

**FRESNO COUNTY SUPERINTENDENT OF SCHOOLS
FRESNO COUNTY BOARD OF EDUCATION****Instruction
SCIENCE INSTRUCTION**

The County Superintendent and County Board believe that science education should focus on giving students an understanding of the biological and physical aspects of science, including the place of humans in ecological systems, the causes and effects of climate change and the methods to mitigate and adapt to climate change, key scientific concepts, and methods of scientific inquiry and investigation through experiments and other activities that foster critical thinking. Students should become familiar with the natural world and the interrelationship of science, mathematics, technology, and engineering. As part of science instruction, students should learn how to apply scientific knowledge and reasoning.

Philosophical and religious theories that are based, at least in part, on faith and are not subject to scientific test and refutation shall not be discussed during science instruction.

The County Superintendent/County Board shall adopt academic standards for science that meet or exceed the California Next Generation Science Standards (CA-NGSS) and describe the knowledge and skills students are expected to possess at each grade level, with an instructional focus on understanding the process of science, the fundamental ideas within each discipline of science, and underlying themes that are common to all sciences. The County Superintendent or designee shall ensure that curricula used in County Superintendent-operated schools are aligned with these standards and the state curriculum framework.

The County Superintendent or designee shall ensure that students have access to and are enrolled in a broad course of study including science courses.

The County Superintendent or designee shall provide certificated staff with opportunities to participate in professional development activities designed to enhance their knowledge of County Superintendent/County Board-adopted academic standards, instructional strategies for teaching science, and changes in scientific theories.

The County Superintendent or designee shall develop and implement appropriate safety measures for science laboratory classes, including, but not limited to, staff and student safety training, use of eye safety devices, hearing protection, first aid procedures, regular equipment maintenance, safe use of heat sources, safe use and disposal of hazardous chemicals, proper ventilation, prevention of exposure to bloodborne pathogens from sharp instruments, fire prevention and control, an emergency response plan, and evacuation procedures. Parents/guardians shall be informed of the types of science laboratory activities that will be conducted and encouraged to sign consent forms for their child's participation.

Adopted: 10/20/2011

Amended: 11/19/2020, 11/20/2025

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Legal Reference

Education Code

8774 Residential outdoor science program
32030-32034 Eye safety
32255-32255.6 Student's right to refrain from harmful or destructive use of animals
33475-33475.5 Model curriculum on stem cell science
49340-49341 Hazardous substances education
51210.3 Elementary science coach

Code of Regulation, Title 5

14030 Science laboratories, design specifications

Code of Regulations, Title 8

5191 Occupational exposure to hazardous chemicals in laboratories; chemical hygiene plan

Management Resources

CSBA Publications

Supporting Implementation of the California Next Generation Science Standards (CA-NGSS), Governance Brief, November 2016

California Department of Education Publications

Science Framework for California Public Schools: Kindergarten Through Grade Twelve, 2016
Next Generation Science Standards Systems Implementation Plan for California, 2014
California Next Generation Science Standards, 2013
Science Safety Handbook for California Public Schools, 2012

Websites

California Alliance for Next Generation Science Standards:
<http://cdefoundation.org/stem/ca4ngss>
California Department of Education: <http://www.cde.ca.gov>
California Science Teachers Association: <http://www.cascience.org>
U.S. Department of Education, STEM Education: <http://www.ed.gov/stem>