



Illinois State Board of Education

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Illinois Learning Standards in Science – Impact on Education & Business Community

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The need for high-quality science education, beginning at the earliest grades, is essential now more than ever. As citizens, we are increasingly asked to make informed decisions on issues ranging from health care to energy policy that affect ourselves, our families, and our communities. Possessing a deep understanding of scientific concepts and processes and the ability to understand and apply this knowledge is now a necessity for our daily, civic, and professional lives.

The Illinois Learning Standards in science are based on the Next Generation Science Standards (NGSS) and identify science and engineering practices and content that all K–12 students should master in order to prepare for success in college and 21st-century careers. Students who are well prepared for college and careers in science, technology, engineering and math (STEM) fields will shape our future through innovation and invention. They are also the key to our state's ability to compete economically.

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Students need the kind of preparation that not only supports their learning now but gives them the tools and skills necessary to succeed in a rapidly and continuously changing world. The NGSS were built upon a vision of high-quality teaching and learning for all students to achieve this goal. The standards were benchmarked against countries whose students perform well in science and engineering fields, including Finland, South Korea, China, Canada, England, Hungary, Ireland, Japan, and Singapore.

High-quality STEM standards help educators teach more effectively, allowing them to focus on how students learn best – in a hands-on, collaborative, and integrated environment rooted in inquiry and discovery. Science teachers across the country are finding that when educators raise expectations and give students the right tools and learning settings, students are capable of remarkable science literacy and achievement.

The Illinois Learning Standards in science, adopted in 2014, require students to think and reason. Classroom instruction now demands that students engage in science learning as a holistic understanding of integrated and interrelated concepts. The classroom involves more student-centered learning that enables youth to think on their own, problem solve, communicate, and collaborate.

Every performance expectation under Illinois' science standards has three dimensions: disciplinary core ideas (content), scientific and engineering practices, and crosscutting concepts. The integration of these dimensions reflects how science and engineering are practiced in the real world. The performance expectations also correspond to Illinois' other learning standards in English language arts and math. For a more complete description of the differences between the state's previous science standards and the current standards based on NGSS, please visit www.isbe.net/assessment/pdfs/isa/differences-ILS-NGSS.pdf.

A strong science education equips students with skills that are necessary for all careers.

Students need the right foundation to tackle long-term and difficult issues that face our generation and future generations. The Illinois Learning Standards in science are preparing students to enter the workforce with enhanced communication, problem-solving, and critical thinking skills as well as greater resilience – all vital skills for competing and succeeding in today’s economy.

Science education, however, is about more than building a strong future workforce; it helps students become resilient, critical thinkers with the knowledge needed to become capable adults in a technology-driven world. Illinois’ science standards help foster greater adaptability and flexibility in students, character traits all businesses need their employees to possess.

More information about the Illinois Learning Standards in science is available at www.isbe.net/nils/science/default.htm.