

## EDUCATION WEEK

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### Common Science Standards Slow to Catch On in States

**Preoccupation with implementing the common core is an oft-cited obstacle**

By **Liana Heitin**

All 26 states that teamed up to help develop the Next Generation Science Standards committed to seriously consider adopting them. But nine months after the K-12 standards were finalized, only eight of those "lead state partners" have formally signed on, including California, Kentucky, and Maryland. (The District of Columbia **also has adopted them.**)

The national pace of adoption contrasts with that for the Common Core State Standards, which were approved in rapid succession by most states in the months after they were finalized. Proponents of the new science standards, however, emphasize that the speed of adoption across the country is on par with what they'd expected.

Some states say they're tied up with implementation of the common-core standards for mathematics and English/language arts, and are hesitant to effect more instructional change anytime soon.

In other states, such as Minnesota and Arizona, legislative restrictions have slowed the adoption process.

How widespread the standards become remains to be seen. The hope of organizers from the outset was that most states would ultimately embrace the new science standards, which emphasize science concepts and processes and ask students to apply their knowledge through scientific experiments, investigations, and engineering design.

"I think it will take a couple of years—I always thought it would take two to three years—but I'm very optimistic the majority of states will adopt," said David L. Evans, the executive director of the National Science Teachers Association, which was a partner in developing the standards.

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Just last week the state board of education in Illinois voted to approve the standards, though a legislative review is required before adoption is official.

However, some non-lead states are sending signals that adoption is unlikely. For example, in South Carolina, the legislature took formal steps last summer to block adoption outright.

### 'Sucking Up' the Oxygen

One reason that formal action on the science standards is happening more slowly than with the common core is the lack of federal incentives, said Stephen L. Pruitt, a senior vice president at Achieve, a Washington-based research and advocacy group that oversaw the science standards' development. The federal Race to the Top program favored states that had adopted the common core or other college- and career-ready standards. There are no similar financial incentives in place for the science standards.

"We knew going into this that it would be a much slower adoption than the common core," Mr. Pruitt said. "States have their hands full. We applaud states for taking their time and doing their due diligence."

Between writing curricula, providing professional development, and preparing for the impending assessments, states—and especially teachers—do have a lot on their plates.

Brian J. Reiser, a professor of learning sciences at Northwestern University in Evanston, Ill., said, "I'm hearing from a lot of states, 'We want to make sure we have the common core solid under our belts and that our teachers are more comfortable and further along and then we'll jump into science.' "

Paul Cottle, a physics professor at Florida State University in Tallahassee, put it more bluntly in an email: "Common core seems to be sucking up all of the educational oxygen."

Even those states that have adopted are moving slowly with implementation.

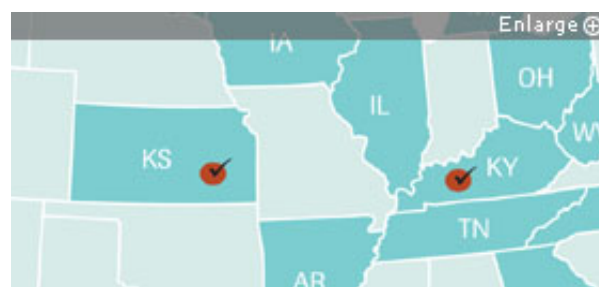
Matt D. Krehbiel, a science education consultant for the education department in Kansas, where the standards were approved in June, said the transition to the new standards will take three to four years, and even then will be an ongoing process.

"We're really encouraging districts to take their time," he said. Among other states that have adopted, he added, "If there's a general theme, it's that folks are really encouraging a slow approach."

Though not a lead state, Florida submitted comments on

### Where States Stand

The Next Generation Science Standards were issued in April. Since then, eight states and the District of Columbia have adopted them.



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early drafts of the standards and **was expected to seriously consider adoption**. However, Cheryl Eppers, a spokeswoman for the state education department, said in an email that "due to the review of the current English/language arts and mathematics standards, the review process for the science standards has been delayed."

The state has also undergone a leadership change: **Tony Bennett resigned** as education commissioner last summer after a school-grading controversy from his tenure in Indiana came to light. In addition, the state board of education's vice chairman, John Padgett, said at a board meeting in June that he wants to strengthen Florida's standards, but would not recommend replacing them with the Next Generation Science Standards.

In Pennsylvania, another non-lead state, a spokesman for the state department of education said there were no plans to adopt the standards.

Kathy Hrabluk, an associate superintendent in the Arizona Department of Education, said schools and districts are "now very focused in Arizona on implementation of the college- and career-ready standards. ... We're very conscious about making sure we don't completely overwhelm educators."

For some states, specific legislative or regulatory processes are holding up action on the new standards.

In Tennessee, which was a lead state, the science standards are not up for revision for another year. North Carolina's current science standards have only been in place for one year, said Beverly Vance, the section chief for science and curriculum instruction at the state education department.

"We will not be adopting [the Next Generation Science Standards] in the near future—definitely not for the 2014-15 school year," she said.

Minnesota is in the unusual position of having a formal state statute that governs the standards adoption schedule. Based on that, the state cannot revise its standards again until the 2017-18 school year, a state official said.

### **Little Public Debate**

Interestingly, there's been less public back-and-forth so far about the content of the science standards than has been the case with the common core, even given the hot-button political issues—including the teaching of climate change and evolution—embedded in the standards.

The Thomas B. Fordham Institute, a Washington-based think tank that is a staunch advocate of the common core, has been a leading critic of the science standards. But as the group's executive vice president, Michael J. Petrilli explains, its opposition is based mainly on a belief that the standards overemphasize behaviors and give short shrift to science content knowledge.

"There's not enough focus on content. ... The standards seem to go out of their way to downplay the knowledge," he said.

Last June, the group **issued a report** giving the science standards a C grade. The report concluded that the standards in 12 states and the District of Columbia are "clearly superior."

But Mr. Reiser of Northwestern refutes Fordham's characterization of the standards. The new science standards require "a greater attention to the content based on what decades of research says about the best way to help kids understand ideas," he said. "No one that understands the Next Generation Science Standards would say the point is to emphasize practice and not content."

Regarding the lack of resistance to the science standards, Mr. Petrilli said, "It's surprising how little noise there's been."

At the same time, Mr. Petrilli said that with the common core, "the backlash came much later. I wonder if with the science standards it's the same thing. The folks most likely to be opposed to these things haven't spoken up now, but perhaps they'll speak up a few years from now," when more states begin implementation.

But at least a few states have waylaid adoption because of concerns over the standards' content. The South Carolina General Assembly recently passed a proviso that expressly prohibits adoption of the Next Generation Science Standards. Dino Teppara, a spokesman for the education department, wrote in an email, "As the current S.C. science standards received an A- from the Fordham Foundation and are held up as a national model, many members of the General Assembly were concerned about adopting standards that were not up to the same level."

Ms. Hrabluk of the Arizona education department explained that, in response to teachers' feedback, her state is working to break up the standards, which are grouped by grades 6-8 and 9-12, into the specific objectives that will be taught at individual grade levels. In terms of adoption, she said, "the most accelerated timeline would be 2014-15, but we don't have a definitive timeline yet."

The science standards will also require the development of new assessment tools. The National Research Council **released a report in December** laying out a vision for the science assessments, which Ms. Hrabluk said was later than expected and has pushed back the timeline for building the tests.

## Professional Development

Despite the holdups and naysayers, proponents of the science standards are confident they'll see widespread adoption down the road.

Mr. Evans from the National Science Teachers Association said he's optimistic, and sees great enthusiasm for the standards among educators.

"Science teachers everywhere are really connecting with the Next Generation Science Standards—they're looking at the new standards and looking at the research behind

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them and changing the way they teach," he said.

Mr. Reiser said he has been providing professional development on the science standards for teachers already, including in states such as Illinois that have not yet adopted them.

Even Mr. Petrilli anticipates the adoption numbers will rise substantially.



"If conservatives don't get organized, I think we're going to see these standards in half the states, including in states that would have been better off sticking with their standards," he said.

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