

# NGSS NOW

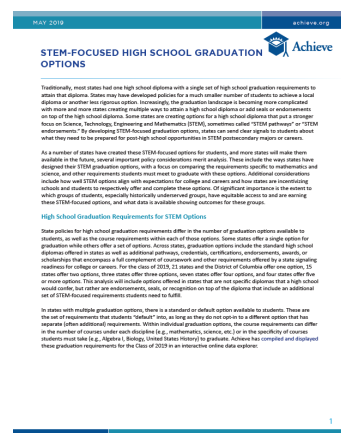
## 7 things to know about quality K-12 science education in June 2019



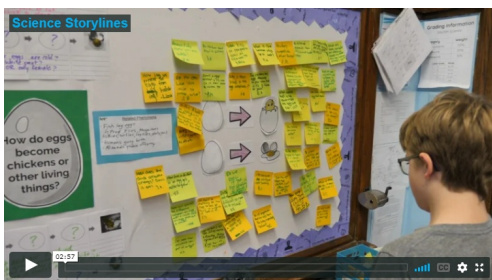
### 1 STEM-Focused High School Graduation Options

States are offering an increasing variety of graduation options and pathways to students. One notable trend in this area is the emergence of STEM diploma pathways, endorsements, or designations in several states. In addition to [new data on all graduation options](#), Achieve also recently released [a new brief](#) that analyzes new state policies and evolving outcomes around STEM diploma options.

These new resources may be helpful to anyone interested in better understanding the evolving national landscape of high school graduation options and whether those options meet expectations for college and careers.



### 2 2019 STEM For All Video Showcase: Science Storylines



Every year, several NSF-funded projects share their work with the field by participating in the STEM For All Video Showcase. This year, Next Generation Science Storylines shared [a video](#) about their materials that help teachers work with students to develop questions about phenomena and identify real world problems that drive their science investigations. Several Next Generation Science Storylines units have been [identified as high quality](#) by Achieve's [Science Peer Review Panel](#).

### 3 Achieve Launches Tennessee District Science Network

Last month, Achieve announced the [launch of a Tennessee District Science Network](#), a collection of six

districts in Tennessee with a shared goal of improving science teaching and learning for all students as they implement the new Tennessee Academic Standards for Science. In its first year, the network is focusing on science assessment tasks as a key lever for change to simultaneously improve assessments, increase teacher capacity, and advance equity in science. Teachers from the six districts will participate in professional learning around three-dimensional task development across all grade bands and disciplines and will receive a stipend for their work to develop a task library over the summer.

---

## 4 The Summit for Examining the Potential of Crosscutting Concepts to Support Three-Dimensional Learning

The proceedings from this NSF-funded conference focused on articulating theories of action about how the crosscutting concepts support learning in and across science and engineering disciplines are now available. The summit drew from the expertise of attendees to envision the role crosscutting concepts can play in supporting learning and to discuss the implications of those theories for policy, curriculum, and assessment. See the proceedings [here](#).



---

## 5 New STEM Teaching Tool Practice Brief on Productive Uncertainty



Image credit: STEM Teaching Tools

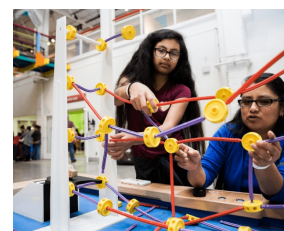
Three-dimensional standards require students to engage in science and engineering practices to make sense of phenomena and design solutions to problems. This process inevitably means students should not know the right answer at first and should go through a meaningful process to figure it out - creating much uncertainty in the classroom. [This brief](#) discusses how educators can strategically build productive uncertainty into their learning environments so that students have an opportunity to meaningfully engage in sensemaking to develop understanding.

---

## 6 Changing the Game in STEM with Family Engagement: A White Paper for Practitioners and Field Leaders to Empower Families in STEM

A [new white paper](#) from the STEM Next Opportunity Fund explores the importance of family engagement for raising youth's awareness of the value of STEM and in brokering their participation in activities that build STEM competencies. It identifies five promising practices for encouraging family engagement and highlights case studies of organizations currently working to put those practices into action.

Promising practices highlighted in the white paper include family relationship-building, parent empowerment, access and inclusion, professional development, and impact evaluation.



Changing the Game in STEM with Family Engagement

A WHITE PAPER FOR PRACTITIONERS AND FIELD LEADERS TO EMPOWER FAMILIES IN STEM

APRIL 2019

7

## From Forbes: There's A Nationwide STEM Teacher Shortage. Will It Cost Us The Next Einstein?

"If we're going to solve the most pressing issues facing our society -including climate change, food shortages, cancer, dementia, and economic inequality - we need to tap into the full potential of our communities, regardless of zip code or economic status, and the full breadth of the United States, female and male, urban and rural, southern, western, eastern, midwestern, mountain. Yet only a small fraction of our nation's population has the opportunity to attain the necessary STEM skills, knowledge, and agency to help drive those solutions."

Read the full article [here](#).

