improve educational practice.²

6. Less innovation will result from adding the Keystone exam requirement. We live in a rapidly changing world that often requires significant innovations and changes to maintain strong educational programs. A serious consequence of this law will be to stifle innovation and change at the high school level.

Subject-based exams reduce the chances for the implementation of high quality, integrated learning approaches. For example, there is a National movement to create a more integrated science-math-engineering-technology (STEM) approach to curriculum, but the Keystone exams are built around subject-based tests in science, and therefore reduce the chances that a more integrated STEM curriculum will be implemented in Pennsylvania high schools. Throughout the world, effective mathematics programs are

taught using a more integrated mathematics approach focused around real-life, authentic problems, not through a system focused around individual math courses such as algebra and geometry. Many districts in the United States have already integrated their mathematics programs because they are deemed more effective for student mathematics learning³. Subject-centered Keystone math tests will reduce the likelihood that Pennsylvania high schools will even consider integrated approaches.

Given continual additions of very fine literature to the literary mix, there is major diversity and continual changes in the literature read in English courses. Course based tests in English literature will most probably stifle creative use of new and multiple texts.

Many innovative science courses often reduce the emphasis on teaching science content and instead motivate and interest students by engaging students in scientific discovery and investigation activities. The emphasis on testing for specific science content through multiple-choice questions reduces the probability of using methods that engage students in scientific inquiry.

More focus on testing and test-prep in order to prepare students for Keystone exams will mean less time and opportunities for many students to be involved in sports, in the arts, or to take interesting electives.

Project based learning, one of the key innovative practices in today's age, is endangered if subject-based multiple-choice short answer tests are required for graduation.

In some innovative high schools, comprehensive, individualized digital portfolios of student work have been developed to assess students over time. This powerful assessment model will be less likely to be implemented when standardized tests become a requirement for every student to pass in order to graduate and alternative options are discouraged in the regulations.

7. The new regulations eliminate the graduation project requirement. There is another problem with the changes to Chapter 4 – the elimination of the graduation project requirement that requires every student to develop a project in order to graduate. This requirement made sense! Many districts in the Commonwealth use the project requirement to insure that students who graduate are able to ask effective questions, conduct research, use study skills effectively, read a wide variety of material, think clearly, write a good paper, solve problems, and communicate by making a presentation to others. There is great flexibility in how Districts implement the project requirement, including some who integrate projects into their courses. Some put the results of these projects on line for others to see. This requirement means that important 21st century skills not normally assessed through normal high school work are addressed.

This project requirement will be gone if the Chapter 4 regulations are passed as is. It should be restored to Chapter 4.

Alternatives to the Keystone exam requirement

The Keystone exam graduation requirements are a simplistic and erroneous solution to solving educational problems at the high school level. They avoid the hard work of helping and supporting Pennsylvania's high schools as they try to improve on what they do. How could State officials and educators help schools improve their educational programs and put the money that will go to develop, score, and administer these tests to better use?

One way would be to eliminate the graduation requirement component for the exams and instead focus the Chapter 4 regulations instead on ways to use the Keystone exams diagnostically - to help teachers and high school administrators diagnose teaching and learning strengths and deficiencies in Keystone exam areas. This focus would dramatically change the burdens and costs associated with the exams. They would only need to be offered once a year. They would no attempt to use the results as final exams. There would be no need for tutoring or second or third tries at passing. The data would be passed on to teachers in these subject areas, and the school funds that would have been devoted to administering, record keeping, and tutoring could be used to improve courses and programs based on the test data⁴.

A second option is for the Keystone exams to become the key assessments for awarding a ***Keystone Honors Academic Diploma***. School districts could offer these exams to those students who wish to take them, and, if they passed all of them, they would be given this special diploma. Instead of making the tests a forced and required hurdle that must be passed, the tests would become a badge of honor, an incentive for those who wished to use them that way. What a difference that would make in how the exams would be viewed and used within Pennsylvania!

A third option is to eliminate the Keystone exams altogether and use a fraction of the money that would have gone to develop and score these exams at the State level to improve educational practice. Here are some examples of what might be done:

- Work with the Intermediate units to provide more and better support services for districts to improve literature, biology, algebra, and other Keystone exam course areas through additional staff development opportunities;
- Develop a Statewide assessment website that enables teachers in all subjects to share examples of test questions for final exams, performance tasks, writing samples;
- Develop writing standards and writing protocols for each grade level and subject area to help improve writing;
- Provide supports so that Districts can encourage more students to develop and take higher level enrichment or Advanced Placement classes across the state;
- Develop information systems and models that help Districts learn how to set up student portfolio assessment systems and standards based report cards.
- Develop a pool of funds to support Districts if they wish to develop International Baccalaureate or other alternative, innovative programs.

- Work directly with publishers and State teachers and administrators to improve curriculum materials.

Finally, the graduation project, which has been an important part of graduation requirements for more than fifteen years, should be reinstated into Chapter 4. Efforts should be made strengthen the project requirement across the State and make it more rigorous, meaningful and significant for all students in all Districts.

If the Keystone exam requirements are not rescinded, then Chapter 4 regulations should be revised to encourage, not discourage high schools across the State to develop alternative assessment systems to the Keystone exams. In New York State, a consortium of high schools, with the permission of the New York State Department of Education, has replaced most of the required Regents exams with portfolio assessment systems that are focused around varied student work.⁵ The current Chapter 4 regulations make it virtually impossible to create an alternative portfolio assessment system similar to the Consortium model.

Some Final Thoughts

In this commentary, I have argued that the Chapter 4 regulations that require the passage of Keystone exams in order to graduate are ***bad for students, bad for schools, and bad for the Commonwealth's educational policy.***

The exam requirements may initially seem like a good idea, a way to strengthen education in the State, but, in reality, they would do little or nothing to strengthen overall high school programs and prepare students to be good citizens or for college and career. The strength of Pennsylvania's diverse high school programs, and the wonderful diversity of its students, will be compromised by requiring every student in the Commonwealth to pass every single Keystone exam in order to graduate. The exams will add an additional layer - another student barrier - to graduation, cause more students to drop out of school, and reduce student motivation and interest in learning. The administering, proctoring, and record keeping that the exams require will add a complex administrative and personnel burden, require more test-prep and tutoring, and reduce time spent on other, more valuable high school experiences. At a time of serious fiscal constraints on schools, they will require significant additional State funding and an unfunded mandate for high schools. They will stifle high school innovation badly needed to adequately prepare students for today's and tomorrow's world. In general, they will in the end weaken, rather than strengthen, high school programs in the Commonwealth. They also eliminate one current requirement – the graduation project - that has added rigor and relevance to Pennsylvania's graduation high school requirements over the last fifteen years.

The current Chapter 4 regulations should be redesigned and overhauled to eliminate the Keystone high school exam graduation requirements for all students. If the exams are kept in place, they should not be required of all students in order for them to graduate - instead, the results could be used as diagnostic evaluations to help improve teaching and learning⁶. Another option is for students to take the exams in order to determine whether they should be awarded a *Keystone Honors Academic Diploma*.

The graduation project, an important requirement that demonstrates whether students have developed key college and career skills, should be restored to the Chapter 4 regulations and strengthened.

Without the Keystone exams as a graduation requirement, strapped school districts across the State should be able to use the funds that would have gone to administer them to strengthen their school programs and services. Some of the State money that would have been spent on developing and administering these exams might be better used to help schools and districts improve course and instructional practices, share assessments, encourage innovation, improve writing standards, and create innovative forms of assessments, such as digital portfolios.

APPENDIX
SAMPLE KEYSTONE QUESTIONS, MATH (1-4) AND BIOLOGY (5-8)

1. *Which of the following inequalities is true for all real values of x ?*

- A. $x^3 \geq x^2$
- B. $3x^2 \geq 2x^3$
- C. $(2x)^2 \geq 3x^2$
- D. $3(x - 2)^2 \geq 3x^2 - 2$

2. *An expression is shown below.*

$$\sqrt{87x}$$

For which value of x should the expression be further simplified?

- A. $x = 10$
- B. $x = 13$
- C. $x = 21$
- D. $x = 38$

3. *Two monomials are shown below.*

$$450x^2y^5 \qquad 3,000x^4y^3$$

What is the least common multiple (LCM) of these monomials?

- A. $2xy$
- B. $30xy$
- C. $150x^2y^3$
- D. $9,000x^4y^5$

4. *The results of an experiment were listed in several numerical forms as listed below.*

$$5-3 \quad 4/7 \quad \sqrt{5} \quad 3/8 \quad 0.003$$

A. *Order the numbers listed from least to greatest.*

B. *Another experiment required evaluating the expression shown below.*

$$1/6 (\sqrt{36} \div 3 - 2) + 43 \div I - 8I$$

What is the value of the expression?

C. *The last experiment required simplifying $7\sqrt{425}$. The steps taken are shown below.*

$$7\sqrt{425}$$

$$\text{step 1: } 7(400 + 25)$$

$$\text{step 2: } 7(20 + 5)$$

$$\text{step 3: } 7(25)$$

$$\text{step 4: } 175$$

+

One of the steps shown is incorrect.

Rewrite the incorrect step so that it is correct.

Correction:

D. *Using the corrected step from part C, simplify $7\sqrt{425}$.*

$$7\sqrt{425} =$$

5. Living organisms can be classified as prokaryotes or eukaryotes. Which two structures are common to both prokaryotic and eukaryotic cells?

- A. cell wall and nucleus
- B. cell wall and chloroplast
- C. plasma membrane and nucleus
- D. plasma membrane and cytoplasm

6. Which statement best describes an effect of the low density of frozen water in a lake?

- A. When water freezes, it contracts, decreasing the water level in a lake.
- B. Water in a lake freezes from the bottom up, killing most aquatic organisms.
- C. When water in a lake freezes, it floats, providing insulation for organisms below.
- D. Water removes thermal energy from the land around a lake, causing the lake to freeze.

7. Which statement correctly describes how carbon's ability to form four bonds makes it uniquely suited to form macromolecules?

- A. It forms short, simple carbon chains.
- B. It forms large, complex, diverse molecules.
- C. It forms covalent bonds with other carbon atoms.
- D. It forms covalent bonds that can exist in a single plane.

8. A scientist observes that, when the pH of the environment surrounding an enzyme is changed, the rate the enzyme catalyzes a reaction greatly decreases. Which statement best describes how a change in pH can affect an enzyme?

- A. A pH change can cause the enzyme to change its shape.
- B. A pH change can remove energy necessary to activate an enzyme.
- C. A pH change can add new molecules to the structure of the enzyme.
- D. A pH change can cause an enzyme to react with a different substrate.

News Article...

Exit exams may be on their way out

Ron Barnett, USA TODAY

1:25 p.m. EDT May 22, 2013

GREENVILLE, S.C. — South Carolina Rep. Phil Owens says a story he heard from one of his constituents convinced him it was time to do away with the state's requirement that students pass an exit exam to earn their high school diploma.

The man had three sons, all close in age and approaching graduation from high school. One of the brothers had a learning disability in math. He had been unable to pass the math portion of the exit exam after three attempts, even though he had passed all his classes. "He was devastated by the fact that his brothers would continue on to tech school or to college, and he wouldn't, simply because of this test," the Easley Republican said.

Owens, a Republican, found that several states have already had dropped their exit exam or are in the process of doing so, and introduced a bill that would scrap the requirement.

Alabama is phasing out its exit exam and using tests developed by ACT that measure students' readiness for college or work, according to state Department of Education spokeswoman Malissa Valdes-Hubert. Valdes-Hubert said the Alabama High School Graduation Exam that the state had been using wasn't correlated to any of the tests students were being given in earlier grades.

The new system will give educators a continuum of information about individual students' performance by using tests developed by ACT, most known for its college entrance exam, beginning in third grade.

"So essentially when a child gets into third grade all the way through 12th grade, we're going to have different types of assessments that they're going to take — none of which are high stakes — that can show a parent, teacher or a counselor how the student is developing through the years and if they're going to be ready for the ACT or similar tests that they may take after high school or in college," she said.

Owens' bill in South Carolina has been passed in the state House and referred to the Senate Education Committee. It calls for setting up a committee to recommend whether to continue using the High School Assessment Program exit exam for federal and state accountability requirements or replace it with something else. But it wouldn't be required for graduation, regardless....

Ron Barnett also reports for The Greenville (S.C.) News

EndNotes

¹ Eleanor Chute, *Pa Schools report reveals mixed results in Pittsburgh*, October 5, 2013, Pittsburgh, Post-Gazette, <http://bit.ly/16PRdrp>

² For further insight into the shifting use of State exams, see the article on page 13 and suggestions alternatives to the Keystone exam requirements on page 8.

³ See Laura Devaney, *Integrated math might be key to student achievement*. September 30, 2013 posting at eSchool News – <http://www.eschoolnews.com>

⁴ Based on the problems associated with exam graduation requirements, several States are examining whether to move from requiring students to pass exams in order to graduate to a focus on using the tests for diagnostic purposes. See the article on page 13 for more information.

⁵ For more information about this Consortium and its portfolio and performance assessment models, go to: <http://performanceassessment.org>

⁶ Several states are already moving in this direction. See article on page 13 for more information.