



# California Subject Examinations for Teachers®

## TEST GUIDE

### HEALTH SCIENCE SUBTEST II

#### Sample Questions and Responses and Scoring Information

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

Below is a set of multiple-choice questions and constructed-response questions that are similar to the questions you will see on Subtest II 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. Which of the following statements best evaluates weight-loss diets that severely restrict the intake of fat?
  - A. These diets are likely to be ineffective because dietary fat is usually metabolized quickly rather than stored as adipose tissue.
  - B. These diets are likely to be unhealthy because eliminating fat will cause weight to be lost too rapidly.
  - C. These diets are likely to be ineffective because carbohydrates are more likely to cause weight gain than is fat.
  - D. These diets are likely to be unhealthy because dietary fat is necessary to maintain normal body processes.
2. Compared with prepubescent girls, adolescent girls who have reached puberty should be most concerned with increasing their dietary intake of which of the following minerals?
  - A. iodine
  - B. iron
  - C. zinc
  - D. phosphorus
3. Deterioration of cartilage and bone at skeletal joints is most commonly associated with:
  - A. excessive body weight.
  - B. poor blood circulation.
  - C. dietary deficiencies.
  - D. a depressed immune system.

4. During summer vacation, Aria follows an exercise plan that emphasizes running and other aerobic activities. At the end of the summer, which of the following would be the best indicator that her overall level of physical fitness has improved?
- A. reduced blood cholesterol
  - B. higher body mass index
  - C. greater lung capacity
  - D. lower resting heart rate
5. Angela is a slightly overweight high school student who does not enjoy strenuous physical activity. Last year she developed a personal fitness program with realistic goals. She started the program several times, but each time quit within a few weeks. This year she plans to try again. Which of the following would be the best strategy for her to use to help her stay with the program?
- A. establishing a support system of friends and family
  - B. setting higher goals that are more challenging
  - C. purchasing a membership in a local fitness center
  - D. reviewing her goals with a health-care professional
6. In general, students who are overly stressed about upcoming events such as final exams or college interviews are most likely to experience which of the following in the week before the events are to take place?
- A. greater appetite and increased energy and activity levels
  - B. muscle cramps and fatigue in the arms and legs
  - C. increased susceptibility to colds and other respiratory diseases
  - D. chronic nausea, vomiting, and diarrhea
7. Which of the following goal-setting strategies would be most effective in helping an adolescent improve and maintain positive self-esteem?
- A. comparing goals to those of friends and other peers
  - B. ensuring that goals are both attainable and beneficial
  - C. asking an adult to identify reasonable goals
  - D. linking goals to the fulfillment of specific wishes

8. Karla is captain of her high school basketball team. At the end of a close game, another player, Sheila, makes a mistake that loses the game. Karla is furious because just a moment before, she had reminded everyone on the team not to make that particular mistake. Which of the following would be the best way for Karla to deal with the situation after the game?
- A. waiting until her anger has cooled down and then frankly discussing the situation with Sheila
  - B. asking the coach to communicate to Sheila how upset Karla and the team are with her play
  - C. assuming that Sheila realizes her mistake and refraining from mentioning the matter to her
  - D. confronting Sheila immediately and frankly expressing her anger and disappointment
9. Compared with other types of headaches (e.g., migraines, cluster headaches), stress-related headaches are more often associated with:
- A. constriction of the blood vessels leading to the brain.
  - B. sustained contraction of muscles of the neck and back of the head.
  - C. decreased level of glucose in the bloodstream.
  - D. reaction to proteins in certain foods, such as nuts or chocolate.
10. Which of the following is the most common symptom of depression?
- A. extreme anxiety in social situations
  - B. loss of interest or pleasure in ordinary activities
  - C. ritualistic behaviors that are perceived as impossible to control
  - D. excessive or persistent fears that are not based in reality
11. The use of ephedra in herbal dietary supplements has been shown to be associated with an increased risk for:
- A. cardiac arrest.
  - B. brain damage.
  - C. stomach cancer.
  - D. birth defects.
12. Use of which of the following types of drugs is most likely to produce physical dependence?
- A. hallucinogens
  - B. steroids
  - C. barbiturates
  - D. inhalants

13. Which of the following represents a misuse of a prescription drug?
- A. using a prescription medication that treats only the symptoms rather than the cause of a disease
  - B. continuing to take a prescribed antibiotic even after the symptoms of infection have disappeared
  - C. discontinuing a prescription medicine when side effects begin to appear
  - D. taking a friend's broad-spectrum antibiotic at the first appearance of cold or flu symptoms
14. Which of the following is the best example of enabling behavior with regard to the consumption of alcohol?
- A. A parent calls the school to report that her daughter is sick when she is actually recovering from binge drinking.
  - B. A student drives a friend to the hospital when he blacks out during a night of heavy drinking.
  - C. A student hides a friend's car keys to prevent him from driving after drinking heavily at a party.
  - D. A parent insists that her son move out of the house until he gets help for his alcoholism.
15. Admission to an inpatient hospital program is likely to be most necessary for which of the following steps in the treatment of drug addiction?
- A. providing a social support system
  - B. counseling with regard to treatment strategies
  - C. managing symptoms of withdrawal
  - D. monitoring compliance with a treatment program

## 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.

Following is a typical three-day diet for Chris, a teenager of average height and weight, who walks 20 to 30 minutes three times a week and is two months pregnant.

<b>Day 1 (1,800 calories)</b>	<b>Day 2 (2,000 calories)</b>	<b>Day 3 (1,700 calories)</b>
<p><u>Breakfast</u> cranberry juice bagel with apricot jam black decaffeinated coffee</p> <p><u>Lunch</u> chicken-noodle soup apple potato chips diet soda</p> <p><u>Dinner</u> baked chicken cooked green peas baked potato with butter black decaffeinated coffee</p> <p><u>Snacks</u> chocolate candy bar lemonade</p>	<p><u>Breakfast</u> orange juice cereal with milk black decaffeinated coffee</p> <p><u>Lunch</u> pasta with tomato sauce bread with butter sliced cucumber diet soda</p> <p><u>Dinner</u> tortillas with butter rice and beans iceberg lettuce herbal tea</p> <p><u>Snacks</u> crackers orange</p>	<p><u>Breakfast</u> banana oatmeal with milk herbal tea</p> <p><u>Lunch</u> bean enchilada steamed carrots corn chips diet soda</p> <p><u>Dinner</u> boneless baked fish homefried potatoes watermelon herbal tea</p> <p><u>Snacks</u> popcorn dried apricots</p>

Using your knowledge of nutrition, write a response in which you discuss Chris's diet and suggest possible improvements. In your response:

- identify two problems with Chris's current diet;
- suggest three changes that would improve her diet; and
- explain how the suggested changes would enhance Chris's overall health and the health of her unborn child.

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

The abuse of inhalants is a major risk behavior exhibited by teenagers in the United States.

Using your knowledge of inhalant abuse and associated risk factors, write a response in which you:

- describe four negative health effects of inhalant abuse;
- describe four factors that contribute to inhalant abuse by teenagers; and
- discuss one prevention strategy for each factor described. Of the four prevention strategies discussed, include at least one school-based and one community-based strategy.



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

## Nutrition and Fitness

1. **Correct Response: D.** (SMR Code: 4.1) Fats serve as an essential energy source for the body, transport necessary vitamins so they can be used in biologic processes, and furnish linoleic acid essential for growth and skin health. Therefore, a diet that eliminates fat intake will be unhealthy.
2. **Correct Response: B.** (SMR Code: 4.1) Once girls reach puberty and begin to menstruate, iron needed to maintain healthy red blood cells is lost during the monthly cycles. To replenish this iron, adolescent girls need more iron than they did prior to puberty.
3. **Correct Response: A.** (SMR Code: 4.1) Excessive weight has been identified as a factor in increasing stress on the body's joints. This stress can cause the cartilage protecting bones at the joints and the bones themselves to deteriorate, a condition that can lead to osteoarthritis.
4. **Correct Response: D.** (SMR Code: 4.2) The resting heart rate is defined as the number of heartbeats in one minute while a person is at rest. Good fitness is associated with a relatively low resting heart rate, so a person can evaluate the success of a personal fitness program by monitoring to what extent his or her resting heart rate decreases over a span of time.
5. **Correct Response: A.** (SMR Code: 4.2) Support systems of family, friends, or peers are effective motivators when undertaking difficult or prolonged tasks. People with established support systems can turn to others to share difficulties, help solve problems, and provide encouragement while striving to reach achievable goals.

## Mental and Emotional Health

6. **Correct Response: C.** (SMR Code: 5.1) People under sustained emotional or mental stress are susceptible to a number of negative health effects, including increased blood pressure, headaches, and a reduction in the immune system's resistance to disease. Therefore, students facing stressful final exams or interviews can be more susceptible to colds and respiratory diseases.
7. **Correct Response: B.** (SMR Code: 5.1) Achievable tasks with clear benefits can greatly increase a person's self-esteem, while tasks that are too difficult or irrelevant may simply reaffirm a person's sense of failure. Therefore, goals should be set to be both realistic and useful.
8. **Correct Response: A.** (SMR Code: 5.1) The appropriate expression of anger will prevent suppressed anger from resulting in resentful, hostile, or unconstructive behavior. Anger can be constructively shared if done in a calm, direct, non-blaming fashion. For these reasons, Karla should wait until she is calm before discussing the mistake with Sheila.
9. **Correct Response: B.** (SMR Code: 5.2) Stress often results in muscle contractions, which cause muscular tension. When prolonged tension is centered on muscles in the neck and back of the head, a headache can result.

10. **Correct Response: B.** (SMR Code: 5.2) Depression is characterized by prolonged feelings of guilt, helplessness, and/or hopelessness, though depressed people often do not exhibit these feelings openly. Common symptoms include a disinterest in daily activities and a marked lack of interest and/or pleasure in people, projects, and activities that once were enjoyable.

### Alcohol, Tobacco, and Other Drugs

11. **Correct Response: A.** (SMR Code: 6.1) Some herbal supplements that are sold as energy boosters or stimulants contain natural sources of ephedrine or similar compounds. These compounds are found in nature in plants of the genus *Ephedra* (e.g., ma huang). Ephedrine is chemically similar to epinephrine and has similar effects on the central nervous and circulatory systems (e.g., vasoconstriction, increased blood pressure, elevated heart rate). In susceptible persons, ephedrine can precipitate heart arrhythmia that can lead to cardiac arrest and sudden death.
12. **Correct Response: C.** (SMR Code: 6.1) Barbiturates belong to the depressant class of drugs and are primarily used to relieve insomnia and tension. Prolonged use of barbiturates may create a severe physical dependence coupled with severe withdrawal symptoms.
13. **Correct Response: D.** (SMR Code: 6.2) Physicians prescribe drugs carefully chosen to treat the conditions of specific patients, whose individual reactions to drugs vary. Therefore, prescription drugs should be taken only by patients for whom they are prescribed. In this example, a broad-spectrum antibiotic is an inappropriate treatment for a common cold or flu, since both of these diseases are caused by viruses, which are unaffected by antibiotics. Furthermore, overuse of antibiotics contributes to the development of drug resistance in certain species of bacteria.
14. **Correct Response: A.** (SMR Code: 6.2) Enabling behavior refers to any action that aids another person in continuing abusive or addictive behavior. In this case, the daughter's binge drinking is an abuse of alcohol, which the mother encourages by lying about her daughter's absence from school instead of confronting the problem.
15. **Correct Response: C.** (SMR Code: 6.3) Withdrawal from addictive drugs can be extremely difficult, painful, and potentially dangerous. For these reasons, people are often admitted to inpatient hospital programs to have the withdrawal monitored by substance abuse professionals.

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

### Nutrition and Fitness

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

The diet described provides inadequate calcium, fiber, protein, and iron. It is also too low in calories.

The diet could be improved by adding more fruits and vegetables (five servings per day minimum), replacing diet soda and coffee with milk, and adding more meat and eggs (two or three servings per day).

Increasing fruits and vegetables would add fiber, which would improve digestion and prevent constipation. Adding milk would provide calcium, which is needed by the mother and the developing child. Adding meat and eggs would provide more protein, which is essential for the health of both the mother and the child.

## Alcohol, Tobacco, and Other Drugs

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

For young teens, inhaling such substances as adhesives, cleaning solvents, lighter fluids, and paint products is often their first experience with substance abuse. These substances cause the brain to become starved of oxygen. The heart must then beat more rapidly to increase blood flow to the brain. Immediate effects include a feeling of intoxication and lethargy. Negative effects during use include headaches, nausea, and loss of coordination.

Withdrawal following sustained or prolonged use can result in rapid pulse, tremors, and mental health symptoms such as anxiety and hallucinations. Long-term effects include liver or kidney damage and skin rashes.

Teenagers are drawn to the use of inhalants because the substances are readily available, inexpensive, and easily concealed. They produce an immediate sense of well-being similar to alcohol intoxication. Peer pressure, curiosity, and lack of awareness of the dangers also contribute to use of these substances by young teens.

To counter these factors, schools can include in the curriculum education about the health consequences of inhalant abuse. They can portray the use of these inhalants in an unattractive light to generate and reinforce positive peer pressure. They can observe students closely and refer to school counselors any who seem to show signs of being under the influence of inhalants.

Community members can advocate for enforcement of legal restrictions on the sale of inhalants to minors.

## Scoring Information for CSET: Health Science Subtest II

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 II 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 II

#### 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 II.

<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 II according to the following scoring scale.

SCORE POINT	SCORE POINT DESCRIPTION
<p><b>3</b></p>	<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>
<p><b>2</b></p>	<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>
<p><b>1</b></p>	<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>
<p><b>U</b></p>	<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>
<p><b>B</b></p>	<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 II.

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

## Health Science Subtest II

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

SCORE POINT	SCORE POINT DESCRIPTION
4	<p>The "4" response reflects a thorough command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</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>The "3" response reflects a general command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</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>The "2" response reflects a limited command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Health Science.</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>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.</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>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.</p>
B	<p>The "B" (Blank) is assigned to a response that is blank.</p>