



Massachusetts Tests for Educator Licensure[®]

TEST INFORMATION BOOKLET

21 Health Education

MA-SG-FLD021-04

Massachusetts Department of Education

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Health Education (Field 21)

Test Overview Chart

Sample Test Items

Answer Key and Sample Responses

Test Objectives

***Test Overview Chart:
Health Education (21)***

Subareas	Approximate Number of Multiple-Choice Items	Number of Open-Response Items
I. Personal Health	20–22	2
II. Healthy Interpersonal Relationships	14–16	
III. Community Health	10–12	
IV. Health-Related Information	14–16	
V. Health-Related Skills and Processes	17–19	

The Health Education test is designed to assess the candidate's knowledge of the subject matter required for the Massachusetts Health Education Teacher certificate. This subject matter knowledge is delineated in the Massachusetts Department of Education *Regulations for the Certification of Educational Personnel in Massachusetts* (April 1995), 603 C.M.R. 7.12, "Competencies for Specific Certificates," Section (17) (a) 2. "Competency I: Subject Matter Knowledge."

The Health Education test assesses the candidate's proficiency and depth of understanding of the subject at the level required for a baccalaureate major, according to Massachusetts standards. Candidates are typically nearing completion of or have completed their undergraduate work when they take the test.

The multiple-choice items on the test cover the subareas as indicated in the chart above. The open-response items may relate to topics covered in any of the subareas and will typically require breadth of understanding of the health education field and the ability to relate concepts from different aspects of the field. Responses to the open-response items are expected to be appropriate and accurate in the application of subject knowledge, to provide high-quality and relevant supporting evidence, and to demonstrate a soundness of argument and understanding of the health education field.

Sample Test Items:
Health Education (21)

1. A nine year old wants to begin weight training to increase the maximal strength of his muscles. Which of the following statements best explains why weight training would be inadvisable for this individual?
 - A. Until puberty is reached, the cardiovascular system is unable to respond adequately to excess physical stress.
 - B. The stress of excess weight could damage bones that are not yet fully ossified.
 - C. The excess physical stress could reduce the pituitary gland's production of growth hormone below normal levels.
 - D. Before puberty, muscle fibers respond to excess weight by lengthening instead of thickening.
2. In planning meals, it is most important for vegetarians to use care in selecting foods so that the overall diet will include sufficient amounts of:
 - A. saturated fats.
 - B. carbohydrates.
 - C. macronutrients.
 - D. all essential amino acids.
3. Engaging regularly in vigorous physical activity enhances the performance of the circulatory system by:
 - A. increasing the number of functioning capillaries.
 - B. increasing the concentration of blood oxygen.
 - C. reducing the number of circulating white blood cells.
 - D. decreasing resting stroke volume.

4. Twelve-year-old Ruth lives with her parents and grandparents. All family members are healthy and active. This type of family structure is most likely to provide which of the following benefits to the family?
- I. decreased need for social relationships outside the family
 - II. increased emotional support for family members
 - III. increased flexibility in family routine
 - IV. decreased need for long-term financial planning
- A. I and III only
 - B. I and IV only
 - C. II and III only
 - D. II and IV only
5. Which of the following is generally the best way to initiate one-on-one communication with a person whose nonverbal cues indicate that he or she is emotionally upset?
- A. Deliberately misread the person's feelings to allow the person to correct your interpretation and thus gain control of the situation.
 - B. Quickly assess the person's feelings based on his or her nonverbal cues and purposefully identify those feelings for the person.
 - C. Respond to the person with body language similar to his or her own to show empathy before engaging in conversation.
 - D. Describe your perceptions of the person's nonverbal cues and ask him or her to verify the accuracy of those perceptions.
6. In which of the following emergency situations should cardiopulmonary resuscitation (CPR) be administered?
- A. A child is choking on a piece of food and has stopped breathing.
 - B. A child complains that he or she is feeling dizzy and cold.
 - C. A child has stopped breathing and his or her heart has stopped beating.
 - D. A child is having a seizure and does not respond when spoken to.

7. During a fitness unit, students bring in printed advertisements for mail-order fitness and weight-control products. The teacher shows the ads on an overhead projector and leads a class discussion about the ads. To best help develop students' consumer awareness skills, the class should evaluate the ads in terms of whether the:
- A. claims made in the ads are meant to appeal to only a certain segment of the population.
 - B. products are currently being used in the fitness programs of other schools in the state or region.
 - C. claims made in the ads are based on sound physiological principles and supported by controlled scientific studies.
 - D. products are governed by the same manufacturing standards and consumer protection regulations that govern retail store products.
8. Which of the following best describes a major difference between group practices and health maintenance organizations (HMOs)?
- A. Physicians in a group practice focus more on preventive medicine, whereas an HMO focuses on the treatment of existing medical conditions.
 - B. A patient pays a fee for each service provided by a group practice, whereas a membership fee for an HMO covers all or most of the costs of health care services.
 - C. A group practice has resources and equipment readily available for medical testing and diagnosis, whereas physicians in an HMO rely on hospitals for such services.
 - D. A group practice consists of highly experienced medical doctors with specialized training, whereas an HMO tends to be staffed by less-experienced doctors.

9. Which of the following statements best explain why personal nutritional and fitness practices must be modified periodically?
- I. Personal health needs change during the life cycle.
 - II. A person's access to health care and fitness facilities changes from time to time.
 - III. Research provides new insights.
 - IV. The family structure changes.
- A. I and III only
 - B. I and IV only
 - C. II and III only
 - D. II and IV only
10. Which of the following most accurately describes the primary role that self-examinations play in the maintenance of health?
- A. They provide information that is necessary to determine an appropriate course of treatment for a disease.
 - B. They reduce the risk that an individual will contract certain types of diseases.
 - C. They allow the progress of an established disease to be monitored carefully.
 - D. They increase the chances that certain diseases will be detected early enough to be treated successfully.

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

In recent years, health care providers and public health agencies have become increasingly concerned about the growing numbers of antibiotic-resistant strains of bacteria. Included among the types of bacteria in which resistance has been documented are those that cause strep throat, tuberculosis, and certain ear infections.

Using your knowledge of infectious diseases and their treatment, write an essay in which you discuss the personal and public health implications of the development of antibiotic-resistant strains of bacteria. In your essay:

- describe the role of antibiotics in the treatment of infections;
- explain how antibiotic-resistant strains of bacteria arise and identify two behaviors related to health care practices that contribute to the development of resistant strains;
- analyze the implications of antibiotic resistance for both the individual and the public health; and
- describe strategies for dealing with this problem.

Answer Key and Sample Responses: Health Education (21)

Question Number	Correct Response	Test Objective*
1.	B	Understand human growth and development and human body systems and their relationship to personal health.
2.	D	Understand the role of nutrition in the promotion of personal health.
3.	A	Understand the role of physical fitness in the promotion of personal health.
4.	C	Understand factors that affect relationships within families.
5.	D	Understand the nature of conflict and strategies for promoting healthy interactions between parties facing conflict.
6.	C	Understand procedures used to provide care in medical emergency situations.
7.	C	Understand media messages and their effects on health-related decisions.
8.	B	Understand methods of selecting, accessing, and managing health care.
9.	A	Understand the development and use of problem-solving, decision-making, and critical-thinking skills with respect to health-related issues.
10.	D	Understand the development and use of self-directed learning with respect to health-related issues.

*Each test objective is clarified and further described by a descriptive statement, which provides examples of the types of knowledge and skills covered by the test objective. The test objectives for the Health Education test begin on page 41.

The sample response below reflects a weak knowledge and understanding of the subject matter.

Antibiotics are very important in treating infections. Prescribing antibiotics early can prevent an infection from becoming worse. Many people are concerned about using antibiotics. Some bacteria do not respond to antibiotics as well. When someone gets sick over and over again, it is possible that they are sick with a resistant bacteria.

Bacteria that are resistant develop over time as new drugs are developed to treat infections. The old drugs become ineffective once they are used to treat an infection several times. People develop a tolerance to a drug and then it doesn't work when people take the same medicine too many times. One behavior that contributes to the development of resistant bacteria is when someone decides not to see a doctor until the bacteria is very strong.

Another behavior that contributes to resistant bacteria happens when doctors prescribe an antibiotic that is not strong enough to fight the disease. When this happens, the infection can rage out of control and get stronger. Then it may become resistant to antibiotics.

Resistant bacteria have frightening consequences for both the individual and for the general public health. If a person is infected with a resistant bacteria they may never be able to recover from their infection. To deal with this problem, doctors need to prescribe antibiotics for infections as soon as they can when a person becomes sick, or even before the person gets sick if they have been exposed to an infected person. They also need to prescribe antibiotics that are strong enough to fight the infection, so that they do not risk developing a bacteria that antibiotics can't fight.

The sample response below reflects a strong knowledge and understanding of the subject matter.

When a person contracts a bacterial infection, the body's immune system begins to fight it and can often eliminate the bacteria on its own. In other instances the invading bacteria may overwhelm the body's natural defenses and, without treatment, can lead to serious complications or possibly death. When antibiotics are administered, they usually kill off most of the bacteria and the immune system is able to handle the rest.

Unfortunately, bacteria reproduce so rapidly and in such large numbers that antibiotic resistance sometimes arises. Within any large population of bacteria, there may be a few mutants that are resistant to one or more types of antibiotics. Under normal circumstances, the number of these mutants in the population generally stays quite low because they are competing for resources with the rest of the bacteria in the population. However, when an antibiotic is introduced, most of the population dies off, except for the few cells that are resistant to the antibiotic. These resistant bacteria no longer face competition and are able to reproduce rapidly, producing a large population of resistant bacteria.

There are several behaviors related to health care practices that can exacerbate this potentially serious problem. Whenever an antibiotic is used, there is the potential for a mutant strain of bacteria to develop. Thus, the practice of prescribing antibiotics for non-bacterial infections or for even minor bacterial infections that the immune system could handle on its own increases the chances that resistant strains will develop.

Another behavior that can contribute to the development of resistant strains is the failure by patients to take their fully prescribed course of antibiotics. For example, instead of taking an antibiotic for 10 days as prescribed, a patient stops taking it after 3 days because he or she feels better. By not taking the full course of an antibiotic, the body's natural defenses may not be able to eliminate all of the invading bacteria, particularly the resistant ones that escaped the first doses of antibiotics. This individual could then infect others with the resistant bacteria.

There are a number of disturbing implications associated with the development of resistant bacteria. For an individual infected with a resistant strain, delays in effective treatment may occur until it is determined that the bacteria is not responding to the usual treatment. In some instances there may be no antibiotic available that can treat the resistant strain. The infection could become serious, even life threatening.

From a public health perspective, the development of resistant strains have even more ominous implications. Due to an inability to treat infections promptly and effectively, epidemics could become more widespread, more endemic, and more difficult to control. Bacterial strains resistant to traditional antibiotics could also lead to an increased death rate from bacterial infections. Even short of these dire consequences, the need for more expensive antibiotics, more aggressive treatments, and increased hospitalization to combat resistant bacteria would result in substantially higher health care costs. Finally, the occurrence of resistant bacteria reduces the treatment options for health care providers, since not as many antibiotics will be effective.

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An important strategy for dealing with this problem is to educate both health care providers and patients about the appropriate use of antibiotics and the consequences of their misuse. First, antibiotics should be used only for bacterial infections and only when absolutely necessary. Second, antibiotics should be taken for the full length of time prescribed.

At the same time, there needs to be continued research and development of new antibiotics and other possible ways to keep bacteria in check. For even with proper use of antibiotics, there will always remain the potential for resistant bacteria to emerge.

Test Objectives:
Health Education (21)

SUBAREAS:

PERSONAL HEALTH
HEALTHY INTERPERSONAL RELATIONSHIPS
COMMUNITY HEALTH
HEALTH-RELATED INFORMATION
HEALTH-RELATED SKILLS AND PROCESSES

PERSONAL HEALTH

0001 Understand the nature of personal health and benefits related to the achievement of health.

For example: the concept of health and factors that contribute to health; the relationship between particular behaviors and health; short-term and long-term benefits of a healthful lifestyle (e.g., self-image, life span, quality of life, economic benefits); and factors that can compromise health (e.g., illness, distress, eustress, injury).

0002 Understand human growth and development and human body systems and their relationship to personal health.

For example: stages and processes of human growth and development; characteristics and processes of aging; the effects of various factors (e.g., disease, exercise) on body systems and development; interdependence among body systems; and the relationship of personal health to body systems and their functioning.

0003 Understand the role of nutrition in the promotion of personal health.

For example: the nature, importance, and sources of various nutrients (e.g., carbohydrates, vitamins, water); dietary choices and planning (e.g., the food pyramid); relationships between diet and disease; issues related to ideal weight and body composition (e.g., weight control, problems with food); and differing nutritional needs.

0004 Understand the role of physical fitness in the promotion of personal health.

For example: the concept of wellness; ways of achieving physical fitness; the benefits of regular and lifelong exercise for personal growth and fitness; and the nature of sleep and rest and their relationship to health.

0005 Understand types of disease, the epidemiology of disease, and the role of prevention in the promotion of personal health.

For example: types of diseases (e.g., chronic, degenerative, communicable), their causes, their characteristics, and methods for detecting and preventing them; interrelationships among the individual, the environment, and disease; how primary and secondary prevention activities promote health; and the role of the body's natural defense mechanisms and genetic factors in preventing or causing disease.

0006 Understand the relationships of drug use, misuse, and abuse to personal health.

For example: the classification of drugs (including alcohol and tobacco); uses and benefits of drugs for medical purposes; the body's reactions to various classes of drugs; factors that contribute to the misuse and abuse of tobacco, alcohol, and other drugs (e.g., stimulants, hallucinogens, marijuana, inhalants, steroids); health risks and social costs of self-medication and substance abuse; the nature and prevention of chemical dependency; and intervention and treatment for chemical dependency.

0007 Understand the nature of mental health and its relationship to personal health.

For example: the development of mental health, including issues related to self-worth; factors that affect mental health; sources, signs, and symptoms of stress and positive techniques for managing stress; the nature of depression; risk factors related to suicide; and appropriate intervention strategies.

HEALTHY INTERPERSONAL RELATIONSHIPS

0008 Understand factors that affect relationships within families.

For example: the variety of families and family structures; the nature of healthy relationships within families; and strategies and behaviors that promote healthy family relationships.

0009 Understand the nature of peer relationships and strategies for promoting healthy peer relationships.

For example: the stages of social development; characteristics and benefits of peer relationships; techniques for developing and maintaining friendships; the dynamics of groups (e.g., teams, gangs); effects of peer pressure and strategies for responding to peer pressure in a positive manner; the nature and importance of social support systems; strategies for developing cooperative relationships; and benefits of maintaining healthy peer relationships.

0010 Understand the development of a healthy sexuality.

For example: characteristics of sexual development; human reproduction (e.g., conception, gestation, birth); responsible sexual behavior and choices, including decision making, abstinence, and refusal skills; factors that affect decisions about sexual behavior (e.g., cultural norms, peer pressure, influence of alcohol and other drugs); prevention of pregnancy and sexually transmitted diseases, including HIV infection; and factors and procedures in family planning.

0011 Understand the nature of conflict and strategies for promoting healthy interactions between parties facing conflict.

For example: common sources of conflict and methods of conflict resolution (e.g., mediation); strategies for developing self-control; the nature and effects of violence and methods of avoiding violence; types of hurtful interpersonal behaviors (e.g., ridicule, sexual abuse, exploitation, dating violence, unwanted sexual contact, discrimination, harassment) and ways of avoiding or confronting these behaviors in a proactive manner; strategies for dealing with individuals exhibiting dangerous behaviors; and skills for self-protection from crime and assault.

0012 Understand the value of diversity and the promotion of healthy interpersonal relationships.

For example: respect and tolerance for diverse cultures and lifestyles; the nature of stereotypes and their effects on individuals and groups; the effects of discrimination and strategies for avoiding or responding to discrimination; and appropriate methods for promoting individuals' tolerance and valuing of diversity.

COMMUNITY HEALTH

0013 Understand environmental factors that affect health.

For example: basic concepts of environmental science; the sources and potential health effects of various environmental factors (e.g., air, water, and noise pollution; hazardous wastes; radiation; biological agents); and methods for minimizing or coping with health risks in the environment.

0014 Understand important current health issues and their effects on community health.

For example: issues involving access to and availability of health care (e.g., immunizations, family planning); health-related policies and laws (e.g., smoking, drunk driving, seat belts, helmets); issues related to confidentiality (e.g., drug testing, HIV testing, crisis counseling); relationships between health and population density; factors that inhibit the promotion of community health (e.g., economic issues, opposition by special interest groups); and methods used to analyze health issues and make decisions that promote community health.

0015 Understand issues and procedures involved in the promotion of safety and accident prevention.

For example: common causes and effects of accidents; behaviors that contribute to unintentional injuries (e.g., use of alcohol and other drugs, fatigue); strategies for identifying and avoiding dangerous situations; methods of preventing various types of accidents; and methods of promoting safety.

0016 Understand procedures used to provide care in medical emergency situations.

For example: skills in identifying a medical emergency; steps to take in an emergency (e.g., calling for an ambulance); basic first-aid procedures in various situations; procedures for cardiopulmonary resuscitation (CPR); universal precautions and procedures that protect the safety of the caregiver (e.g., wearing gloves, avoiding contact with body fluids).

HEALTH-RELATED INFORMATION

0017 Understand reliable sources of health-related information.

For example: identification of appropriate scientific sources of health-related information (e.g., libraries, health agencies, health practitioners, computerized databases); strategies for determining the reliability of different sources of health information; the roles of various types of health agencies (e.g., American Cancer Society, AMA, CDC, local clinics and prevention centers) in providing information; and strategies for maintaining health literacy as advances occur.

0018 Understand media messages and their effects on health-related decisions.

For example: application of skills for critically analyzing health-related media messages; common advertising techniques used for health products and services; the effects of advertising, movies, videos, and popular music on attitudes toward health-related issues (e.g., body image and self-perception); differences in the goals of advertisers and health advocates; and methods of effectively using media for health promotion.

0019 Understand the use of wise consumer practices in relation to health-related purchases.

For example: interpretation of food labels; recognition of how to make food choices based on particular needs (e.g., low fat, low sodium, adequate nutrition on a limited budget); analysis of claims related to food (e.g., "organically grown," "lower in fat"); ways to distinguish health products and practices that are founded on sound scientific research from those that are not; and factors that influence health-related purchases (e.g., health club membership, personal fitness equipment).

0020 Understand methods of selecting, accessing, and managing health care.

For example: alternative health care delivery models; the roles of various medical and allied health professionals; the use of appropriate health care resources to meet specific health or medical needs; and the creation and maintenance of an active partnership with health care providers.

0021 Understand the ethics of applying medical advances and the effects of health-related technologies on society.

For example: ethical issues related to the use of advanced medical and other health-related technologies (e.g., life support, transplants, assisted suicide, genetic engineering); and the implications of advanced health technologies for individuals and society.

HEALTH-RELATED SKILLS AND PROCESSES

0022 Understand major health behavior change theories and models.

For example: theories and models that promote an understanding of health behavior change, including the health belief model, social learning theory, and behaviorism.

0023 Understand the development and use of problem-solving, decision-making, and critical-thinking skills with respect to health-related issues.

For example: activities that promote problem-solving, decision-making, and critical-thinking skills; application of these skills in various health-related contexts; and relationships between decision making and personal and community health.

0024 Understand the development and use of self-directed learning with respect to health-related issues.

For example: strategies and activities that promote a sense of personal responsibility for health; the use of health literacy in addressing changing health needs; strategies for using self-directed learning in various health-related contexts; and the promotion of qualities and skills for self-directed learning.

0025 Understand the development and use of health advocacy and communication skills.

For example: the use of oral, written, graphic, and technological media to convey ideas about health-related issues; the role of communication in maintaining health and healthy interpersonal relationships in various contexts; strategies that encourage positive interpersonal interactions and civil expression; the importance of listening skills in the communication process; the use of effective communication skills to advocate for personal and community health; and methods for promoting and using communication skills (e.g., negotiation and refusal skills).

0026 Understand the development and use of risk-assessment skills with respect to health-related issues.

For example: strategies and activities that promote self-assessment of behavioral risk factors; recognition of how personal risk factors can be reduced (e.g., cessation of smoking, weight reduction); and strategies for making health-related decisions based on assessment of the risks and benefits associated with various options.

0027 Understand issues related to health education programs.

For example: factors and issues that affect the health education curriculum (e.g., local community standards, legislative mandates, health needs of the target population); desired outcomes of health education; strategies for meeting the individual needs of all students; instructional practices that foster students' use of health knowledge to promote healthy lifestyles; the identification and use of appropriate instructional resources; and career options in health-related fields.