


Illinois State Science Standards

Illinois' current science standards became effective in February 2014 and are based on the Next Generation Science Standards (NGSS). Forty-one experts, including three Illinois educators, wrote the NGSS. State-level committees in 26 states reviewed the learning benchmarks. These groups confirmed that the design and development of the NGSS were guided by the best available evidence to ensure that students who meet these standards are prepared for postsecondary education and careers in the 21st century. The NGSS can be viewed at [23 Illinois Administrative Code 1 Appendix D](#)  .

The Next Generation Science Standards (NGSS)

The NGSS are K–12 science content standards that set the 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.



About the NGSS

- 1 The NGSS are for ALL students and provide a science education they can use in real life.** A strong science education equips students with both an ability to make sense of the complex world around them and foundational skills that are necessary for all careers and life.
- 2 The NGSS include the latest advances in science and research about how students best learn science.** The NGSS are based on the National Research Council's 2012 document *A Framework for K-12 Science Education*, which provides updated science content and reflects current research about student learning.
- 3 The NGSS were developed by states and their educators.** Twenty-six lead states worked with a 40-member writing team composed of classroom teachers, working scientists, and education researchers to develop the standards. Each lead state assembled a team of educators, higher education faculty, scientists, and engineers to provide feedback on the draft standards. Additionally, two public review periods captured tens of thousands of comments during development that were used to revise each draft.

Next Generation Science Standards - Example

SCIENCE EDUCATION WILL INVOLVE LESS:	SCIENCE EDUCATION WILL INVOLVE MORE:
Rote memorization of facts and terminology	Facts and terminology learned as needed while developing explanations and designing solutions supported by evidence-based arguments and reasoning.
Learning of ideas disconnected from questions about phenomena	Systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned
Teachers providing information to the whole class	Students conducting investigations, solving problems, and engaging in discussions with teachers' guidance
Teachers posing questions with only one right answer	Students discussing open-ended questions that focus on the strength of the evidence used to generate claims

Content Area Domains of the NGSS



HIGH SCHOOL

PHYSICAL SCIENCE

HS.Structure and Properties of Matter

HS.Chemical Reactions

HS.Forces and Interactions

HS.Energy

HS.Waves and Electromagnetic
Radiation

LIFE SCIENCE

HS.Structure and Function

HS.Matter and Energy in Organisms
and Ecosystems

HS.Interdependent Relationships in
Ecosystems

HS.Inheritance and Variation of Traits

HS.Natural Selection and Evolution

EARTH AND SPACE SCIENCES

HS.Space Systems

HS.History of Earth

HS.Earth's Systems

HS.Weather and Climate

HS.Human Sustainability