

## Why Did Nevada Need New Science Standards?

**Rapid Advances in Science and Technology:** It had been more than 17 years since the National Research Council and the American Association for the Advancement of Science produced their reports from which most state science standards are based.

**Focus and Coherence:** Our new standards provide a more coherent progression aimed at overall scientific literacy. Instruction is focused on a smaller set of ideas and an eye on what the student should have already learned and what they will learn at the next level.

**College, Career, and Citizenship Readiness:** When current students graduate from high school, more jobs will require skills in science, technology, engineering, and mathematics than in the past. All students, no matter what their future education and career path, must have a solid K-12 science education in order to be prepared for college, careers, and citizenship.

**Alignment to Nevada State Academic Content Standards (NVACS) in ELA and Mathematics:** The new science standards and NVACS in mathematics and ELA/Literacy overlap in meaningful and substantive ways and offer an opportunity to give all students equitable access to learning standards.

**Learn Science By Doing Science:** The new standards enable students and teachers to actively experience science in a deep, meaningful way, not just learn about it from a textbook or a lecture. When students both understand how scientists and engineers practice their craft and have opportunities to carry out investigations and design solutions, they become more engaged in science learning.

## ENSURING ALL NEVADANS ARE READY FOR SUCCESS

### Where can I get more information?

#### Nevada Department of Education –Science:

[http://www.doe.nv.gov/Standards\\_Instructional\\_Support/Nevada\\_Academic\\_Standards/Science/](http://www.doe.nv.gov/Standards_Instructional_Support/Nevada_Academic_Standards/Science/)

#### Nevada Next Generation Science Education:

<http://www.nevadangse.net>

#### Next Generation Science Standards:

[www.nextgenscience.org](http://www.nextgenscience.org)



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## How Do the New Science Standards Benefit Students?

- ◆ Students provide evidence of their learning by demonstrating the critical thinking and analytical skills needed to be successful in college and future careers.
- ◆ Students explore real-world science and engineering practices earlier to help stimulate interest in STEM majors and/or careers.
- ◆ All students — regardless of background, neighborhood, or previous exposure to science — can deepen their understanding of science and how the world works.

## How Do the New Science Standards Benefit Teachers?

- ◆ Teachers connect what's taught in science classrooms to real-world situations, allowing for more engaging and relevant instruction.
- ◆ Teachers introduce science as a holistic understanding of integrated and interrelated concepts rather than memorization of disconnected facts. (This is one of the biggest shifts compared to our state's previous sets of science standards.)
- ◆ Teachers collaborate around 3-D learning to link science instruction — across disciplines and grades — and deepen students' understanding of core ideas.

*“NGSS are higher-rigor standards that develop problem solving and critical thinking skills. These standards provide an opportunity to ensure that proven STEM education practices are accessible to every student. New research shows that early science knowledge can be an even better predictor of future reading ability than a student's early reading ability.”*

**Mark Newburn**  
**Member, NV State Board of Education**

*Reno Gazette-Journal* (March 2015)



*“The need for high-quality science education—beginning at the very earliest grades—is more essential now than ever before.”*

**Dale A.R. Erquiaga**  
**Former Supt. of Public Instruction**

*Business Voice* (August 2015)

## What Are The Nevada Academic Content Standards for Science?

The standards set clear expectations for what students should know and be able to do in science in order to make sense of the world around them and be ready for college, careers, and citizenship.

Nevada's standards are based upon the Next Generation Science Standards (NGSS), which integrate three-dimensional learning to elevate science instruction for 21st century learners.

## What is 3-D Learning for science?

Within the NGSS, there are three distinct, equally important dimensions to learning science. All three dimensions work together to build coherent learning progressions.

**1. Scientific and Engineering Practices** describe behaviors that scientists use to investigate the natural world and/or to construct models and systems.

**2. Crosscutting Concepts** explore how science is connected across all domains through a series of concepts that inform a coherent and scientifically-based view of the world.

**3. Disciplinary Core Ideas** have broad importance across multiple sciences or engineering disciplines, providing a key tool to understand more complex ideas.

In instructional systems aligned to the NGSS, students should be able to explain real-world phenomena and design solutions using their understanding of the *Disciplinary Core Ideas*. Students achieve this goal by engaging in *Scientific and Engineering Practices* and applying the *Crosscutting Concepts*.