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INTEGRATING THE CALIFORNIA HEALTH EDUCATION STANDARDS INTO THE CALIFORNIA SCIENCE STANDARDS FOR GRADE SEVEN

A Project

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Education:

Health Education

---

by

Cheryl Ann Pearson

December 2012

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11-29-12

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ABSTRACT

Health Education in California public schools is being taught in a limited, piece-meal manner. With the exception of some topics, such as HIV/AIDS, parenting education, and the effects of using tobacco, alcohol and other drugs dedicated health education courses are not required to be taught in California public schools, nor is it required by the California Education Code for high school graduation. The intent of this project was to propose a guide for integrating the California Health Education Content Standards with the California Science Content Standards for grade seven. Tables are provided to show where the Health Standards fit with the Science Standards. When standards are compatible, a sample lesson is provided to illustrate how the two subject areas can be taught together. This project is limited in scope by the number of Health Standards that will integrate with the Science Standards in grade seven.

After carefully analyzing both the Science and Health Education Standards to see how they would fit together, and creating lesson plans for those standards that can be used together, it was concluded that the Health Standards, due to their being behaviorally skilled-based, do not fit well with the Science Standards, which are fact-based. For students to gain the skills required by the Health Standards would require more time taken away from teaching the required Science Standards than can be afforded. Because of the disparities between these two sets of standards, it is recommended that health be taught as a free-standing course. However, given today's budgetary constraints and the

emphasis on testing for mastery and progress in certain subjects (e.g., English-language arts, math and science) this may not be possible.

An alternate recommendation, and perhaps the better solution, is to eliminate the Science Standards that have nothing to do with the human body and replace them with the Health Education Standards. The reduction in the number of Science Standards would free up time that can then be devoted to the teaching of health, and the remaining Science Standards are those that would meld well with the Health Education Standards. In this way there should be sufficient time allotted to teaching the Health Standards, allowing students to practice the health skills enough to possibly become life-long habits. The Science Standards that would be eliminated are being taught at the high school level, so students won't be deprived of opportunities to study those science disciplines.

ACKNOWLEDGEMENTS

I would like to express my appreciation and gratitude to my Project Committee members Dr. Kim Clark, Professor of Health Science, for his dedication, time and encouragement, and to Dr. Robert LaChausse, Professor of Health Science, who challenged me academically and taught me the significance of scientific studies and evaluations in education.

To Dr. Ted Coleman, Health Science and Human Ecology Department, who believed in me and was willing to help me overcome obstacles that I thought were over whelming, thank you.

DEDICATION

I could not have completed this project without the support of Dan, loving husband, counselor, cheerleader, and editor. Thank you for your encouragement, emotional support, time alone to work, even cooking and cleaning so I could attend classes and work on this project. I'm blessed to have you in my life.

To my daughters Kristine and Kimberly, who gave me encouragement and support while I was taking classes, while they, too, were working on pursuing their own higher educations and creating families.

To my grandchildren: Alison, Amanda, Sean, Tony, Bryce, Travis, Lauryn, Aubrianna and Cole. I hope that they will grow up to love learning as I do.

To my mother, Phyllis, who led the way in following educational dreams by going to college after having three children.

In memory of my father, George Bennett, who worked hard to provide for me in my youth and to see that I went to college and pursue my dreams.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

Education does not mean teaching people to know what they do not know; it means teaching them to behave as they do not behave.

--John Ruskin, English critic (1819-1900).

In the United States our children are at risk for major health problems as they age. In UNICEF's 2007 Report Card, the U.S. was last out of 21 industrialized countries for overall child health and safety, and behaviors and risks (UNICEF, 2007). In their report card on inequality of child well-being, the Organisation for Economic Co-operation and Development (OECD) in the category of health well-being for children ranked the United States 22nd out of the 24 member countries (UNICEF Innocenti Research Centre, 2010).

Reviews of scientific studies by the Centers for Disease Control (CDC) provide evidence that school health programs can have positive influences on educational outcomes, health-risk behaviors and health outcomes in children (Centers for Disease Control, n.d.). School-based health interventions that are well-designed and well-delivered can help students prevent disease and injury. Health education is a critical component of an effective Coordinated School Health Program (Joint Committee on National Health Education Standards, 2007). Therefore, it is important to find better ways to provide quality school

health education in order to keep children and adolescents healthy (American Cancer Society [ACS], American Diabetes Association [ADA] & American Heart Association [AHA], n.d.).

Statement of the Problem

Despite the health risks associated with the lack of health education, this subject is often ignored in our public schools. Of the California secondary schools surveyed for *School Health Profiles 2010*, 72.8% required health education instruction in any of grades 6-12, which encompasses middle and high schools (Brener, Demissie, et al., 2011). This is a reduction from 74.5% reported for the 2008 survey (Brener, McManus, et al., 2009). Offering health education courses is a district-by-district and/or a school-by-school decision and can vary widely. For example, in the San Bernardino area, only 33.8% of secondary schools required health education, compared to 87.1% in the city of San Francisco (Brener, McManus, 2009). There is no statewide requirement for a health course for high school graduation in California (California Education Code, section 33308.5) (See Appendix D). The lack of health education in public schools may be attributable to budget constraints, but more likely to increasing pressures on academic performance, as required by the Elementary and Secondary Education Act (ESEA) of 2002, more commonly known as No Child Left Behind (NCLB), and measured by California State Testing (CSTs). This increased emphasis on academic performance has resulted in health education

courses being systematically eliminated from the curriculum of most school districts (Clark, personal communication, 2011). The pressure to raise test scores in reading, writing, and mathematics is also having a negative effect on physical education (Coe, Pivarnik, Womack, Reeves, & Malina, 2006), subject areas not being tested (National Education Association [NEA], 2011; von Zastrow & Janc, 2004, as cited in King & Zucker, 2005), and science programs curtailed or abbreviated (Posnick-Goodwin, 2011; Woo, 2002).

Purpose of the Project

The purpose of this project was to create a reference tool for seventh grade science teachers to facilitate the planning of science lessons that incorporate the Health Education Content Standards for California Public Schools (California State Board of Education, 2008, pp. 31-34). Seventh grade science focuses on life science, as stated in the Science Content Standards, with students learning such things as the systems of the body and reproduction (California State Board of Education, 1998). This seems to be a logical place for the integration of seventh grade Life Science and Health Education.

This project was chosen in order to:

1. Inform teachers of the Health Education Content Standards, adopted in 2008 by the California State Board of Education; and
2. Make more efficient use of teacher planning time by providing an easy-to-use tool to assist in the planning process for standards-based instruction

in both science and health, without sacrificing the required Science Standards.

Significance of the Project

At the present time no science-health integration guide exists because the Health Standards are too new, having only been recently published in 2008. Also, and ideally, health education should be taught by "properly trained persons", as expressed by the California State Legislature in the Comprehensive Health Education Act (Education Code 51880-81.5). However, with the emphasis on 1) raising standardized test scores in English-language arts and math, 2) coupled with cuts in state funding, and 3) a potential lack of appreciation by educators of the relationship between fitness and test scores few districts choose to hire teachers to teach health. Instead of hiring additional qualified professionals, many school districts are reducing staff and increasing class sizes (Inland Valley Daily Bulletin, 2010; Rodriguez, 2011; Steinberg, 2011). As indicated, a lack of knowledge on the part of school boards, district administrators, and site administrators about the strong role that health plays towards academic achievement may also be a contributing factor towards not offering dedicated health courses taught by trained professionals (LaChausse, 2012).

Numerous studies of teaching via integration of subjects provide ample evidence that students of all grade levels taught this way are interested and

perform as well, or better, than students in the traditional single subject setting (Alexander, Walsh, Jarman, & McClune , 2008; Ginorio, Fournier, & Frevert, 2004; Lee, 2007). Through the use of this planning tool, teachers will be provided the tools necessary for the integration of the Health Education Standards with the Science Content Standards-based curriculum, thus increasing the opportunities for students to develop the necessary skills required to obtain and maintain good health behaviors. In addition to improving the health of our children who will carry this information into adulthood, the integration of the Health Education Standards is also a step towards implementing a Coordinated School Health Program (CSHP) (Joint Committee on National Health Education Standards, 2007).

Limitations of the Project

The compatibility of the Health Education Standards and Science Content Standards determined the limitations of this project. For example, in order for a lesson to be effective, the two content areas must mesh together, forming meaningful connections. Incompatible standards that are forced together make ineffective lessons (Barth, 1995). Wherever the two types of standards can be integrated into a lesson, then the creativity of the teacher on designing the lesson will be the limitation.

Acronyms

ACS: American Cancer Society

ADA: American Diabetes Association

AHA: American Heart Association

BMI: Body Mass Index

CCSS: Common Core State Standards

CDC: Centers for Disease Control, Washington, D.C.; also referred to as the National Center for Chronic Disease Prevention and Health Promotion

CDE: California Department of Education

CSHP: Coordinated School Health Program

CSTs: California Standards Tests

Performance Levels for the CSTs:

- Advanced: This category represents a superior performance. Students demonstrate a comprehensive and complex understanding of the knowledge and skills measured by this assessment, at this grade, in this content area.
- Proficient: This category represents a solid performance. Students demonstrate a competent and adequate understanding of the knowledge and skills measured by this assessment, at this grade, in this content area.
- Basic: This category represents a limited performance. Students demonstrate a partial and rudimentary understanding of the

knowledge and skills measured by this assessment, at this grade, in this content area.

- Below/Far Below Basic: This category represents a serious lack of performance. Students demonstrate little or a flawed understanding of the knowledge and skills measured by this assessment, at this grade, in this content area.

--California Dept of Education, 2010,
Adequate Yearly Progress Report

EC: Education Code

ELA: English/Language Arts

EPA: Environmental Protection Agency, U.S. Government

ESEA: Elementary and Secondary Education Act (2002), also known as NCLB

OECD: Organisation for Economic Co-operation and Development; an international organization of countries with highly developed economies and democratic governments

NCLB: No Child Left Behind Act of 2001

STAR: Standards Testing and Reporting

UNICEF: United Nations Children's Fund, originally the United Nation's International Children's Emergency Fund

CHAPTER TWO

REVIEW OF THE LITERATURE

No knowledge is more crucial than knowledge about health. Without it, no other life goal can be successfully achieved.

--Ernest Boyer, President, The Carnegie Foundation for the Advancement of Teaching (1979-1995) (*National Health Education Standards 2nd ed.*, 2007)

Introduction

There is great concern for the health of children in the United States as evidenced by calls to action by various organizations, such as Action For Healthy Kids (www.ActionForHealthyKids.org, 2011) and First Lady Michelle Obama's Let's Move! Initiative (www.Let'sMove.gov, 2011). To address this concern the federal government has passed various laws and regulations, including the Patient Protection and Affordable Care Act (Public Law 111 – 148, HR 3590; Georgetown University Center for Children and Families, 2010) and the Environmental Protection Agency's (EPA) Children's Health Protection Regulations (Environmental Protection Agency, 2011). In addition, each state has laws and regulations concerning child health, safety, and well-being (www.Justia.com, 2011). Nongovernmental organizations, such as the American Cancer Society, American Diabetes Association, and The Carnegie Corporation of New York, among others, are also involved in research for the benefit of the health of children and adolescents.

Reasons for Concern

As a society, citizens have a stake in the health of children, since children grow into adults. They are the future of society. Anything that impairs their physical and emotional health, destroys their motivation and ability to succeed in school and jobs, and damages their personal relationships, can cause children to reach adulthood ill-equipped to participate responsibly in a democratic society (Carnegie Council on Adolescent Development, 1995).

Obesity is an example of a health problem affecting children. Having a body mass index (BMI) between the 85th and 95th percentile on the 2000 Centers for Disease Control and Prevention (CDC) sex-specific BMI-for-age growth charts is considered overweight for children. A BMI above the 95th percentile is defined as being obese (Babey, Wolstein, Diamant, Bloom, & Goldstein, 2011). According to Ogden, Carroll, Curtin, Lamb, and Flegal (2010), childhood obesity has more than tripled from 1980 to 2008. During this time period obesity among 6-11 year olds increased from 6.5% to 19.6%, and 12 to 19 year olds increased over 13%, from 5.0% to 18.1%. A study conducted by the UCLA Center for Health Policy Research and California Center for Public Health Advocacy found that 38% of fifth-, seventh-, and ninth-grade public school students in California were overweight or obese in 2010. In San Bernardino County the prevalence of overweight and obese children rose by 2.1% from 2005 to 2010, while Los Angeles and Riverside Counties saw decreases of 2.5% and 2.4%, respectively, during the same time period (Babey et al., 2011). Obesity

causes related health problems such as heart disease, type 2 diabetes, low self-esteem and suicide issues (Ogden et al., 2010). A group of retired generals and admirals feel that obesity may also have a future effect on national security. According to the Department of Defense, one in four young adults exceeds the standards for weight to enlist in the military (Monroe, 2011).

Recognition is given to the significance of health education in improving the health behaviors and academic performance of young people, as evidenced by the encouragement of schools to develop Coordinated School Health Programs (CSHP) by such organizations as the American Cancer Society (n.d.), the American Diabetes Association (n.d.), the American Heart Association (n.d.), the World Health Organization (WHO) (2003), and the National Centers for Chronic Disease Control and Prevention (CDC) (2009). Yet, with all the evidence-based research, far too many schools are not teaching health courses. Data from *School Health Profiles: Characteristics of Health Programs Among Secondary Schools 2010* shows that the percentage of secondary schools in each state that required health education courses, not just some instruction, in any of grades six through twelve ranged between 39.2% and 98.7%. The median for the 47 states represented in the survey was 89.6%. California is below the median where 67% of its secondary schools required at least one health education course. Six states had a smaller percentage than California requiring health education (Brenner et al., 2011). California mandates specified health topics be taught in grades six to eight but does not require a free-standing

health education course. Some local school districts, however, do require students pass a health course for high school graduation (CA Dept of Education, 2010).

Healthy People and Health Education

Healthy People 2020, published by the U.S. Department of Health and Human Services (2010), established health objectives for a healthier U.S. population to be reached by the year 2020. It is the most recent in a series of objectives dating to 1979 and updated each decade since. These reports, based on scientific knowledge and designed to measure program accomplishments over time, have served as the basis for the development of state and community plans for programs and activities to promote healthier lifestyles and disease prevention (U.S. Dept. of Health & Human Services, 2010). An example of programs developed in California is *Healthy RC Challenge* in the city of Rancho Cucamonga, in San Bernardino County, where residents are encouraged to grow their own produce, participate in free outdoor activities and keep track of their physical activities on-line. The city has even updated its General Plan to ensure land use policies and community design are such to facilitate healthy eating and active living initiatives among children and families in Rancho Cucamonga (City of Rancho Cucamonga, CA, 2011). Other cities and communities across the U.S. are doing similar activities (Let'sMove.gov, 2011).

Some of the objectives in *Healthy People 2020* involve health education in schools. A review of the data for the Midcourse Review of *Healthy People 2010*

(Park, Brindis, Chang, & Irwin, 2008; U.S. Dept. of Health & Human Services, 2007) indicates that in the area of school health education at the middle school level, progress has been made towards meeting the target goals of some of the objectives, such as unintentional injuries, violence, and suicide. However, during this same time period, other objective targets, such as the reduction in alcohol and other drug use, unintended pregnancy, HIV/AIDS and STD infection, and inadequate physical activity have actually regressed, resulting in an increase of these factors. Unhealthy dietary patterns and environmental health rates remained the same. Similar observations were made by Kann, Brener, and Wechsler (2007).

Coordinated School Health Programs

The concepts associated with good health behaviors can be taught in the classroom, but more is required in order for students to adopt behaviors for a healthy and safe life. A Coordinated School Health Program (CSHP) is a school-based approach for providing an environment that supports students to improve their health and increase their academic achievement (CDC, 2009; Lohrmann & Wooley in Marx & Wooley, 1998, chapter 3). Except for the family, schools are the primary institution responsible for the development of young people. With schools having contact with approximately 95% of children ages 6-17 years during a critical period of their social, psychological, physical, and intellectual development, it is logical that they should play a major role in health (Murray, Low, Hollis, Cross, & Davis, 2007; CDC, 2009).

The CSHP model consists of eight interrelated components:

- Health Education
- Physical Education
- Health Services
- Nutrition services
- Counseling, Psychological, and Social Services
- Healthy School Environment
- Health Promotion for Staff
- Family/Community Involvement

Each component plays a role in enhancing the goal of health education: students adopting and maintaining healthy behaviors (Joint Committee on National Health Education Standards, 2007).

Barriers to Implementation of Coordinated School Health Programs

Rosas, Case, and Tholstrup (2009) looked at the relationship between implementation quality of the CSHP model and school-level academic indicators over time. In their research they found that there are several barriers to schools implementing quality health education. Some of these barriers are:

- Scarcity of resources and the high level of accountability for raising test scores, as dictated by No Child Left Behind (NCLB).

- Staff turnover, limited and inflexible resources, competing time commitments, and academic pressures are barriers to implementation and maintenance of fidelity to CSHP.
- These barriers are usually viewed as the reasons to not implement CSHP and specifically health education more because the efforts will take away valuable resources for meeting the academic goals set by the state and NCLB.

The above barriers exist despite evidence that implementation of CSHP shows a connection between better student health and improvement in academic goals (Fahlman, Dake, McCaughtry, & Martin, 2008; Vail, 2006; Wiley & Howard-Barr, 2005).

The present economic downturn, especially in California, coupled with the effort to raise standardized test scores due to NCLB, is forcing school districts to take a more discerning look at the ability to fund and/or find time for health education and physical education classes. Even though studies show a positive correlation between physical activity and academic success (Symons & Cinelli, 1997) many schools are reducing the courses that are not being tested in favor of more classroom time for English/Language Arts and Mathematics classes in the hope of raising test scores (Action for Healthy Kids, 2008; Coe et al., 2006; National Association for Sport and Physical Education, 2010; Satcher, 2005).

Middle school students are at an age when health education can have an impact on their lives because many of these students have not yet started to

participate in risky behaviors, such as tobacco, drug and alcohol use, and sexual intercourse (Kolbe, 2005; Lederman & Mian, 2003; Paek, 2008; Wolff & Schoeberlein, 1999). Bridging Student Health Risks and Academic Achievement through Comprehensive School Health Programs (Symons & Cinelli, 1997) is a summary of literature concerning the link between health risk behavior and educational outcomes, educational behaviors, and student attitudes about education. The authors found that education and health are interdependent systems. They drew this conclusion based upon their review of evidence from the American Cancer Society, the National Action Plan for Comprehensive School Health Education (CDC, 1996), and over 40 national health, education, and social services organizations. They concluded that health education, based upon scientific research as part of a Comprehensive School Health Plan, can be effective in the reduction of risky behaviors.

Kolbe (2005) suggests that school health programs could become one of the most efficient means available to improve both the health of children and their educational achievement. The patterns of unhealthy behavior that result in problems such as motor vehicle accidents, unintentional injuries, violence, suicide, unintended pregnancies, as well as sexually transmitted diseases (STD) and HIV/AIDS, become established during the school age years. These are the major causes of death, disability, injury, and illness in young people. Other behaviors such as poor nutritional habits, lack of physical activity, and smoking, can lead to health problems in adulthood such as obesity, heart disease, stroke,

cancer, lung diseases, and diabetes (CDC: Healthy Youth, 2008; Kolbe, 2005). These same ailments are now being observed in younger children (CDC, 2005; Food Research and Action Center, 2006; Ogden et al., 2006; Ohio Chapter of the American Academy of Pediatrics, 2005; Swallen, Reither, Haas, & Meier, 2005; Talpade, 2004 & 2006). These conditions are taxing the health care system, health insurance, and underlying economic systems. Health education at the middle school makes sense to prevent future problems and reduce health care costs. (Kaiser Family Foundation, 2004; Kolbe, 2005; Veugelers & Fitzgerald, 2005).

The Relationship Between Health and Academic Performance

Evidence-based research indicates there are positive links between health and academic performance (Murray et al., 2007; Rosas, et al., 2009; Wiley and Howard-Barr, 2005). The previously mentioned risk behaviors are related to each other. If a student misses school due to health reasons, then the student is also missing out on the instruction and practice needed to acquire needed skills. Data from the 2009 National Youth Risk Behavior Survey (YRBS)(CDC, 2010) shows that students with lower grades are more likely to engage in health-risk behaviors as opposed to their classmates with higher grades, who are less likely to engage in health-risk behaviors. An analysis of data from the *California Healthy Kids Survey* (CHKS) also indicates that there is a significant relationship between the Academic Performance Index (API) scores, which are determined

by the annual state standardized tests, and three-quarters of the health related indicators examined across secondary schools (Hanson & Austin, 2002) The California Department of Education published a study demonstrating the relationship between physical fitness and academic achievement. Using results of the 2004 Physical Fitness Test and the Spring 2004 CST scores for English-language arts and mathematics, the results show a relationship between fitness and academic achievement in grades five, seven and ninth (California Dept. of Education, 2005).

Since children and adolescents spend the majority of their waking hours in school and school-related activities, school is the most logical place to train young adolescents in the knowledge and skills necessary to reduce the tendency towards risk behaviors (Boon & Clydsdale, 2005; Caine, G. & Caine, R., 2001; Davis, Davis, Northington, Moll, & Lolar, 2002; World Health Organization, 1999). Murray et al. (2007) concluded from their study on Coordinated School Health Programs (CSHP) and Academic Achievement that even though there is a lack of scientifically rigorous studies on the impact of CSHP on academic achievement overall, there is promise for improving the academic achievement for children that are involved in health interventions that include health education.

California's Academic Performance

Based upon the 2010 Standards Testing and Reporting (STAR), 45% of sixth and seventh grade students tested state-wide on the California Standards Test (CST) for English-Language Arts scored in the range of Basic, Below Basic,

or Far Below Basic. For eighth graders, 46% fell into these ranges. For the CSTs in mathematics, 48% of the sixth graders, 51% of the seventh graders, and 69% of the eighth graders in General Mathematics tested scored in the Basic or Below and Far Below Basic categories. On the CST Algebra I scores, 53% of eighth graders and 78% of ninth graders tested had scores in these three low categories. These scores are inadequate for achieving success in today's economy, which requires higher levels of skills and represent risks for future health problems (California Dept. of Education, 2010; Chen, Martin, & Matthews, 2006). (See Appendix E for complete 2010 STAR Test Results).

Schools today are facing high-stakes testing requirements due to NCLB, which focuses on English/Language Arts (E/LA) and Mathematics. Schools that don't reach their assigned target score face sanctions, including having the state take over the school if sufficient improvement is not made (CA Dept of Education, 2010; NCLB, 2001). The pressure of sanctions has forced many school administrators to enroll some students into extra E/LA and/or Math courses. In some cases they are pulling students out of science, social science, and physical education classes (Action For Healthy Kids, 2008; Coe et al., 2006; National Association for Sport and Physical Education, 2010; Satcher, 2005).

Recognizing Health Education at the State Level

Jack O'Connell, former California State Superintendent of Public Instruction, in his 2005 State of Education Address recognized that healthy children are more ready to learn. Based upon recommendations from *The Superintendent's Task*

Force on Childhood Obesity, type 2 Diabetes, and Cardiovascular Disease, he presented four goals as part of plans to ensure that students are healthy and ready to learn. Those goals are:

1. Support high-quality instructional programs in health education and physical education that provide students with the skills, knowledge, and confidence to develop and maintain active, healthy lifestyles.
2. Implement nutrition standards for all food and beverages sold on campus.
3. Increase participation in school meal programs so that no child goes hungry.
4. Create a school environment that supports the health of students.(California Department of Education, 2005).

These goals align with some of the components of a CSHP. California Senate Bill 12 (2005) has fulfilled the second goal concerning nutrition standards for food and beverages sold on campus (CA Dept of Education, 2005). In that same year, state lawmakers voted for the addition of Section 51210.8 to the *California Education Code* (Assembly Bill 689, 2005) requiring the State Board of Education to adopt content standards for health education. *The Health Education Content Standards for California Public Schools Kindergarten Through Grade Twelve* were adopted in early 2008. However, they are not mandatory at the local level (*Education Code* Section 33308.5; State Board of Education, 2008). Prior to the publication of these new *Standards*, there was the *Health*

Framework, which provided guidelines and suggestions for teaching health. It was last published in 2002 and was scheduled to be updated in 2011. However, due to California's current and ongoing economic & budgetary crisis, that revision has been suspended until the 2013-14 school year (Assembly Bill X4.2, 2009).

The California Department of Education spells out the required and recommended actions regarding courses of study and the instructional time needed to deliver them to elementary and secondary students. According to the document *Middle Grades Courses of Study and Instructional Time* (California Dept. of Education, 2007) all students in grades 4-8 are to receive 54,000 minutes of instruction annually (not including lunch breaks and passing periods over 5 minutes long). With the exception of physical education, the California Education Code (EC) mandates the courses of study to be offered, but with no associated time allocations. For physical education, sixth graders are to receive 200 minutes for every ten school days, while seventh and eighth graders are required "not less than 400 minutes each 10 school days. . ." (EC 51222(a). The four academic core courses (English/Language Arts, Mathematics, Social Science and Science) are required by the Ed Code, and have specific requirements and recommendations for the amount of instructional time per day for each course, stating that they "shall include instruction. . ." (EC 51210 (a)) or "shall offer courses. . ." (EC 51220 (a). However for health education, EC 51202 states that the District/School Board "shall provide instruction at the appropriate elementary and secondary grade levels and subject areas in personal and public

safety and accident prevention. . .(see EC for list of topics)." But in the "EC Required Time Allocation" and "Recommended Time" columns, "None" is indicated for health instruction. Parenting Skills are also to be taught in grades 7 or 8 and "shall include the equivalent to a one-semester course in parenting skills and education." Once again, there is no required time allocation (California Department of Education, 2007). (See Appendix F).

Health Education at the District and School Site Levels

In California, 72.8% of California secondary schools required health education in any grades 6-12 in 2010. This included full courses of study and/or just health education instruction as part of another course. Of these schools, only 45.2% of them required students to repeat the course if they failed it, as reported in School Health Profiles 2010 (Brenner et al, 2011). The study does not say if these are the high schools that require a health education course as part of the local district's graduation requirements. As stated previously, California does not have a state requirement of a health education course for high school graduation (CDE Graduation Requirements, 2011). (See Appendix D).

Pursuant to the Sexual Health and HIV/AIDS Prevention Education Act, CA ED Codes 51930-51939 and 49330 (See Appendix G) California mandates that all secondary schools teach specified health topics, such as HIV/AIDS prevention, which is mandated to be taught at least once at the middle school level and at least once in high school (CA

EC Section 51934). However, as documented in the School Health Policies and Programs Study (SHPPS) of 2006, these are not necessarily taught as part of regular health classes (Kann et al., 2007). In addition, these health topics do not have to be taught by certified health education teachers. The 2010 Schools Health Profiles, a survey tool used to measure school health policies and practices biennially, shows that 61.8% of secondary schools in California had all the staff who teach health education certified, licensed, or endorsed by the state in health education. Compare this to the median of 85.7% of all the 47 participating states surveyed (Brenner et al., 2011). A state-by-state summary of the results of SHPPS 2006 shows that California requires that all newly-hired health education teachers be certified, licensed, or endorsed by the state at the elementary school level only, not at the middle and high school levels (Kann, Telljohann, & Wooley, 2007).

Teaching Health

If schools are to succeed in reaching the targets set forth by *Healthy People 2010* and *2020,* they need to be more efficient in how health education is taught (Rosas et al., 2009). Kirby (2001), in a study of the effectiveness of STD/HIV prevention curriculums, found that health instruction requires a minimum of 15 hours, or 15 sessions, for it to have a more lasting effect on students and the longer the curriculum, the better the outcome. Fahlman et al. (2008) report that the School Health

Education Evaluation Study (Connell, Turner, & Mason, 1985) found that program-specific effects occur after 10 hours of classroom learning, but it generally takes an average of 50 hours to change behaviors.

Curriculum Integration

A characteristic of middle schools is that the curriculum is often departmentalized. The four core subject areas of English/Language Arts, Math, Science, and Social Sciences (history and geography) are divided into separate courses, often in different classrooms with a different teacher for each subject. Caine and Caine (1991, 2001) believe that this is not the best way to teach any age group, based upon their research of how the brain works in relationship to education. People learn best when they can experience the ideas and concepts in context, where they can see how things relate to one another. Vars (1991) noted in an article focusing on the concepts of core curriculum and designs for integrative programs that educators were "seeking ways to help students make sense out of the multitude of life's experiences and the bits and pieces of knowledge being taught in the typical splintered, over-departmentalized school curriculum" (p. 14). Hubball and Burt (2004) have a similar viewpoint, finding that university students performed better when the program the students were enrolled in made the learning more practical,

tying in various subjects and topics that were of value to the students to prepare them for jobs.

While there is a paucity of research in the literature dealing specifically with the integration of health education into science class, there are studies concerning integrated curriculum in general, and the integration of various other subjects with each other. Vars (1991) presents some design examples for an integrative curriculum. The simplest approach is correlation, where teachers of different subjects work together on different aspects of one topic at the same time. The next level is fusion, where the content of two or more subjects is combined into a new course, with a new name. For example, studying the environment could be combined with a course in health and called Health and the Environment.

Going beyond these two levels is structured core, where the curriculum is focused around the students and the society in which they live. At this level, the wants and needs of particular groups of students are identified, and then the skills and subject matter that is required to help the students deal with those matters are determined.

Fogarty (1991) presents ten ways to integrate curriculum within and across disciplines. There are two that are probably the most useful for the middle school level. The Connected Model is used within a discipline as a focused effort to relate ideas with the discipline. The Nested Model

targets multiple dimensions of a lesson, taking advantage of natural combinations. This model, or a derivation of it, may be a good one to use for health education and science.

Advantages of Curriculum Integration

There are several advantages to using an integrative curriculum design. In reporting on three studies, each using a different subject area, that were conducted to determine the effectiveness of integrated curricula on learning, Lewis and Shaha (2003) concluded that the learning and attitudinal results were superior when compared to traditional curricula and instructional approaches. Students who participated in the integrated approach produced mean scores that were either equal to or significantly higher to those students that received the traditional methods of instruction.

In the book *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School*, Medina (2008) explores the way the brain works and how people learn. Rules 3-7 inform us that we don't pay attention to boring things, we need things repeated to remember them, and that we need to remember to repeat things. Integrated learning takes these rules into account, as lessons that involve inter-connected ideas are less boring, the information will be repeated more than once, and students will need to remember things in order to repeat certain processes.

Evidence is ample that students at all grade levels are more interested and perform as well, or better, than students in the traditional method of teaching, as shown in studies by Ginorio et al. (2004) on integrative curriculum and gifted students, and by Lee (2007) with a unit combining math, science, and other subjects for a study of the American Revolution. Other researchers who have come to similar conclusions are Alexander et al. (2008), Barth (1995), Hsu (2006), Lichtenstein, Marshall, Pruski, Blalock, Lee et al. (1999), and Zhanbao, (2004).

There are other advantages to integrating courses. In surveying middle school students about their perceptions of interdisciplinary learning, Boyer and Bishop (2004) indicate that many students report positive personal growth, felt like they were trusted members of a community, and viewed themselves as self-disciplined and self-directed learners. Teachers benefit, as well. Warren and Payne (1997) found that an integrated teaming experience increases teacher efficacy and beliefs about the teaching environment (as cited in Haney, Wang, Keil, & Zoffel, 2007). Teaching about sensitive and controversial topics, such as AIDS, in highly conservative schools can be made easier when parents see that the topics are being taught in context with related issues (Ferrand & Wattenbarger, 1998).

Disadvantages of Curriculum Integration

Disadvantages to integrative teaching do exist. Lessons require time to plan and prepare, which brings us back to the old question of time. The best integrative curricula are in schools where the administration provides common planning time so that teachers may more easily work together. Providing for resources and staff development also contributes to a better program. The teachers and other staff members involved in the curriculum must make the commitment to work together, each performing their share of the planning and deliverance of the lessons. On-going evaluation needs to occur so that changes can take place to improve the program and its delivery for best student achievement (Haney et al., 2007; Lee, 2007; Vars & Rakow, 1993).

Summary

Childhood obesity has more than tripled from 1980 to 2008. The prevalence of obesity among 6-11 year olds increased from 6.5% to 19.6%, while obesity among 12 to 19 year olds increased from 5.0% to 18.1%. As previously noted, obesity causes related health problems, such as heart disease, type 2 diabetes, low self-esteem and suicide issues (Ogden et al., 2010). Recognition is given to the significance of health education in improving the health behaviors and academic performance of young people, as evidenced by the amount of information available from the CDC, the U.S. Surgeon General's Office, *Health is Academic* (Marx and Wooley, 1998), Hansen and Austin (2002), Murray et. al.

(2007), Symons and Cinelli (1997), among others. However, in spite of mandating that specified health topics be taught in grades six to eight, the California State Department of Education does not require a free-standing health education course. Neither is a health education course required for high school graduation, although there are some local school districts that do require that students pass a health course prior to graduation (CA Dept of Education, 2010).

Schools today are facing high-stakes testing requirements due to NCLB, which focuses on English/Language Arts (E/LA) and Mathematics. Schools that don't reach their assigned target score face sanctions, including having the state take over the school if sufficient improvement is not made (CA Dept of Education, 2010NCLB, 2001). The pressure of sanctions has forced many school administrators to enroll some students into extra E/LA and/or math courses, in some cases pulling them out of science, social science, and physical education classes. Some schools have even reduced or eliminated physical education to give students more time in E/LA and math courses. (Coe et al., 2006; National Association for Sport and Physical Education, 2010; Satcher, 2005).

Integrating health education lessons into regular science lessons is one way to increase the amount of health taught. The integration of curriculum is not new and studies have shown that it has been successful in raising student academics and motivation (Ginorio et al., 2004; Vars et al., 1993). It is not without its drawbacks, for it does take more time, planning, and buy-in by the teachers and staff involved (Haney et al., 2007; Lee, 2007; Vars et al., 1993).

Combining two or more subject areas also requires that the content standards for each subject be compatible for effective lessons (Fogarty, 1991).

To keep the body in good health is a duty, for otherwise we shall not be able to trim the lamp of wisdom, and keep our mind strong and clear.

--Hindu Prince Gautama Siddharta,
Founder of Buddhism, 563-483 B.C.

CHAPTER THREE

METHOD

Introduction

The purpose of this project was to produce a simple-to-use tool to aid seventh grade science teachers in designing meaningful, standards-based science lesson(s) that integrate the California Health Education Content Standards. This would also allow for greater depth and breadth of the curriculum. Example lessons were provided to illustrate how the two subject content standards can be combined.

Method

Tables were created listing each of the California Science Content Standards for grade seven. There are a total of 45 standards for the seventh grade divided into seven sets, based upon different science disciplines. Each set consists of five to ten standards. Each table consists of five columns (See Figure 1 for an example):

1. The designation of the standard; for example: 7.1.a. The "7" represents the grade level, "1" is the set number, and "a" is the standard.
2. The statement of the standard.
3. The California Health Education Standard that is compatible with a particular science standard.

4. The statement of the health standard.
5. An example of an integrated lesson, as appropriate.

The tables are in Appendix A. Examples of integrated lessons are provided in Appendix B.

Even though science education and health education are closely related, some health education standards do not fit with the particular science standards for each grade level. In order to maintain quality and functionality, if a health standard did not work with a specific or appropriate science standard, it was not used.

The Health Education Content Standards are not specific for grade seven. Instead, they are written for grades seven and eight. To further assist teachers in planning, tables were created for each set, or category, of the Health Education Content Standards for grades seven and eight. The Health Education Standards are organized into eight overarching content standards, which are part of each of six content areas. Each overarching standard is further divided into as many as 16 skills/behaviors, for a total of 204. (See Appendix C) It is recommended that students in grades seven and eight achieve all of the Health Content Standards (*Health Education Content Standards for California Public Schools*, 2009, p. ix). Several of the California Health Education Standards are required per Education Code (EC). Those standards are in the content area of *Growth, Development and Sexual Health* and are identified with an asterisk (*). The text of the pertinent education codes are in Appendix G.

There are some science lessons that are considered essential to teaching science but are not directly related to a Science Standard. It is possible that a Health Education Standard would work as part of those lessons. If so, they were identified and included with the other suggested activities. An example of such a situation is Health Standard 4.3: Describe ways to manage interpersonal conflicts nonviolently. Although there are no specific science standards for this health standard, a teacher should include them as part of classroom/lab management and safety, as well as school procedures and policies.

Grade 7 Focus on Life Science Standard Set 1: Cell Biology

All living organisms are composed of cells, from just one to many trillions, whose details usually are visible only through a microscope.

Science Standard	Statement As a basis for understanding this concept, students know:	CA Health Education Standard	Statement	Suggested Activity (Appendix C)
7.1.a	cells function similarly in all living organisms.			
7.1.b	the characteristics that distinguish plant cells from animal cells, including chloroplasts and cell walls.			
7.1.c	the nucleus is the repository for genetic information in plant and animal cells.			
7.1.d	that mitochondria liberate energy for the work that cells do and that chloroplasts capture sunlight energy for photosynthesis.	1.11.N 6.3.P	Analyze the cognitive and physical benefits of eating breakfast daily. Create a plan to incorporate adequate rest and sleep into daily routines.	Why do living organisms need to eat and sleep?
7.1.e	cells divide to increase their numbers through a process of mitosis, which results in two daughter cells with identical sets of chromosomes.			

Note: Adapted from California State Board of Education, 1998, *Science Content Standards for California Public Schools*, pp. 24-27; and California State Board of Education, 2008, *Health Education Content Standards for California Public Schools,* pp. 33--44.

Figure 1. Example of science content standards integration table

Activity 1

Why do living organisms need to eat and sleep?

Prior Knowledge: Students have already completed lessons on the structures of plant and animal cells and the functions of the main structures.

Objectives: The student will be able to:

1. Know that mitochondria releases energy for the work that cells do and that chloroplasts capture sunlight energy for photosynthesis. (CA Science Standard 7.1.d)
2. Analyze the benefits for the brain and body of eating breakfast daily. (CA Health Ed Standard 1.11.N)
3. Create a plan that includes adequate rest and sleep into their daily routine. (CA Health Ed Standard 6.3.P)

Language Objectives: The student will:

1. Create a graphic organizer that compares and contrasts a cell, or unicellular organism, with their own body.
2. Discuss with a partner the benefits of eating healthy meals, especially breakfast.
3. In small groups, list the benefits of eating healthy meals, especially breakfast and the things that keeps them from eating breakfast and other meals.
4. discuss with a parent, or other adult, their daily routine and how to ensure that time for adequate rest and sleeping are included.

Vocabulary to be front-loaded or reviewed:

1. mitochondria
2. chloroplasts
3. energy
4. photosynthesis
5. benefits

I. Brain Storm

A. Have students list as many things as possible on paper what they need energy for.

B. As a class, have students share out what they have listed. Accept all answers and record for the whole class.

C. As a class, have students identify which items in the list have to do with living organisms, and which have to do with other things, such as electricity for lights.

Figure 2. Example of an integrated lesson.

Note: Author created.

D. In partners, or small groups, have students discuss where the energy for living things comes from.
E. Check for understanding (CFU) Students from each group report on what was discussed. Correct information, as needed.

II. Guided Practice
A. As a class, begin a Venn diagram, or some other type of graphic organizer, to compare and contrast cells and humans.
B. Students to finish in small group or on their own.
C. CFU by walking around and checking on the work.

III. Independent Practice
A. Students are to have a discussion with a parent, or other adult, concerning their daily routines. Together, fill in a schedule showing what they do at particular times of the day for each day of the week. Highlight in green when they eat, yellow when they rest (not sleep), and pink when they sleep.
B. Answer the questions included with the schedule.
C. Parent to sign the schedule.

IV. Discussion of Independent Practice as CFU.

V. Assessment
A. Students write a paragraph on the importance of eating breakfast and the effect on the brain and body.
B. Write a paragraph on why it is important for young adolescents to get enough rest and sleep.

Figure 2. Example of an integrated lesson, p. 2

Note: Author created.

CHAPTER FOUR

RESULTS

As discussed in Chapter One, the purpose of this project was to integrate the California State Health Education Standards with the California State Science Standards for grade seven. The objective of the project was to increase the amount of health education being taught at the middle school level while at the same time not impinging upon or detracting from the time devoted to science instruction. The current State Health Education Standards are not specific to grade seven but apply to both grades seven and eight. Where applicable, sample lessons were developed to illustrate how the two sets of standards could be combined. The grade seven Science Standards were chosen because the curriculum focuses mostly on life science.

The California State Education Code requires that drug education (EC 51260), and Sexual Health and HIV/AIDS Prevention Education (EC 51930 - 51933) are to be taught, commencing in seventh grade, through high school. These topics are required to be taught at least once in the middle school grades. Seventh grade is when they are most often taught since the state approved science textbooks, such as *California Life Science* (Holt, 2008) and *California Focus on Life Science* (Prentice Hall, 2008), contain some lessons for these topics.

The California State Science Standards for grade seven consist of seven content areas. Each content area contains a set of five to ten standards totaling forty-five standards in all. Each set focuses on a particular area of science. The seven content areas are:

1. Cell Biology
2. Genetics
3. Evolution
4. Earth and Life History
5. Structure and Function in Living Systems
6. Physical Principles in Living Systems
7. Investigation and Experimentation

(California State Board of Education, 1998, Science Content Standards, pp. 24-27)

The California State Health Education Standards are made up of six content areas. Each area is identified with a letter in the numbering system for the standards. The content areas, along with their identification letter, are:

1. Nutrition and Physical Activity; N
2. Growth and Development, and Sexual Health; G
3. Injury Prevention and Safety; S
4. Alcohol, Tobacco, and Other Drugs; A
5. Mental, Emotional, and Social Health; M
6. Personal and Community Health; P

Within each Health Education content areas there are eight overarching content standards. Each overarching content standard is assigned a number. They are listed in order:

1. Essential Health Concepts
2. Analyzing Health Influences
3. Accessing Valid Health Information
4. Interpersonal Communication
5. Decision Making
6. Goal Setting
7. Practicing Health-Enhancing Behaviors
8. Health Promotion

Each one of the above overarching content standards is, in turn, broken down into skills that the students are to practice and exhibit. There are a total of two hundred seven skills within the Health Education Standards to be taught for grades seven and eight combined. The standards are identified by the over-arching number, the order number of the skill, and the content area letter. For example, skill number one for *Nutrition and Physical Activity*, *Essential Concepts,* is designated 1.1.N.

The Sexual Health components are only taught in grades five, seven and eight, and at the high school level. Grades seven and above are assigned all of the content areas (*Health Education Content Standards for California Public Schools*, 2009, pp. vii-ix).

In the process of performing this project, example lesson plans were developed that integrate the Health Education Standards into lessons related to the Science Standards. Table 1 is a summary of the Science Standards and the Health Educations Standards that can be most logically combined. There are a total of ten science standards from six of the seven content areas that can be used with twenty-five of the health standards, being drawn from five of the six content areas and five of the eight over-arching content standards. It may seem that there should be a greater number of compatible Health Education Standards that would meld well into the Science Standards since there are over two hundred Health Education Standards. However, the standards had to meet the criteria of fitting in with the science standards and not taking time away from the teaching of the science standard in order to be taught in tandem with the science curriculum.

The health standards contained in *Growth, Development, and Sexual Health* can fit into science standard 7.5.d, which covers human reproduction, but goes beyond what the science standard calls for. The *Growth, Development, and Sexual Health* standards are covered more fully in the Family Life Unit, which is often taught in grade seven science but not officially part of the science standards. An example curriculum used by many school districts in the San Bernardino County area is the *Positive Prevention HIV/STD* Curriculum by Clark and Ridley (2012) which is written for compliance with California Education

Codes 51930-51939 and the Health Education Standards (www.positiveprevention.com).

The *Positive Prevention Curriculum* also covers the *Alcohol, Tobacco, and Other Drugs* health education content area. This content area is not included in the science standards but is required to be taught by Education Code 51260 in conjunction with courses given on health. It is included with the *Growth, Development, and Sexual Health* lessons of the Health Standards as there is a strong relationship between the use of alcohol and drug use and sexual encounters (Clark & Ridley, 2012). The use of alcohol, tobacco, and other drugs is not part of the science standards. Some believe that the real role of health education is develop knowledge, attitude and skills, or, in other words, to cause behavior change and prevention of risky behaviors and poor health (R. LaChausse, personal communication, October, 2012).

Table 1. Summary of Results of the Combining of Science and Health Standards

Science Standard	Health Standard(s)	Lesson
Cell Biology 7.1.d	Nutrition & Physical Activity 1.11.N Personal & Community Health 1.1.P 6.3.P	Why do living things need to eat and sleep?
Genetics 7.2.d	Growth, Development, & Sexual Health 1.8.G 4.4.G Mental, Emotional, & Social Health 1.5.M 7.2.M	Class discussion on how genetics determines our differences.
Earth & Life History 7.4.b	Injury Prevention & Safety 1.10.S 4.7.S	Natural Disaster Plan for Home
Structure and Function in Living Systems 7.5.b and 7.5.c	Nutrition & Physical Activity 1.1.N 1.2.N 3.1.N 3.5.N 5.2.N 6.1.N 6.2.N 7.3.N 7.4.N	Keeping Body Systems Healthy

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education; California State Board of Education (2008). *Health education content standards for California public schools (*pp. 33-44). Sacramento: California Department of Education.

Table 1. Summary of Results of the Combining of Science and Health Standards continued

Science Standard	Health Standard(s)	Lesson
7.5.d	1.1.G 1.2.G 1.4.G	These standards are already in agreement with the science standard and are covered as part of the regular science curriculum
7.5.g	1.15.S	This standard can be used as the basis of class discussion concerning injury prevention to the eyes and ears. No separate lesson needed.
7.6.a	1.11.S	This standard can be used as a point of discussion for the electromagnetic band that causes sunburns. No separate lesson needed.
7.7.a	7.3.S	This standard would apply anytime students are using technology. It would be part of the regular lesson in safe use of the technology.
7.7.b	7.3.S	This standard would apply anytime students are using the internet. It would be part of the regular lesson in safe use of the internet.

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education; California State Board of Education (2008). *Health education content standards for California public schools* (pp. 33-44). Sacramento: California Department of Education.

In looking at the Science Standards and their compatibility with the Health Education Standards, there are some Science Standards that are somewhat compatible with the Health Education Standards, but only in a far-reaching way. For example, Science Standard 7.1.d ("students know that mitochondria liberate energy for the work that cells do ....") could be used with Nutrition and Physical Activity Standard 1.6.N ("analyze the caloric and nutritional value of foods and

beverages" and 1.11.N ("analyze the cognitive and physical benefits of eating breakfast daily") to know why organisms need to eat. To go beyond that during regular class time would not be considered teaching to the Science Standards, which is required of all science teachers. Standard 1.6.N was not used in the sample lesson *Why do Living Things Need to Eat and Sleep* because that would have required a class period to teach how to read nutrition labels. The remaining health standards contained within the Nutrition and Physical Activity content area do not apply to this Science Standard and would take away science time to teach.

Some of the Science Standards could not be used at all in conjunction with the Health Education Standards. For Example, Science Standard set 2 focusing on genetics is not compatible with any of the Health Standards because of the focus at the cellular level. To try to have any of the Health Education Standards fit in with them would have been forcing a fit between the two courses, making the lessons irrelevant to each other. Science Standard set 3, Evolution, had no matches at all with a Health Standard, and set 4, Earth and Life History, had one match: 7.4.b, dealing with major catastrophic events. This one standard did have the ability to create a lesson on disaster preparedness. The lesson is a do-at-home project because it strays from the Science Standard and would take up valuable class time.

Science Standard set 5, Structure and Function in Living Systems, is the set that showed the most compatibility to the Health Education Standards.

Standard 7.5.a, which deals with the levels of organization in plants and animals, and 7.5.f, knowing the structures and processes for flowering plants to reproduce, do not have any meaningful relationship to any of the Health Standards. However, the remaining five standards can be used.

Science Standards set 7 is a more general set of standards that deals with investigation and experimentation. The purpose of this set of standards is to develop the skills necessary for research and scientific inquiry. They are not specific to a particular topic, but designed more for incorporating various types of equipment, technology and other tools necessary for carrying out experiments and communicating results to others as part of the scientific inquiry process. Health Education Standard 7.3.S (practice the safe use of technology) fits well with Science Standards 7.7.a and b. These two standards deal with the use of technology and the internet while performing experiments and doing research on the internet.

There are nine Health Standards that can be brought into discussions in the science class but do not fit with specific Science Standards. They are part of content area Injury Prevention and Safety, Essential Concepts. These standards are concerned with preventing violence, weapon possession, bullying, sexual harassment, safety guidelines for emergencies, and safety hazards associated with Internet usage. These topics are discussed in school at the very beginning of the year when teachers go over their classroom policies and school rules.

However, they are just briefly mentioned and the students don't really participate much, nor do they practice them. These standards are listed in Table 2.

Table 2. Health Education Standards that Can Be Used But Do Not Apply Directly to the Science Standards

Standard number	Statement
1.2.S	Explain how witnesses and bystanders can help prevent violence by reporting dangerous situations.
1.3.S	Describe how the presence of weapons increases the risk of serious violent injuries.
1.4.S	Discuss the importance of reporting weapon possession.
1.5.S	Explain how violence, aggression, bullying, and harassment affect health and safety.
1.6.S	Identify trusted adults to whom school or community violence should be reported.
1.7.S	Describe possible legal consequences of sexual harassment and violence.
1.8.S	Describe types of sexual harassment and ways to report them.
1.10.S	Identify basic safety guidelines for emergencies and natural disasters.
1.12.S	Explain safety hazards associated with Internet usage.

A thorough discussion of the reasoning for choosing, and not choosing, the various Health Education Standards is discussed in the next chapter.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

Introduction

The purpose of this project was to integrate the California Health Education Standards into regular science classes in order to increase the amount of health education that middle school students would receive. The seventh grade was chosen because the science focus at this grade level is on life sciences, including body systems and reproduction. Therefore, because of the connection between these latter subject areas and human health, this grade level seemed the most logical fit for health education. Sixth and eighth grade science topics focus on earth science and physical science, respectively. Thus, these subject areas did not seem as compatible with or related to the health education content.

Scientific studies reviewed by the Centers for Disease Control and Prevention (CDC) provide evidence that school health programs can have a positive effect on educational outcomes, health-risk behaviors, and health outcomes in children (CDC, nd). However, as previously noted by Brener, Demissie, et.al. (2011), the latest survey of California secondary schools show that only 72.8% of the schools required health education instruction in any of grades 6-12 Additionally, as noted previously by Brener and McManus (2009), health education course offerings are a district-by-district and/or school-by-school

decision and can vary widely. When it comes to time limitations during the school day and year, science courses are considered more important, as evidenced by President Obama expanding his "Educate to Innovate" Campaign for Excellence in Science, Technology, Engineering, and Mathematics (STEM) Education (The White House Office of the Press Secretary, Jan. 06, 2010) and the "STEM Education Opportunity Act" (H. R. 6325, Aug. 02, 2012) recently introduced into the House of Representatives to encourage education in STEM programs and allow for tax deductions benefiting STEM education at the elementary and secondary school levels. Also, even though not presently tested, a seventh grade science test is supposed to be included in the California Standards Tests (CST's) in the future. At present, science is tested only in the eighth grade at the middle school level. Other reasons for not offering health education courses will be discussed later in this chapter.

The methodology followed for this project involved carefully reading through both the California State Science and the Health Education Standards to compare each set of standards, looking for areas of compatibility. Each standard was analyzed as to how it was intended to be interpreted. For instance: Health Education Standard 1.8.G (recognize that there are individual differences in growth and development, physical appearance, gender roles, and sexual orientation) may fit well with Science Standard 7.2.d, discussing genetics and phenotypes, as far as individual differences in growth and development, and physical appearance are concerned. However, gender roles and sexual

orientation do not apply in this area as far as what was intended in the Science Standard. Additionally, science textbooks were reviewed for content and structured discussions were held with seventh grade science teachers and middle school physical education teachers. Added to that was the author's twenty years of experience as a middle school life science teacher.

Tables were created to compare the two sets of standards, looking for common themes in each standard that could be combined into lessons incorporating both science and health content. Since most school districts have a pacing guide that determines what lessons are to be taught when, and have district-wide benchmark exams covering the material that was taught, the project had to be designed so that the health topics did not detract significantly from teaching the Science Standards. This project was intended to be a tool for teachers, providing information at their fingertips, enabling them to be informed educators with regards to health education content.

Conclusion and Discussion

After careful analysis of the Science Content Standards for Grade Seven and the Health Education Content Standards for the Middle School Grades in order to integrate the Health Education Standards into seventh grade science classes, the conclusion is that it can be done only to a very limited extent with limited efficacy. The reasons for this conclusion include:

1. Too Few Topics in Common - Even though the Science Standards focus on the life sciences (e.g., body systems and reproduction), they do not touch upon all of the same topics as the Health Education Standards. For example, there is a whole content area for Alcohol, Tobacco, and Other Drugs containing 50 standards in health, while the Science Standards do not have any standards pertaining to this topic. One of the more commonly used textbooks, Prentice Hall's *California Focus on Life Science* (2008, pgs. 624-629) does have a section on alcohol and other drugs tied in with standard 7.5.b, which has to do with organ systems and that the failure of any part of an organ system can affect the entire system. The other commonly used textbook, published by Holt, (2007) does not talk about alcohol and drugs at all.
2. Objective versus Subjective Standards - The Science Standards are fact-based (i.e., objective), such as knowing "...that sexual fertilization may lead to fertilization and pregnancy," while the Health Education Standards are skill-based, or subjective, such as "explain the effectiveness of abstinence in preventing ... unintended pregnancy." While the Health Education Standards do focus on the human body, they do so in a different manner and from a different perspective and are skills-based, with the intent of changing and reinforcing behaviors, while the Science Standards are based on content.

3. Detracting from Time Spent Teaching Science - Even though there may be some commonalities between the two sets of standards, there is not enough in common to be able to adequately teach the Health Education Standards without taking time away from the Science Standards that are required to be taught. The Health Standards require that students be able to perform skills, such as explaining how to use a Body Mass Index (BMI) score as a tool for measuring general health. While one may think that shouldn't take very much time, in reality it would take a whole class period, or more, because the students would need to actually practice calculating BMI and, to make it meaningful, find their own BMI. That would require them to measure their height and weight, which would lead to how to read a meter stick and a scale. One may think that they could find their weight and height as part of a homework assignment, but many students do not have a scale in their home, or even a measuring stick or tape measure. Seventh grade students' math skills vary greatly, from less than basic arithmetic to algebra, so something like this may require reviewing how to divide. Even though all of the above have been taught in the lower grade levels does not mean that the students have developed the skills. Next, the students still need to be taught and examples given as to the meaning of BMI, which means that a lesson on fat and how it affects the body must be given. While this could tie into Science Standard 7.5.b, having to do

with organ systems, it is too time consuming for the science teacher to stay on the required time line.

The results also show that there are some Health Standards that are useful to the science class but do not directly apply to the Science Standards. These Health Standards have to do with preventing bullying, violence, sexual harassment, safe internet usage, and basic safety guidelines. However, once again, these topics are covered by the teacher at the beginning of the year but do not allow for much student interaction. If students are to learn the behaviors they must be given time to practice the skills. The science class does not provide time for this.

As previously mentioned, the combining of two or more subject areas requires that the content standards for each subject must be compatible for effective lessons (Fogarty, 1991). For the human body, Health Standards are taught more from a social perspective, such as describing "the influence of culture and media on body image" (Health Standard 2.1.N) and "make healthy food choices in a variety of settings" (Health Standard 7.1.N), while in science the related standards would be that students know "that organ systems function because of the contributions of individual organs, tissues, and cells. The failure of any part can affect the entire system" (Science Standard 7.5.b). The last sentence allows for the discussion of the role of nutrition in maintaining healthy organ systems. However, it is straying from the intent of the standard and would be considered an enrichment topic.

As part of this project a lesson plan was developed combining the above discussed standards but as a home-based project, not a classroom-based lesson. The reason: to do the entire lesson in class would take too much time away from the Science Standard that must be taught and requires the students to be tested on that standard, as discussed earlier. Another problem with take home lessons is that, in the author's experience and in discussions with teachers from different school sites and districts, the work is often not done by the students once they leave the classroom, as students are setting priorities on their time. They give the excuse that they had to do their English and math homework first because "those classes count." There are always those students that will do the work, no matter what, but many will not complete the work, even when letters are sent home that require a parental response. Students might fulfill part of the assignment, such as keeping the daily journal of what they eat and how often they exercise, but many won't do any of the work to fulfill the other requirements of the assignment, especially if it involves writing responses or reflections. The reasons for this are varied, including inadequate reading and writing skills, lack of parental participation/oversight, and lack of motivation. Another problem is that students feel that seventh grade science really doesn't count because it's "not on the CST's" for seventh grade. As of this point in time math and English-language arts (ELA) are the courses that school administrators are placing the most emphasis on since they are weighted the most in calculating the AYP (Adequate Yearly Progress) and API (Academic Performance Index) scores. These scores

determine if a school is meeting the requirements of NCLB (2001) or will face sanctions if certain scores are not attained.

There are several reasons that a stand-alone health education course is not commonly taught at the middle school level.

1. As noted in Chapter Two, the California Health Education Standards are not required to be taught (California State Board of Education, 2008), with the exception of specified topics, such as HIV/AIDS prevention and the effects of the use of tobacco, alcohol and other drugs. As such, even though there is evidence showing the benefits of Health Education, there is no real incentive for district and school site administrators to offer health classes, other than for those topics required by law.
2. In order to teach health, teachers need to be trained. With today's economic uncertainties, school administrators are unwilling to pay for teacher training in health when the majority of funds slated for training are going to math and English-language arts in order to raise CST scores. Even the science teachers that are teaching about HIV/AIDS and the other health topics required by California Education Code are not always receiving the training they need, especially if they are new to seventh grade.
3. The state of California is facing financial crisis and, therefore, so is its educational system. A vast number of school districts have already instituted furlough days for teachers in order to cut costs and avoid

teacher and other staff layoffs, resulting in the shortening of the school year. In the California Legislative Analysis Office report *Year-Three Survey: Update on School District Finance in California* (Taylor, May 2, 2012) only 61% of school districts responding to the survey are providing 180 instructional days per year for the 2010-11 and 2011-12 school years. About 20% of districts have decreased the school year to the statutory minimum of 175 days.

In order to integrate the teaching of the Health Standards into science classes the science teachers must have a buy-in. All teachers, not just science teachers, are required to teach the state standards for their subject area. As already noted, many school districts test on a regular basis, usually according to grading terms, each subject area to judge how students are achieving the standards. During the past few years there have been proposals to include these test results as part of the individual teacher's performance evaluation. Teachers are fighting this idea. During September, 2012, the teachers in Chicago, IL went on strike for this very reason. However, if test scores being used in teacher evaluations becomes a reality, no teacher is going to agree to teach health if they feel it will interfere with the learning of the required content standards.

One way to increase teacher efficacy for teaching health as part of science is to provide training to the teachers. Teachers are more open to new ideas when training is provided, especially during the school day instead of

during their time, even if paid. As noted above, this probably won't happen, as most of the teacher training time is going towards raising the CST test scores in math and ELA.

There is another obstacle in the way of integrating health into science: the Common Core State Standards (CCSS). They are a set of standards for English and math, adopted by 45 states, including California, and are to be fully implemented by the 2014-15 school year (CDE, 2012) but some school districts have already started implementation. Even though they are for English-language arts and math, all subject areas are expected to implement some part of them, with the goal of increasing literacy in all subject areas. In science classes students are to do more writing and the teachers are expected to teach and correct the writing of the students. In the past this was called "writing across the curriculum," and was implemented irregularly throughout the years. Some teachers do include writing assignments in their lessons, such as write a story comparing the organelles in a cell to a city, but it does take more time. It will now be mandatory state-wide. In the author's personal experience, it is already cutting into the time for teaching science.

As discussed above, the conclusion of this project is that the integration of the California Health Education Standards into the California Science Standards for grade seven will not work. The standards are not as closely related to each other as thought before beginning this project. It was thought this project could be a tool for science teachers, as well as increasing the health standards being

taught. However, after carefully reviewing the standards for both science and health, I feel that trying to integrate the two sets of standards will not achieve the intended goal of increasing health education for middle school students. Nor, I argue, will it have an affect either on academic achievement or prevent students from participating in high risk behaviors.

Recommendations Based on Findings

Based upon the results and conclusion of this project and in light of over twenty years experience of teaching grade seven life science, I recommend the following actions:

- Health Education should be taught as a free-standing class;
- Eliminate some science standards if Health Education can't be a free-standing class;
- Coordinate the science/health and physical education courses; and,
- Eliminate some of the health standards for the middle school grades.

Health Education Should be Taught as a Free-Standing Class

In my opinion, the Health Education Standards are too different and too many to integrate with science. By teaching the Health Standards in a class of its own more time could be devoted to developing the life-long skills needed for the health of our students. It is logical to assume that the more time students have to develop and practice the skills, the better the chances are that they will use them and retain the learned information well into adulthood. However, future

studies are needed to confirm this assumption. Some of the present science standards, such as those having to do with the body systems, can supplement the health standards as a way to give greater depth and breadth to the lessons, especially if the course is year-long. As discussed in Chapter Two, a healthy population is good for the country because it reduces health costs, increases academic achievement, and increases productivity in the workplace. In addition, it provides for the security of the country by having a population that can meet the physical requirements of the military.

Eliminate Some Science Standards if Health Education Can't Be a Free-Standing Class

If Health Education can't be taught as a free-standing course, then include it in science by eliminating some of the science standards and reducing some of the health standards. I suggest that science standard set 1, Cell Biology, be eliminated because it will be taught again in high school biology, 2-3 years away from seventh grade. When I talk with high school biology teachers they are often surprised that cells are taught in the seventh grade since their students usually don't know much about cells. Science standard set 3, Evolution, should also be eliminated since it is quite controversial, especially at this age level. The students would be better able to understand it when taught in high school when they are more mature. In seventh grade they are sometimes uncomfortable with the topic due to their religious beliefs. Presumably, in high school students are more mature and better able to distinguish scientific theory from religious beliefs.

Studies show that there is a direct correlation between cognitive maturity and age, with links between behavioral changes and brain changes (Johnson, Blum, & Giedd, 2009).

Science Standard set 4, Earth and Life History, veers away from life science by teaching about the rock cycle, continental drift and dating rocks and fossils. Some of this is taught in sixth grade and will be taught again in high school. In my experience the majority of the students are not interested in it, find it boring, and do not do well on this standard.

I have observed that the students really get excited when the topics are the human body. I am always amazed at how little the students know about their bodies, and how much more they want to know. They get more involved in the class, do more work, and ask many more questions. The questions they ask are often related to what is in the Health Education standards. I am often unable to take the time to answer those questions because we always need to move on to complete the course. By following the above recommendations to eliminate those science standards, almost a whole semester is opened up for teaching health education. The health standards would then better fit with the remaining science standards. In addition, with the emphasis for more STEM education, students may get more turned on to science instead of turned off.

Coordinate the Science/Health and Physical Education Courses

Some of the topics taught as part of the science/health course have relevance to what is taught in the PE courses. This is especially true for the

Nutrition and Physical Activity content area in health. Some of what is taught in the classroom can be put into practice and encouraged during PE classes and vice versa.

Eliminate Some of the Health Standards

Over the years I have found that many parents do not want their child participating in the Family Life Unit, where students are taught about the prevention of pregnancy, HIV/AIDS, STD's, and alcohol, tobacco, and other drugs because they don't want their child learning about birth control methods. It is not that they do not want their child to know about birth control, they just feel that their child is too young to be exposed to such information. I have talked with many teachers who agree with this belief and say that they do not teach this. It may be better to eliminate this part of health education and have the child learn most of the information by staying in class than to have the parent not want the child to participate at all. Granted, there are sexually active students at the middle school level and pregnancies do occur. For those students, I suggest that, upon identification, they be put in an alternative health class where birth control methods, as well as avoidance skills to prevent future pregnancies, are taught.

There are obstacles to implementing the above recommendations. Changing the state standards requires action by the State Legislature to direct the State Board of Education to make changes, which would take years. Teacher education would have to change to include teaching the health

standards. This could probably be done with the addition of a course on the health standards, a set of workshops, or changing the required health education course required for teacher credentialing in some way.

If we are to have healthier children and an over-all healthier society, then we must change the way we think. Some changes are already taking place with a variety of programs by various government and private agencies touting the benefits of healthy eating and exercise. Change comes slowly but by implementing the above recommendations we may be able to see positive changes even sooner. It has been recognized that schools are the place where changes begin. The sooner we start the better off we will be towards becoming a healthier nation.

APPENDIX A

SCIENCE CONTENT STANDARDS INTEGRATION TABLES

Grade 7 Focus on Life Sciences

Standard Set 1: Cell Biology

All living organisms are composed of cells, from just one to many trillions, whose details usually are visible only through a microscope.

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.1.a	cells function similarly in all living organisms.			
7.1.b	the characteristics that distinguish plant cells from animal cells, including chloroplasts and cell walls.			
7.1.c	the nucleus is the repository for genetic information in plant and animal cells.			
7.1.d	that mitochondria liberate energy for the work that cells do and that chloroplasts capture sunlight energy for photosynthesis.	1.11.N 1.1.P 6.3.P	Analyze the cognitive and physical benefits of eating breakfast daily. Describe the importance of health-management strategies (e.g., those involving adequate sleep, ergonomics, sun safety, hearing protection, and self-examination. Create a plan to incorporate adequate rest and sleep into daily routines.	Why do living organisms need to eat and sleep?

Standard Set 1: Cell Biology continued

Science Std	Statement As a basis for understanding this concept, *students know:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.1.e	cells divide to increase their numbers through a process of mitosis, which results in two daughter cells with identical sets of chromosomes.			
7.1.f	that as multicellular organisms develop, their cells differentiate.			

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools* (pp. 33-44). Sacramento: California Department of Education.

Grade 7 Focus on Life Sciences

Standard Set 2: Genetics

A typical cell of any organism contains genetic instructions that specify its traits. Those traits may be modified by environmental influences.

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.2.a	the differences between the life cycles and reproduction methods of sexual and asexual organisms.			
7.2.b	sexual reproduction produces offspring that inherit half their genes from each parent.			
7.2.c	an inherited trait can be determined by one or more genes.			
7.2.d	plant and animal cells contain many thousands of different genes and typically have two copies of every gene. The two copies (or alleles) of the gene may or may not be identical, and one may be dominant in determining the phenotype while the other is recessive.	1.8.G 4.4.G 1.5.M	Recognize that there are individual differences in growth and development, physical appearance, gender roles, and sexual orientation. Analyze the benefits of respecting individual differences in growth and development, physical appearance, gender roles, and sexual orientation. Recognize diversity among people, including disability, gender, race, sexual orientation, and body size.	Discussion on Genetics determining our differences

Standard Set 2: Genetics continued

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.2.d (cont).	plant and animal cells contain many thousands of different genes and typically have two copies of every gene. The two copies (or alleles) of the gene may or may not be identical, and one may be dominant in determining the phenotype while the other is recessive.	7.2.M	Practice respect for individual differences and diverse backgrounds.	Class Discussions
7.2.e	DNA (deoxyribonucleic acid) is the genetic material of living organisms and is located in the chromosomes of each cell.			

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools* (pp. 33-44). Sacramento: California Department of Education.

Grade 7 Focus on Life Sciences

Standard Set 3: Evolution

Biological evolution accounts for the diversity of species developed through gradual processes over many generations.

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.3.a	both genetic variation and environmental factors are causes of evolution and diversity of organisms.			
7.3.b	the reasoning used by Charles Darwin in reaching his conclusion that natural selection is the mechanism of evolution.			
7.3.c	how independent lines of evidence from geology, fossils, and comparative anatomy provide the basis for the theory of evolution.			
7.3.d	how to construct a simple branching diagram to classify living groups of organisms by shared derived characteristics and how to expand the diagram to include fossil organisms.			
7.3.e	that extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient for its survival.			

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools* (pp. 33-44). Sacramento: California Department of Education.

Grade 7 Focus on Life Sciences

Standard Set 4: Earth and Life History

Evidence from rocks allows us to understand the evolution of life on Earth.

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.4.a	Earth processes today are similar to those that occurred in the past and slow geologic processes have large cumulative effects over long periods of time.			
7.4.b	the history of life on Earth has been disrupted by major catastrophic events, such as major volcanic eruptions or the impacts of asteroids.	1.10.S 4.7.S	Identify basic safety guidelines for emergencies and natural disasters. Locate resources in school, in the community, and on the Internet for first aid information and training, and assess the validity of the resources.	Project: Natural Disaster Plan for Home
7.4.c	that the rock cycle includes the formation of new sediment and rocks and that rocks are often found in layers, with the oldest generally on the bottom.			

Standard Set 4: Earth and Life History continued

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.4.d	that evidence from geologic layers and radioactive dating indicates Earth is approximately 4.6 billion years old and that life on this planet has existed for more than 3 billion years.			
7.4.e	fossils provide evidence of how life and environmental conditions have changed.			
7.4.f	how movements of Earth's continental and oceanic plates through time, with associated changes in climate and geographic connections, have affected the past and present distribution of organisms.			

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools* (pp. 33-44). Sacramento: California Department of Education.

Grade 7 Focus on Life Sciences

Standard Set 5: Structure and Function in Living Systems

The anatomy and physiology of plants and animals illustrate the complementary nature of structure and function.

Science Std	Statement As a basis for understanding this concept, *students know:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.5.a	plants and animals have levels of organization for structure and function, including cells, tissues, organs, organ systems, and the whole organism.			
7.5.b	organ systems function because of the contributions of individual organs, tissues, and cells. The failure of any part can affect the entire system.	1.1.N	Describe the short- and long-term impact of nutritional choices on health.	Keeping Body Systems Healthy
		1.2.N	Identify nutrients and their relationships to health.	
		3.1.N	Distinguish between valid and invalid sources of nutrition information.	
		3.5.N	Identify trusted adults in one's family, school, and community for advice and counseling regarding healthy eating and physical activity.	
		5.2.N	Identify recreational activities that increase physical activity.	

Standard Set 5: Structure and Function in Living Systems continued

Science Std	Statement As a basis for understanding this concept, *students know:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.5.b (cont.)		6.1.N 6.2.N	Make a personal plan for improving one's nutrition and incorporating physical activity into daily routines Set a goal to increase daily physical activity	
7.5.c	how bones and muscles work together to provide a structural framework for movement.	5.2.N 7.3.N 7.4.N	Identify recreational activities that increase physical activity. Assess personal physical activity levels. Examine ways to be physically active throughout life.	Keeping Body Systems Healthy
7.5.d	how the reproductive organs of the human female and male generate eggs and sperm and how sexual activity may lead to fertilization and pregnancy.	1.2.G 1.4.G	Summarize the human reproductive cycle. Explain how conception occurs, the stages of pregnancy, and the responsibilities associated with parenting.	These health standards are covered already as part of the instruction for the science standard.

Standard Set 5: Structure and Function in Living Systems continued

Science Std	Statement As a basis for understanding this concept, *students know:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.5.d cont.	how the reproductive organs of the human female and male generate eggs and sperm and how sexual activity may lead to fertilization and pregnancy.		All of the standards for Growth, Development, and Sexual Health could fit in here, but are more fully covered in the Family Life Unit that is not officially part of the science standards, but often taught as part of the science class in 7th grade.	
7.5.e	the function of the umbilicus and placenta during pregnancy.			
7.5.f	the structures and processes by which flowering plants generate pollen, ovules, seeds, and fruit.			
7.5.g	how to relate the structures of the eye and ear to their functions.	1.15.S 1.7.P	Explain ways to reduce the risk of injuries to the eyes and ears that can occur during sports and physical activities. Identify effective protection for teeth, eyes, head, and neck during sports and recreational activities.	

Standard Set 5: Structure and Function in Living Systems continued

Science Std	Statement As a basis for understanding this concept, *students know:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.5.g cont.	how to relate the structures of the eye and ear to their functions.	1.8.P	Identify ways to prevent vision or hearing damage.	This would be included as part of the regular science lesson as a discussion topic. (Not a separate lesson)

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools (*pp. 33-44). Sacramento: California Department of Education.

Grade 7 Focus on Life Sciences

Standard Set 6: Physical Principles in Living Systems

Physical principles underlie biological structures and functions.

Science Std	Statement As a basis for understanding this concept, *students know:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.6.a	visible light is a small band within a very broad electromagnetic spectrum.	1.11.S	Identify ways to prevent climate-related physical conditions such as exhaustion, sunburn, heat stroke, and hypothermia.	This would not be a separate lesson, but a topic of discussion on sunbums.
7.6.b	that for an object to be seen, light emitted by or scattered from it must be detected by they eye.			
7.6.c	light travels in straight lines if the medium it travels through does not change.			
7.6.d	how simple lenses are used in a magnifying glass, the eye, a camera, a telescope, and a microscope.			
7.6.e	that white light is a mixture of many wavelengths (colors) and that retinal cells react differently to different wavelengths.			
7.6.f	light can be reflected, refracted, transmitted, and absorbed by matter.			
7.6.g	the angle of reflection of a light beam is equal to the angle of incidence.			

Standard Set 6: Physical Principles in Living Systems continued

Science Std	Statement As a basis for understanding this concept, ***students know:***	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.6.h	how to compare joints in the body (wrist, shoulder, hip) with structures used in machines and simple devices (hinge, ball-and-socket, and sliding joints).			
7.6.i	how levers confer mechanical advantage and how the application of this principle applies to the musculoskeletal system.			
7.6.j	that contractions of the heart generate blood pressure and that heart valves prevent backflow of blood in the circulatory system.			

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools (*pp. 33-44). Sacramento: California Department of Education.

Grade 7 Focus on Life Sciences

Standard Set 7: Investigation and Experimentation

Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations.

Science Std	Statement *Students will:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.7.a	Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscope, and binoculars) to perform tests, collect data, and display data.	7.3.S	Practice the safe use of technology.	This would be used in any lesson that involves technology in science class.
7.7.b	Use a variety of print and electronic resources (including the World Wide Web) to collect information and evidence as part of a research project.	7.3.S	Practice the safe use of technology.	This would be used anytime the students are using the internet for class.
7.7.c	Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.			

Standard Set 7: Investigation and Experimentation continued

Science Std	Statement *Students will:*	CA Health Ed Std	Statement	Suggested Activity: Appendix B
7.7.d	Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge, (e.g., motion of Earth's plates and cell structure).			
7.7.e	Communicate the steps and results from an investigation in written reports and oral presentations.			

Note: Adapted from California State Board of Education (1998) *Science content standards for California public schools* (pp. 24-27). Sacramento: California Board of Education;
California State Board of Education (2008). *Health education content standards for California public schools* (pp. 33-44). Sacramento: California Department of Education.

APPENDIX B

SAMPLES OF INTEGRATED LESSONS

Activity 1

Why do living organisms need to eat and sleep?

Prior Knowledge: Students have already completed lessons on the structures of plant and animal cells and the functions of the main structures.

Objectives: The student will be able to:

4. Know that mitochondria releases energy for the work that cells do and that chloroplasts capture sunlight energy for photosynthesis. (CA Science Standard 7.1.d)
5. Analyze the benefits for the brain and body of eating breakfast daily. (CA Health Ed Standard 1.11.N)
6. Create a plan that includes adequate rest and sleep into their daily routine. (CA Health Ed Standard 6.3.P)

Language Objectives: The student will:

5. Create a graphic organizer that compares and contrasts a cell, or unicellular organism, with their own body.
6. Discuss with a partner the benefits of eating healthy meals, especially breakfast.
7. In small groups, list the benefits of eating healthy meals, especially breakfast and the things that keeps them from eating breakfast and other meals.
8. discuss with a parent, or other adult, their daily routine and how to ensure that time for adequate rest and sleeping are included.

Vocabulary to be front-loaded or reviewed:

6. mitochondria
7. chloroplasts
8. energy
9. photosynthesis
10. benefits

I. Brain Storm

A. Have students list as many things as possible on paper what they need energy for.

B. As a class, have students share out what they have listed. Accept all answers and record for the whole class.

C. As a class, have students identify which items in the list have to do with living organisms, and which have to do with other things, such as electricity for lights.
D. In partners, or small groups, have students discuss where the energy for living things comes from.
E. Check for understanding (CFU) Students from each group report on what was discussed. Correct information, as needed.

II. Guided Practice
A. As a class, begin a Venn diagram, or some other type of graphic organizer, to compare and contrast cells and humans.
B. Students to finish in small group or on their own.
C. CFU by walking around and checking on the work.

III. Independent Practice
A. Students are to have a discussion with a parent, or other adult, concerning their daily routines. Together, fill in a schedule showing what they do at particular times of the day for each day of the week. Highlight in green when they eat, yellow when they rest (not sleep), and pink when they sleep.
B. Answer the questions included with the schedule.
C. Parent to sign the schedule.

IV. Discussion of Independent Practice as CFU.

V. Assessment
A. Students write a paragraph on the importance of eating breakfast and the effect on the brain and body.
B. Write a paragraph on why it is important for young adolescents to get enough rest and sleep.

Note: Author created.

MY DAILY SCHEDULE

Instructions: With a parent or adult, fill in the time schedule below with the activities you usually do at the times you do them.

Parent/Guardian Signature_____

TIME	MON	TUES	WED	THURS	FRI	SAT	SUN
12-1 am							
1-2							
2-3							
3-4							
4-5							
5-6							
6-7							
7-8							
8-9							
9-10							
11-12							
12-1 pm							
1-2							
2-3							
3-4							
4-5							
5-6							

6-7							
7-8							
8-9							
9-10							
10-11							
11-12							

Using a highlighter or colored pencils, color the spaces for the times you eat green, rest (not sleep) yellow, and sleep pink. Then answer the following questions in complete sentences.

1. How many hours of sleep do you get each night on weekdays? Weekends? Explain if there are any differences?

_____

_____

_____

_____

2. Do you rest at any other times of the day? Explain when and how you rest (not sleep).

_____

_____

_____

_____

3. Do you feel you get enough rest and sleep? Does your parent agree with you? Explain.

_____

_____

Note: Author created.

APPENDIX C

HEALTH CONTENT STANDARDS FOR GRADES SEVEN AND EIGHT

Grades Seven and Eight Health Education Content Standards

Nutrition and Physical Activity

Standard 1: Essential Concepts

1.1.N Describe the short- and long-term impact of nutritional choices on health.

1.2.N Identify nutrients and their relationships to health.

1.3.N Examine the health risks caused by food contaminants.

1.4.N Describe how to keep food safe through proper food purchasing, preparation, and storage practices.

1.5.N Differentiate between diets that are health-promoting and diets linked to disease.

1.6.N Analyze the caloric and nutritional value of foods and beverages.

1.7.N Describe the benefits of eating a variety of foods high in iron, calcium, and fiber.

1.8.N Identify ways to prepare food that are consistent with current research-based guidelines for a nutritionally balanced diet.

1.9.N Analyze the harmful effects of engaging in unscientific diet practices to lose or gain weight.

1.10.N Identify the impact of nutrition on chronic disease.

1.11.N Analyze the cognitive and physical benefits of eating breakfast daily.

1.12.N Examine the role of lifelong fitness activities in maintaining personal fitness, blood pressure, weight, and percentage of body fat.

1.13.N Explain how to use a Body Mass Index (BMI) score as a tool for measuring general health.

1.14.N Identify ways to increase daily physical activity.

1.15.N Explain that incorporating daily moderate or vigorous physical activity into one's life does not require a structured exercise plan or special equipment.

1.16.N Differentiate between physical activity and exercise and health-related and skill-related fitness.

Standard 2: Analyzing Influences

2.1.N Describe the influence of culture and media on body image.

2.2.N Evaluate internal and external influences on food choices.

2.3.N Analyze the impact of nutritional choices on future reproductive and prenatal health.

2.4.N Analyze the influence of technology and media on physical activity.

Standard 3: Accessing Valid Information

3.1.N Distinguish between valid and invalid sources of nutrition information.

3.2.N Evaluate the accuracy of claims about dietary supplements and popular diets.

3.3.N Describe how to access nutrition information about foods offered in restaurants in one's community.

3.4.N Identify places where youths and families can be physically active.

3.5.N Identify trusted adults in one's family, school, and community for advice and counseling regarding healthy eating and physical activity.

Standard 4: Interpersonal Communication

4.1.N Demonstrate the ability to use effective skills to model healthy decision making and prevent overconsumption of foods and beverages.

4.2.N Practice effective communication skills with parents, guardians, or trusted adults regarding healthy nutrition and physical activity choices

Standard 5: Decision Making

5.1.N Use a decision-making process to evaluate daily food intake for nutritional requirements.

5.2.N Identify recreational activities that increase physical activity.

5.3.N Contrast healthy and risky approaches to weight management.

5.4.N Analyze the physical, mental, and social benefits of physical activity.

Standard 6: Goal Setting

6.1.N Make a personal plan for improving one's nutrition and incorporating physical activity into daily routines.

6.2.N Set a goal to increase daily physical activity.

Stardard 7: Practicing Health-Enhancing Behaviors

7.1.N Make healthy food choices in a variety of settings.

7.2.N Explain proper food handling safety when preparing meals and snacks.

7.3.N Assess personal physical activity levels.

7.4.N Examine ways to be physically active throughout a lifetime.

Standard 8: Health Promotion

8.1.N Encourage nutrient-dense food choices in school.

8.2.N Support increased opportunities for physical activity at school and in the community.

8.3.N Encourage peers to eat healthy foods and to be physically active.

Growth, Development, and Sexual Health

Standard 1: Essential Concepts

1.1.G Explain physical, social, and emotional changes associated with adolescence.

1.2.G Summarize the human reproduction cycle.

1.3.G Explain the effectiveness of abstinence in preventing HIV, other STDs, and unintended pregnancy. 1.4.G Explain how conception occurs, the stages of pregnancy, and the responsibilities associated with parenting.

1.5.G Explain the effectiveness of FDA-approved condoms and other contraceptives in preventing HIV, other STDs, and unintended pregnancy.

1.6.G Identify the short- and long-term effects of HIV, AIDS, and other STDs.

1.7.G Identify ways to prevent or reduce the risk of contracting HIV, AIDS, and other STDs.

1.8.G Recognize that there are individual differences in growth and development, physical appearance, gender roles, and sexual orientation.

1.9.G Explain why individuals have the right to refuse sexual contact.

1.10.G Describe the emotional, psychological, and physical consequences of rape and sexual assault.

1.11.G Explain why rape and sexual assault should be reported to authorities and trusted adults.

1.12.G Describe responsible prenatal and child care, including California's Safely Surrendered Baby Law.

1.13.G Evaluate the benefits to mother, father, and child when teenagers wait until adulthood to become parents.

Standard 2: Analyzing Influences

2.1.G Analyze how internal and external influences affect growth and development, relationships, and sexual behavior.

2.2.G Evaluate how culture, media, and other people influence our perceptions of body image, gender roles, sexuality, attractiveness, relationships, and sexual orientation.

2.3.G Analyze the influence of alcohol and other drugs on sexual behaviors.

2.4.G Describe situations that could lead to pressure for sexual activity and to the risk of contracting HIV and other STDs.

2.5.G Recognize that there are individual, family, and cultural differences in relationships.

2.6.G Explain how sexual exploitation can occur through the Internet.

Standard 3: Accessing Valid Information

3.1.G Identify trusted adults in one's family, school, and community for advice and counseling regarding reproductive and sexual health.

3.2.G Locate medically and scientifically accurate sources of information on reproductive health.

3.3.G Identify health care providers for reproductive and sexual health services.

Standard 4: Interpersonal Communication

4.1.G Practice effective communication skills with parents, guardians, health care providers, or other trusted adults by discussing issues related to reproductive and sexual health.

4.2.G Use effective verbal and nonverbal communication skills to prevent sexual involvement, HIV, other STDs, and unintended pregnancy.

4.3.G Use healthy and respectful ways to express friendship, attraction, and affection.

4.4.G Analyze the benefits of respecting individual differences in growth and development, physical appearance, gender roles, and sexual orientation.

4.5.G Demonstrate how to ask for help from parents, other trusted adults, or friends when pressured to participate in sexual behavior.

Standard 5: Decision Making

5.1.G Analyze why abstinence is the most effective method for the prevention of HIV, STDs, and pregnancy.

5.2.G Use a decision-making process to examine the characteristics of healthy relationships.

5.3.G Use a decision-making process to evaluate individual differences in growth and development, physical appearance, gender roles, and sexual orientation.

5.4.G Analyze the responsibilities and privileges of becoming a young adult.

5.5.G Identify how good health practices in adolescence affect lifelong health and the health of future children.

5.6.G Explain the immediate physical, social, and emotional risks and consequences associated with sexual activity.

5.7.G Use a decision-making process to evaluate the value of using FDA-approved condoms for pregnancy and STD prevention.

Standard 6: Goal Setting

6.1.G Develop a plan to avoid HIV, AIDS, other STDs, and pregnancy.

6.2.G Describe how HIV, AIDS, other STDs, or pregnancy could impact life goals.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.G Describe strategies for refusing unwanted sexual activity.

7.2.G Demonstrate the ability to anticipate and minimize exposure to situations that pose a risk to sexual health.

7.3.G Describe personal actions that can protect reproductive and sexual health.

Standard 8: Health Promotion

8.1.G Support and encourage safe, respectful, and responsible relationships.

8.2.G Promote respect for and dignity of persons living with HIV or AIDS.

Injury Prevention and Safety

Standard 1: Essential Concepts

1.1.S Describe the differences between physical, verbal, and sexual violence.

1.2.S Explain how witnesses and bystanders can help prevent violence by reporting dangerous situations.

1.3.S Describe how the presence of weapons increases the risk of serious violent injuries.

1.4.S Discuss the importance of reporting weapon possession.

1.5.S Explain how violence, aggression, bullying, and harassment affect health and safety.

1.6.S Identify trusted adults to whom school or community violence should be reported.

1.7.S Describe possible legal consequences of sexual harassment and violence.

1.8.S Describe types of sexual harassment and ways to report them.

1.9.S Describe the behavioral and environmental factors associated with major causes of death in the United States.

1.10.S Identify basic safety guidelines for emergencies and natural disasters.

1.11.S Identify ways to prevent climate-related physical conditions such as exhaustion, sunburn, heat stroke, and hypothermia.

1.12.S Explain safety hazards associated with Internet usage.

1.13.S Explain ways to prevent fires and reduce the risk of fire-related injuries.

1.14.S Explain ways to reduce the risk of injuries in and around water.

1.15.S Explain ways to reduce the risk of injuries (including oral injuries) that can occur during sports and recreational activities.

Standard 2: Analyzing Influences

2.1.S Analyze how the media portray fire and explosives.

2.2.S Evaluate individual, group, and societal influences that promote cooperation and respectful behaviors and those that promote violence and disrespectful behaviors.

Standard 3: Accessing Valid Information

3.1.S Analyze sources of information regarding injury and violence prevention.

3.2.S Demonstrate the ability to access accurate sources of information about abuse, violence, and bullying.

Standard 4: Interpersonal Communication

4.1.S Report to a trusted adult situations that could lead to injury or harm.

4.2.S Use communication and refusal skills to avoid violence, gang involvement, and risky situations.

4.3.S Describe ways to manage interpersonal conflicts nonviolently.

4.4.S Demonstrate ways to ask a parent or other trusted adult for help with a threatening situation.

4.5.S Describe characteristics of effective communication.

4.6.S Differentiate between passive, aggressive, and assertive communication.

4.7.S Locate resources in school, in the community, and on the Internet for first aid information and training, and assess the validity of the resources.

Standard 5: Decision Making

5.1.S Use a decision-making process to examine risky social and dating situations.

5.2.S Apply a decision-making process to avoid potentially dangerous situations, such as gang activities, violence in dating, and other social situations.

5.3.S Use a decision-making process to analyze the consequences of gang involvement.

5.4.S Evaluate why some students are bullies.

5.5.S Apply decision-making or problem-solving steps to hypothetical situations involving assault and intimidation, including sexual harassment.

Standard 6: Goal Setting

6.1.S Make a personal commitment to avoid persons, places, or activities that encourage violence or delinquency.

6.2.S Create a personal-safety plan.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.S Practice first aid and emergency procedures.

7.2.S Practice ways to resolve conflicts nonviolently.

7.3.S Practice the safe use of technology.

Standard 8: Health Promotion

8.1.S Support changes to promote safety in the home, at school, and in the community.

8.2.S Design a campaign for preventing violence, aggression, bullying, and harassment.

8.3.S Demonstrate the ability to influence others' safety behaviors (e.g., wearing bicycle helmets and seat belts).

Alcohol, Tobacco, and Other Drugs

Standard 1: Essential Concepts

1.1.A Describe the harmful short- and long-term effects of alcohol, tobacco, and other drugs, including steroids, performance-enhancing drugs and inhalants.

1.2.A Describe the relationship between using alcohol, tobacco, and other drugs and engaging in other risky behaviors.

1.3.A Explain the dangers of drug dependence and addiction.

1.4.A Describe the consequences of using alcohol, tobacco, and other drugs during pregnancy, including fetal alcohol spectrum disorders.

1.5.A Analyze the harmful effects of using diet pills without physician supervision.

1.6.A Explain the short- and long-term consequences of using alcohol and other drugs to cope with problems.

1.7.A Explain why most youths do not use alcohol, tobacco, or other drugs.

1.8.A Explain school policies and community laws related to the use, possession, and sale of alcohol, tobacco, and illegal drugs.

Standard 2: Analyzing Influences

2.1.A Analyze internal influences that affect the use and abuse of alcohol, tobacco, and other drugs.

2.2.A Evaluate the influence of marketing and advertising techniques and how they affect alcohol, tobacco, and other drug use and abuse. Standard 6: Goal Setting

2.3.A Analyze family and peer pressure as influences on the use of alcohol, tobacco, and other drugs.

Standard 3: Accessing Valid Information

3.1.A Analyze the validity of information, products, and services related to the use of alcohol, tobacco, and other drugs.

Standard 4: Interpersonal Communication

4.1.A Use effective refusal and negotiation skills to avoid risky situations, especially where alcohol, tobacco, and other drugs are being used.

Standard 5: Decision Making

5.1.A Use a decision-making process to avoid using alcohol, tobacco, and other drugs in a variety of situations.

Standard 6: Goal Setting

6.1.A Develop short- and long-term goals to remain drug-free.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.A Use a variety of effective coping strategies when there is alcohol, tobacco, or other drug use in group situations.

7.2.A Practice positive alternatives to the use of alcohol, tobacco, and other drugs.

Standard 8: Health Promotion

8.1.A Participate in school and community efforts to promote a drug-free lifestyle.

Mental, Emotional, and Social Health

Standard 1: Essentials Concepts

1.1.M Explain positive social behaviors (e.g., helping others, being respectful to others, cooperation, consideration).

1.2.M Identify a variety of nonviolent ways to respond when angry or upset.

1.3.M Identify qualities that contribute to a positive self-image.

1.4.M Describe how emotions change during adolescence.

1.5.M Recognize diversity among people, including disability, gender, race, sexual orientation, and body size.

1.6.M Describe the changing roles and responsibilities of adolescents as members of a family and community.

1.7.M Describe the benefits of having positive relationships with trusted adults.

1.8.M Analyze the harmful effects of using diet pills without physician supervision.

1.9.M Identify the signs of various eating disorders.

1.10.M Describe signs of depression, potential suicide, and other self-destructive behaviors.

1.11.M Describe common mental health conditions and why seeking professional help for these conditions is important.

Standard 2: Analyzing Influences

2.1.M Analyze internal and external influences on mental, emotional, and social health.

2.2.M Analyze techniques that are used to pressure someone to engage in or be a target of violent behavior.

2.3.M Analyze the influence of culture on family values and practices.

Standard 3: Accessing Valid Information

3.1.M Access accurate sources of information and services about mental, emotional, and social health.

3.2.M Describe situations for which adult help is needed, including intimidating and dangerous situations, and how to access help for oneself and others.

3.3.M Identify trusted adults to report to if people are in danger of hurting themselves or others.

3.4.M Analyze situations to determine whether they call for acts of caring among friends or require getting the help of trusted adults.

Standard 4: Interpersonal Communication

4.1.M Seek help from trusted adults for oneself or a friend with an emotional or social health problem.

Standard 5: Decision Making

5.1.M Apply decision-making processes to a variety of situations that impact mental, emotional, and social health.

5.2.M Monitor personal stressors and assess techniques for managing them.

5.3.M Describe healthy ways to express caring, friendship, affection, and love.

5.4.M Describe situations for which someone would seek help with stress, loss, an unrealistic body image, or depression.

5.5.M Analyze the importance of setting personal boundaries for privacy, safety, and expressions of emotions and opinions.

Standard 6: Goal Setting

6.1.M Develop achievable goals for handling stressors in healthy ways.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.M Demonstrate effective coping mechanisms and strategies for managing stress.

7.2.M Practice respect for individual differences and diverse backgrounds.

7.3.M Participate in clubs, organizations, and activities in the school and community that offer opportunities for student and family involvement.

7.4.M Practice personal boundaries in a variety of situations.

7.5.M Demonstrate skills to avoid or escape from potentially violent situations, including dating.

Standard 8: Health Promotion

8.1.M Promote a positive and respectful school environment.

8.2.M Object appropriately to teasing of peers and community members that is based on perceived personal characteristics or sexual orientation.

Personal and Community Health

Standard 1: Essential Concepts

1.1.P Describe the importance of health-management strategies (e.g., those involving adequate sleep, ergonomics, sun safety, hearing protection, and self-examination).

1.2.P Identify the importance of age-appropriate medical services.

1.3.P Identify Standard (Universal) Precautions and why they are important.

1.4.P Examine the causes and symptoms of communicable and non-communicable diseases.

1.5.P Discuss the importance of effective personal and dental hygiene practices for preventing illness.

1.6.P Identify effective brushing and flossing techniques for oral care.

1.7.P Identify effective protection for teeth, eyes, head, and neck during sports and recreational activities.

1.8.P Identify ways to prevent vision or hearing damage.

1.9.P Identify ways that environmental factors, including air quality, affect our health.

1.10.P Identify human activities that contribute to environmental challenges (e.g., air, water, and noise pollution).

1.11.P Describe global influences on personal and community health.

1.12.P Identify ways to reduce exposure to the sun.

Standard 2: Analyzing Influences

2.1.P Analyze a variety of influences that affect personal health practices.

2.2.P Analyze how environmental pollutants, including noise pollution, affect health.

2.3.P Analyze the relationship between the health of a community and the global environment.

2.4.P Analyze the influence of culture, media, and technology on health decisions.

2.5.P Analyze the social influences that encourage or discourage sun-safety practices.

Standard 3: Accessing Valid Information

3.1.P Demonstrate the ability to access information about personal health products (e.g., deodorant, shampoo, sunscreen, and dental care products), and evaluate the information's validity.

3.2.P Access valid information about preventing common communicable diseases.

3.3.P Locate resources in school, in the community, and on the Internet for first aid information and training, and assess the validity of the resources.

3.4.P Demonstrate how to access school and community health services.

Standard 4: Interpersonal Communication

4.1.P Practice how to make a health-related consumer complaint.

4.2.P Use assertive communication skills to avoid situations that increase risk of communicable disease or illness.

Standard 5: Decision Making

5.1.P Apply a decision-making process to determine safe and healthy strategies for dealing with personal health problems.

5.2.P Apply a decision-making process when selecting health care products.

5.3.P Analyze the characteristics of informed health choices.

Standard 6: Goal Setting

6.1.P Establish goals for improving personal and community health.

6.2.P Design a plan to minimize environmental pollutants, including noise at home and in the community.

6.3.P Create a plan to incorporate adequate rest and sleep into daily routines.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.P Practice and take responsibility for personal and dental hygiene practices.

7.2.P Describe situations where Standard (Universal) Precautions are appropriate.

Standard 8: Health Promotion

8.1.P Promote the importance of regular screenings and medical examinations.

8.2.P Demonstrate the ability to be a positive peer role model in the school and community.

8.3.P Demonstrate ways to accept responsibility for conserving natural resources.

Source: California State Board of Education (2008). *Health education content standards for California public schools kindergarten through grade twelve* (pp. 33-44). Sacramento: California Department of Education.

APPENDIX D

HIGH SCHOOL GRADUATION REQUIREMENTS

Graduation Requirements

Courses required for graduation and university admission.

The California *Education Code (EC)* establishes minimum requirements for graduation from California high schools. These requirements should be seen as minimums and support regulations established by local school boards.

The California State University (CSU) and the University of California (UC) have established a uniform minimum set of courses required for freshman admission. The UC has created a Doorways (Outside Source) site that provides complete information about the high school courses approved for university admission. In addition to the required courses, California public universities have other freshman admission requirements (Outside Source).

High School Subject Area	State Mandated Requirements (*EC* 51225.3) for High School Graduation	UC Requirements for Freshman Admissions	CSU Requirements for Freshman Admissions
English	Three Years	Four years of approved courses	Four years of approved courses
Mathematics	Two years, including Algebra I beginning in 2003-04. (*EC* 51224.5)	Three years, including algebra, geometry, and intermediate algebra. Four years recommended.	Three years, including algebra, intermediate algebra, and geometry.
Social Science	Three years of history/social science, including one year of U.S. history & geography; one year of world history, culture, and geography; and one semester each of American government and economics.	Two years of history/social science, including one year of U.S. history or one-half year of U.S. history and one-half year of civics or American government; and one year of world history, cultures, and geography.	Two years, including one year of U.S. history or U.S. history and government and one year of other approved social science.
Science	Two years, including biological and physical sciences.	Two years with lab required, chosen from biology, chemistry, and physics. Three years recommended.	Two years, including one year of biological and one year of physical science with lab.

Foreign Language	One year of either visual and performing arts or foreign language.	Two years in same language required. Three years recommended.	Two years in same language required.
Visual and Performing Arts		One year of visual and performing arts chosen from the following: dance, drama/theater, music, or visual art.	One year of visual and performing arts chosen from the following: dance, drama/theater, music, or visual art.
Physical Education	Two years		
Electives		One year**	One year**
Total	**13**	**15** **(7 in the last two years)**	**15**

* Beginning in 2005–06, all students must pass the California High School Exit Examination prior to graduation, in addition to meeting course requirements.

* Beginning in the 2009–10 school year, *EC* Section 60852.3 provides an exemption from meeting the CAHSEE requirement as a condition of receiving a diploma of graduation for eligible students with disabilities who have an individualized education program (IEP) or a Section 504 plan.

** Must be chosen from approved academic courses in history, English, advanced mathematics, lab science, foreign language, social science, or fine arts. See UC Doorways (Outside Source) for approved courses at your high school.

Questions: Intersegmental Relations Office | 916-323-6398

Last Reviewed: Thursday, March 04, 2010

Source: California Department of Education. (last reviewed March 04, 2010). *Graduation requirements – High school.* Retrieved from http://www.cde.ca.gov/ci/gs/hs/hsgrtable.asp
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APPENDIX E

2010 STAR TEST RESULTS

2010 STAR Test Results

State of California

All Students - California Standards Test Scores

	County Name:
---	District Name:
---	School Name:
---	CDS Code:
---	Total Enrollment on First Day of Testing:
4,758,311	Total Number Tested:
4,720,776	Total Number Tested in Selected Subgroup:
4,720,776	

Note: The first row in each table contains numbers 2 through 11 which represent Grade 2 through Grade 11 respectively. Additionally, EOC stands for End-of-Course.

An asterisk (*) appears on the Internet reports to protect student privacy when ten or fewer students had valid test scores.

Source: California Department of Education. (2010). *2010 STAR test results*. Retrieved from http://star.dce.ca.gov/star2010/ViewReport.asp?ps=true&1stTestYear=2010&1stTestTpe=C

Reported Enrollment

Result Type	2	3	4	5	6	7	8	9	10	11	EOC
Reported Enrollment	463,097	463,877	469,202	464,615	465,951	469,719	478,697	515,720	497,957	469,476	

CST English-Language Arts

Result Type	2	3	4	5	6	7	8	9	10	11	EOC
Students Tested	456,483	440,816	439,641	434,202	436,857	441,912	451,810	490,335	482,333	451,586	
% of Enrollment	98.6 %	95.0 %	93.7 %	93.5 %	93.8 %	94.1 %	94.4 %	95.1 %	96.9 %	96.2 %	
Students with Scores	455,718	440,307	439,354	433,897	436,494	441,328	451,033	488,801	480,801	449,940	
Mean Scale Score	356.6	342.1	369.9	359.4	356.8	356.4	357.0	353.7	341.4	336.8	
% Advanced	23 %	18 %	36 %	26 %	25 %	23 %	29 %	24 %	22 %	21 %	
% Proficient	30 %	26 %	27 %	32 %	31 %	32 %	25 %	30 %	23 %	22 %	
% Basic	26 %	32 %	23 %	27 %	29 %	27 %	27 %	25 %	29 %	27 %	
% Below Basic	13 %	16 %	9 %	9 %	11 %	11 %	11 %	13 %	14 %	15 %	
% Far Below Basic	8 %	9 %	5 %	6 %	5 %	7 %	8 %	8 %	12 %	15 %	

CST Mathematics

Result Type	2	3	4	5	6	7	8	9	10	11	EOC
Students Tested	456,179	443,007	443,108	436,628	437,745	410,095					
% of Enrollment	98.5 %	95.5 %	94.4 %	94.0 %	93.9 %	87.3 %					
Students with Scores	455,308	442,294	442,759	436,268	437,306	409,483					
Mean Scale Score	381.7	395.4	389.9	383.5	360.5	352.1					
% Advanced	36 %	38 %	42 %	29 %	23 %	18 %					
% Proficient	26 %	27 %	26 %	31 %	29 %	31 %					
% Basic	20 %	20 %	19 %	20 %	26 %	28 %					
% Below Basic	14 %	12 %	11 %	14 %	17 %	17 %					
% Far Below Basic	4 %	2 %	2 %	5 %	5 %	6 %					

CST Algebra I

Result Type	2	3	4	5	6	7	8	9	10	11	EOC
Students Tested						31,492	274,508	269,800	118,412	56,830	751,042
% of Enrollment						6.7 %	57.3 %	52.3 %	23.8 %	12.1 %	
Students with Scores						31,480	274,182	268,975	117,798	56,451	748,886
Mean Scale Score						430.9	350.3	307.9	290.1	282.3	323.9
% Advanced						50 %	16 %	3 %	1 %	1 %	9 %
% Proficient						35 %	30 %	19 %	11 %	8 %	22 %
% Basic						11 %	24 %	26 %	23 %	19 %	24 %
% Below Basic						4 %	22 %	36 %	42 %	45 %	31 %
% Far Below Basic						1 %	7 %	16 %	23 %	27 %	14 %

Source: California Department of Education. (2010). *2010 STAR test results.* Retrieved from http://star.dce.ca.gov/star2010/ViewReport.asp?ps=true&1stTestYear=2010&1stTestTpe=C

APPENDIX F

MIDDLE GRADES COURSES OF STUDY INSTRUCTIONAL TIME

MIDDLE GRADES COURSES OF STUDY AND INSTRUCTIONAL TIME

Based on California Education Code Requirements,
California Department of Education Recommendations
and National Subject-Area Associations' Recommendations

In California, there are both required and recommended actions regarding courses of study and the instructional time needed to deliver them to elementary and secondary students. In the absence of either the *Education Code* or a recommendation from the State Board of Education (SBE) and the California Department of Education (CDE), external recommendations from national subject-area associations are given as guidelines.

California *Education Code Section* 46201 requires that all students in grades 4 to 8 receive 54,000 minutes of instruction annually. Education Code Section 41601.1 specifies that a district can receive funding for offering an "extended" day (e.g., longer than required by earlier law) if the students in grades 4 to 8 are in attendance 300 or more minutes per school day. This is usually interpreted to mean 300 minutes of actual instruction. Lunch breaks and passing periods longer than 5 minutes each are excluded from the 300 minutes.

Governing boards of local school districts are mandated by the California *Education Code* to include or offer specific courses of study with no associated time allocations, with the exception of physical education. It is the expectation that the grade-level content standards for each course of study either meet or exceed the content standards established by the California State Board of Education.

Middle grade students, ages 10 to 14, are in grades six, seven, and eight. Since there is not an *Education Code* definition for middle grades, there is some overlap. Middle grade students are assigned to the elementary grades (K-6/K-8) or in the secondary grades (7-12). Consequently references to courses and time reflect *Education Code* for both the elementary and secondary grades.

Source: California Department of Education. (2007, Sept. 19). *Middle grades courses of study and instructional time*. Retrieved from http://www.cde.ca.gov/ci/gs/mg/documents/mgcorstdyinstrctm.doc

Course of Study for	Ed. Code Reference	Ed. Code Requires That The District/School Board	Ed. Code Required Time Allocation	Not Required but Recommended
English / Language Arts	51210 (a) Grades 1-6	"shall include instruction..."	None	**California Department of Education** *Reading/Language Arts Framework (2007),(page 290)* *Basic Instructional Program.* • 2.0 hours/daily for all students in grades 4-6 for 180 days • At least 1 hour and up to 2 hours in grades 6, 7, 8 **California Department of Education** *Reading Language Arts Framework (2007), (page 290)* *English Language Development Program (elements that reinforce and extend the basic program):* • 30 minutes of extra support for English learners K-8, • 30 minutes of extra support for struggling readers, K-8, • 1 hour of English language development instruction. An effective English language arts program is characterized by: "In grades four through eight, two hours (or two periods) of instructional time are allocated to language arts instruction daily through core instructional periods or within a self-contained classroom..." *(page 15)* ***Essential Program Component Recommendations*** For students at grade-level ***(benchmark)*** and who may need some additional support ***(strategic).*** 2.1 ...for the adopted programs for English/reading/language arts. This time should be given priority program 1.0, 1.5, or 2.0 hours daily. For students who are learning below grade-level (2 or more years) ***(intensive)*** 2.2 ...for English/reading/language arts students taking the reading intervention program:
	51220 (a) Grades 7-12	"shall offer courses..."	None	

Course of Study for	Ed. Code Reference	Ed. Code Requires That The District/School Board	Ed. Code Required Time Allocation	Not Required but Recommended
				• Grades 6-8 2.0 to 3.0 hours daily.
Mathematics	51210 (b) Grades 1-6	"shall include instruction...."	None	**California Department of Education** *Mathematics Framework* (March 2006): (pages 9-11). "Adequate time is allocated to mathematics. Every day all students receive at least 50 to 60 minutes of mathematics instruction, not including homework. Additional instructional time is allocated for students who are, for whatever reason, performing substantially below grade level in mathematics."
	51220 (f) Grades 7-12 -Algebra taught in grades 7-12 51224.5 (a)	"shall offer courses..." Algebra course must be completed prior to (high school) graduation	None	[For additional information regarding Mathematics Intervention and Algebra Readiness, see Appendix E, *Mathematics Framework* (March 2006), pages 338-373.] ***Intervention - Essential Program Component Recommendation*** 2.4 The school provides additional time for mathematic students needing intervention. • Grades 6-8 30 minutes daily
Social Science	51210 (c) Grades 1-6	"shall include instruction..."	None	**National Council for Social Studies:** 1 hour each day. [2]
	51220 (b) Grades 7-12	"shall offer courses..."	None	
Science	51210 (d) Grades 1-6	"shall include instruction..."	None	**National Academy of Sciences :** 1 hour daily with alternating labs. [3]

[2] National Council for the Social Studies. *Expectations of Excellence: Curriculum Standards for Social Studies,* 1994. In Chapter I, Section: "How Do We Meet the Social Studies Standards?"

Course of Study for	Ed. Code Reference	Ed. Code Requires That The District/School Board	Ed. Code Required Time Allocation	Not Required but Recommended
	51220 (e) Grades 7-12	"shall offer courses..."	None	
Visual and Performing Arts	51210 (e) Grades 1-6	"shall include instruction..."	None	**Association for the Advancement of Arts Education** Review of research supports daily education in the arts for all students in grades K-7. [4]
	51220 (g) Grades 7-12	"shall offer courses..."	None	
Foreign Language	51212 Grades 1-6	"encourage establishment of programs..."	None	**California Department of Education** *Foreign Language Framework (2001)*: California students need to experience a four to five- year sequential program in order to gain mastery of a foreign language. Ideally, this instruction should begin in the elementary grades. **California Department of Education** *Foreign Language Framework (2001)*: "Foreign language programs in California begin at various grade levels and devote various amounts of time." In middle grades, framework suggests either one-semester course or a one –year course.
	51220 (c) Grades 7-12	"shall offer courses... beginning not later than grade 7..."	None	
Applied Arts / Career Technical	51220 (h) Grades 7-12 51220 (i) Grades 7-12	"shall offer courses..." "shall offer courses..."	None	**California Department of Education** *Career Technical Education Framework for California Public Schools*—Grades Seven Through Twelve (January 2007) "Middle schools in California currently offer two types of introductory CTE courses: a "wheel," or "sampler," of CTE and full-year foundation courses."
Health	51210(f) Grades 1-6	"shall include instruction..."	None	**California Department of Education** *Health Framework* Addendum (2002): All students should receive sequential, age-appropriate health education every year during the elementary and middle grades.

[3] National Academy of Sciences (National Committee on Science Education Standards and Assessment, National Research Council.) *National Science Education Standards,* 1996 Chapter 3, Standard D.

[4] Association for the Advancement of Arts Education. *Policy Statement on the Role of the Arts in Education,* 1996. "Our review of research [over 400 studies] has shown the need to daily include dance, theatre, and the visual arts in the education of all students (particularly students in grades kindergarten to seventh grade)." Successful programs must include a sequential curriculum, include a clear assessment component, and connect the arts with other subject areas.

Course of Study for	Ed. Code Reference	Ed. Code Requires That The District/School Board	Ed. Code Required Time Allocation	Not Required but Recommended
				No time allocation provided *Time projection based on a daily 50 minute class = 2.5 hrs./week*
Health	51202 Grades K-12	"shall provide instruction at the appropriate elementary and secondary grade levels and subject areas in personal and public safety and accident prevention..." (See Ed. Code for list of topics.)	None	None
Parenting Skills	51220.5 (c) Grades 7 or 8	"...shall include the equivalent to a one-semester course in parenting skills and education."	None	No time allocation provided *Time projection based on a daily 50 minute class = 2.5 hrs./week* for *one semester*
Physical Education	51210(g) Grades 1- 6 51220 (d) Grades 7 -12	"shall include beginning in grade 1 and continuing through grade 6...not less than 200 minutes each ten school days..." "shall offer courses with emphasis given to physical activities that are conducive to health and to vigor of body and mind."	200 minutes / every 10 school days	**California State Board of Education** (SBE) Policy Statement # 99-03 — waiver of time requirements permitted for middle schools -- minimum time requirements: For students on a block schedule, the minimum for physical education is 70 minutes a day for at least 18 weeks. SBE Policy Statement # 99-03: "Young persons benefit from physical activity on most, if not all, days of the week."

Course of Study for	Ed. Code Reference	Ed. Code Requires That The District/School Board	Ed. Code Required Time Allocation	Not Required but Recommended
	51220 (d) Grades 7-12 51222 (a)	"shall be required . . . not less than 400 minutes each 10 school days."	400 minutes / every 10 school days	
Other Areas:	51210 (h) Grades 1-6 51220 (k) Grades 7-12	Other studies that may be prescribed by governing board. Other studies as may be prescribed by governing board.	None	
Computer Technology Literacy	51007 (a)	"...all students... shall have equitable access to educational programs designed to strengthen technology skills, including but not limited to, computer education programs."	None	**National association recommendation:** 1 hour daily integrated with science and other content areas. [5] "Technology must be integrated into the curriculum so that it is a seamless component of instruction and evaluation." [6]
Youth Leadership	51005	"In order to carry out the intent of Section 51004, the Department of Education shall annually encourage school districts to plan programs and activities which utilize the resources of fairs and youth leadership activities..."	None	**National Middle Schools Association** : "Exemplary middle schools center on the intellectual, social, emotional, moral, and physical developmental needs of young adolescents."

[5] National Academy for Engineering. *Technology Speaking: Why All Americans Need to Know More About Technology*, 2002.
[6] *National Middle School Association Research Summary*, 2001.

APPENDIX G

STATE OF CALIFORNIA EDUCATION CODES PERTAINING TO THE TEACHING OF HEALTH TOPICS IN SECONDARY SCHOOLS

EDUCATION CODE SECTION 51260-51262

51260. (a) Instruction shall be given in the elementary and secondary schools by appropriately trained instructors on drug education and the effects of the use of tobacco, alcohol, narcotics, dangerous drugs, as defined in Section 11032 of the Health and Safety Code, and other dangerous substances.

For purposes of this chapter, an "appropriately trained instructor" is one who, based upon the determination of the site administrator, demonstrates competencies in interacting in a positive manner with children and youth; demonstrates knowledge of the properties and effects of tobacco, alcohol, narcotics, and dangerous drugs; and who demonstrates skills in conducting affective education, which include methods and techniques for helping children and youth to freely express ideas and opinions in a responsible manner and to gain an awareness of their values as they affect decisions related to drug use and misuse.

In grades 1 through 6, instruction on drug education should be conducted in conjunction with courses given on health pursuant to subdivision (f) of Section 51210.

In grades 7 to 12, inclusive, instruction on drug education shall be conducted in conjunction with courses given on health or in any appropriate area of study pursuant to Section 51220.

Such instruction shall be sequential in nature and suited to meet the needs of students at their respective grade level.

(b) Services provided under this section shall be in addition to, but shall not be duplicative of, services provided pursuant to Article 2 (commencing with Section 11965) of Part 3 of Division 10.5 of the Health and Safety Code.

51262. The Legislature hereby finds and declares that the use of anabolic steroids to expedite the physical development and to enhance the performance level of secondary school athletes presents a serious health hazard to these student athletes. It is the intent of the Legislature in enacting this measure that, beginning with the 1987-88 school year, schools be encouraged to include in instruction in grades 7 to 12, inclusive, in science, health, drug abuse, or physical education programs a lesson on the effects of the use of anabolic steroids.

EDUCATION CODE SECTION 51280-51284

51280. (a) The Legislature finds and declares all of the following:

(1) There are profound personal and financial implications for Californians associated with the average life expectancy steadily increasing toward 100 years of age.

(2) The savings rate among "boomers" continues to drop, while their cumulative debt continues to rise.

(3) A majority of workers choose to "cash out" of their employment savings plans when changing jobs, rather than transferring the accounts upon job changes and maintaining their savings in these accounts.

(4) It is estimated that 40 to 50 percent of "boomers" will likely find themselves living their later years in financial hardship.

(5) Californians should be financially prepared for, and aware of, the lifelong health issues associated with later life.

(b) It is the intent of the Legislature to enact legislation that will result in the education of all Californians regarding our prospect of becoming an "aging" state, including education as to all of the following:

(1) The changes we can expect in the later years of our lives.

(2) The changes we can expect of a society that is growing older.

(3) How we can be better prepared to sustain ourselves and our society in the coming years.

(4) The financial realities of living for a century.

(5) The importance of saving and financial planning.

(6) The financial benefits of healthful living and disease prevention.

(7) A new vision of aging, thereby dispelling ageist myths.

(8) An understanding of chronic disease and illness, with an emphasis on disease prevention and health in later life.

51282. (a) It is the intent of the Legislature to enact legislation to establish educational requirements in order to instill in California's youth a sense of importance about lifelong financial planning and preparation, including, among other things, the costs of health care, in a much-extended later life.

(b) Educational institutions have developed a model curriculum in lifelong healthy aging and financial preparedness, with materials, free of charge, for the Superintendent of Public Instruction to disseminate to school teachers at the local level.

(c) The Superintendent of Public Instruction shall make this existing curriculum available to teachers, using materials that are currently available at no cost, with information and links provided through the Internet, in order to provide to students in grades 7 to 12, inclusive, instruction on human growth, human development, and financial preparedness.

51284. After January 1, 2003, and concurrently with, but not prior to, the next revision of text books or curriculum frameworks in the social sciences, health, and mathematics curricula, the State Board of Education shall ensure that these academic areas integrate components of human growth, human development, and human contribution to society, across the life course, and also financial preparedness.

EDUCATION CODE SECTION 51930-51932

51930. (a) This chapter shall be known and may be cited as the California Comprehensive Sexual Health and HIV/AIDS Prevention Education Act.

(b) The purposes of this chapter are as follows:

(1) To provide a pupil with the knowledge and skills necessary to protect his or her sexual and reproductive health from unintended pregnancy and sexually transmitted diseases.

(2) To encourage a pupil to develop healthy attitudes concerning adolescent growth and development, body image, gender roles, sexual orientation, dating, marriage, and family.

51931. For the purposes of this chapter, the following definitions apply:

(a) "Age appropriate" refers to topics, messages, and teaching methods suitable to particular ages or age groups of children and adolescents, based on developing cognitive, emotional, and behavioral capacity typical for the age or age group.

(b) "Comprehensive sexual health education" means education regarding human development and sexuality, including education on pregnancy, family planning, and sexually transmitted diseases.

(c) "English learner" means a pupil as described in subdivision (a) of Section 306.

(d) "HIV/AIDS prevention education" means instruction on the nature of HIV/AIDS, methods of transmission, strategies to reduce the risk of human immunodeficiency virus (HIV) infection, and social and public health issues related to HIV/AIDS. For the purposes of this chapter, "HIV/AIDS prevention education" is not comprehensive sexual health education.

(e) "Instructors trained in the appropriate courses" means instructors with knowledge of the most recent medically accurate research on human sexuality, pregnancy, and sexually transmitted diseases.

(f) "Medically accurate" means verified or supported by research conducted in compliance with scientific methods and published in peer-reviewed journals, where appropriate, and recognized as accurate and objective by professional organizations and agencies with expertise in the relevant field, such as the federal Centers for Disease Control and Prevention, the American Public Health Association, the American Academy of Pediatrics, and the American College of Obstetricians and Gynecologists.

(g) "School district" includes county boards of education, county superintendents of schools, the California School for the Deaf, and the California School for the Blind.

51932. (a) This chapter does not apply to description or illustration of human reproductive organs that may appear in a textbook, adopted pursuant to law, on physiology, biology, zoology, general science, personal hygiene, or health.

(b) This chapter does not apply to instruction or materials that discuss gender, sexual orientation, or family life and do not discuss human reproductive organs and their functions.

EDUCATION CODE SECTION 51933

(Author's Note: This section contains subdivisions referring specifically to grade 7.)

51933. (a) School districts may provide comprehensive sexual health education, consisting of age-appropriate instruction, in any kindergarten to grade 12, inclusive, using instructors trained in the appropriate courses.

(b) A school district that elects to offer comprehensive sexual health education pursuant to subdivision (a), whether taught by school district personnel or outside consultants, shall satisfy all of the following criteria:

(1) Instruction and materials shall be age appropriate.

(2) All factual information presented shall be medically accurate and objective.

(3) Instruction shall be made available on an equal basis to a pupil who is an English learner, consistent with the existing curriculum and alternative options for an English learner pupil as otherwise provided in this code.

(4) Instruction and materials shall be appropriate for use with pupils of all races, genders, sexual orientations, ethnic and cultural backgrounds, and pupils with disabilities.

(5) Instruction and materials shall be accessible to pupils with disabilities, including, but not limited to, the provision of a modified curriculum, materials and instruction in alternative formats, and auxiliary aids.

(6) Instruction and materials shall encourage a pupil to communicate with his or her parents or guardians about human sexuality.

(7) Instruction and materials shall teach respect for marriage and committed relationships.

(8) Commencing in grade 7, instruction and materials shall teach that abstinence from sexual intercourse is the only certain way to prevent unintended pregnancy, teach that abstinence from sexual activity is the only certain way to prevent sexually transmitted diseases, and provide information about the value of abstinence while also providing medically accurate information on other methods of preventing pregnancy and sexually transmitted diseases.

(9) Commencing in grade 7, instruction and materials shall provide information about sexually transmitted diseases. This instruction shall include how sexually transmitted diseases are and are not transmitted, the effectiveness and safety of all federal Food and Drug Administration (FDA) approved methods of reducing

the risk of contracting sexually transmitted diseases, and information on local resources for testing and medical care for sexually transmitted diseases.

(10) Commencing in grade 7, instruction and materials shall provide information about the effectiveness and safety of all FDA-approved contraceptive methods in preventing pregnancy, including, but not limited to, emergency contraception.

(11) Commencing in grade 7, instruction and materials shall provide pupils with skills for making and implementing responsible decisions about sexuality.

(12) Commencing in grade 7, instruction and materials shall provide pupils with information on the law on surrendering physical custody of a minor child 72 hours or younger, pursuant to Section 1255.7 of the Health and Safety Code and Section 271.5 of the Penal Code.

(c) A school district that elects to offer comprehensive sexual health education pursuant to subdivision (a) earlier than grade 7 may provide age appropriate and medically accurate information on any of the general topics contained in paragraphs (8) to (12), inclusive, of subdivision (b).

(d) If a school district elects to offer comprehensive sexual health education pursuant to subdivision (a), whether taught by school district personnel or outside consultants, the school district shall comply with the following:

(1) Instruction and materials may not teach or promote religious doctrine.

(2) Instruction and materials may not reflect or promote bias against any person on the basis of any category protected by Section 220.

EDUCATION CODE SECTION 51934

51934. (a) A school district shall ensure that all pupils in grades 7 to 12, inclusive, receive HIV/AIDS prevention education from instructors trained in the appropriate courses. Each pupil shall receive this instruction at least once in junior high or middle school and at least once in high school.

(b) HIV/AIDS prevention education, whether taught by school district personnel or outside consultants, shall satisfy all of the criteria set forth in paragraphs (1) to (6), inclusive, of subdivision (b) and paragraphs (1) and (2) of subdivision (d) of Section 51933, shall accurately reflect the latest information and recommendations from the United States Surgeon General, the federal Centers for Disease Control and Prevention, and the National Academy of Sciences, and shall include the following:

(1) Information on the nature of HIV/AIDS and its effects on thehuman body.

(2) Information on the manner in which HIV is and is not transmitted, including information on activities that present the highest risk of HIV infection.

(3) Discussion of methods to reduce the risk of HIV infection. This instruction shall emphasize that sexual abstinence, monogamy, the avoidance of multiple sexual partners, and abstinence from intravenous drug use are the most effective means for HIV/AIDS prevention, but shall also include statistics based upon the

latest medical information citing the success and failure rates of condoms and other contraceptives in preventing sexually transmitted HIV infection, as well as information on other methods that may reduce the risk of HIV transmission from intravenous drug use.

(4) Discussion of the public health issues associated with HIV/AIDS.

(5) Information on local resources for HIV testing and medical care.

(6) Development of refusal skills to assist pupils in overcoming peer pressure and using effective decision making skills to avoid high-risk activities.

(7) Discussion about societal views on HIV/AIDS, including stereotypes and myths regarding persons with HIV/AIDS. This instruction shall emphasize compassion for persons living with HIV/AIDS.

EDUCATION CODE SECTION 51937-51939

51937. It is the intent of the Legislature to encourage pupils to communicate with their parents or guardians about human sexuality and HIV/AIDS and to respect the rights of parents or guardians to supervise their children's education on these subjects. The Legislature intends to create a streamlined process to make it easier for parents and guardians to review materials and evaluation tools related to comprehensive sexual health education and HIV/AIDS prevention education, and, if they wish, to excuse their children from participation in all or part of that instruction or evaluation. The Legislature recognizes that while parents and guardians overwhelmingly support medically accurate, comprehensive sex education, parents and guardians have the ultimate responsibility for imparting values regarding human sexuality to their children.

51938. A parent or guardian of a pupil has the right to excuse their child from all or part of comprehensive sexual health education, HIV/AIDS prevention education, and assessments related to that education, as follows:

(a) At the beginning of each school year, or, for a pupil who enrolls in a school after the beginning of the school year, at the time of that pupil's enrollment, each school district shall notify the parent or guardian of each pupil about instruction in comprehensive sexual health education and HIV/AIDS prevention education and research on pupil health behaviors and risks planned for the coming year. The notice shall do all of the following:

(1) Advise the parent or guardian that written and audiovisual educational materials used in comprehensive sexual health education and HIV/AIDS prevention education are available for inspection.

(2) Advise the parent or guardian whether the comprehensive sexual health education or HIV/AIDS prevention education will be taught by school district personnel or by outside consultants. A school district may provide comprehensive sexual health education or HIV/AIDS prevention education, to be taught by outside consultants, and may hold an assembly to deliver comprehensive sexual health education or HIV/AIDS prevention education by

guest speakers, but if it elects to provide comprehensive sexual health education or HIV/AIDS prevention education in either of these manners, the notice shall include the date of the instruction, the name of the organization or affiliation of each guest speaker, and information stating the right of the parent or guardian to request a copy of this section, Section 51933, and Section 51934. If arrangements for this instruction are made after the beginning of the school year, notice shall be made by mail or another commonly used method of notification, no fewer than 14 days before the instruction is delivered.

(3) Include information explaining the parent's or guardian's right to request a copy of this chapter.

(4) Advise the parent or guardian that the parent or guardian may request in writing that his or her child not receive comprehensive sexual health education or HIV/AIDS prevention education.

(b) Notwithstanding Section 51513, anonymous, voluntary, and confidential research and evaluation tools to measure pupils' health behaviors and risks, including tests, questionnaires, and surveys containing age-appropriate questions about the pupil's attitudesconcerning or practices relating to sex may be administered to any pupil in grades 7 to 12, inclusive, if the parent or guardian is notified in writing that this test, questionnaire, or survey is to be administered and the pupil's parent or guardian is given the opportunity to review the test, questionnaire, or survey and to request in writing that his or her child not participate.

(c) The use of outside consultants or guest speakers as described in paragraph (2) of subdivision (a) is within the discretion of the school district.

51939. (a) A pupil may not attend any class in comprehensive sexual education or HIV/AIDS prevention education, or participate in any anonymous, voluntary, and confidential test, questionnaire, or survey on pupil health behaviors and risks, if the school has received a written request from the pupil's parent or guardian excusing the pupil from participation.

(b) A pupil may not be subject to disciplinary action, academic penalty, or other sanction if the pupil's parent or guardian declines to permit the pupil to receive comprehensive sexual health education or HIV/AIDS prevention education or to participate in anonymous, voluntary, and confidential tests, questionnaires, or surveys on pupil health behaviors and risks.

(c) While comprehensive sexual health education, HIV/AIDS prevention education, or anonymous, voluntary, and confidential test, questionnaire, or survey on pupil health behaviors and risks is being administered, an alternative educational activity shall be made available to pupils whose parents or guardians have requested that they not receive the instruction or participate in the test, questionnaire, or survey.

Source: Justia.com (2011). *State laws and regulations for child health, safety, and well-being.* Retrieved from http://www.Justia.com

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