

TRUTHS & MYTHS

What do you know about the Next Generation Science Standards?

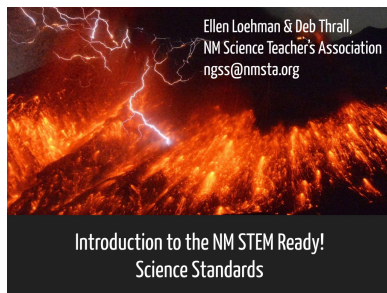
Statement	Before	After
1. They were created by the federal government.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
2. They have been adopted, as written, by the state of New Mexico.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
3. A national curriculum for K-12 science education is being developed.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
4. My district & school will need new curriculum materials to teach to these standards.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
5. They will be included with PARCC testing.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
6. The teaching of evolution, climate change, and other controversial topics is optional.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
7. The same group that created the Common Core State Standards created them.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
8. They elevate the importance of engineering in science.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
9. They specify grade level standards for grades K-8.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
10. They are intended primarily for college-bound students.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
11. The standards are expectations that tell what facts students should know.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
12. There is no more 'scientific method.'	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
13. They will require a fundamental change to secondary (middle and high school) scope and sequence.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth
14. Assessment of the standards can be simplified from current practices.	Myth <input type="text"/> Truth	Myth <input type="text"/> Truth

Introduction to the NM STEM Ready! Science Standards

While you are waiting

- Cut out your NGSS cards if they are not already cut
- Do Truths & Myths, on other side, 'before'
- Download the NGSS app to your phone or tablet – go to your device's app store and search for NGSS or go to www.masteryconnect.com/goodies.html.

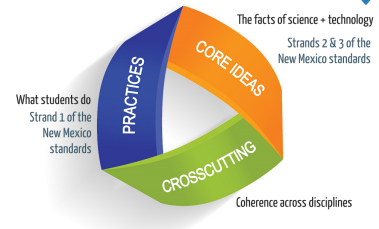
Selected slides



Goals

1. You should be able to explain the structure of NM STEM Ready! Science Standards
2. You should understand the PED science standards roll-out plan

A significant logo



Disciplinary core ideas (DCIs)

Life Science	LS1 – From Molecules to Organisms: Structures & Processes LS2 – Ecosystems: Interactions, Energy, and Dynamics LS3 – Heredity: Inheritance and Variation of Traits LS4 – Biological Evolution, Unity and Diversity
Physical Science	PS1 – Matter and its Interactions PS2 – Motion and Stability: Forces and Interactions PS3 – Energy PS4 – Wave Properties
Earth & Space Science	ESS1 – Earth's Place in the Universe ESS2 – Earth's Systems ESS3 – Earth and Human Activity
Engineering & Technology	Engineering, Technology and Applications of Science ETS1 – Engineering Design ETS2 – Links Among Engineering, Technology, Science, and Society

Science & engineering practices

1. Asking questions (for science) and defining problems (for engineering)
 2. Developing and using models
 3. Planning and carrying out investigations
 5. Analyzing and interpreting data
 6. Using mathematics and computational thinking
 8. Constructing explanations (for science) and designing solutions (for engineering)
 9. Engaging in argument from evidence
 10. Obtaining, evaluating, and communicating information
- Science
CCSS math
CCSS LA

Crosscutting concepts

1. Patterns
2. Cause and effect: mechanism & explanation
3. Scale, proportion, & quantity
4. Systems & system models
5. Energy and matter: flows, cycles, & conservation
6. Structure & function
7. Stability & change

Anatomy of a standard

- 1-PS4-1 Plan and conduct an investigation to provide evidence that vibrating materials can make sound and that sound can make materials vibrate

Performance expectation: tells what the student should be able to do as a result of understandings.

Plan and conduct an investigation to provide evidence that vibrating materials can make sound and that sound can make materials vibrate

Practice DCI CCC

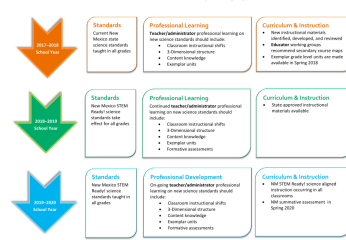
Architecture of a complete standard

Title and Code		
Performance Expectations		
What students should know and be able to do at the end of instruction		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Connections Boxes		
Guidance for connecting the standard to others in NGSS or CCSS		

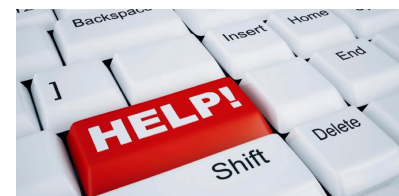
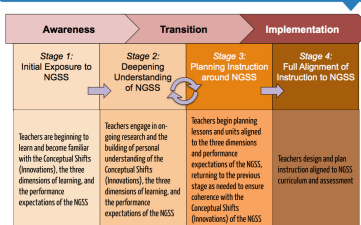
NM 6 standards

- 1-SS-1 NM. Obtain information about how men and women of all ethnic and social backgrounds in New Mexico have worked together to advance science and technology.
- 5-SS-1 NM. Communicate information gathered from books, reliable media, or outside sources, that describes how a variety of scientists and engineers across New Mexico have improved existing technologies, developed new ones, or improved society through applications of science.
- HS-ESS3-3 NM. Describe the advantages and disadvantages associated with technologies related to local industries and energy production.
- HS-LS2-7 NM. Using a local issue in your solution design, describe and analyze the advantages and disadvantages of human activities that support the local population such as reclamation projects, building dams, and habitat restoration.
- HS-SS-1 NM. Obtain and communicate information about the role of New Mexico in nuclear science and 21st century innovations including how the national laboratories have contributed to theoretical, experimental, and applied science; have illustrated the interdependence of science, engineering, and technology; and have used systems involving hardware, software, production, simulation, and information flow.
- HS-SS-2 NM. Construct an argument using claims, scientific evidence, and reasoning that helps decision makers with a New Mexico challenge or opportunity as it relates to science.

SCIENCE STANDARDS IMPLEMENTATION TIMELINE



Next steps



Upcoming NMSTA Workshops...