

## Physical Education: Content Knowledge (0091)

### Test at a Glance

Test Name	Physical Education: Content Knowledge		
Test Code	0091		
Time	2 hours		
Number of Questions	120		
Format	Multiple-choice questions		
	Content Categories	Approximate Number of Questions	Approximate Percentage of Examination
	I. Fundamental Movements, Motor Development, and Motor Learning II. Movement Forms III. Fitness and Exercise Science IV. Social Science Foundations V. Biomechanics VI. Health and Safety	29 29 23 13 10 16	24% 24% 19% 11% 8% 14%

## About This Test

The Content Knowledge test in Physical Education is designed to measure the professional knowledge of prospective teachers of physical education in elementary through senior high schools. The test assesses whether an examinee has the knowledge and competencies necessary for a beginning teacher of physical education.

The 120 multiple-choice questions cover knowledge of fitness, fundamental movements, and sports that comprise the content of physical education classes; knowledge of areas in the natural and social sciences that provide the foundation for teaching these activities; and knowledge of crucial topics in health and safety. Knowledge of these subject areas enables teachers to understand the nature and purpose of the activities in the physical education curriculum, to evaluate and interpret the physical characteristics and performances of students in physical education classes, and to make decisions about the ongoing conduct of physical education classes and the needs of students in those classes. Questions will test knowledge of essential facts, including the meaning of terms and placement of content elements in proper categories, understanding of relationships between and among areas of content, and the ability to apply concepts appropriately.

This test may contain some questions that will not count toward your score.

## Topics Covered

Representative descriptions of topics covered in each category are provided below.

### I. Fundamental Movements, Motor Development, and Motor Learning

- Fundamental movements: locomotor, nonlocomotor, manipulative, and falling/landing movement skills; movement concepts such as body, space, effort, and relationship
- Growth and motor development: role of perception in motor development, such as in spatial movement relationships; neurophysiology of motor control; effects of maturation and experience on motor patterns; biological and environmental influences on gender differences in motor performances
- Motor learning: classical and current theories of motor learning, variables that affect learning and performance, effects of individual differences on learning and performance

### II. Movement Forms

- Dance and rhythmic activities: dance forms, such as folk, square, and aerobic dancing; skill analysis of dance movements
- Gymnastics: stunts and tumbling, use of gymnastic apparatus, movement themes in educational gymnastics
- Games: game forms, including invasion games; cooperative and competitive games; analysis of skills, rules, and strategies of particular games
- Individual/dual/team sports: analysis of skills, injury prevention and safety, rules and strategies, facilities and equipment, lifetime activities and recreational pursuits, adventure and outdoor pursuits, and the martial arts. The emphasis is predominantly on basketball, soccer, softball, swimming, tennis, track and field, and volleyball. Questions may also be based on other sports or activities commonly used in physical education settings.

### III. Fitness and Exercise Science

- Components: cardiorespiratory and muscular endurance, body composition, flexibility
- Conditioning practices and principles: frequency, intensity, time/duration, the role of exercise
- Human biology: anatomy and physiology, including identification of major muscles, bones, and systems of the human body and their functions; and exercise physiology, including terminology, components of fitness, principles of exercise, roles of body systems in exercise, short- and long-term effects of physical training, relationship between nutrition and fitness

### IV. Social Science Foundations

- History of physical education leading men and women, major issues, and events in the history of physical education; historical relationship of physical education to health and fitness
- Current philosophical issues: purpose of physical education, relationship between teaching and coaching, accountability, roles, benefits, and effects of competition
- Sociological and sociopolitical issues: cultural diversity, equity (Title IX, Individuals with Disabilities Education Act, affirmative action), general educational issues
- Psychology: personality factors that affect participation, social-psychological factors that affect participation, cooperation

## V. Biomechanics

- Terminology: mass, force, friction
- Basic principles of movement: summation of forces, center of gravity, force/speed relations, torque
- Application of basic principles to sports skills
- Methods of analyzing movement
- Analysis of basic movement patterns: overhand throw, underhand throw, kick

## VI. Health and Safety

- Safety and injury prevention: general and specific safety considerations for all movement activities; fitness-related safety considerations, such as warm-up/cool-down, harmful exercise techniques, and environmental conditions
- Health appraisals and referrals: health-related fitness appraisals; personal goal-setting and assessment, such as Physical Best, President's Challenge, and Fitnessgram; considerations related to the Individuals with Disabilities Education Act
- Handling accidents and illnesses: first aid, CPR, water safety, certification
- Liability and legal aspects: considerations of equipment, class organization, supervision, program selection
- Effects of substance abuse on performance and behavior

## Sample Test Questions

The sample questions that follow illustrate the kinds of questions in the test. They are not, however, representative of the entire scope of the test in either content or difficulty. Answers with explanations follow the questions.

**Directions:** Each of the questions or statements below is followed by four suggested answers or completions. Select the one that is best in each case.

- In which of the following locomotor skills does each foot have two tasks to complete before the weight is transferred to the other foot?
  - Galloping
  - Running
  - Walking
  - Skipping
- Which of the following is a problem most characteristic of the primitive stage of forward rolling?
  - Keeping the chin tucked
  - Keeping the knees and hips flexed
  - Losing the curl
  - Using the hands to cushion the head contact
- All of the following are characteristics of a correct mature form for striking a ball with a racquet EXCEPT
  - taking a forward step with the foot opposite to the striking arm
  - coiling and rotating the body forward as the racquet is swung
  - putting weight on the back foot and then shifting to the front foot as the racquet is swung
  - stopping the racquet at the point of contact with the ball
- When dribbling a soccer ball in a restricted space, the player should attempt to do all of the following EXCEPT
  - keep the ball close to the feet
  - stay in a slightly crouched position
  - use body feints and changes of speed
  - use only the dominant foot for better control
- It is reputed that Milo of Greece lifted a newborn bull onto his shoulders each day until the bull became fully mature. Milo followed what two principles of modern muscle strength and endurance conditioning?
  - Progression and overload
  - Variable resistance and overload
  - Frequency and progression
  - Intensity and retention
- In which of the following lists is each physiological factor linearly (proportionately) related to oxygen consumption?
  - Cardiac output, diastolic blood pressure, heart rate
  - Cardiac output, heart rate, work rate
  - Core temperature, red blood cell count, work rate
  - Minute ventilation, red blood cell count, respiration rate
- In the late 1800s, the greatest influence on the direction of physical education came from individuals with a background in which of the following?
  - Medicine
  - Professional sport
  - Intercollegiate sport
  - The military
- According to most sport sociologists, a sport is primarily described as what kind of activity?
  - idealized
  - institutionalized
  - masculinized
  - professionalized

9. Angular motion is represented by which of the following?
- I. The knees of a cyclist
  - II. The legs of a runner
  - III. The arms of a swimmer
- (A) I only  
(B) III only  
(C) I and II only  
(D) I, II, and III
10. The correct racing posture of a swimmer, a cyclist, or a downhill skier minimizes the effect of
- (A) lift  
(B) propulsion  
(C) turbulence  
(D) gravity
11. Which of the following practice alternatives would best promote motor learning and safety for potentially injurious sports such as pole vaulting and downhill skiing?
- (A) Whole  
(B) Part  
(C) Progressive-part  
(D) Distributed
12. All of the following are direct physiological consequences of warm-down (cool-down) activities following vigorous physical activity EXCEPT
- (A) preventing blood from pooling in the legs  
(B) increasing the rate of lactic acid removal from the blood and skeletal muscle  
(C) promoting the reduction of cholesterol in the blood  
(D) reducing the risk of cardiac irregularities
13. Which of the following is NOT an example of static balance?
- (A) Standing in place on a balance beam  
(B) Maintaining a handstand position  
(C) Skipping across a gymnasium  
(D) Placing three body parts within a hula hoop for five seconds
14. Which of the following is the best example of a target game?
- (A) Basketball  
(B) Lacrosse  
(C) Bocce  
(D) Badminton
15. In teaching a closed skill, a teacher initially should provide which of the following?
- (A) A stable environment with varying rates of skill performance  
(B) A stable environment with a stable rate of skill performance  
(C) A varying environment with varying rates of skill performance  
(D) A varying environment with a stable rate of skill performance
16. Which of the following would be LEAST appropriate to include in a manual of safety procedures for a physical education program?
- (A) Teachers must personally inspect playing fields before soccer classes.  
(B) Teachers must clearly mark appropriate traffic patterns around the throwing area in javelin classes.  
(C) Students must read and sign a copy of the rules for archery classes.  
(D) Students must exercise at or below 50 percent of their maximal heart rate during aerobic fitness activities.

## Answers

1. In walking and running, each foot performs a single task before the other foot takes over. In galloping, each foot performs a single task, but one foot “walks” while the other foot “leaps.” In skipping, each foot both “walks” and “hops” before the other foot takes over. Therefore, D is the correct answer.
2. Choices A, B, and D are all characteristic of intermediate or advanced levels of performing the forward roll. Choice C is characteristic of early or primitive stages of performing the forward roll and is the correct answer.
3. Choices A, B, and C are all generally accepted as essential elements of mature striking form. “Following through” with the swing is also an essential element, and thus D is the correct answer.
4. Although most players, even at fairly advanced levels, will have better control with the dominant foot than with the nondominant foot, it is still essential that practice in dribbling at every level emphasize use of both feet. D is the correct answer.
5. Choice A is the correct answer because progression and overload are the terms used in discussions of fitness that refer to adjusting the amount of exercise to a person’s present capacity (overload) and gradually increasing the amount of exercise over time to improve the level of fitness (progression).
6. Choice B is the correct answer because it is the only option that does not include at least one item that does not increase in a linear fashion as oxygen consumption increases.
7. The primary role in the development of physical education in the nineteenth century was played by physicians interested in anthropometric measurement and other medically related subjects. A is the correct answer.
8. The best answer is B. A sport is described by most sociologists as an institutionalized activity. An activity becomes a sport after undergoing a process through which behaviors and organization become standardized over time. As a sport, the activity takes on fundamental characteristics, such as official rule enforcement, equipment regulations, and formalized skills (see Jay J. Coakley, *Sport in Society: Issues and Controversies*).
9. The definition of angular motion clearly covers all three of the movements listed; therefore, D is the correct answer.
10. All three activities require that their participants maintain a compact arrangement of the body so that it can move smoothly through the medium (air or water) that is involved. C is the correct answer, because the failure to observe this compact bodily arrangement would hinder movement by creating turbulence.
11. Choice C describes a method of practice that involves working on specific elements of a skill in isolation. Because this method allows those elements of a skill that present the greatest risk of injury to be mastered under controlled conditions before the skill is attempted “whole” and under real conditions, C is the correct answer.
12. This question is based on a standard textbook discussion of the rationale for warm-down following vigorous physical activity, which clearly establishes A, B, and D as real effects of proper warm-down procedures. C is not such an effect and is thus the correct answer.
13. The correct answer is C. Static balance means to hold the position in place. A student who is skipping across a gymnasium is using movement to propel themselves from one place to another. All of the other choices have the person holding the position in place.
14. The correct answer is C. Bocce is a game that is truly a target game. Basketball and Lacrosse both involve shooting the ball at a target or goal, but because of the nature of offensive and defensive play they are considered invasion games. Badminton is a net/wall game in the same class as tennis, volleyball, racquetball, and handball.
15. The correct answer is B. A closed skill is one in which the environment remains stable and predictable and the performer knows what to do and when to do it. Choice B allows the performer to practice the skill at a stable rate, moving to varying rates as mastery is attained. Closed skills are habitual and follow set patterns from beginning to end. Choices C and D are incorrect because they call for a varying environment.
16. The correct answer is D. The least appropriate among the choices would be to have students exercise at or below 50 percent of maximal heart rate. The way to maintain or increase fitness is to exercise in the target heart zone. Students in physical education classes should be exercising in this way. Safety procedures for a physical education program would include inspection of facilities, marking areas for safety, and having students read and know rules for activities.



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