Michigan

TEST FOR TEACHER CERTIFICATION

STUDY GUIDE

44 Physical Education

MI-SG-FLD044-02

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PART 1: General Information About the MTTC Program and Test Preparation

The first section of the study guide is available in a separate PDF file. Click the link below to view or print this section.

General Information About the MTTC Program and Test Preparation

PART 2: Test Objectives and Sample Test Questions

INTRODUCTION

This section includes a list of the test objectives, immediately followed by sample test questions and an answer key for the field covered by this study guide.

Test Objectives

As noted, the test objectives are broad, conceptual statements that reflect the knowledge, skills, and understanding an entry-level teacher needs in order to teach effectively in a Michigan classroom. Each field's list of test objectives represents the **only** source of information about what a specific test will cover and, therefore, should be studied carefully.

The test objectives are organized into groups known as "subareas." These subareas define the major content areas of the test. You will find a list of subareas at the beginning of the test objective list. The percentages shown in the list of subareas indicate the approximate weighting of the subareas on the test.

Sample Multiple-Choice Test Questions

The sample multiple-choice test questions included in this section are designed to give the test-taker an introduction to the nature of the test questions included on the MTTC test for each field. The sample test questions represent the various types of test questions you may expect to see on an actual test; however, they are **not** designed to provide diagnostic information to help you identify specific areas of individual strengths and weaknesses or predict your performance on the test as a whole. Use the answer key that follows the sample test questions to check your answers.

To help you identify which test objective is being assessed, the objective statement to which the question corresponds is listed in the answer key. When you are finished with the sample test questions, you may wish to go back and review the entire list of test objectives and descriptive statements once again.

TEST OBJECTIVES

Subarea	Approximate Percentage of Questions on Test
Physical Activity, Fitness, and Health	17%
Movement and Lifelong Physical Activities	27%
Growth, Development, and Learning	14%
Planning, Instruction, and Assessment	14%
Management, Motivation, and Communication	14%
Foundations, Reflection, and Professional Collaboration	14%

PHYSICAL ACTIVITY, FITNESS, AND HEALTH

Demonstrate knowledge of concepts related to physical activity and fitness.

Includes relationships among physical activity, fitness, and health; the effects of physical activity and inactivity; basic principles of fitness development; developmentally appropriate fitness goals; energy systems used during exercise; the importance of physical activity and fitness to the health and well-being of individuals; and the effects of lifestyle choices on health-related fitness.

Demonstrate knowledge of strategies for developing and maintaining a healthy level of cardiorespiratory endurance.

Includes basic principles of aerobic conditioning; skills, activities, and equipment appropriate for promoting cardiorespiratory endurance; appropriate warm-up and cool-down exercises; and techniques for assessing cardiorespiratory endurance.

Demonstrate knowledge of strategies for developing and maintaining a healthy level of muscular strength and endurance.

Includes basic principles of strength and endurance training; skills, activities, and equipment appropriate for promoting muscular strength and endurance; appropriate warm-up and cool-down exercises; and techniques for assessing muscular strength and endurance.

Demonstrate knowledge of strategies for developing and maintaining a healthy level of flexibility.

Includes basic principles of developing flexibility; skills and activities appropriate for promoting the flexibility of selected joints of the body; appropriate warm-up and cool-down exercises; safety considerations for static and dynamic stretching; and techniques for assessing flexibility.

Demonstrate knowledge of strategies for developing and maintaining a healthy level of body composition.

Includes basic principles and concepts related to body composition; the relationship between body composition and health; the effects of exercise and training on body composition; the influence of heredity on body composition; and techniques for assessing body composition.

MOVEMENT AND LIFELONG PHYSICAL ACTIVITIES

Apply principles of biomechanics to movement activities.

Includes principles related to motion, stability and balance, force production and absorption, buoyancy, rotation, speed, acceleration, and other biomechanical concepts; and the application of these principles to various movement activities.

Demonstrate knowledge of basic principles related to fundamental motor skills.

Includes concepts of body awareness, time, space, direction, force of movement, and rhythm; and techniques for assessing fundamental motor skills individually and in combination.

Demonstrate knowledge of methods for developing locomotor skills.

Includes types and characteristics of locomotor skills; activities for promoting these skills that are appropriate for various developmental levels; and techniques for assessing these skills.

Demonstrate knowledge of methods for developing object control skills.

Includes types and characteristics of object control skills; activities for promoting these skills that are appropriate for various developmental levels; and techniques for assessing these skills.

Demonstrate knowledge of methods for developing postural nonlocomotor skills.

Includes types and characteristics of postural nonlocomotor skills; activities for promoting these skills that are appropriate for various developmental levels; and techniques for assessing these skills.

Demonstrate knowledge of methods for developing rhythmic skills.

Includes techniques and activities involving creative movement sequences and rhythm; techniques, sequences, and skills for various forms of dance; activities that are appropriate for various developmental levels; and techniques for assessing these skills.

Apply knowledge of skills, rules, and safety practices for individual, dual, and team sports.

Includes techniques, skill progressions, rules, safety practices, and types of equipment for individual, dual, and team sports; activities that are appropriate for various developmental levels; and techniques for assessing skills in these areas.

Apply knowledge of skills, rules, and safety practices for recreational activities and outdoor pursuits.

Includes techniques, skill progressions, rules, safety practices, and types of equipment for recreational activities and outdoor pursuits; activities that are appropriate for various developmental levels; and techniques for assessing skills in these areas.

GROWTH, DEVELOPMENT, AND LEARNING

Demonstrate knowledge of the organic structures of the human body.

Includes the basic structures, organization, and functions of the body's systems (e.g., circulatory, respiratory, musculoskeletal, nervous); how these systems adapt to physical activity; how these systems contribute to motor performance and fitness; and how these systems are interrelated and interdependent.

Demonstrate knowledge of physical growth and development.

Includes stages and characteristics of physical growth and development between infancy and adulthood; individual variations in growth and development; characteristics of motor and perceptual motor development; factors that influence growth and development (e.g., heredity, nutrition, environment); the relationship between students' growth and development and their learning; and the ways physical activity or inactivity influence growth and development.

Demonstrate knowledge of how individuals grow and develop cognitively, socially, and emotionally.

Includes characteristics of cognitive, psychosocial, and emotional development during childhood, preadolescence, adolescence, and adulthood; the ways physical activity and inactivity influence growth and development in these areas; the influence of expectations related to gender, body image, skill level, and culture on the development of self-concept; and the influence of peers on students' social attitudes and behaviors.

Demonstrate knowledge of how students differ in their approaches to learning in a physical education setting.

Includes the characteristics of different learning styles (e.g., visual, auditory, kinesthetic) and multiple intelligences (e.g., linguistic, logical-mathematical, interpersonal); basic elements of various learning theories (e.g., social learning theory, health belief model, transtheoretical model); ways these theories are applied in a physical education setting; and ways learning in physical education is influenced by various factors (e.g., special/diverse needs, personal experiences and circumstances, culture, health).

PLANNING, INSTRUCTION, AND ASSESSMENT

Demonstrate knowledge of instructional design and planning for physical education.

Includes techniques for planning physical education lessons to achieve program goals and objectives; knowledge of selected types of curricula and curricular models (e.g., sport education model, physical fitness model, movement education model); design of instructional sequences and learning experiences that maximize learner participation and success; principles of effective instruction (e.g., giving clear explanations, conducting demonstrations, providing feedback); the importance of assessing lesson plans and revising them based on student needs and changing circumstances; and the uses of a variety of equipment and resources (e.g., computers, videotapes, local experts) to enhance learning in a physical education setting.

Apply developmentally appropriate instructional strategies in a physical education setting.

Includes techniques for implementing instructional strategies in a physical education setting based on developmental levels, learning styles, available resources, and safety issues; techniques for promoting students' problem-solving and critical-thinking strategies; techniques, advantages, and limitations of various instructional strategies (e.g., cooperative learning, direct instruction, interdisciplinary instruction); roles the teacher can assume to facilitate learning (e.g., model, assessor, monitor); methods for modifying physical education activities to accommodate students with disabilities; strategies for working with students for whom English is not their primary language; and instructional strategies that are sensitive to students' personal, family, cultural, and community experiences.

Demonstrate knowledge of safety concerns and procedures related to physical education programs.

Includes the principles of instructional organization and management that promote student safety; methods for conducting environmental checks of equipment, field, and movement space; exercises and body positions that are indicated and those that are contraindicated in physical education activities; and principles and techniques of basic first aid and CPR.

Demonstrate knowledge of formal and informal assessment strategies to evaluate the physical, cognitive, social, and emotional development of learners in a physical education setting.

Includes the characteristics, uses, advantages, and limitations of different types of assessment (e.g., motor performance and physical fitness, portfolio and authentic assessments); rationales for selecting and using developmentally appropriate assessment strategies and instruments; measurement issues (e.g., validity, reliability, bias); the use of assessment as an integral part of physical education instruction to provide feedback to learners; strategies for involving students in self-assessment; and interpretation and use of performance data to make instructional decisions and report progress.

MANAGEMENT, MOTIVATION, AND COMMUNICATION

Demonstrate knowledge of principles and methods of instructional management in a physical education setting.

Includes the importance of and strategies for establishing a positive climate that promotes mutual respect, support, safety, and cooperative participation in the physical education setting; methods for organizing, allocating, and managing resources (e.g., time, space, equipment, activities, teacher attention); and management techniques that create a smoothly functioning learning environment and maximize learner participation in physical education activities.

Demonstrate knowledge of factors related to individual and group motivation in a physical education setting.

Includes factors related to intrinsic motivation; methods for motivating learners to participate in developmentally appropriate physical activities inside and outside of school; strategies for positive behavior change; the use of appropriate motivational strategies to meet the needs of individuals; and strategies to help learners become self-motivated.

Demonstrate knowledge of positive personal and social traits that can be fostered within the context of physical activity.

Includes the contribution and value of physical activity to lifelong health and well-being; the potential social-cultural benefits of participation in physical activities; ways positive traits (e.g., confidence, self-discipline, cooperation) can be promoted through involvement in physical activities; and strategies that help learners acquire responsible personal and social behaviors.

Demonstrate knowledge of effective communication techniques to foster inquiry, collaboration, and engagement in physical activity.

Includes characteristics and uses of various communication techniques (e.g., verbal, visual, kinesthetic); the appropriate use of verbal and nonverbal cues; how personal differences (e.g., cultural, economic, environmental) affect communication; ways to foster sensitive interactions with and among learners; and strategies for communicating managerial and instructional information in a variety of ways (e.g., bulletin boards, task cards, music, computers and other technologies).

FOUNDATIONS, REFLECTION, AND PROFESSIONAL COLLABORATION

Demonstrate knowledge of the foundations of physical education.

Includes the historical development of and cultural contributions to physical education; philosophies and contributions of innovators in the field; various games, sports, and physical activities that have become popular at different times; goals and objectives of physical education; and current philosophies, trends, and practices in physical education programs.

Demonstrate knowledge of the importance of physical education and fitness to students.

Includes the importance of developing physically educated individuals; the relationships between physical education content and the content of other subject matter areas; strategies for promoting lifelong fitness; ways physical activity can foster self-expression and provide enjoyment and challenge; the contribution of physical education instruction to students' development of competence and self-confidence; and the use of physical education to promote students' cooperative skills.

Demonstrate knowledge of the roles and responsibilities of physical education teachers in the learning community.

Includes ways to advocate for physical education in the school and community; strategies for communicating and working with parents/guardians and the community (e.g., PTA, advisory committees) to promote physical education programs and goals; laws related to the rights and safety of the learner and the responsibilities of the teacher (e.g., equity, inclusion, confidentiality, privacy, duty to protect, responsibility to warn); and appropriate ways to consult with counselors and other professionals to assist students.

Demonstrate knowledge of methods for developing professional relationships and reflecting on teaching practices.

Includes strategies for collaborating with school colleagues; the importance and use of self-assessment and problem-solving strategies to reflect on physical education teaching practices; and the characteristics and functions of professional literature and other resources available for professional development (e.g., journals, professional associations, workshops) in physical education.

SAMPLE MULTIPLE-CHOICE TEST QUESTIONS

1. A student plans to exercise on a stationary cycle for 30 minutes in her target heart rate zone. Which of the following would be an appropriate cool-down routine for this activity?

   A. continuing to cycle at a much slower pace for about 5 minutes, followed by light stretching

   B. sitting still until the heart rate returns to its resting rate, followed by a slow-paced, 5-minute walk

   C. doing standing stretches for about 5 minutes, followed by about 5 minutes of floor stretches

   D. performing various strength exercises, such as push-ups and curl-ups, for about 5 minutes

2. In a strength development unit, a student bench presses 120 pounds of resistance for 3 sets of 8 repetitions each. After several workouts, the student is able to do more than 10 repetitions per set. To stimulate further muscular strength development, the student should:

   A. decrease the speed at which the repetitions are performed.

   B. increase the resistance by 15 or 20 pounds and do only one set of 10 repetitions.

   C. double the number of repetitions in each set.

   D. increase the resistance by 5 or 10 pounds and try to do 3 sets of 8 repetitions.

3. In body composition management, it is advisable to include resistance training as part of a weight reduction program because it:

   A. converts fat tissue into muscle tissue.

   B. burns more calories per unit time than aerobic training.

   C. helps prevent loss of lean body mass.

   D. decreases resting energy expenditure.

4. Which of the following activities would be most useful in making an initial assessment of the body awareness and motor control skills possessed by students in an introductory gymnastics class?

   A. turning somersaults and cartwheels on the floor mats

   B. standing, walking, and hopping on a beam laid on the floor

   C. hanging and swinging from the parallel bars

   D. using the springboard to vault over the vaulting horse

5. A seventh-grade physical education teacher wishes to evaluate students' locomotor skills at the beginning of the school year. In devising assessment strategies, the teacher should be aware that most students at this age:

   A. have not yet developed mature patterns for most basic locomotor skills.

   B. may not be able to perform more complex basic locomotor skills, such as skipping.

   C. can perform basic locomotor skills, but may have difficulty combining skills fluidly in variable settings.

   D. have difficulty performing basic locomotor skills that require balance, such as hopping on one foot.

6. Which of the following is the primary advantage of using the inside of the foot rather than the toe of the foot in kicking a ball?

   A. The ball can be kicked more forcefully using the inside of the foot because larger leg muscles are used to swing the leg for the kick.

   B. The chance of suffering an injury to the foot is lower when the inside of the foot is used to kick the ball.

   C. Ball control is enhanced when kicking with the inside of the foot because a larger and flatter surface is used to contact the ball.

   D. The leg movements used when kicking with the inside of the foot are more easily incorporated into the running stride during games.

7. In an activity, students are instructed to run as fast as they can and stop as close as possible to a line on the floor. The teacher should stress which of the following techniques for maintaining balance when stopping?

   A. Lean backward slightly when stopping to shift the center of gravity towards the back of the base of support.

   B. Bend forward at the waist when stopping to lower the center of gravity so that it is closer to the base of support.

   C. Keep the legs wide apart when stopping to enlarge the base of support from side to side.

   D. Move the arms forward when stopping to move the center of gravity forward over the center of the base of support.

8. Which of the following would be the most effective technique for introducing group folk dancing to a ninth-grade class?

   A. Teach the students very simple dances at first, then add more difficult dances as the students' skills improve.

   B. Ask each student to practice the movements of the dance by themselves, then assign students to groups based on their level of skill.

   C. Break each dance into component steps and movements, then integrate these components into progressively longer sequences.

   D. Develop activities that teach students fundamental rhythmic skills, then incorporate these activities into the dance.

9. In certain sports events, such as the 800-meter run, maximal exercise lasts for less than 3 minutes. In these types of activities, performance is limited primarily by the:

   A. level of maximum oxygen consumption ($\dot{V}O_2max$).

   B. ability to buffer and remove excess lactic acid from the muscles.

   C. amount of glycogen stored within the muscles.

   D. ability to prevent a rise in body temperature.

10. A physical education teacher introduces a new game to eighth-grade students. The game has more complex rules and requires a higher level of physical skill than games that the class has previously played. At the end of the class period, most of the students seem markedly unenthusiastic about the new game. The most likely explanation for the students' lack of interest in the new game is that many children at this age are:

    A. reluctant to engage in strenuous physical activity.

    B. inclined to rebel against authority figures such as teachers.

    C. reluctant to try new and unfamiliar activities.

    D. sensitive to embarrassment caused by failing in front of their peers.

11. A physical education teacher wishes to introduce a complex new game to a class. Which of the following teaching approaches would best accommodate differences in learning styles among students?

    A. Describe the game verbally to the class and allow time to repeat the instructions or answer questions from class members.

    B. Combine verbal instruction with diagrams on the chalkboard and a walk-through of the basic components of the game.

    C. Provide written instructions about the rules and strategies of the game and make suggestions to players during and after each game.

    D. Show a video of professional or college athletes playing a related sport and answer questions from the class when the video has ended.

12. Which of the following is a characteristic of the sport education curriculum model?

    A. Practice of closed skills is considered more important than practice of open skills.

    B. Cognitive, social, and emotional skills development is emphasized over physical skill development.

    C. The choice of skills and when to teach them is based on individual readiness rather than age-group generalizations.

    D. Skills practice takes place in sequential, progressive, gamelike situations.

13. A physical education class includes a few students who have slow reaction times or motor control difficulties. Which of the following modifications to a class volleyball game is likely to be most effective in promoting these students' active and successful participation?

    A. allowing an unlimited number of hits by a team before they hit the ball back over the net

    B. starting play by tossing, rather than serving, the ball

    C. having students play the same position throughout the game rather than rotating positions

    D. using a larger, more lightweight ball

14. When evaluating a norm-referenced psychomotor test for students that involves a significant strength and power component, it is most important to consider which of the following questions?

    A. Are age and gender differences taken into consideration?

    B. Is the norm group identical in composition to the population being tested?

    C. Are test administration procedures as flexible as possible?

    D. Does each test activity correspond to a different level of the psychomotor domain?

15. Students in a physical education class have dispersed throughout the gym for independent practice of a skill. The most appropriate and effective way for the teacher to allocate attention during this type of activity would be to:

    A. proceed systematically from one student to the next, spending equal time with each.

    B. move constantly around the gym, briefly scanning the entire class on a frequent basis.

    C. remain in one location in the gym, allowing easy access for students with questions.

    D. survey the entire class initially, identifying the students who most require individual attention.

16. Students' intrinsic motivation is most likely to be enhanced by physical education activities that:

    A. provide opportunities for self-determination through choice.

    B. follow a familiar and predictable structure.

    C. encourage comparisons of performance among peers.

    D. consist of easily accomplished tasks that guarantee success.

17. Which of the following statements best describes the relationship between physical education and personal-social skills?

    A. These skills should be approached as any other skills in physical education and addressed directly in instruction.

    B. Students generally learn these skills at home and the role of physical education is to provide positive reinforcement for them.

    C. These skills should be secondary to developing students' motor skills and knowledge of fitness concepts in physical education.

    D. Students generally possess these skills and will demonstrate them in a supportive, developmentally appropriate environment.

18. The inclusion of physical education in the 1994 national educational reform document, *Goals 2000: Educate America Act*, had which of the following effects on the field?

    A. It mandated daily physical education or equivalent block scheduling in all publicly funded schools by the year 2002.

    B. It established a minimum requirement of 30 minutes of exercise every day for children and adolescents.

    C. It improved the status of the discipline by defining physical education as part of the core academic program.

    D. It ensured that public school physical education programs would implement uniform instruction based on the same curriculum goals.

19. A physically educated person is best described as an individual who:

    A. participates in physical activity on a daily basis.

    B. understands the physiological basis of the effects of physical activity and inactivity on the body.

    C. knows the rules and regulations of a wide variety of sports.

    D. has the knowledge, skills, fitness, and attitudes necessary to lead a healthy lifestyle.

20. A colleague observed a physical education teacher's class and recorded the number and types of interactions the teacher had with students. The teacher interacted more frequently with high-achieving boys than with other students. The teacher also provided more specific corrective information to the high-achieving boys, while the comments to the other students tended to be general words of encouragement. Receiving feedback such as this is likely to be advantageous to the teacher primarily because it:

    A. suggests specific strategies for improving instructional practice.

    B. prompts awareness of personal biases that may have a negative effect on student learning.

    C. gives a concrete measure of instructional effectiveness.

    D. provides insight into the students' perceptions of the teacher's performance.

ANSWER KEY FOR THE SAMPLE MULTIPLE-CHOICE TEST QUESTIONS

Item Number	Correct Response	Objective
1.	**A**	Demonstrate knowledge of strategies for developing and maintaining a healthy level of cardiorespiratory endurance.
2.	**D**	Demonstrate knowledge of strategies for developing and maintaining a healthy level of muscular strength and endurance.
3.	**C**	Demonstrate knowledge of strategies for developing and maintaining a healthy level of body composition.
4.	**B**	Demonstrate knowledge of basic principles related to fundamental motor skills.
5.	**C**	Demonstrate knowledge of methods for developing locomotor skills.
6.	**C**	Demonstrate knowledge of methods for developing object control skills.
7.	**A**	Demonstrate knowledge of methods for developing postural nonlocomotor skills.
8.	**C**	Demonstrate knowledge of methods for developing rhythmic skills.
9.	**B**	Demonstrate knowledge of the organic structures of the human body.
10.	**D**	Demonstrate knowledge of how individuals grow and develop cognitively, socially, and emotionally.
11.	**B**	Demonstrate knowledge of how students differ in their approaches to learning in a physical education setting.
12.	**D**	Demonstrate knowledge of instructional design and planning for physical education.
13.	**D**	Apply developmentally appropriate instructional strategies in a physical education setting.
14.	**A**	Demonstrate knowledge of formal and informal assessment strategies to evaluate the physical, cognitive, social, and emotional development of learners in a physical education setting.
15.	**B**	Demonstrate knowledge of principles and methods of instructional management in a physical education setting.
16.	**A**	Demonstrate knowledge of factors related to individual and group motivation in a physical education setting.
17.	**A**	Demonstrate knowledge of positive personal and social traits that can be fostered within the context of physical activity.
18.	**C**	Demonstrate knowledge of the foundations of physical education.
19.	**D**	Demonstrate knowledge of the importance of physical education and fitness to students.
20.	**B**	Demonstrate knowledge of methods for developing professional relationships and reflecting on teaching practices.