

Davis Joint USD

Board Policy

Science Instruction

BP 6142.93

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 ~~a capacity for methods of~~ scientific ~~ways of thinking, inquiry and investigation~~. Students should become familiar with the natural world and the ~~interrelation~~interrelationship of science, mathematics ~~and~~, technology ~~-, and engineering~~. As part of ~~their~~ science instruction, students should learn how to apply scientific knowledge and ~~ways of thinking for individual and social purposes~~reasoning. In addition, students should understand the ethical norms of scientific inquiry and that science is the product of human activity and as such it inevitably involves a variety of value-laden choices and judgements.

(cf. 0440 - District Technology Plan)

(cf. 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~~s~~)

~~As a matter of principle, science teachers are professionally bound to limit their teaching to content that meets the criteria of scientific fact, hypothesis and theory as these terms are used in natural sciences.— A scientific fact is an understanding based on confirmable observations and is subject to test and rejection.— A scientific hypothesis is an attempt to frame a question as a testable proposition.— A scientific theory organizes and explains a range of natural phenomena on the basis of facts and hypotheses.— Scientific theories are constantly subject to testing, modification and refutation as new evidence and new ideas emerge.~~

Philosophical and religious theories that are based, at least in part, on faith, and are not subject to scientific test and refutation. ~~Such beliefs~~ shall not be discussed ~~in science classes, but may be addressed in the social science and language arts curricula~~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:

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

CaliforniaNext 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 DAVIS JOINT UNIFIED SCHOOL DISTRICT

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