

## INSTRUCTION

### Science Instruction

The Governing Board believes that science education should focus on giving students an understanding of the biological and physical aspects of science, key scientific concepts, and methods of scientific inquiry and investigation. 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.

*(cf. 0440 - District Technology Plan)*  
*5145.8 - Refusal to Harm or Destroy Animals)*  
*(cf. 6142.92 - Mathematics Instruction)*  
*(cf. 6143 - Courses of Study)*  
*(cf. 6146.1 - High School Graduation Requirements)*

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.

*(cf. 6141.2 - Recognition of Religious Beliefs and Customs)*

The district's academic standards for science instruction shall meet or exceed the California Next Generation Science Standards (CA-NGSS). The Superintendent or designee shall ensure that curricula used in district schools are aligned with these standards and the state curriculum framework.

*(cf. 6011 - Academic Standards)*  
*(cf. 6141 - Curriculum Development and Evaluation)*  
*(cf. 6161.1 - Selection and Evaluation of Instructional Materials)*

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

*(cf. 0460 - Local Control and Accountability Plan)*

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

*(cf. 4131 - Staff Development)*  
*(cf. 4331 - Staff Development)*

The 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.

*(cf. 3514.1 - Hazardous Substances)*

*(cf. 4119.42/4219.42/4319.42 - Exposure Control Plan for Bloodborne Pathogens)*

*(cf. 4157/4257/4357- Employee Safety)*

*(cf. 5142 - Safety)*

The Superintendent or designee shall regularly report to the Board regarding the implementation and effectiveness of the science curriculum at each grade level. At a minimum, each report shall address the extent to which the program is aligned with the CA-NGSS, any applicable student assessment results, and feedback from students, parents/guardians, and staff regarding the program.

*(cf. 0500 - Accountability)*

*(cf. 6162.51 - State Academic Achievement Tests)*

*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 Areas of study, grades 1 through 6*

*51210.3 Elementary science coach*

*51220 Areas of study, grades 7 through 12*

*51225.3 High school graduation*

*52060-52077 Local control and accountability plan*

*60640-60649 California Assessment of Student Performance and Progress*

*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:*

*CCSBA 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*

*PNext Generation Science Standards Systems Implementation Plan for California, 2014*

*California Next Generation Science Standards, 2013*

*Science Safety Handbook for California Public Schools, 2012*

*WEB SITES*

*CSBA: <http://www.csba.org>*

*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>*

Policy adopted: 7/23/02

Policy revised: 2/12/19