Date of Hearing: March 12, 2025

ASSEMBLY COMMITTEE ON EDUCATION
Al Muratsuchi, Chair
AB 347 (Kalra) – As Introduced January 29, 2025

SUBJECT: Pupil instruction: animal dissection

SUMMARY: Requires that students who exercise their existing right to opt-out of animal dissection are given an alternate assignment, requires the California Department of Education (CDE) to develop a template for students to use to opt-out, and makes compliance with opt-out requirements subject to the Uniform Complaint Procedures (UCP). Specifically, **this bill**:

1) Defines "dissection" to mean the viewing of, or the act of, dismembering or otherwise harmful or destructive use of an animal, in part or in whole, preserved or freshly killed, in the study of biological sciences. States that "dissection" does not include fixed histological samples of any species, including, but not limited to, plain or stained microscope slides, owl pellets, human autopsy viewing, or plastinated human organs.

2) Defines "alternative assessment," "alternative education project," or "alternative test" to include the use of video recordings, three-dimensional models, films, books, interactive simulation software and computers, and assessments of knowledge, that would provide an alternate avenue for obtaining the knowledge, information, or experience required by the course of study in question.

3) Makes the following changes to the existing opt-out provisions for students who morally object to participating in animal dissection:

    a) Adds "assessment," "test," and three-dimensional models and interactive simulation software to the alternatives to be granted a student who morally objects to dissection;

    b) Defines the moral objection to include the viewing of the dissection or destroying of an animal, including those preserved or freshly killed;

    c) Requires, rather than authorizes, teachers to provide an alternative assignment when a student chooses to refrain from dissection;

    d) Removes the requirement that a teacher believes that an adequate alternative education project is possible as a condition of providing an alternative assignment, and authorizes an assessment or test to be provided in lieu of an assignment;

    e) Requires that an alternative assessment or test require a comparable time and effort investment by the student;

    f) Requires that a student's grades not be impacted as a means of penalizing the student for exercising their rights to opt-out of dissection;

    g) Deletes a requirement that a student who chooses an alternative education project earn a passing grade in order to receive credit for the course of study. Requires a teacher

teaching a course that utilizes dissection to provide, at a pupil's request, any sourcing information provided by the vendor or provider of the animals, and information about the chemicals used to preserve the animals for dissection to which the student may be exposed.

4) Requires each teacher using dissection, or the school on behalf of the teacher, to provide written notice about students' rights, and requires the form to include all of the following information:

   a) A student's right to refrain from participating in an assessment, education project, or test involving the dissection of animals;

   b) The prohibition of impact on a student's grades as a means of penalizing the student for exercising their rights;

   c) A student's right to request sourcing information and information about the chemicals used to preserve the animal.

5) Requires the CDE, by November 1, 2026, to develop a template that a teacher or school may use to provide this written notice, and make this template available on its website.

6) States that, by July 1, 2028, except for agricultural education programs, public schools are encouraged to explore using effective alternative methods in lieu of using animals or animal parts for dissection.

7) Adds the rights of students to refrain from dissection, and related rights, to the statutes subject to the UCP.

EXISTING LAW:

1) Requires each teacher teaching a course that utilizes live or dead animals or animal parts to inform the students of their rights to object. (Education Code (EC) 33225.4)

2) Requires a student with a moral objection to dissecting or otherwise harming or destroying animals, or any parts thereof, to notify his or her teacher regarding this objection, upon notification by the school of his or her rights. (EC 33225.1)

3) States that if the student chooses to refrain from participation in an education project involving the harmful or destructive use of animals, and if the teacher believes that an adequate alternative education project is possible, the teacher may work with the student to develop and agree upon an alternate education project for the purpose of providing the student an alternate avenue for obtaining the knowledge, information, or experience required by the course of study. (EC 32255.1)

4) Requires that the alternative education project require a comparable time and effort investment by the student, and prohibits it from being more arduous than the original education project as a means of penalizing a student. (EC 32255.1)

5) Prohibits discrimination against a student based upon his or her decision to exercise his or her rights to object to refrain from dissection. (EC 32255.1)

6) Requires students choosing an alternative educational project to pass all examinations of the respective course of study in order to receive credit for that course of study. If such tests require the harmful or destructive use of animals, permits a student to seek alternative tests. (EC 32255.1)

7) Requires that a student's objection to participating in an educational project pursuant to this section be substantiated by a note from his or her parent or guardian. (EC 32255.1)

8) Requires that a teacher's decision in determining if a student may pursue an alternative educational project or be excused from the project not be arbitrary or capricious. (EC 32255.3)

9) States that nothing shall prevent any student from pursuing the grievance procedures in existing law. (EC 32255.3)

10) Defines "animal" to mean any living organism of the kingdom Animalia, beings that typically differ from plants in capacity for spontaneous movement and rapid motor response to stimulation by a usually greater mobility with some degree of voluntary locomotor ability and by greater irritability commonly mediated through a more or less centralized nervous system, beings that are characterized by a requirement for complex organic nutrients including proteins or their constituents that are usually digested in an internal cavity before assimilation into the body proper, and beings that are distinguished from typical plants by lack of chlorophyll, by an inability to perform photosynthesis, by cells that lack cellulose walls, and by the frequent presence of discrete complex sense organs. (EC 32255)

11) Defines "alternative education project" to include the use of video recordings, models, films, books, and computers which would provide an alternate avenue for obtaining the knowledge, information, or experience required by the course of study in question. Defines "alternative education project" to include "alternative test." (EC 32255)

12) Defines "student" to mean a person under 18 years of age who is matriculated in a course of instruction in an educational institution. For the purpose of asserting the student's rights and receiving any notice or response, defines "student" to include the parents of a matriculated minor. (EC 32255)

13) Exempts classes and activities conducted as part of a program in agricultural education that provide instruction on the care, management, and evaluation of domestic animals from the above requirements. (EC 32255.6)

14) Requires that each teacher endeavor to impress upon the minds of the students kindness toward domestic pets and the humane treatment of living creatures, among other topics. (EC 233.5)

15) Requires that, in school-sponsored activities and classes held elsewhere than on school premises, live vertebrate animals not, as part of a scientific experiment or any other purpose:

a) Be experimentally medicated or drugged in a manner to cause painful reactions or induce painful or lethal pathological conditions; and

b) Be injured through any other treatments, including, but not limited to, anesthetization or electric shock. (EC 51540)

16) Requires that live animals on the premises of a public elementary or high school be housed and cared for in a humane and safe manner. (EC 51540)

17) States that the above provisions are not intended to prohibit or constrain vocational instruction in the normal practices of animal husbandry. (EC 51540)

18) Requires governing boards of school districts, when adopting instructional materials for use in schools, to require such materials, as they deem necessary and proper, to encourage thrift, fire prevention, and the humane treatment of animals and people. (EC 60042)

19) Requires governing boards of school districts, when adopting instructional materials for use in schools, to include only instructional materials that accurately portray humanity's place in ecological systems and the necessity for the protection of our environment. (EC 60041)

FISCAL EFFECT: Unknown

COMMENTS:

Need for the bill. According to the author, "The lessons of anatomy are an important scientific teaching in a student's academic career. However, with the advancements in educational technology, alternative methods can still reach the same educational outcome without having to rely on costly animal dissection kits. California law allows students to opt-out of animal dissection and request an alternative assignment but they are not made aware of their right and often times feel obligated to participate.

AB 347 will require teachers to provide students with a written notice informing them of their right to opt-out and those that choose to opt-out should receive a comparable assignment to get the same educational outcome. Every student in California has a right to receive an equitable education and should not be denied the same opportunities as their peers. The CLASS Act will empower students to be informed and make decisions best suited for their academic careers."

Students who exercise their legal right to opt-out of animal dissection should not be denied the opportunity to learn the content being taught. This bill seeks to correct a long-standing deficiency in state law that grants students the right to opt-out of animal dissection, but does not entitle them to learn the content by other means. Current law, enacted in 1988, states only that students *may* be given an alternate assignment. This bill would make it a requirement. Notably, it does not specify the type of assignment that must be provided, leaving the choice of assignment to the teacher's discretion.

Some students are unaware of their rights to opt-out of dissection. This bill is intended to help strengthen dissection opt-out policies used by schools. Several studies point to poor awareness of dissection opt-out policies:

- In the national study of 1,178 teachers described above (Osenkowski, 2015), only 53% of teachers in states with opt-out laws responded that their schools had such policies, and 29% responded that their school did not have such a policy, and 18% did not know. This study found that 90% of teachers indicated that less than 5% of students request alternatives, while 14% of students responded that they had refused to dissect or requested an alternative.

- Research suggests that a small number of students will object to dissection, but that "many students may not want to participate in a dissection but may be unwilling to voice their opposition to it due to fear of a failing grade, fear of embarrassment in front of their peers, or fear of challenging the authority of their teacher." (Balcombe, 2000; Hart, 2008).

Frog Girl: The history of animal dissection in California schools. According to Why Dissection? (Hart, 2008), nonhuman animals have historically been used as surrogates for the purpose of learning human anatomy. In the 19th century, the discoveries of Charles Darwin and the emergence of educational theory which emphasized both discovery and instruction in practical subjects led to increasing emphasis on science in school curricula. It was at this time that biology became part of the school curriculum. In the 1920s, during the progressive education era, frog dissection became common in university courses and subsequently in pre-college instruction, and by the 1960s it was a widespread practice. (Orlans, 1993)

Beginning in the 1980s some high school students began to refuse to dissect animals, and in 1987 a Victor Valley, California 10th grade student named Jennifer Graham refused to dissect a frog while enrolled in a course required for graduation, citing her moral beliefs and her mother's religious beliefs. The school refused to let her abstain from the activity, and her family sued. The court dismissed the case in 1988 with a stipulation that the school provide the student with a frog that had died of natural causes. No such frog was provided. The case was eventually settled.

In 1988, Governor Deukmejian signed AB 2507 (Speier), Chapter 65, Statutes of 1988, which established a right of students to opt-out of animal dissection – the statutes proposed to be amended by this bill. Jennifer Graham's story was dramatized in the ABC Afterschool Special, *Frog Girl: The Jennifer Graham Story*, in 1989, which included a reenactment of the hearing on AB 2507 in this Committee.

According to materials provided by the author's office, 22 other states and Washington, D.C. have enacted dissection opt-out policies. The Miami-Dade County Public Schools has prohibited the use of cats for dissection in that district. No state has enacted a prohibition on animal dissection.

Educator policy statements recommend providing alternatives when students opt-out of dissection. Several science education associations have policy statements on animal dissection. All recommend that teachers respect the choice of students to opt-out of dissection and that they should provide alternatives to dissection to allow students to learn the content being taught.

- The National Science Education Leadership Association's Safety Position Statement Code of Practice on the Use of Animals in Science Education states that dissection, as an instructional strategy, is discouraged in science/STEM classes. The statement recommends that parents and students be notified in writing if dissections are planned in

advance, and that schools should provide alternatives for students who have conscientious objections to dissection.

- The National Association of Biology Teachers' (NABT) policy on animal dissection encourages teachers to be approachable and responsive to substantive student objections to dissection and to provide appropriate lessons for those students, but also urges teachers to be aware that alternatives to dissection have their limitations.

- National Association of Science Teachers (NSTA) policy statement is similar to that of the NABT and recommends that teachers be prepared to present an alternative to dissection to students whose views or beliefs make this activity uncomfortable and difficult for them.

Issues related to animal dissection. The issue of animal dissection in schools raises numerous issues, among them are pedagogical, social, animal welfare, health and environmental, fiscal, equity, access issues, and issues of local control and the role of the state. Below is a discussion of these issues and the varying perspectives on them:

- **Pedagogical issues**: Supporters of the use of dissection argue that, as professionals, teachers should have the freedom and responsibility to make instructional choices they believe are best for teaching and learning. They argue that dissection is aligned to and supportive of key concepts of inquiry, exploration, and use of phenomena in the Next Generation Science Standards (NGSS), and that there is inherent educational value in the use of real objects for teaching science which cannot be replicated by other means. They also argue that some students find the experience so engaging that it motivates future study of science.

  Critics of dissection argue that while dissection has played an important role in science education in the past, it is an outdated practice that has become a ritual of science education. They argue that with current technology, dissection can be replaced with alternative methods of learning which are as effective, while not raising ethical, environmental, or health concerns. They note that the NGSS do not require that students' life science curriculum include dissection. They also argue that some students experience such discomfort with dissection that it dissuades them from future study of science.

- **Moral issues and student rights:** Critics of dissection argue that animal dissection promotes a decreased sensitivity to, and a trivialization of, animal life, and that it can result in ethical or moral discomfort for students. They cite instances of students who are opposed to dissection being pressured into the activity, not being provided suitable alternatives, or incurring academic penalties.

  Supporters of the use of dissection argue that when conducted properly, dissection can teach respect for life and the interrelationship and interdependency of all things. They support the right of students to opt-out of dissection instruction and be provided a high-quality alternate activity.

- **Animal welfare:** Critics of dissection object to dissection as a practice which is connected to the pain, suffering, and death of animals. They cite the practices of breeding, trapping, confinement, and killing as inhumane, and raise concerns about the use, in dissection, of

some threatened species, the sourcing of some animals from their natural habitats or from animal shelters, and the breeding of some animals at facilities that cater to businesses that use animals in educational experiments and in laboratories.

Supporters of the use of dissection argue that some of the animal parts used for dissection are by-products of the agricultural industry that would otherwise be discarded, that others can be sourced humanely, and agree that animals should not be sourced in a manner that poses environmental threats.

- **Health and environmental issues.** Critics of dissection argue that the process of supplying animals for dissection has a significant environmental impact, that removing animals from ecosystems can inflict lasting damage, that when animals are preserved in formaldehyde students and teachers are exposed to a hazardous chemical, and that improper disposal can cause health and environmental problems.

  Supporters of the use of dissection, agree that students' dissection experience should not come at a cost to ecosystems, and argue that less- or non-toxic alternatives can be used to preserve specimens.

- **Issues of local control and the role of the state**. Supporters of the use of dissection argue that the choice to instruct students using dissection should be a local choice made by educators and not determined by the state. They also note that the existing process also allows for deliberation and public input by content experts and leading practitioners, in the context of the scope and sequence of each subject.

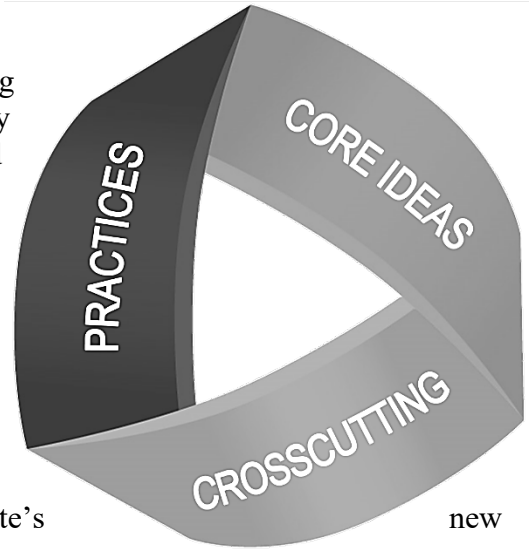
  Critics of dissection note that state law already speaks to some teachers' activities in the classroom, requiring that teachers teach "kindness toward pets and the humane treatment of living creatures."

- **Fiscal, equity, and access issues.** Supporters of dissection raise concerns about the cost of providing alternatives to dissection, noting that there would be initial costs involved with changing methods. They also raise concerns that poor access to hardware and connectivity in some schools could create access and equity problems, and that the cost of alternatives includes the hardware necessary to run software programs.

  Critics of dissection argue that while there are up-front costs associated with procuring alternatives, such as software licenses, the cost of alternatives is lower over time than the annual cost of procuring animals and other supplies, and that some low-cost and free materials are available.

Is dissection an effective means of teaching the state's science standards? In 2013, the State Board of Education (SBE) adopted the NGSS as the state's science content standards. In contrast to California's previous science standards, NGSS shifts the focus of instruction from having students memorize scientific information to teaching students how to think critically about core scientific ideas (disciplinary core ideas), how to connect key concepts across disciplines (cross cutting concepts), and how to implement processes used by practicing scientists (science and engineering practices), such as asking questions, developing and using models, and planning and carrying out investigations. This "three-dimensional" approach to science education is represented by the graphic on the next page.

Students' science knowledge is assessed using the California Science Test (CAST), an NGSS-aligned assessment which similarly shifts the focus from assessing recall of facts to measuring the ability of students to apply their knowledge and skills through the NGSS science and engineering practices, disciplinary core ideas, and crosscutting concepts. In other words, the new assessment will test students' scientific knowledge as well as their ability to "do science."



The NGSS standards and the state's science curriculum framework do not specifically direct teachers on how to teach science content, and they do not mention animal dissection. However, activities such as dissection align well with some of the key instructional features of the state's new standards:

- Learning is intended to be hands-on, collaborative, and in an integrated environment rooted in inquiry and discovery;

- Instruction is grounded in student-centered learning that enables students to think on their own, problem solve, communicate, and collaborate—in addition to learning important scientific concepts; and

- The goal of instruction is for students to be able to engage with and explain real-world phenomena and to design solutions using their understanding of the disciplinary core ideas.

For example, under NGSS the traditional goal of using dissection to teach anatomy shifts to a goal of teaching concepts, connections, and practices of science. Dissection is one way that students can learn about the *crosscutting concept* of Structure and Function (the way an object is shaped or structured determines many of its properties and functions) in the study of life science. Dissection of phenomena such as a chicken foot, a cow's eye, or a sheep heart could allow students to investigate structure and function in a hands-on way that promotes inquiry and discovery. Through dissection, students can plan and carry out investigations (*a science practice*), make observations about the relationship between structure and function (*a crosscutting concept*), and discuss variations of traits they observe (*a disciplinary core idea)*.

Are dissection alternatives an effective means of teaching the state's science standards? This bill does not require that teachers use dissection alternatives when providing alternate assignments to students opting out of animal dissection. There are numerous products that can be used as alternatives to, or in conjunction with, dissection instruction. These include interactive software programs, tablet applications, videos, life-like models and other realia, and virtual reality applications. Some alternatives cited by the author and People for the Ethical Treatment of Animals (PETA) include the following software or model-based programs, which were available as of 2019:

- Expandable Mind Software: Digital dissection modules for ten animals, including frogs, fish, pigs, and cats;
- Froggipedia: Application for mobile phone or tablet for frog dissection; and

- Biosphera: Desktop and mobile software modules using touch-screens with the anatomies of cats, frogs, cows, fish, and other species.

The author also notes that there are loan programs and databases which provide alternative materials, including:

- Animalearn's Science Bank;
- National Anti-Vivisection Society's BioLEAP Lending Program;
- Ethical Science Education Coalition's Alternatives Loan Library;
- The International Network for Humane Education (InterNICHE); and
- Norwegian Inventory of Audiovisuals (NORINA)

Numerous studies have investigated the effects of dissection versus alternative methods, but it is difficult to apply much of it to the question raised by this bill. Much of the literature involves postsecondary students (who have a different curriculum and who are voluntarily engaged in life science study), and not all of the literature is peer-reviewed. Most importantly, the literature has not reflected the current science standards (which, as noted above, shift the focus of instruction), newer technology, or the measures of performance used on the current science assessment.

A recent systematic review (Ormandy, 2022) of studies published between 2005 and 2020 (years during which NGSS was beginning to be implemented), evaluated the pedagogical value of non-animal models versus animal dissection. Most of the studies included measured growth in anatomy knowledge. Results from 20 published studies showed that in 19 of the 20 studies included, students at all education levels (secondary, postsecondary, and medical school) performed at least as well, and in 14 of the 19 better, when they used non-animal models compared to animal dissection. While these findings do not directly address the implications for the teaching of NGSS concepts, they do show that alternatives may be as effective as dissection in teaching anatomy.

One pre-NGSS analysis comparing the use of animals (both dissection and vivisection) and alternative methods, *Systematic review of comparative studies examining alternatives to the harmful use of animals in biomedical education* (2007), examined controlled studies conducted in both K-12 and postsecondary institutions. The authors reviewed 17 randomized controlled trials or nonrandomized trials that included a comparison group, which involved high school biology students (Fowler, 1968; Kinzie, 1993; Strauss, 1994). The authors found that in all studies reviewed, "results associated with the alternative method of instruction were not significantly different from or superior to results associated with the conventional method." The authors note that "these findings appeared to be robust, as they involved a wide range of participants, alternatives, and outcomes," and conclude that "alternatives are a viable method of instruction in the field of biomedical education."

However, it is important to note that this research was conducted based on prior science standards, which reflected a more traditional teaching of science. It remains unclear whether the alternatives offer comparable opportunities for students to engage in scientific practices or whether they function best as programs to teach scientific facts such as anatomy. As noted above, the state's new science assessment will measure the ability of students to apply their knowledge and skills through the NGSS science and engineering practices, disciplinary core ideas, and crosscutting concepts.

How common is dissection, and which animals are dissected? Research indicates that, nationally, between 75% and 84% of biology teachers use dissection (Oakely, 2012; Osenkowski, 2015). No research specific on California teachers' practices appears to be available.

Data provided by the author on school district purchasing information obtained through California Public Records Act requests show that, among a number of California's large school districts for the current and prior academic years, the most commonly purchased items included frogs, fetal pigs, cows' eyes, sheep hearts and brains, worms, squid, and rats. Other animals purchased in smaller numbers include cats, mink, planaria, crayfish, shark, and sea urchin. The Los Angeles Unified School District purchased 5,035 animals or animal organs, at a cost of $16,321. A national survey of biology teachers (Osenkowski, 2015) indicates that the most commonly dissected animals are frogs, fetal pigs, earthworms, crayfish, and bony fish.

Where do animals and animal parts used in dissection come from? As noted below, the National Science Teachers' Association (NSTA) recommends that animals used in dissection be purchased from a reputable and reliable scientific supply company, and states that an acceptable alternative source for fresh specimens (i.e., squid, chicken wings) would be a Food and Drug Administration (FDA)-inspected facility such as a butcher shop, fish market, or supermarket.

Purchasing information provided by the author for several large California school districts indicates that animals and animal organs are purchased from at least 12 different suppliers. Biological supply companies indicate that animal parts such as cow's eyes, sheep's hearts and brains, and fetal pigs are by-products of the food industry. Other animals are purchased through suppliers who raise or catch them for food or other purposes (earthworms from bait suppliers, rats from reptile food suppliers, sharks from the fishing trade). Cats come from shelters where they have been euthanized. One company indicates that frogs are purchased from a supplier of frogs' legs, and that the frogs are caught in an agricultural habitat.

PETA raises concerns that the animals supplied for dissection do not die of natural causes, and that the majority are not killed painlessly. They cite an investigation of a Minnesota biological supply company which was charged with animal cruelty in their processing of animals for dissection. They also raise concerns about the taking of animals from natural habitats, citing one company's statement that grasshoppers and earthworms are sourced by professional collectors, and a 1999 U.S. Department of Interior statement that the trade in amphibians for, among other purposes, dissection, poses a threat to amphibians.

Cost of alternatives compared to animal dissection. Below is a comparison of both one-time and ongoing costs of animal dissection and one software-based alternative. The comparison is based on a class of 30 students, with either one student per computer or two students working together on the dissection of a frog. Costs are from websites for the Digital Frog 2.5 software and the Carolina Biological Supply Company, as of 2019.

As of 2019, the one-time cost of Digital Frog 2.5 software for 30 students was $625.00 for a lifetime license, or $253.00 for an annual subscription. In addition, there are unknown technology costs, for computers and wireless access, some of which have already been incurred. Apart from replacement and upgrading of computers, there were no ongoing costs for use of the Digital Frog 2.5 software if a lifetime license is purchased, and for a subscription, the annual cost is $253.00.

Schools often purchase dissection kits which include both the animal specimen and dissection equipment. As of 2019, a class set of 15 frog dissection kits from Carolina Biological Supply cost $192.75 ($12.85 each) per year. These kits included all supplies necessary for dissection, except for gloves ($17.95 for 100), goggles ($56.00 for 15, which could be reused), paper towels, aprons ($33.80 for 100), and cleaning supplies.

Student attitudes toward, and experience with, dissection. Research on student attitudes toward, and experiences with dissection, including objecting to dissection, is presented below.

- In a national study of 500 students, (Osenkowski, 2015), 48% of students indicated that they are interested in animal dissection and would not prefer using an alternative. 37% of students would prefer using an alternative. 45% of students indicated that they had greater interest in science because of animal dissection. 34% of students indicated that they would like biology education to be more computer-based, and 40% indicated that they would not. 68% of students agreed that students should have a choice to opt-out of dissection. 38% did not know whether dissection alternatives were available to them.

- One study of 10th and 11th grade Canadian students (Oakley, 2013) found that 54% of students participated in animal dissection willingly and 35% participated with mixed feelings. 8% reported not wanting to participate and informing the teacher, but being convinced to participate, 10% reported doing an alternative activity, 4% skipped class, and 2% reported not wanting to participate and being given a failing grade on the assignment. Of the students who objected to the dissection activity, 80% reported personal objections, 72% reported animal rights objections, 61% reported ethical or moral objections, and 34% reported environmental concerns, and 4% reported religious objections (total exceeds 100% because students could mark multiple answers).

Teacher attitudes toward, and experiences with, dissection. Research on teacher attitudes toward, and experiences with dissection, including objecting to dissection, is presented below.

- In a national study of 1,178 teachers' attitudes toward dissection (Osenkowski, 2015), 70% of teachers reported that dissection is the best way to teach anatomy and physiology, 60% disagreed with the statement, "dissection is no longer necessary to teach the life sciences," and 62% disagreed with the statement, "I have ethical concerns about dissection." 54% believed that alternatives are as good as dissection for teaching anatomy and physiology. 70% of teachers reported using alternatives to dissection, with 36% using them in place of dissection and 34% using them in conjunction with dissection. 67% of teachers indicated that they would continue to teach animal dissection because students want to dissect, and 69% said that student performance is the most important factor in choosing animal dissection or alternatives. Only 53% of teachers in states with opt-out laws responded that their schools had such policies. 29% responded that their school did not have such a policy, and 18% did not know.

- In a study of Canadian science and biology teachers (Oakley 2011), 74% identified pedagogical benefits of dissection, including solidifying students' knowledge of structure, function, placement, and interconnectedness of organs and systems, as well as the most authentic way to learn about anatomy and physiology. 62% identified "realism" as a benefit, including demonstration of similarities and differences between organisms (including those of the same species). 58% identified the benefit of experiential, hands-on

learning, and 58% identified student engagement and interest. 46% identified concerns regarding student safety in the lab, including exposure to formalin, and 30% identified pedagogical concerns around classroom management, students' learning and retention, and addressing and evaluating students who refuse to dissect.

Arguments in support. Social Compassion in Legislation writes, "AB 347 aims to strengthen students' right to opt-out of participating in animal dissection by requiring teachers to provide them with written notice of that right; allows students to request information regarding where the animals used in dissection are obtained and what chemicals students would be exposed to; and to ensure that their grades will not be affected by their choice to complete an alternative, animal-free assignment. The bill also encourages schools to explore more effective, ethical, economical, and environmentally friendly non-animal teaching methods by 2028.

Students, educators, administrators, and legislators are increasingly seeking modern ways to accomplish the goals of anatomy education, including by using interactive computer software programs or hands-on realistic models. The ethical benefits of replacing animal dissection include reducing suffering, which is at the heart of most students' objections to using animals in science classes.

California law currently places the burden on students to speak up about their concerns regarding animal dissection, even though young people often face peer pressure, are frequently bullied for being different from their classmates, and typically don't want to experience confrontation with a teacher or school leadership. PETA hears from young people who are upset by dissecting animals and, as a result, are distracted and unable to learn the requisite material. Reluctant students participate out of fear of real or perceived retaliation or ostracism from their teachers and peers. Studies show that some students, especially girls, are even dissuaded from pursuing careers in science because they're so traumatized by the experience of dissecting animals in the classroom. Using non-animal methods creates a more inclusive, trauma-informed learning environment that doesn't risk alienating those who might be uncomfortable participating in classroom experiments on animals."

Arguments in opposition. The California Science Teachers Association writes, "We accept that students have a right to opt out of dissection and we understand the importance of giving notice to students and families of this right. We also accept that students have the right to be given an alternative assignment, when the teacher believes that an adequate alternative assignment or project is possible.

For a required class such as 4th grade science, middle school science, or high school biology, there might be only a few dissections planned for the courses, and so the burden on the teacher is not too great in planning, prepping, and delivering an alternative experience. In addition, we understand that not all students in these classes may be pursuing careers in biology or medical fields, and thus, the experience may not be critical to their higher education goals.

However, we believe the proposed changes to the language that 'the teacher shall provide the pupil with an alternative assessment, education project, or test' *does* place an undue burden on teachers of high school elective science courses. These are courses that students choose to gain the knowledge and skills necessary to pursue higher education and career pathways in biology or medicine, and/or for personal interest. In these cases, dissection may comprise 50% or more of the planned curriculum. Mandating the teacher design an alternative experience 'comparable in

time and effort investment by the pupil' for each dissection equates to asking the teacher to design two different courses, thus increasing their total number of "preps", the quantity of which are often capped by school boards. If the language of this bill can be revised to make these exceptions, CASE will change its opposition to the bill."

Recommended Committee amendments. Staff recommends that this bill be amended as follows:

- Replace the phrase "assessment, education project, or test" to "assignment or assessment."
- Align the date by which CDE would be required to create a template, and the effective date of the bill for schools, with the start of the 2026-27 school year.
- Clarify that the requirements of the bill apply when a school elects to use animal dissection.

Related legislation. AB 2640 (Kalra) of the 2023-24 Session was substantially similar to this bill. It was held in the Senate Appropriations Committee.

AB 1586 (Kalra) of the 2019-20 Session would have prohibited students enrolled in public or private schools from dissecting, or viewing the dissection of, animals in the study of biological sciences. This bill was held in the Assembly Education Committee.

AB 2507 (Speier), Chapter 65, Statutes of 1988, establishes a right of students to opt-out of animal dissection and authorizes a teacher to work with the student to develop and agree upon an alternate education project for the purpose of providing the student an alternate avenue for obtaining the knowledge, information, or experience required by the course of study.

REGISTERED SUPPORT / OPPOSITION:

Support

Animal Wellness Action
Folsom High School - Science Department
Leaders for Ethics, Animals, and The Planet (LEAP)
National Science Education Leadership Association
NY 4 Whales
People for The Ethical Treatment of Animals (PETA)
Social Compassion in Legislation
Students Against Animal Cruelty Club
80 individuals

Opposition

California Agricultural Teachers' Association
California Association of Science Educators

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