

NORTH BRANFORD PUBLIC SCHOOLS

Essential Curriculum

Physical Education

High School (Grades 9-12)

Upon completion of Grade 12, students will be able to:

Demonstrate an understanding of the fitness outcomes in a variety of activities.

- Demonstrate basic competence in a variety of activities that contribute to improvement of overall fitness.
- Analyze daily activities such as walking, climbing, lifting, and various household chores for their ability to provide fitness benefits.
- Modify sports and activities to include an aerobic benefit.
- Use FITT (frequency, intensity, time, type) guidelines to evaluate activities.

Demonstrate active participation outside of the school day.

- Participate in recreational activities offered through community agencies.
- Participate in activities developing fitness outside of the school day.
- Maintain activity journals illustrating activity participation outside of school hours.

Recognize the relationship between physical activity and personal health.

- Recognize that health-related fitness is a lifelong process unique to each individual.
- Identify genetic influences on body type, sedentary lifestyle diseases, muscle types, and rates of weight gain and loss.
- Describe how physical activity affects body mass composition, including muscle and fat percentages and bone density.
- Describe the mental, social, and psychological benefits of physical activity.
- Describe how exercise increases longevity and quality of life through the reduction of stress.

Explain the elements of physical fitness, e.g., flexibility, cardiovascular endurance, and body composition).

- Review the elements of physical fitness.
- Define maximum volume of oxygen uptake (VO₂ Max), respiratory rate, cardiac output, stroke volume, and heart rate, all concepts of cardiovascular endurance.
- Explore concepts related to flexibility, e.g., genetics, static vs. ballistic stretching, and joint variations.
- Explain the concepts related to muscular strength, e.g., isotonic, isometric, and isokinetic exercises, the overload principle, and the work/rest ratio.
- Explain the concepts related to muscular endurance, e.g., high repetitions with low resistance, sport specificity, and the work/rest ratio.
- Explain the concepts related to body composition, e.g., the difference between being overweight and obese, genetic influences, and various ways to measure body composition.

Explain training principles and how they impact physical fitness.

- Explain the principles of warm-up and cool-down as they relate to proper stretching, active vs. passive recovery, and injury prevention and rehabilitation.
- Explain methods and the importance of using heart rates to monitor the intensity of physical activities.
- Calculate individual target heart rate training zones by using the maximum heart rate formula or maximum heart rate reserve formula.
- Provide definitions for overload, progression, specificity, reversibility, frequency, duration, intensity, and rest and recovery.
- Compare aerobic and anaerobic activities, showing examples of each.
- Observe safety precautions in training, e.g., over-training, altitude, pollution, and temperature extremes.
- Develop weight training programs to build muscular strength, muscular endurance or a combination of the two.

Understand the relationship between proper nutrition and personal health and fitness.

- Explain the role of nutrition in overall health and fitness.
- Explain proper balance between food intake and energy expenditure.
- Compare the effects and/or dangers of weight loss and gain on body composition and personal health.
- Identify the benefits and dangers of various dietary supplements such as vitamins, minerals, herbs, power drinks, steroids, and performance-enhancing drugs.
- Identify strategies for developing a healthy self-concept and acceptance of one's body make-up.

Assess personal health and fitness levels.

- Research family history for health-risk factors such as coronary heart disease, cancer, diabetes, cholesterol, and blood pressure.
- Assess known personal health risk factors considering age, gender, body composition, blood pressure, heart rate, cholesterol levels, and daily stress situations.
- Assess personal fitness status regarding activity participation, energy expenditure, elements of physical fitness, and nutritional practices.

Develop and implement a personal fitness plan.

- Pre-test to establish baseline fitness information for muscular strength and endurance, flexibility, body composition, heart rate, blood pressure, and cardiovascular endurance.
- Develop personal fitness goals based on the pre-testing results and use a post-test to show progress and improvement.
- List and evaluate activities that develop specific elements of physical fitness.
- Participate in a variety of individual and group activities appropriate for enhancing physical fitness both during and after school hours.
- Incorporate appropriate training principles including overload, progression, specificity, intervals, circuits, reversibility, maximum heart rate, target heart rate, perceived exertion, and rest and recovery.
- Calculate and monitor daily caloric intake and expenditure for weight management, and utilize an activity journal to track progress.

Participate in personally meaningful activities.

- Participate regularly in physical activities that contribute to the attainment and maintenance of personal fitness goals.
- Use results of post fitness assessments to guide changes in fitness plan.
- Analyze time, cost, and accessibility factors in determining activity participation in community settings.
- Recognize how physical activities impact a person's physical, emotional, social, and intellectual well-being.

Use a variety of technological resources to design, monitor, and adjust fitness programs.

- Use heart rate monitors or pulse sticks to monitor heart rates.
- Calculate body composition by using skin-fold calipers or electrical impedance analyzers.
- Calculate blood pressure using digital monitors.
- Use computer software to track progress in fitness programs and to perform a nutritional analysis.
- Access various websites to assist in developing, evaluating, and revising personal fitness programs.

Accept diversity of people in activity settings.

- Demonstrate acceptance of others regarding varying skills, abilities, limitations, and cultural backgrounds.
- Take an active role in helping others achieve success.
- Identify the effects of age, gender, race, ethnicity, physical makeup, and culture on physical activity preference and participation.

Make responsible choices in activity settings.

- Recognize the effects of environmental conditions like wind, temperature, humidity, and altitude on activity performance.
- Examine the effects of substance abuse on health and performance.
- Explore the consequences of eating disorders at either end of the spectrum.
- Identify appropriate risks and safety factors in the selection of fitness activities.
- Accept responsibility for personal choices.

Demonstrate personal responsibility and the ability to work with others in activity settings.

- Utilize time effectively to set personal goals, practice, and complete assigned tasks.
- Work independently and on task with a partner and in small or large group activities.
- Demonstrate maturity and self-control in conflict situations.
- Take a supportive role to encourage and positively influence peers in a variety of activity settings.
- Participate in academic service-learning activities available in the community.

Understand that physical activity provides opportunities for enjoyment and social interaction.

- Select competitive and recreational activities that bring personal satisfaction.
- Appreciate the aesthetic value of activity participation in a variety of settings.
- Recognize that physical activities offer a positive environment to meet and interact with people of varying interests and ability levels.
- Describe how the participation with others can positively influence the attainment of personal fitness goals.

Recognize that physical activity provides opportunities for personal challenge.

- Explore a variety of personally challenging activities during and after school hours.
- Voluntarily participate in competitive and recreational activities.
- Utilize short- and long-term goals in activity selection.
- Define challenges and risk factors that change with the aging process.

Utilize physical activities to provide opportunities for self-expression.

- Choose activities that are personally rewarding.
- Utilize imagination, self-expression, and creativity in designing personal fitness plans.
- Bolster self-esteem through activity participation.
- Participate in programs and facilities in the community that foster activity choice and self-expression.

Apply required techniques to be competent in a variety of sport, adventure, and fitness activities.

- Demonstrate basic competence and participation in a variety of areas that may include individual and group activities, leisure/lifetime activities, aquatics, and cooperative activities.
- Participate successfully in activities using advanced skills and strategies with increasingly more complex movement skills, while consistently following rules and regulations.

Demonstrate the necessary knowledge and skills to be proficient in a few movement forms.

- Identify the critical elements of increasingly complex game and movement forms.
- Demonstrate understanding of the advanced skills, strategies, and rules of activities.
- Use mental and physical cues in practicing activities.
- Detect and correct errors in personal performance and in the performance of others.
- Use internal and external feedback to analyze and improve performance.

Demonstrate knowledge of the relationships of movement concepts including physical, mental, and social applications.

- Demonstrate the importance of proper form to success in activities; the influence of strength, speed and size; and the type of equipment used.
- Apply biomechanical principles to analyze and improve activity performance.
- Understand physiological concepts as they relate to aerobic and anaerobic activities.
- Communicate to improve group performance and develop strategies to include others in activity settings.
- Use visualization to improve performance.

Apply movement concepts to the learning and development of movement skills.

- Demonstrate transfer of basic manipulative skills and concepts to specific sports and activities.
- Analyze performance through the use of video and digital cameras and other means.
- Design appropriate practice sessions based on personal needs to improve performance.
- Identify how skill, strength, previous experience, desire to play, and other personal characteristics affect participation in specific types of activities or practice sessions.

Participate in activities that promote physical fitness and enjoyment.

- Identify the fitness benefits in a variety of activities.
- Identify and utilize activities and facilities in the community that meet personal participation and fitness needs.
- Use readily available resources and materials to engage in home fitness activities.
- Participate in lifetime activities that are personally rewarding.

Apply the knowledge to be able to develop and maintain an active lifestyle.

- Analyze lifelong activity participation considering age, gender, family needs, job demands, and socioeconomic status.
- Self-assess all components of physical fitness using a variety of assessment tools.
- Design short-term and long-term personal fitness programs.
- Analyze the nutritional aspects of developing and maintaining a healthy lifestyle.
- Use activity journals/portfolios to track personal progress in developing and maintaining fitness.

Participate in activities to develop a foundation of physical fitness.

- Participate in activities that develop muscular strength and/or endurance, flexibility and cardiovascular fitness.
- Recognize the importance of the balance between food intake and energy expenditure in maintaining weight, developing fitness and preventing sedentary disease.

Adjust and monitor fitness and the execution of movement skills using a variety of technological resources.

- Demonstrate familiarity with a variety of computer software programs for improving and monitoring skills and fitness levels.
- Create a video individually or with a partner to illustrate correct form and technique in selected activities.
- Use a camcorder or digital camera to identify key elements of an activity or to provide a record of improvement from the beginning to the end of an instructional period.
- Prepare reports on fitness and activity using Internet resources.
- Utilize heart-rate monitors, pulse sticks, blood pressure devices, body mass analyzers, and pedometers to assess and track fitness levels.

Demonstrate responsible personal behavior in physical activity settings.

- Analyze potential dangers in exercise and activities and identify safe alternatives.
- Act independently of peer pressure in developing healthy choices.
- Set goals and work independently in pursuit of fitness and skill development.

- Recognize the meaning and importance of rules in activity participation.
- Practice budgeting time to complete fitness tasks.

Demonstrate the ability to work with others in activity settings.

- Self-officiate in recreational sports.
- Positively recognize efforts by opponents in a number of different activities.
- Communicate with fellow participants to solve conflict without confrontation.

Demonstrate responsible social behavior.

- Be willing to walk away to avoid verbal or physical confrontation in activity settings.
- Listen to all sides before taking action in solving conflict.
- Develop strategies to include others in activity participation.
- Participate in academic service-learning projects to assist people in the community.

Demonstrate respect and understanding of differences among people in activity settings.

- Report on the historical roles and values of games, sports, and dance in different cultures.
- Participate in games and sports with participants of varying ability levels.
- Recognize the effects of age on activity performance and choice in a lifelong fitness and activity plan.
- Adapt or modify activities to include participants of diverse backgrounds and ability levels.

Demonstrate that physical activity provides opportunities for a lifelong healthy lifestyle.

- Know the benefits of activity and proper nutrition and the consequences of inactivity and poor nutritional choice.
- Explore indoor and outdoor activities offered in the community.
- Utilize personal knowledge to improve fitness and skill levels throughout the life cycle.
- Participate in activities to prevent and relieve everyday stress.

Demonstrate that physical activity provides opportunities for personal challenge.

- Differentiate between appropriate and inappropriate risks in activity selection and participation.
- Develop trust through adventure-based and cooperative learning activities.
- Recognize abilities and limitations when setting goals and personal challenges.

Demonstrate that physical activity provides opportunities for self-expression and social interaction.

- Explore new activities individually and with others.
- Choose activities that contribute to self-expression and social interaction.
- Extend participation in activities to non-school social environments.
- Visualize activity participation as a means of meeting, understanding, and participating with people of diverse backgrounds.