

Massachusetts Tests for Educator Licensure® (MTEL®)

FIELD 22: PHYSICAL EDUCATION TEST OBJECTIVES

Subarea	Multiple-Choice	Range of Objectives	Approximate Test Weighting
I.	Physical Development and Motor Learning	01–04	20%
II.	Movement Activities	05–08	20%
III.	Principles of Physical Fitness	09–12	20%
IV.	The Physical Education Program	13–16	<u>20%</u>
			80%
	Open-Response		
V.	Integration of Knowledge and Understanding	17	20%

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Effective March 1, 2010

**Massachusetts Tests for Educator Licensure® (MTEL®)
Test Objectives
Field 22: Physical Education**

SUBAREAS:

PHYSICAL DEVELOPMENT AND MOTOR LEARNING
MOVEMENT ACTIVITIES
PRINCIPLES OF PHYSICAL FITNESS
THE PHYSICAL EDUCATION PROGRAM

PHYSICAL DEVELOPMENT AND MOTOR LEARNING [20%]

0001 Understand human growth and development and the body systems that produce movement.

For example:

- Demonstrate knowledge of major stages and characteristics of physical, intellectual, social, and emotional development in childhood and adolescence.
- Recognize typical growth patterns and physical changes that occur at different stages of life and ways in which they affect development in other areas (e.g., motor learning).
- Recognize the possible influences of various factors (e.g., heredity, nutrition, home environment, peers, family, disability) on human growth and development.
- Apply knowledge of the general organization, actions, and components of the cardiovascular system.
- Apply knowledge of the general organization, actions, and components of the skeletal system (e.g., bones, ligaments).
- Apply knowledge of the general organization, actions, and components of the muscular system (e.g., major muscle groups, types of muscle actions).
- Apply knowledge of the general organization, actions, and components of the nervous system (e.g., functions of neurons and basic neuromuscular structures).

Field 22: Physical Education Test Objectives

0002 Understand principles and characteristics of motor development and motor learning.

For example:

- Recognize sequences and characteristics of motor development, including perceptual motor development, and various factors that influence motor development.
- Demonstrate familiarity with theories, concepts, and typical progressions of motor skill development and motor learning (e.g., practicing motor skills in increasingly complex movement situations).
- Describe the critical elements of basic motor skills and movement sequences.
- Apply knowledge of principles of practice, retention, readiness, observational learning, and transfer of learning as they relate to motor skill acquisition.
- Apply knowledge of types of motor-learning feedback; techniques for detecting errors in motor performance; and how to provide appropriate prompts, cues, and corrective feedback.
- Recognize principles and techniques for modifying activities, sports, and games to promote the use of particular motor behaviors, motor patterns, and combinations of motor skills.

0003 Understand critical elements and sequences of locomotor, nonlocomotor, and manipulative skills.

For example:

- Define terms commonly used in locomotor, nonlocomotor, and manipulative skills and activities for all grade levels.
- Distinguish between types and characteristics of locomotor skills (e.g., walking, skipping, running) and nonlocomotor skills (e.g., twisting, balancing, stretching) and activities and strategies for developing locomotor and nonlocomotor skills.
- Demonstrate knowledge of types and characteristics of manipulative skills (e.g., throwing, catching, kicking, striking) and appropriate activities and techniques for developing manipulative skills (e.g., throwing and catching different objects with accuracy and force).
- Recognize strategies and techniques for promoting the combined use of locomotor, nonlocomotor, and manipulative skills to develop movement sequences and patterns (e.g., hand and foot dribbling while preventing an opponent from challenging).
- Apply knowledge of movement concepts related to body awareness, spatial awareness, direction, level, pathway, range, force, and speed in the context of locomotor, nonlocomotor, and manipulative activities.

Field 22: Physical Education Test Objectives

0004 Understand principles of biomechanics and kinesiology and their applications to movement activities.

For example:

- Apply knowledge of how the human body and external forces create movement and motion (e.g., joint structure and function, muscle mechanics, types of motion).
- Recognize principles and concepts related to stability, center of gravity, force projection and absorption, distance, speed, velocity, acceleration, and rotation.
- Analyze biomechanical influences on motion (e.g., weight, friction, buoyancy, drag, angular momentum, moment of inertia, torque).
- Relate biomechanical concepts and principles to movement challenges and sports activities (e.g., how the angle of release affects projectile motion).
- Demonstrate the ability to use principles and concepts of biomechanics and kinesiology to analyze motor skills and improve motor performance.
- Recognize ways in which anatomical differences and motor fitness variables affect human movement and motor performances (e.g., in relation to skill level, fitness level, gender, age, body type).

MOVEMENT ACTIVITIES [20%]

0005 Understand techniques, skills, activities, and safety practices for rhythmic movement and dance.

For example:

- Recognize basic elements of rhythm and types and characteristics of rhythmic movement (e.g., ribbon activities, tumbling, jump-roping, parachute play).
- Apply knowledge of techniques, skill progressions, organizational strategies, safety practices, and appropriate types of music for rhythmic movement activities.
- Apply knowledge of techniques, elements, sequences, skill progressions, organizational strategies, safety practices, and activities for creative movement and dance.
- Demonstrate knowledge of the role of creative movement and dance in promoting aesthetic appreciation and expressing personal, social, ethnic, community, and cultural ideas and traditions.

Field 22: Physical Education Test Objectives

0006 Understand techniques, skills, activities, and safety practices for sports and games.

For example:

- Demonstrate knowledge of techniques, skill progressions, offensive and defensive strategies, cues, types of equipment, and lead-up activities for sports and games.
- Apply knowledge of safety practices, rules, procedures, fair play, and etiquette in sports and games, including how to anticipate potentially dangerous outcomes of participation.
- Recognize the functions of leadership in sports and the benefits of team membership and group cooperation in sports and games.

0007 Understand techniques, skills, activities, and safety practices for aquatics, group and recreational activities, outdoor pursuits, and adventure learning.

For example:

- Recognize techniques, skills, safety practices, supervisory procedures, and organizational strategies for aquatic activities (e.g., learn-to-swim programs, water fitness activities).
- Identify techniques, skills, safety practices, supervisory procedures, organizational strategies, and proper uses of equipment for group and recreational activities, outdoor pursuits, and adventure learning (e.g., orienteering, hiking, cycling, rock climbing).
- Recognize the benefits of participation in aquatics, group and recreational activities, outdoor pursuits, and adventure learning (e.g., health-related benefits, appreciation of nature, social benefits).
- Demonstrate knowledge of how aquatics, group and recreational activities, outdoor pursuits, and adventure learning provide students with enjoyment, challenge, risk taking, self-expression, improvement, and personal satisfaction and achievement.

Field 22: Physical Education Test Objectives

0008 Understand the relationship between movement activities and the development of responsible personal and social behaviors and traits.

For example:

- Demonstrate knowledge of the importance of play in childhood and the psychological, cognitive, and social benefits of engaging in play.
- Analyze the relationship between physical activity and the development of personal identity and emotional and mental well-being (e.g., the role of regular physical activity in developing a positive body image and self-concept and in relieving stress).
- Recognize how movement activities can promote positive personal behaviors and traits, such as civility, self-control, responsibility, confidence, honesty, dignity, ability to cope with success and failure, and appropriate attitudes about winning and losing.
- Recognize ways in which movement activities can promote positive social behaviors and traits, such as mutual support, safety, cooperative participation, collaboration, consideration of others, fairness, and teamwork.
- Analyze the role of physical activity in promoting a sense of community, acceptance of peers and other individuals, and respect for similarities and differences among people of various backgrounds.
- Apply knowledge of communication techniques and strategies that demonstrate sensitivity and encourage positive interaction skills in the physical education environment.

Field 22: Physical Education Test Objectives

PRINCIPLES OF PHYSICAL FITNESS [20%]

0009 Understand principles of exercise physiology, physical fitness, and fitness training.

For example:

- Distinguish among components of health-related physical fitness (i.e., cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition) and types of physical fitness training.
- Demonstrate knowledge of training and conditioning principles (e.g., frequency, intensity, specificity, progressive overload).
- Identify physiological changes that result from regular physical activity (e.g., short- and long-term effects on cardiorespiratory, muscular, and skeletal structures and systems).
- Describe energy pathways and the interrelationships among body systems that impact movement.
- Demonstrate knowledge of various factors that influence physical fitness and health (e.g., inactivity, substance abuse) and potential health risks associated with poor fitness levels.
- Demonstrate knowledge of the benefits of a physically active lifestyle (e.g., prevention of illness, challenge, social interaction, improved productivity, reduced health-care costs).
- Apply knowledge of how physical activity patterns are likely to change throughout life and strategies to address those changes, including how to design and implement a plan for lifelong wellness.

Field 22: Physical Education Test Objectives

0010 Understand principles, procedures, and activities for developing cardiorespiratory fitness and personal fitness plans.

For example:

- Identify principles, skills, safety practices, and physiological processes involved in developing cardiorespiratory endurance (e.g., warm-ups and cool-downs, benefits of regular participation in cardiorespiratory activities).
- Demonstrate an understanding of techniques and resources, including technology, for determining and monitoring intensity, frequency, duration, and endurance levels during aerobic activities (e.g., calculating target heart rate zone, using heart rate monitors).
- Select appropriate cardiorespiratory fitness activities for various fitness and developmental levels.
- Recognize factors and considerations involved in planning and evaluating fitness programs for children and adolescents.
- Identify principles and methods for developing physical fitness goals and for designing, implementing, and monitoring personal fitness plans.
- Apply skills in evaluating resources and their accessibility in relation to physical fitness plans and activities.

0011 Understand principles and activities for promoting flexibility, muscular strength, and endurance.

For example:

- Identify the components of flexibility (e.g., muscles, joints, ligaments, tendons) and principles, techniques, and proper form for promoting flexibility.
- Recognize types of muscular strength and endurance training and principles, techniques, and proper form for promoting muscular strength and endurance.
- Apply knowledge of techniques and procedures for evaluating flexibility and muscular strength and endurance and for determining appropriate equipment and techniques for training.
- Select appropriate exercises and activities for various joints and muscle groups, fitness and developmental levels, and purposes.
- Evaluate the safety and effectiveness of different types of flexibility and strength training and various stretching and strengthening exercises.
- Recognize the benefits of regular participation in flexibility and muscular strength and endurance activities (e.g., improved posture, increased resistance to injury).

Field 22: Physical Education Test Objectives

0012 Understand principles of nutrition and strategies and activities for developing and maintaining healthy levels of body composition.

For example:

- Recognize types, functions, and sources of essential nutrients and ways in which nutrition affects physical fitness and performance.
- Demonstrate knowledge of planning tools and guidelines for proper nutrition and healthy levels of physical activity (e.g., USDA MyPyramid Plan).
- Evaluate nutritional needs, concerns, and requirements for various ages, activity levels, and health conditions (e.g., dietary recommendations for children, adolescents, athletes, diabetics).
- Analyze the interrelationships among diet, physical activity, eating habits, and body composition (e.g., caloric intake and expenditure, effects of eating habits on body composition, proper hydration).
- Apply knowledge of procedures, activities, and resources related to developing, estimating, and maintaining healthy levels of body composition (e.g., reducing consumption of saturated fats, evaluating claims of weight management programs, interpreting BMI percentile).
- Recognize strategies and activities for integrating healthy eating patterns and effective weight management practices into daily life.

THE PHYSICAL EDUCATION PROGRAM [20%]

0013 Understand the history, foundations, goals, and purposes of physical education.

For example:

- Demonstrate familiarity with the history and foundations of physical education.
- Recognize the organization, goals, and purposes of physical education programs (e.g., developmentally appropriate practice, lifelong physical activity and wellness).
- Analyze the relationships and interactions between physical education and other subject areas and methods for integrating physical education into the overall school program.
- Recognize strategies for communicating and collaborating with parents/guardians, administrators, faculty, staff, and service providers to support student growth and well-being.
- Apply knowledge of communication and advocacy strategies for promoting physical education programs and for obtaining resources to enhance physical activity opportunities.

Field 22: Physical Education Test Objectives

0014 Understand physical education instruction, including how to adapt activities to address special needs and promote maximum inclusion.

For example:

- Demonstrate knowledge of how to design, select, implement, and supervise physical education experiences that are safe, enjoyable, and developmentally appropriate.
- Demonstrate knowledge of techniques and strategies to promote safe risk taking and critical-thinking, problem-solving, and decision-making skills.
- Recognize principles and strategies for maximizing the inclusion of students with diverse abilities in physical education activities and for creating a learning environment that respects and incorporates students' personal, family, and cultural experiences.
- Demonstrate knowledge of how to plan, select, and implement physical education activities that are sensitive to the strengths, weaknesses, multiple needs, and learning styles of students.
- Apply techniques for adapting and modifying rules, games, equipment, activities, settings, and grouping strategies to accommodate students with various types of disabilities (e.g., learning disabilities, physical disabilities).
- Demonstrate familiarity with appropriate resources, collaboration strategies, school professionals, services, media, and technology for addressing special and diverse learning needs.

Field 22: Physical Education Test Objectives

0015 Understand physical education assessment strategies and techniques.

For example:

- Identify components, advantages, limitations, and appropriate and inappropriate uses of various types of assessments (e.g., observational checklists, portfolios, fitness tests, peer assessments, standardized tests).
- Relate developmentally appropriate assessment strategies and techniques to various physical education purposes, goals, and situations (e.g., to evaluate effectiveness of instruction, to involve students in self-assessment of fitness).
- Demonstrate the ability to select and use informal and formal assessment instruments and materials for formative and summative evaluation (e.g., rubrics, point systems, student fitness cards) to assess student performance, provide feedback, and improve instruction.
- Demonstrate familiarity with how to use technology (e.g., video, digital cameras, movement analysis software, fitness test software) to analyze and assess student fitness, performance, and progress.
- Demonstrate knowledge of appropriate ways to interpret and communicate performance data and assessment results (e.g., to provide student fitness information to parents/guardians).

0016 Understand legal, ethical, and safety standards and issues in physical education.

For example:

- Demonstrate familiarity with state and federal laws, standards, and guidelines related to student rights and teacher responsibilities (e.g., inclusion, privacy, IDEA, Title IX).
- Analyze legal and ethical concepts and issues relevant to physical education instruction (e.g., tort liability, negligence, professional duty, confidentiality, supervision, codes of ethics).
- Identify principles and procedures related to maintaining a safe physical education environment (e.g., recognizing physical limitations, teaching skill progressions, warning of inherent risks, inspecting playing areas for hazards).
- Recognize conditions, behaviors, and perceptions that can lead to student injuries (e.g., weather, contact sports, equipment failure, poor judgment) and strategies and precautions for preventing injuries.
- Identify procedures for life-threatening respiratory and cardiac emergencies (e.g., resuscitation, CPR, clearing an airway obstruction).
- Apply knowledge of principles and procedures for first aid and emergency medical care (e.g., universal precautions; first aid for heat illnesses, shock, bleeding, bruises, broken bones).

**Field 22: Physical Education
Test Objectives**

INTEGRATION OF KNOWLEDGE AND UNDERSTANDING [20%]

In addition to answering multiple-choice items, candidates will prepare written responses to questions addressing content summarized in the objective below.

- 0017 Prepare an organized, developed analysis on a topic related to one or more of the following: physical development and motor learning, movement activities, principles of physical fitness, and the physical education program.**

(Refer to objectives 0001 through 0016 and associated descriptive statements.)