STATE OF CALIFORNIA

Specific curriculum area standards can be found at the California State Board of Education website, located at http://www.cde.ca.gov/be/st/ss/. Links to the specific standards are found under the current curriculum frameworks with the PDFs specific goals within each educational category located on the page. The benchmark interpretations are those of the Dangerous Decibels® program and do not represent official state board of education interpretation or review.

THE DANGEROUS DECIBELS PROGRAM is designed to reduce the incidence of noise induced hearing loss and tinnitus by changing knowledge, attitudes, and behaviors about sound exposures.

Common underlying educational messages:
1. What are the sources of dangerous sounds
2. What are the consequences of dangerous sounds
3. How do I protect myself from dangerous sounds.

RATIONALE:
The Centers for Disease Control Division of Adolescent and School Health (DASH) recognizes noise induced hearing loss as a health risk for young people. http://www.cdc.gov/healthyyouth/noise/

The U.S. national health initiative; Healthy People 2020 has indicated three related health goals for the prevention of noise induced hearing loss in youth; http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=20

1. ENT-VSL-6: Increase the use of hearing protection devices
   a. ENT-VSL-6.2: Adolescents aged 12 to 19 years who have ever used hearing protection devices (earplugs, earmuffs) when exposed to loud sounds or noise.

2. ENT-VSL-7: Reduce the proportion of adolescents who have elevated hearing thresholds or audiometric notches, in high frequencies (3, 4, or 6 kHz) in both ears, signifying noise-induced hearing loss.

3. ECBP-3: Increase the proportion of elementary, middle, and senior high schools that have health education goals or objects that address the knowledge and skills articulated in the National Health Education Standards (high school, middle, elementary).
   a. ECBP-3.1: Comprehending Concepts related to health promotion and disease prevention (knowledge)
   b. ECBP-3.2: Accessing valid information and health promoting products and services (skills)
   c. ECBP-3.3: Advocating for personal, family, and community health (skills)
   d. ECBP-3.5: Practicing health-enhancing behaviors and reducing health risks (skills)
   e. ECBP-3.6: Using goal-setting and decision-making skills to enhance health (skills)
   f. ECBP-3.7: Using interpersonal communication skills to enhance health (skills)
4. **ECBP–4**: Increase the proportion of elementary, middle, and senior high schools that provide school health education to promote personal health and wellness in the following areas: hand washing or hand hygiene; oral health; growth and development; sun safety and skin cancer prevention; benefits of rest and sleep; ways to prevent vision and hearing loss; and the importance of health screenings and checkups.
   a. **ECBP–4.6**: Ways to prevent vision and hearing loss

**DANGEROUS DECIBELS (DD) PROGRAM CONTENT:**

**What is Sound?**

**DD Educational Objectives:** Students will know that:

A. Sound is a result of vibrations
B. Sound vibrations are called sound waves
C. You cannot have sound without vibrations
D. The energy in sound is what can cause damage to our ears

**California Educational Benchmarks:**

A. Science (K)
   Investigation and Experimentation
   - 4. Scientific progress is made by asking meaningful questions and conducting careful investigations.
     ▪ (a) Observe common objects by using the five senses.

B. Science (1)
   Physical Sciences
   - 1. Materials come in in different forms (states), including solids, liquids, and gases.
     ▪ (a) Students know solids, liquids, and gases have different properties.

C. Science (2)
   Physical Sciences
   - 1. The motion of objects can be observed and measured.
     ▪ (a) Students know the position of an object can be described by locating it in relation to another object or to the background.
     ▪ (b) Students know an object’s motion can be described by recording the change in position of the object over time.
     ▪ (g) Students know sound is made by vibrating objects and can be described by its pitch and volume.

D. Science (3)
   Physical Sciences
   - 1. Energy and matter have multiple forms and can be changed from one form to another.
     ▪ (d) Student know energy can be carried from one place to another by waves, such as water waves and sound waves, by electric current, and by moving objects.
E. Science (6)
Focus on Earth Sciences: Heat (Thermal Energy) (Physical Sciences)
  • (a) Students know energy can be carried from one place to another by heat flow or by waves, including water, light and sound waves, or by moving objects.

F. Science (7)
Focus on Life Sciences: Structure and Function in Living Systems
  • 5. The anatomy and physiology of plants and animals illustrate the complementary nature of structure and function.
    • (g) Students know how to relate the structures of the eye and ear to their functions.

G. Science (8)
Focus on Physical Sciences: Motion
  • 1. The velocity of an object is the rate of change of its position.
    • (b) Students know that average speed is the total distance traveled by the total time elapsed and that the speed of an object along the path traveled can vary.
    • (c) Students know how to solve problems involving distance, time, and average speed.
    • (g) Students know how to identify separately the two or more forces that are acting on a single static object, including gravity, elastic forces due to tension or compression in matter, and friction.

H. Physics (9-12)
Motions and Forces
  • 1. Newton’s laws predict the motion of most objects.
    • (b) Students know that when forces are balanced, no acceleration occurs; thus an object continues to move at a constant speed or stays at rest (Newton’s first law).
    • (f) Students know applying a force to an object perpendicular to the direction of its motion causes the object to change direction but not speed.

Waves
  • 4. Waves have characteristic properties that do not depend on the type of wave.
    • (a) Students know waves carry energy from one place to another.
    • (b) Students know how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves).
    • (c) Students know how to solve problems involving wavelength, frequency, and wave speed.
    • (d) Students know sound is a longitudinal wave whose speed depends on the properties of the medium which it propagates.
    • (f) Students know how to identify the characteristic properties of waves: interference (beats), diffraction, refraction, Doppler effect, and polarization.
How Do We Hear?

DD Educational Objective:
1. Students will have a general understanding of how sound waves and vibrations travel through the parts of the ear to enable hearing.

California Educational Benchmarks:
A. Science (K)
   Investigation and Experimentation
   • 4. Scientific progress is made by asking meaningful questions and conducting careful investigations.
      ▪ (a) Observe common objects by using the five senses.
B. Health Education (K)
   Growth and Development
   • Standard 1: Essential Concepts
      ▪ 1.5.G Name body parts and their function.
      ▪ 1.6.G Name and describe the five senses.
C. Science (1)
   Physical Sciences
   • 1. Materials come in in different forms (states), including solids, liquids, and gases.
      ▪ (a) Students know solids, liquids, and gases have different properties.
      ▪ (b) Observe common objects by using the five senses.
D. Health Education (1)
   Growth and Development
   • Standard 1: Essential Concepts
      ▪ 1.2.G Identify anatomical names of major internal and external body parts.
E. Science (2)
   Physical Sciences
   • 1. The motion of objects can be observed and measured.
      ▪ (a) Students know the position of an object can be described by locating it in relation to another object or to the background.
      ▪ (b) Students know an object’s motion can be described by recording the change in position of the object over time.
      ▪ (g) Students know sound is made by vibrating objects and can be described by its pitch and volume.
F. Science (3)
   Physical Sciences
   • 1. Energy and matter have multiple forms and can be changed from one form to another.
      ▪ (d) Students know energy can be carried from one place to another by waves, such as water waves and sound waves, by electric current, and by moving objects.
G. Health Education (3)
   Growth and Development
   • Standard 1: Essential Concepts.
      ▪ 1.3.G Identify major internal and external body parts and their function.
H. Science (4)  
Physical Sciences  
  1. Electricity and magnetism are related effects that have many useful applications in everyday life.  
    (g) Students know electrical energy can be converted to heat, light, and motion.

I. Science (6)  
Focus on Earth Sciences: Heat (Thermal Energy) (Physical Sciences)  
  3. Heat moves in a predictable flow from warmer objects to cooler objects until all the objects are at the same temperature.  
    (a) Students know energy can be carried from one place to another by heat flow or by waves, including water, light and sound waves, or by moving objects.

J. Science (7)  
Focus on Life Sciences: Structure and Function in Living Systems  
  5. The anatomy and physiology of plants and animals illustrate the complementary nature of structure and function.  
    (g) Students know how to relate the structures of the eye and ear to their functions.

K. Physics (9-12)  
Waves  
  4. Waves have characteristic properties that do not depend on the type of wave.  
    (a) Students know waves carry energy from one place to another.  
    (b) Students know how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves).  
    (c) Students know how to solve problems involving wavelength, frequency, and wave speed.  
    (d) Students know sound is a longitudinal wave whose speed depends on the properties of the medium which it propagates.

How Do We Damage Our Hearing?  

DD Educational Objective:  
1. Students will know how loud sounds create strong vibrations that can permanently damage hair cells in the cochlea.

California Educational Benchmarks:  
A. Health Education (K)  
Growth and Development  
  • Standard 1: Essential Concepts  
    1.5.G Name body parts and their function.  
    1.6.G Name and describe the five senses.  

B. Health Education (1)  
Growth and Development  
  • Standard 1: Essential Concepts
1.2.G Identify anatomical names of major internal and external body parts.
1.3.G Identify a variety of behaviors that promote healthy grown and development.

Injury Prevention and Safety
- Standard 1: Essential Concepts
  - 1.1.S Describe characteristics of safe and unsafe places.
- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.1.S Practicing ways to stay safe at home, at school, and in the community.

C. Science (2)
   Physical Sciences
   - 1. The motion of objects can be observed and measured.
     (g) Students know sound is made by vibrating objects and can be described by its pitch and volume.
   Life Sciences
   - 2. Plants and animals have predictable life cycles.
     (c) Students know many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by the environment.

D. Science (3)
   Physical Sciences
   - 1. Energy and matter have multiple forms and can be changed from one form to another.
     (d) Students know energy can be carried from one place to another by waves, such as water waves and sound waves, by electric current, and by moving objects.

E. Health Education (3)
   Growth and Development
   - Standard 1: Essential Concepts
     - 1.3.G Identify major internal and external body parts and their function.

F. Health Education (4)
   Injury Prevention and Safety
   - Standard 1: Essential Concepts
     - 1.1.S Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.

G. Health Education (5)
   Personal and Community Health
   - Standard 1: Essential Concepts
     - 1.3.P Describe how environmental conditions affect personal health.

H. Health Education (6)
   Injury Prevention and Safety
   - Standard 2: Analyzing Influences
     - 2.1.S Analyze the role of self and others in causing or preventing injuries.

I. Science (7)
   Focus on Life Sciences: Structure and Function in Living Systems
5. The anatomy and physiology of plants and animals illustrate the complementary nature of structure and function.
   ▪ (g) Students know how to relate the structures of the eye and ear to their functions.

J. Health Education (7&8)
   Personal and Community Health
   - Standard 1: Essential Concepts
     ▪ 1.10.P Identify human activities that contributes to environmental challenges (e.g., air, water, and noise pollution).

K. Physics (9-12)
   Waves
   - 4. Waves have characteristic properties that do not depend on the type of wave.
     ▪ (a) Students know waves carry energy from one place to another.
     ▪ (b) Students know how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves).
     ▪ (c) Students know how to solve problems involving wavelength, frequency, and wave speed.
     ▪ (d) Students know sound is a longitudinal wave whose speed depends on the properties of the medium which it propagates.
     ▪ (f) Students know how to identify the characteristic properties of waves: interference (beats), diffraction, refraction, Doppler effect, and polarization.

L. Health Education (9-12)
   Personal and Community Health
   - Standard 1: Essential Concepts
     ▪ 1.3.P Identify symptoms that should prompt individuals to seek health care.
     ▪ 1.7.P Identify symptoms that indicate a need for an ear, eye, or dental examination.
   - Standard 5: Decision Making
     ▪ 5.2.P Explain how decisions regarding health behaviors have consequences for oneself and others.
     ▪ 5.5.P Analyze the possible consequences of risky hygienic and health behaviors and fads (e.g., tattooing, body piercing, sun exposure, and sound volume).

What’s that Sound?

DD Educational Objectives:
1. Students will understand one of the consequences of being exposed to dangerous sound levels.
2. Students will understand what it is like to try to identify sounds with a high frequency hearing loss.

California Educational Benchmarks:
A. Science (K)  
Investigation and Experimentation  
- 4. Scientific progress is made by asking meaningful questions and conducting careful investigations.  
  - (a) Observe common objects by using the five senses.

B. Health Education (K)  
Growth and Development  
- Standard 1: Essential Concepts  
  - 1.5.G Name body parts and their function.  
  - 1.6.G Name and describe the five senses.

Injury Prevention and Safety  
- Standard 1: Essential Concepts  
  - 1.9.S Recognize that anything may be poisonous or cause harm if used unsafely.

C. Health Education (1)  
Growth and Development  
- Standard 1: Essential Concepts  
  - 1.2.G Identify anatomical names of major internal and external body parts.  
  - 1.3.G Identify a variety of behaviors that promote healthy grown and development.

Injury Prevention and Safety  
- Standard 1: Essential Concepts  
  - 1.1.S Describe characteristics of safe and unsafe places.

D. Science (2)  
Physical Sciences  
- 1. The motion of objects can be observed and measured  
  - (b) Students know an object’s motion can be described by recording the change in position of the object over time.  
  - (g) Students know sound is made by vibrating objects and can be described by its pitch and volume.

E. Health Education (3)  
Growth and Development  
- Standard 1: Essential Concepts  
  - 1.3.G Identify major internal and external body parts and their function.

Personal and Community Health  
- Standard 1: Essential Concepts  
  - 1.3.P Identify positive health practices that reduce illness and disease.

F. Health Education (4)  
Injury Prevention and Safety  
- Standard 7: Practicing Health-Enhancing Behaviors  
  - 7.3.S Use appropriate protective gear and equipment.

G. Health Education (5)
Personal and Community Health
- Standard 1: Essential Concepts
  - 1.1.P Identify effective personal health strategies that reduce illness and injury (e.g., adequate sleep, ergonomics, sun safety, hand washing, hearing protection, and tooth brushing and tooth flossing).
  - 1.3.P Describe how environmental conditions affect personal health.

H. Health Education (6)

Injury Prevention and Safety
- Standard 2: Analyzing Influences
  - 2.1.S Analyze the role of self and others in causing or preventing injuries.
- Standard 4: Interpersonal Communication
  - 4.1.S Practice effective communication skills to prevent and avoid risky situations.
- Standard 8: Health Promotion
  - 8.1.S Support injury prevention at school, at home, and in the community.

I. Health Education (7&8)

Personal and Community Health
- Standard 1: Essential Concepts
  - 1.10.P Identify human activities that contributes to environmental challenges (e.g., air, water, and noise pollution).

J. Health Education (9-12)

Personal and Community Health
- Standard 1: Essential Concepts
  - 1.3.P Identify symptoms that should prompt individuals to seek health care.
  - 1.7.P Identify symptoms that indicate a need for an ear, eye, or dental examination.

How Loud is Too Loud?

DD Educational Objectives:
1. Students begin to associate different sounds with decibel levels.
2. Students identify which method of hearing protection is the best to practice when exposed to dangerous decibels from different sources.
3. Students identify and discuss the social norms and challenges associated with practicing hearing protection.

California Educational Benchmarks:
A. Science (K)
   Investigation and Experimentation
   - 4. Scientific progress is made by asking meaningful questions and conducting careful investigations.
     - (a) Observe common objects by using the five senses

B. Health Education (K)
   Growth and Development
   - Standard 1: Essential Concepts
State of California: Dangerous Decibels Educational Benchmarks: 2013.04
http://www.cde.ca.gov/be/st/ss/

- 1.5.G Name body parts and their function.
- 1.6.G Name and describe the five senses.

Injury Prevention and Safety
- Standard 1: Essential Concepts
  - 1.9.S Recognize that anything may be poisonous or cause harm if used unsafely.
- Standard 7: Practicing Health-Enhancing Behaviors

C. Health Education (1)
Growth and Development
- Standard 1: Essential Concepts
  - 1.3.G Identify a variety of behaviors that promote healthy growth and development.

Injury Prevention and Safety
- Standard 1: Essential Concepts
  - 1.1.S Describe characteristics of safe and unsafe places.
  - 1.5.6 Identify ways to reduce risk of injuries at home, at school, and in the community.
  - 1.13.S Identify refusal skills when in personal-safety situations (e.g., use a clear “no” statement, walk or run away, change subject, delay).
- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.1.S Practicing ways to stay safe at home, at school, and in the community.
  - 7.3.S Explain appropriate protective gear and equipment.

M. Science (2)
Life Sciences
- 2. Plants and animals have predictable life cycles
  - (c) Students know many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by the environment.

N. Health Education (3)
Growth and Development
- Standard 5: Decision Making
  - 5.1.G Examine why a variety of behaviors promote healthy growth and development.
- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.1.G Determine behaviors that promote healthy growth and development.

Personal and Community Health
- Standard 1: Essential Concepts
  - 1.3.P Identify positive health practices that reduce illness and disease.
  - 1.5.P Describe how a healthy environment is essential to personal and community health.
- Standard 8: Health Promotion
  - 8.1.P Support others in making positive health choices.

O. Health Education (4)
Injury Prevention and Safety
- Standard 1: Essential Concepts
1.1.S Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.
1.17.S Identify ways to prevent vision and hearing damage.
- Standard 4: Intrapersonal Communication
  4.1.S Demonstrate the ability to use refusal skills in risky situations.
- Standard 6: Goal Setting
  6.1.S Make a personal commitment to use appropriate protective gear while engaging in activities.
- Standard 7: Practicing Health-Enhancing Behaviors
  7.3.S Use appropriate protective gear and equipment.

P. Health Education (5)
  Personal and Community Health
  - Standard 1: Essential Concepts
    1.1.P Identify effective personal health strategies that reduce illness and injury (e.g. adequate sleep, ergonomics, sun safety, hand washing, hearing protection, and tooth brushing and tooth flossing).
    1.3.P Describe how environmental conditions affect personal health.
  - Standard 7: Practicing Health-Enhancing Behaviors
    7.2.P Demonstrate personal responsibility for health habits.

Q. Health Education (6)
  Injury Prevention and Safety
  - Standard 2: Analyzing Influences
    2.1.S Analyze the role of self and others in causing or preventing injuries.
    2.3.S Analyze personal behaviors that may lead to injuries or cause harm.
  - Standard 4: Interpersonal Communication
    4.1.S Practice effective communication skills to prevent and avoid risky situations.
  - Standard 8: Health Promotion
    8.1.S Support injury prevention at school, at home, and in the community.

R. Health Education (7&8)
  - Standard 2: Analyzing Influences
    2.1.P Analyze a variety of influences that affect personal health practices.
    2.4.P Analyze the influence of culture, media, and technology on health decisions.

S. Health Education (9-12)
  Personal and Community Health
  - Standard 1: Essential Concepts
    1.3.P Identify symptoms that should prompt individuals to seek health care.
    1.7.P Identify symptoms that indicate a need for an ear, eye, or dental examination.
  - Standard 5: Decision Making
    5.2.P Explain how decisions regarding health behaviors have consequences for oneself and others.
5.5.P Analyze the possible consequences of risky hygienic and health behaviors and fads (e.g., tattooing, body piercing, sun exposure, and sound volume).

Measuring Decibels with Sound Level Meters

DD Educational Objectives:
1. Students will measure sound intensities with a sound level meter.
2. Students learn how effective walking away from dangerous sound levels can be to reduce their exposure to dangerous sound.

California Educational Benchmarks:
A. Science (K)
   Investigation and Experimentation
   • 4. Scientific progress is made by asking meaningful questions and conducting careful investigations.
   - (a) Observe common objects by using the five senses.

B. Health Education (K)
   Injury Prevention and Safety
   • Standard 1: Essential Concepts
     - 1.1.S Identify safety rules for the home, the school, and the community.
     - 1.9.S Recognize that anything may be poisonous or cause harm if used unsafely.
   • Standard 7: Practicing Health-Enhancing Behaviors

Mental, Emotional, and Social Health
• Standard 8: Health Promotion
  - 8.1.M Encourage others when they engage in safe and healthy behaviors.

C. Science (1)
   Physical Sciences
   • 1. Materials come in in different forms (states), including solids, liquids, and gases.
   - (a) Students know solids, liquids, and gases have different properties.

D. Health Education (1)
   Growth and Development
   • Standard 1: Essential Concepts
     - 1.3.G Identify a variety of behaviors that promote healthy grown and development.
   Injury Prevention and Safety
   • Standard 1: Essential Concepts
     - 1.1.S Describe characteristics of safe and unsafe places.
     - 1.5.6 Identify ways to reduce risk of injuries at home, at school, and in the community.
     - 1.13.S Identify refusal skills when in personal-safety situations (e.g., use a clear “no” statement, walk or run away, change subject, delay).
• Standard 7: Practicing Health-Enhancing Behaviors
  ▪ 7.1.S Practicing ways to stay safe at home, at school, and in the community.

E. Science (2)
Physical Sciences
• 1. The motion of objects can be observed and measured
  ▪ (g) Students know sound is made by vibrating objects and can be described by its pitch and volume.

Life Sciences
• 2. Plants and animals have predictable life cycles
  ▪ (c) Students know many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by the environment.

F. Science (3)
Physical Sciences
• 1. Energy and matter have multiple forms and can be changed from one form to another
  ▪ (d) Students know energy can be carried from one place to another by waves, such as water waves and sound waves, by electric current, and by moving objects.

G. Health Education (3)
Growth and Development
• Standard 5: Decision Making
  ▪ 5.1.G Examine why a variety of behaviors promote healthy growth and development.

Personal and Community Health
• Standard 1: Essential Concepts
  ▪ 1.3.P Identify positive health practices that reduce illness and disease.
  ▪ 1.5.P Describe how a healthy environment is essential to personal and community health.

H. Health Education (4)
Injury Prevention and Safety
• Standard 1: Essential Concepts
  ▪ 1.1.S Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.
  ▪ Standard 4: Intrapersonal Communication
  ▪ 4.1.S Demonstrate the ability to use refusal skills in risky situations.

I. Health Education (5)
Personal and Community Health
• Standard 1: Essential Concepts
  ▪ 1.1.P Identify effective personal health strategies that reduce illness and injury (e.g. adequate sleep, ergonomics, sun safety, hand washing, hearing protection, and tooth brushing and tooth flossing).
  ▪ 1.3.P Describe how environmental conditions affect personal health.

J. Science (6)
Focus on Earth Sciences: Heat (Thermal Energy) (Physical Sciences)
• 3. Heat moves in a predictable flow from warmer objects to cooler objects until all the objects are at the same temperature
(a) Students know energy can be carried from one place to another by heat flow or by waves, including water, light and sound waves, or by moving objects.

K. Health Education (6)
Injury Prevention and Safety
- Standard 2: Analyzing Influences
  - 2.1.S Analyze the role of self and others in causing or preventing injuries.
  - 2.3.S Analyze personal behaviors that may lead to injuries or cause harm.
- Standard 4: Interpersonal Communication
  - 4.1.S Practice effective communication skills to prevent and avoid risky situations.

L. Health Education (7&8)
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).
  - 1.8.P Identify ways to prevent vision or hearing damage.
  - 1.10.P Identify human activities that contributes to environmental challenges (e.g., air, water, and noise pollution).

M. Science (8)
Focus on Physical Sciences: Motion
- 1. The velocity of an object is the rate of change of its position.
  - (c) Students know how to solve problems involving distance, time, and average speed.
  - (g) Students know how to identify separately the two or more forces that are acting on a single static object, including gravity, elastic forces due to tension or compression in matter, and friction.

N. Physics (9-12)
Motions and Forces
- 1. Newton’s laws predict the motion of most objects
  - (b) Students know that when forces are balanced, no acceleration occurs; thus an object continues to move at a constant speed or stays at rest (Newton’s first law).

Waves
- 4. Waves have characteristic properties that do not depend on the type of wave.
  - (a) Students know waves carry energy from one place to another.
  - (b) Students know how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves).
  - (c) Students know how to solve problems involving wavelength, frequency, and wave speed.
  - (d) Students know sound is a longitudinal wave whose speed depends on the properties of the medium which it propagates.
  - (f) Students know how to identify the characteristic properties of waves: interference (beats), diffraction, refraction, Doppler effect, and polarization.
Investigation and Experimentation
- 1. Science progress is made by asking meaningful questions and conducting careful investigations.
  - (a) Select and use appropriate tools and technology (such as computer-linked probes, spreadsheets, and graphing calculators), to perform tests, collect data, analyze relationships, and display data.

O. Health Education (9-12)
Injury Prevention and Safety
- Standard 1: Essential Concepts
  - 1.12.S Identify ways to prevent situations that might harm vision, hearing, or dental health.

Personal and Community Health
- Standard 2: Analyzing Influences
  - 2.1.P Discuss influences that affect positive health practices.

How to use Earplugs

DD Educational Objectives:
1. Students will observe the proper technique and fitting of preformed earplugs.
2. Optional: Students will have the opportunity to practice fitting earplugs in their ears.

California Educational Benchmarks:
A. Health Education (K)
Injury Prevention and Safety
- Standard 1: Essential Concepts
  - 1.1.S Identify safety rules for the home, the school, and the community.
  - 1.9.S Recognize that anything may be poisonous or cause harm if used unsafely.
- Standard 7: Practicing Health-Enhancing Behaviors

B. Health Education (1)
Growth and Development
- Standard 1: Essential Concepts
  - 1.3.G Identify a variety of behaviors that promote healthy grown and development.
Injury Prevention and Safety
- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.1.S Practicing ways to stay safe at home, at school, and in the community.
  - 7.3.S Explain appropriate protective gear and equipment.

C. Health Education (3)
Growth and Development
- Standard 5: Decision Making
5.1.G Examine why a variety of behaviors promote healthy growth and development.

- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.1.G Determine behaviors that promote healthy growth and development.

Personal and Community Health

- Standard 1: Essential Concepts
  - 1.3.P Identify positive health practices that reduce illness and disease.
  - 1.5.P Describe how a healthy environment is essential to personal and community health.

D. Health Education (4)
Injury Prevention and Safety

- Standard 1: Essential Concepts
  - 1.1.S Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.

- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.3.S Use appropriate protective gear and equipment.

E. Health Education (5)
Personal and Community Health

- Standard 1: Essential Concepts
  - 1.1.P Identify effective personal health strategies that reduce illness and injury (e.g., adequate sleep, ergonomics, sun safety, hand washing, hearing protection, and tooth brushing and tooth flossing).

F. Health Education (6)
Injury Prevention and Safety

- Standard 2: Analyzing Influences
  - 2.1.S Analyze the role of self and others in causing or preventing injuries.

G. Health Education (7&8)
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).
  - 1.8.P Identify ways to prevent vision or hearing damage.
  - 1.10.P Identify human activities that contribute to environmental challenges (e.g., air, water, and noise pollution).

H. Health Education (9-12)
Injury Prevention and Safety

- Standard 1: Essential Concepts
  - 1.12.S Identify ways to prevent situations that might harm vision, hearing, or dental health.

Rock Your World: Time to Act!

DD Educational Objectives:
1. To bring awareness to peer pressure that a person can encounter when practicing smart hearing.
2. Students practice making personal decisions on individual behavior in social settings and discuss their answers with the class and educator.

California Educational Benchmarks:
A. Health Education (K)
   Injury Prevention and Safety
   - Standard 1: Essential Concepts
     - 1.1.S Identify safety rules for the home, the school, and the community.
     - 1.9.S Recognize that anything may be poisonous or cause harm if used unsafely.
     - Standard 7: Practicing Health-Enhancing Behaviors
   Mental, Emotional, and Social Health
   - Standard 8: Health Promotion
     - 8.1.M Encourage others when they engage in safe and healthy behaviors.

B. Health Education (1)
   Growth and Development
   - Standard 1: Essential Concepts
     - 1.3.G Identify a variety of behaviors that promote healthy growth and development.
   Injury Prevention and Safety
   - Standard 1: Essential Concepts
     - 1.1.S Describe characteristics of safe and unsafe places.
     - 1.5.6 Identify ways to reduce risk of injuries at home, at school, and in the community.
     - 1.13.S Identify refusal skills when in personal-safety situations (e.g., use a clear “no” statement, walk or run away, change subject, delay).
   - Standard 7: Practicing Health-Enhancing Behaviors
     - 7.1.S Practicing ways to stay safe at home, at school, and in the community.
   Personal and Community Health
   - Standard 2: Analyzing Influences
     - 2.1.P Explain how family and friends influence positive health practices.
   - Standard 3: Accessing valid information
     - 3.1.P Identify individuals in the school and in the community who promote health.

C. Health Education (2)
   Growth and Development
   - Standard 5: Decision Making
     - 5.1.M Use a decision-making process for solving problems with peers and family members.

D. Health Education (3)
   Growth and Development
   - Standard 5: Decision Making
5.1.G Examine why a variety of behaviors promote healthy growth and development.

Personal and Community Health
- Standard 1: Essential Concepts
  - 1.3.P Identify positive health practices that reduce illness and disease.
  - 1.5.P Describe how a healthy environment is essential to personal and community health.
- Standard 8: Health Promotion
  - 8.1.P Support others in making positive health choices.

E. Health Education (4)

Injury Prevention and Safety
- Standard 1: Essential Concepts
  - 1.1.S Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.
- Standard 8: Health Promotion
  - 8.3.S Encourage others' safety behaviors (e.g. wearing bicycle helmets and seat belts).

F. Health Education (5)

Personal and Community Health
- Standard 4: Interpersonal Communication
  - 4.1.P Practice effective communication skills to seek help for health-related problems or emergencies.
- Standard 7: Practicing Health-Enhancing Behaviors
  - 7.2.P Demonstrate personal responsibility for health habits.

G. Health Education (6)

Injury Prevention and Safety
- Standard 2: Analyzing Influences
  - 2.1.S Analyze the role of self and others in causing or preventing injuries.
  - 2.3.S Analyze personal behaviors that may lead to injuries or cause harm.
- Standard 4: Interpersonal Communication
  - 4.1.S Practice effective communication skills to prevent and avoid risky situations.

H. Health Education (7&8)

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).
  - 1.8.P Identify ways to prevent vision or hearing damage.
  - 1.10.P Identify human activities that contributes to environmental challenges (e.g., air, water, and noise pollution).
- Standard 2: Analyzing Influences
  - 2.1.P Analyze a variety of influences that affect personal health practices.
  - 2.4.P Analyze the influence of culture, media, and technology on health decisions.

I. Health Education (9-12)
Injury Prevention and Safety
  • Standard 8: Health Promotion
    ▪ 8.1.S Identify and support changes in the home, at school, and in the community that promote safety.

Personal and Community Health
  • Standard 1: Essential Concepts
    ▪ 1.3.P Identify symptoms that should prompt individuals to seek health care.
    ▪ 1.7.P Identify symptoms that indicate a need for an ear, eye, or dental examination.
  • Standard 5: Decision Making
    ▪ 5.2.P Explain how decisions regarding health behaviors have consequences for oneself and others

http://www.cde.ca.gov/be/st/ss/