



# California Subject Examinations for Teachers®

## TEST GUIDE

### HEALTH SCIENCE SUBTEST I

#### Sample Questions and Responses and Scoring Information

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## Sample Test Questions for CSET: Health Science Subtest I

Below is a set of multiple-choice questions and constructed-response questions that are similar to the questions you will see on Subtest I of CSET: Health Science. You are encouraged to respond to the questions without looking at the responses provided in the next section. Record your responses on a sheet of paper and compare them with the provided responses.

1. *Healthy People 2010* is relevant to the work of a health education professional primarily because it provides:
  - A. an annotated list of government agencies and private organizations that are potential sources of funding for health-related educational programs.
  - B. information about the cost-effectiveness of government programs related to the health needs of Americans.
  - C. a comprehensive set of disease prevention and health promotion objectives intended to serve as a guide for improving the health of all Americans.
  - D. a comparison of school health education programs in the United States with similar programs in other developed nations.
2. A health education teacher in California is developing a unit on the health implications of obesity. The Web site for which of the following agencies is most likely to be the best source for current information on this topic?
  - A. California Health and Human Services Agency
  - B. Food and Drug Administration
  - C. California Office of Statewide Health Planning and Development
  - D. Centers for Disease Control and Prevention
3. Which of the following systems is the body's first line of defense against infectious organisms?
  - A. respiratory
  - B. immune
  - C. lymphatic
  - D. integumentary

4. Which of the following explanations for the behavior of adolescent bullies relies on social learning theory?
- A. Bullies displace anger that they feel toward their parents.
  - B. Bullies are aggressive because all adolescents seek stimulation of some sort.
  - C. Bullies model their behavior on the behavior of others.
  - D. Bullies receive positive reinforcement for their behavior in the form of increased attention.
5. A health education teacher has noticed that a student is favoring her right arm and seems to be in a good deal of pain. The teacher suspects that the arm might be broken. At this point, the teacher should:
- A. arrange for the student to be taken to the local emergency room.
  - B. report the situation to the school principal and/or school nurse.
  - C. arrange for the student to be excused from her classes and sent home.
  - D. report a suspected case of abuse to the local social service agency.
6. In which of the following cases would a teacher most likely be found to be negligent in fulfilling his or her legal obligation to protect students from harm or injury?
- A. A student falls and breaks an arm at home while exercising as part of a personal fitness program developed in his health education class.
  - B. A student is humiliated by abusive language used by another student during a role-playing exercise for a health education unit about interpersonal communication.
  - C. A health education teacher fails to recognize the symptoms of bulimia in a student who is later hospitalized for treatment of the disorder.
  - D. An obese student is mocked by another student after a health education class in which students learn about the health risks of obesity.
7. Adolescents who have entered the growth spurt often are physically uncoordinated because:
- A. rapid growth of the brain and nervous system results in lack of concentration and mental focus.
  - B. development of kinesthetic sense is associated with middle ear changes that occur later in adolescence.
  - C. hormonal imbalances associated with puberty lead to rapid fluctuations in metabolic processes.
  - D. different parts of the musculo-skeletal system are growing at different rates.

8. Daily flossing between the teeth is recommended primarily to:
- A. prevent bad breath.
  - B. maintain sufficient space between the teeth to prevent crowding.
  - C. remove trapped food particles that can cause tooth decay.
  - D. prevent the formation of plaque.
9. Which of the following adolescent psychosocial problems is considerably more common in females than in males?
- A. lack of self-control
  - B. insecurity in dealing with peers
  - C. antisocial behavior
  - D. distorted body image
10. Adolescents generally join a clique or gang in order to:
- A. satisfy the need to establish an alternative identity.
  - B. provide a safe outlet for aggressive or antisocial tendencies.
  - C. learn how to interact socially with peers in a secure environment.
  - D. experiment with playing a variety of social roles.
11. The increase in the incidence of Type 2 diabetes in the last 20 years is primarily the result of an increase in:
- A. the survival rates of those diagnosed with diabetes.
  - B. substance abuse on the part of young adults.
  - C. unhealthy dietary and exercise habits.
  - D. the number of individuals from susceptible populations.

12. Getting pap smears regularly is an important diagnostic procedure to detect:
- A. birth defects.
  - B. cervical cancer.
  - C. sexually transmitted disease.
  - D. female infertility.
13. Which of the following is the leading cause of death for adults in the United States?
- A. HIV/AIDS
  - B. cardiovascular disease
  - C. accidents and violence
  - D. cancer
14. Pneumonia is best described as the collective term for a variety of bacterial and viral infections that cause difficulty in breathing due to:
- A. filling of the lungs with fluid.
  - B. inflammation of the bronchial passages.
  - C. loss of elasticity of the alveoli.
  - D. decomposition of the tissue of the lungs.
15. Widespread screening of blood supplies is most important for preventing which of the following diseases?
- A. encephalitis
  - B. hepatitis B
  - C. West Nile virus
  - D. meningitis

## Constructed-Response Assignment Directions

For the first constructed-response assignment in this section, you are to prepare a written response of approximately, but not limited to, 75–125 words on the assigned topic.

For the second constructed-response assignment in this section, you are to prepare a written response of approximately, but not limited to, 150–300 words on the assigned topic.

Read each assignment carefully before you begin to write. Think about how you will organize what you plan to write.

Your response to the **first** assignment will be evaluated based on the following criteria.

**PURPOSE:** the extent to which the response addresses the constructed-response assignment's charge in relation to relevant CSET subject matter requirements

**SUBJECT MATTER KNOWLEDGE:** the application of accurate subject matter knowledge as described in the relevant CSET subject matter requirements

**SUPPORT:** the appropriateness and quality of the supporting evidence in relation to relevant CSET subject matter requirements

Your response to the **second** assignment will be evaluated based on the following criteria.

**PURPOSE:** the extent to which the response addresses the constructed-response assignment's charge in relation to relevant CSET subject matter requirements

**SUBJECT MATTER KNOWLEDGE:** the application of accurate subject matter knowledge as described in the relevant CSET subject matter requirements

**SUPPORT:** the appropriateness and quality of the supporting evidence in relation to relevant CSET subject matter requirements

**DEPTH AND BREADTH OF UNDERSTANDING:** the degree to which the response demonstrates understanding of the relevant CSET subject matter requirements

The assignments are intended to assess subject matter knowledge and skills, not writing ability. Your responses, however, must be communicated clearly enough to permit a valid judgment of your knowledge and skills. Your responses should be written for an audience of educators in the field.

Your responses should be your original work, written in your own words, and not copied or paraphrased from some other work. You may not use any reference materials during the testing session. Remember to review your work and make any changes you think will improve your responses.

16. **Use the information below to complete the exercise that follows.**

Diabetes is a major health threat in the United States.

Using your knowledge of this disease, write a response in which you:

- describe Type 2 diabetes and the populations most affected by this disease;
- describe three major factors that place an individual at risk for the development of Type 2 diabetes;  
and
- describe two prevention strategies that individuals can use to help reduce the risk of developing Type 2 diabetes.

17. Use the information below to complete the exercise that follows.

A health educator at a high school with approximately 1,600 students is concerned about the level of tobacco use that is occurring in the school population. Anecdotal evidence and personal observations suggest that the problem is growing, and this is supported by an increase in the frequency of reported incidents involving tobacco smoking by students within the last two years.

Using your knowledge of the foundations of school health education, write a response in which you:

- describe any four components of the coordinated school health program (CSHP) that directly relate to the problem outlined above;
- describe, for each of these four components, one way that the component addresses the problem described above; and
- discuss the role of the school health educator in acting as both a resource and as an advocate for solutions to the problem described above.

# Annotated Responses to Sample Multiple-Choice Questions for CSET: Health Science Subtest I

## Foundations of Health Education

1. **Correct Response: C.** (SMR Code: 1.1) *Healthy People 2010* is a statement of national health objectives aimed at health promotion through the identification and reduction of preventable threats to health. Its two major goals are to increase the life span and quality of life for all Americans and to eliminate health disparities that result from differences in gender, race, education, region, or disability.
2. **Correct Response: D.** (SMR Code: 1.1) The Centers for Disease Control and Prevention (CDC) is the major national public health agency responsible for researching and collecting data on health conditions and diseases that impact Americans. The agency maintains a Web site accessible to the public with up-to-date reliable health information.
3. **Correct Response: D.** (SMR Code: 1.2) The integumentary system includes the skin, which protects the body from outside organisms. The skin provides a physical barrier to any organism that contacts the body and therefore is the body's first defense against many infectious diseases.
4. **Correct Response: C.** (SMR Code: 1.2) Social learning theory proposes that children learn behavior through observing and modeling the behaviors of authority figures within their lives. Children are more likely to adopt bullying behaviors if they are brought up in abusive or neglectful home environments. Children often model the behaviors displayed by their parents or caregivers.
5. **Correct Response: B.** (SMR Code: 1.3) Teachers are responsible for reporting suspected or confirmed injuries to the appropriate authorities. In the school environment, appropriate authorities are the principal, who is ultimately responsible for the health of everyone at the school, and the school nurse, who is responsible for providing emergency care for injuries.
6. **Correct Response: B.** (SMR Code: 1.3) Teachers may be found to be negligent if they did not exercise reasonable care to protect a student's mental or physical health. In this situation, the teacher should have designed the activity and controlled student participation to ensure that no student would be humiliated during the exercise. The teacher's failure to do either could be interpreted as a failure to exercise reasonable care to prevent injury.

## Human Growth and Development

7. **Correct Response: D.** (SMR Code: 2.1) Growth spurts during adolescence occur in the muscular and skeletal systems. Because the growth is rapid and different body parts grow at different rates, these physical changes can result in a lack of coordination as adolescents adjust to their changing bodies.
8. **Correct Response: D.** (SMR Code: 2.1) Plaque builds up on teeth as a film containing food particles that nourish the growth of bacteria. Daily flossing between the teeth and along the contact line with the gums disrupts the growing bacterial colonies and prevents the accumulation of plaque that contributes to gum disease.

9. **Correct Response: D.** (SMR Code: 2.2) Body image refers to how a person perceives his or her own body, which is strongly tied to cultural expectations and attitudes of family and friends. Females typically feel more outside pressure than males to conform to specific physical traits, such as being thin even when they are not naturally thin. This can result in distorted images of their actual bodies and inaccurate perceptions that they are overweight or ugly.
10. **Correct Response: A.** (SMR Code: 2.2) Adolescence is a time during which teenagers begin pulling away from the relationships of childhood and begin seeking independence by developing alternative close relationships with friends and peer groups. Joining a clique or gang that publicly identifies itself by the way members dress, speak, and/or act, provides an adolescent with a new identity that is distinct from earlier ones.

### Chronic and Communicable Diseases

11. **Correct Response: C.** (SMR Code: 3.1) Type 2 diabetes is most common in obese and physically inactive people. In the past twenty years, the increase in inactive lifestyles, unhealthy diets, and the incidence of obesity, as well as the aging of the general population, have all led to an increase in the incidence of Type 2 diabetes.
12. **Correct Response: B.** (SMR Code: 3.1) In its early stages, cervical cancer is both symptomless and curable. A pap smear tests for cervical cancer by scraping a sample of cells from the cervical wall and examining them for abnormalities. Yearly pap smears for those who are sexually active are highly effective in identifying early cervical cancer.
13. **Correct Response: B.** (SMR Code: 3.1) Cardiovascular disease refers to diseases involving the heart or blood vessels, including hypertension, arteriosclerosis, angina pectoris, heart attack, congestive heart failure, and stroke. Each year, approximately 950,000 people die from cardiovascular disease, making it the single leading cause of death in the United States.
14. **Correct Response: A.** (SMR Code: 3.1) Pneumonia is caused by bacteria, viruses, or other pathogens that invade the alveoli in the lungs, and as a result, these small air sacs fill with fluid. This buildup of fluid in the lungs impedes the intake of oxygen and the exhalation of carbon dioxide, resulting in breathing difficulties.
15. **Correct Response: B.** (SMR Code: 3.2) Hepatitis B is a serious viral disease that is spread through bodily fluids, especially through the transfusion of blood products. Therefore, all supplies of blood are carefully screened before use to ensure the absence of the hepatitis B virus.

## Examples of Strong Responses to Sample Constructed-Response Questions for CSET: Health Science Subtest I

### Chronic and Communicable Diseases

#### Question #16 (Score Point 3 Response)

Type 2 diabetes is a disease in which the body does not produce adequate insulin or the body cells do not use the insulin appropriately. This causes glucose to build up in the blood instead of going to the body cells to be used for energy. This increase can lead to symptoms such as excessive thirst, frequent urination, fatigue, and weight gain. Untreated, the disease can contribute to neurological problems, cardiovascular disease, blindness, and kidney disease. Populations most affected are African Americans, Latinos, and Native Americans.

Historically, Type 2 diabetes has been a problem among older adults; however, recent research indicates that it is an increasing concern in the young.

Risk factors for Type 2 diabetes include inactivity, obesity, family history, and high blood pressure.

Risk can be reduced by lifestyle changes, including regular aerobic exercise (30 minutes, five days a week), weight control, and a low-calorie, low-fat diet.

## Foundations of Health Education

### Question #17 (Score Point 4 Response)

A coordinated school health program to address the problem of tobacco use among high school students might address the problem of tobacco use through the following components:

1. Health instruction in the classroom--to provide information, promote skill development, and increase awareness of the negative effects of tobacco use
2. Counseling, psychological, and social services--to help students deal with psychological stress and addiction, resist peer pressure, improve self-image, and reduce stress; also help parents learn how to talk to teens effectively about tobacco use
3. Community involvement and education—to raise awareness about advertising related to tobacco and to support programs that enforce laws limiting access to tobacco by teens
4. Health services—the school nurse helps students recognize the physical effects of smoking and cope with withdrawal symptoms and provides cessation programs and resources

The school health educator can be a resource by becoming personally knowledgeable about the effects of tobacco use and by gathering an array of resources and program information. In this role, the health educator can help students become aware of the facts about tobacco and health. This is an objective role, so that students can have the benefit of up-to-date, accurate information.

As an advocate, the health educator can help students interpret information to make appropriate choices about tobacco use. In this role, the educator can portray tobacco use in an unattractive light, enlist peer pressure in positive ways, and try to generate an environment that does not support or endorse tobacco use. This is a persuasive role, to try to influence students' decisions and actions.

## Scoring Information for CSET: Health Science Subtest I

Responses to the multiple-choice questions are scored electronically. Scores are based on the number of questions answered correctly. There is no penalty for guessing.

Responses to constructed-response questions are scored by qualified California educators using focused holistic scoring.

Because the constructed-response questions on CSET: Health Science Subtest I are of two types—one type requiring a short (focused) response taking approximately 10–15 minutes to complete, and another type requiring an extended response taking approximately 30–45 minutes to complete—two sets of performance characteristics and two scoring scales will be used to score responses to the constructed-response questions. Scorers will judge the overall effectiveness of your responses while focusing on the appropriate performance characteristics that have been identified as important for this subtest (see below and page 13). Each response will be assigned a score based on an approved scoring scale (see pages 13–14).

Your performance on the subtest will be evaluated against a standard determined by the Commission on Teacher Credentialing based on professional judgments and recommendations of California educators.

### Performance Characteristics and Scoring Scales for CSET: Health Science Subtest I

#### **A. SHORT (FOCUSED)-RESPONSE QUESTION**

**Performance Characteristics.** The following performance characteristics will guide the scoring of responses to the short (focused)-response constructed-response question on CSET: Health Science Subtest I.

<b>PURPOSE</b>	The extent to which the response addresses the constructed-response assignment's charge in relation to relevant CSET subject matter requirements.
<b>SUBJECT MATTER KNOWLEDGE</b>	The application of accurate subject matter knowledge as described in the relevant CSET subject matter requirements.
<b>SUPPORT</b>	The appropriateness and quality of the supporting evidence in relation to relevant CSET subject matter requirements.

**Scoring Scale.** Scores will be assigned to each response to the short (focused)-response constructed-response question on CSET: Health Science Subtest I according to the following scoring scale.

SCORE POINT	SCORE POINT DESCRIPTION
<b>3</b>	<p><b>The "3" response reflects a command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is fully achieved.</li> <li>• There is an accurate application of relevant subject matter knowledge.</li> <li>• There is appropriate and specific relevant supporting evidence.</li> </ul>
<b>2</b>	<p><b>The "2" response reflects a general command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is largely achieved.</li> <li>• There is a largely accurate application of relevant subject matter knowledge.</li> <li>• There is acceptable relevant supporting evidence.</li> </ul>
<b>1</b>	<p><b>The "1" response reflects a limited or no command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is only partially or not achieved.</li> <li>• There is limited or no application of relevant subject matter knowledge.</li> <li>• There is little or no relevant supporting evidence.</li> </ul>
<b>U</b>	<p><b>The "U" (Unscorable) is assigned to a response that is unrelated to the assignment, illegible, primarily in a language other than English, or does not contain a sufficient amount of original work to score.</b></p>
<b>B</b>	<p><b>The "B" (Blank) is assigned to a response that is blank.</b></p>

**B. EXTENDED-RESPONSE QUESTION**

**Performance Characteristics.** The following performance characteristics will guide the scoring of responses to the extended-response constructed-response question on CSET: Health Science Subtest I.

<b>PURPOSE</b>	The extent to which the response addresses the constructed-response assignment's charge in relation to relevant CSET subject matter requirements.
<b>SUBJECT MATTER KNOWLEDGE</b>	The application of accurate subject matter knowledge as described in the relevant CSET subject matter requirements.
<b>SUPPORT</b>	The appropriateness and quality of the supporting evidence in relation to relevant CSET subject matter requirements.
<b>DEPTH AND BREADTH OF UNDERSTANDING</b>	The degree to which the response demonstrates understanding of the relevant CSET subject matter requirements.

**Scoring Scale.** Scores will be assigned to each response to the extended-response constructed-response question on CSET: Health Science Subtest I according to the following scoring scale.

SCORE POINT	SCORE POINT DESCRIPTION
4	<p><b>The "4" response reflects a thorough command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is fully achieved.</li> <li>• There is a substantial and accurate application of relevant subject matter knowledge.</li> <li>• The supporting evidence is sound; there are high-quality, relevant examples.</li> <li>• The response reflects a comprehensive understanding of the assignment.</li> </ul>
3	<p><b>The "3" response reflects a general command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is largely achieved.</li> <li>• There is a largely accurate application of relevant subject matter knowledge.</li> <li>• The supporting evidence is adequate; there are some acceptable, relevant examples.</li> <li>• The response reflects an adequate understanding of the assignment.</li> </ul>
2	<p><b>The "2" response reflects a limited command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is partially achieved.</li> <li>• There is limited accurate application of relevant subject matter knowledge.</li> <li>• The supporting evidence is limited; there are few relevant examples.</li> <li>• The response reflects a limited understanding of the assignment.</li> </ul>
1	<p><b>The "1" response reflects little or no command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is not achieved.</li> <li>• There is little or no accurate application of relevant subject matter knowledge.</li> <li>• The supporting evidence is weak; there are no or few relevant examples.</li> <li>• The response reflects little or no understanding of the assignment.</li> </ul>
U	<p><b>The "U" (Unscorable) is assigned to a response that is unrelated to the assignment, illegible, primarily in a language other than English, or does not contain a sufficient amount of original work to score.</b></p>
B	<p><b>The "B" (Blank) is assigned to a response that is blank.</b></p>