

## **Instruction**

### **SCIENCE INSTRUCTION**

**BP 6142.93**

The Governing Board believes 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 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 Superintendent or designee shall ensure that curricula used in district schools are aligned with these standards and the state curriculum framework.

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

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.

The Superintendent or designee shall develop and implement appropriate safety measures for science laboratory classes in accordance with Administrative Regulation 5142 - Safety, 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.

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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.

The Superintendent or designee shall **annually** 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.

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#### *Policy Reference Disclaimer:*

*These references are not intended to be part of the policy itself, nor do they indicate the basis or authority for the Governing Board to enact this policy. Instead, they are provided as additional resources for those interested in the subject matter of the policy.*

#### **State**

5 CCR 14030

8 CCR 5191

Ed. Code 32030-32034

Ed. Code 32255-32255.6

Ed. Code 33475-33475.5

Ed. Code 33548

Ed. Code 49340-49341

Ed. Code 51210

Ed. Code 51210.3

Ed. Code 51220

Ed. Code 51225.3

Ed. Code 52059.5-52077

Ed. Code 60640-60648.5

Ed. Code 8774

#### **Management Resources**

California Department of Education  
Publication

California Department of Education  
Publication

California Department of Education  
Publication

#### **Description**

[Preliminary procedure, planning and approval of school facilities](#)

[Chemical hygiene plan](#)

[Eye safety](#)

[Student's right to refrain from harmful or destructive use of animals](#)

[Model curriculum on stem cell science](#)

[Media and artificial intelligence literacy](#)

[Hazardous substances education](#)

[Course of study for grades 1-6](#)

[Elementary science coach](#)

[Course of study for grades 7-12](#)

[High school graduation requirements](#)

[Local control and accountability plan](#)

[California Assessment of Student Performance and Progress](#)

[Residential outdoor science program](#)

#### **Description**

[Science Safety Handbook for California Public Schools, 2014](#)

[Science Framework for California Public Schools: Kindergarten Through Grade 12, 2016](#)

[California Next Generation Science Standards, 2013](#)

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CSBA Publication	<a href="#"><u>Supporting STEM Access, Equity, and Effectiveness: Equitable Access to Rigorous STEAM Coursework, October 2018</u></a>
CSBA Publication	<a href="#"><u>Supporting STEM Access, Equity, and Effectiveness: The Path to Full Implementation of the California Next Generation Science Standards, October 2018</u></a>
CSBA Publication	<a href="#"><u>Supporting STEM Access, Equity, and Effectiveness: Professional Learning is Essential to Next Generation Science Standards Implementation, October 2020</u></a>
CSBA Publication	<a href="#"><u>Supporting Implementation of the California Next Generation Science Standards (CA-NGSS), Governance Brief, November 2016</u></a>
Website	<a href="#"><u>Los Angeles County Office of Education, Introduction to Strategic Science Teaching (SST)</u></a>
Website	<a href="#"><u>Strategic Science Teaching, Grades K-12: A Sampler of Science Lessons Connecting Literature with the California Standards</u></a>
Website	<a href="#"><u>CSBA District and County Office of Education Legal Services</u></a>
Website	<a href="#"><u>U.S. Department of Education, STEM Education</u></a>
Website	<a href="#"><u>California Alliance for Next Generation Science Standards</u></a>
Website	<a href="#"><u>California Science Teachers Association</u></a>
Website	<a href="#"><u>CSBA</u></a>
Website	<a href="#"><u>California Department of Education</u></a>

### Cross References

<b>Policy</b>	<b>Description</b>
0440	<a href="#"><u>District Technology Plan</u></a>
0440	<a href="#"><u>District Technology Plan</u></a>
0460	<a href="#"><u>Local Control And Accountability Plan</u></a>
0460	<a href="#"><u>Local Control And Accountability Plan</u></a>
0500	<a href="#"><u>Accountability</u></a>
3511	<a href="#"><u>Energy And Water Management</u></a>
3511	<a href="#"><u>Energy And Water Management</u></a>
3511.1	<a href="#"><u>Integrated Waste Management</u></a>
3511.1	<a href="#"><u>Integrated Waste Management</u></a>
3514.1	<a href="#"><u>Hazardous Substances</u></a>
3514.1	<a href="#"><u>Hazardous Substances</u></a>
4119.42	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4119.42	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4119.42-E(1)	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>

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4131	<a href="#"><u>Staff Development</u></a>
4157	<a href="#"><u>Employee Safety</u></a>
4157	<a href="#"><u>Employee Safety</u></a>
4219.42	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4219.42	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4219.42-E(1)	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4257	<a href="#"><u>Employee Safety</u></a>
4257	<a href="#"><u>Employee Safety</u></a>
4319.42	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4319.42	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4319.42-E(1)	<a href="#"><u>Exposure Control Plan For Bloodborne Pathogens</u></a>
4331	<a href="#"><u>Staff Development</u></a>
4357	<a href="#"><u>Employee Safety</u></a>
4357	<a href="#"><u>Employee Safety</u></a>
5141.22	<a href="#"><u>Infectious Diseases</u></a>
5141.22	<a href="#"><u>Infectious Diseases</u></a>
5142	<a href="#"><u>Safety</u></a>
5142	<a href="#"><u>Safety</u></a>
5145.8	<a href="#"><u>Refusal To Harm Or Destroy Animals</u></a>
5148.2	<a href="#"><u>Before/After School Programs</u></a>
5148.2	<a href="#"><u>Before/After School Programs</u></a>
6011	<a href="#"><u>Academic Standards</u></a>
6141	<a href="#"><u>Curriculum Development And Evaluation</u></a>
6141	<a href="#"><u>Curriculum Development And Evaluation</u></a>
6141.2	<a href="#"><u>Recognition Of Religious Beliefs And Customs</u></a>
6141.2	<a href="#"><u>Recognition Of Religious Beliefs And Customs</u></a>
6141.4	<a href="#"><u>International Baccalaureate Program</u></a>
6142.1	<a href="#"><u>Sexual Health And HIV/AIDS Prevention Instruction</u></a>
6142.1	<a href="#"><u>Sexual Health And HIV/AIDS Prevention Instruction</u></a>
6142.5	<a href="#"><u>Environmental Education</u></a>
6142.92	<a href="#"><u>Mathematics Instruction</u></a>
6143	<a href="#"><u>Courses Of Study</u></a>
6143	<a href="#"><u>Courses Of Study</u></a>
6146.1	<a href="#"><u>High School Graduation Requirements</u></a>
6161.1	<a href="#"><u>Selection And Evaluation Of Instructional Materials</u></a>
6161.1	<a href="#"><u>Selection And Evaluation Of Instructional Materials</u></a>
6161.1-E(1)	<a href="#"><u>Selection And Evaluation Of Instructional Materials</u></a>
6161.11	<a href="#"><u>Supplementary Instructional Materials</u></a>
6162.51	<a href="#"><u>State Academic Achievement Tests</u></a>
6162.51	<a href="#"><u>State Academic Achievement Tests</u></a>
6172	<a href="#"><u>Gifted And Talented Student Program</u></a>
6172	<a href="#"><u>Gifted And Talented Student Program</u></a>

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[Supplemental Instruction](#)

**Policy**

**PASADENA UNIFIED SCHOOL DISTRICT**

**Adopted:** July 9, 1996

Pasadena, California

**Revised:** 10/11/2011; 09/28/2017; 06/26/2025