



DEPARTMENT
OF EDUCATION

NEVADA ACADEMIC CONTENT STANDARDS-PHYSICAL EDUCATION

Introduction

Importance of Physical Activity

Physical activity is a leading health indicator because it reduces the risk of a myriad of chronic diseases including cardiovascular disease, cancer, overweight, and type 2 diabetes.¹ Vigorous physical activity has additional benefits in that it increases muscle strength, bone density, and has important positive implications for cognitive functioning, and psychological health and mood.¹ Additionally, children cannot become physically fit or physically skilled without engaging in physical activity.

- The [2008 Physical Activity Guidelines for Americans](#) recommend that children and adolescents:
 - engage in 1 hour (60 minutes) or more of physical activity every day
 - most of the 1 hour or more a day should be either moderate- or vigorous-intensity aerobic physical activity
 - engage in vigorous-intensity activity on at least 3 days per week
 - engage in muscle-strengthening and bone-strengthening activity at least 3 days per week

Physical activity is essential to children's current and future health.² Yet, despite its many documented benefits, numerous reports suggest that all segments of the population, including children and adolescents, do not meet physical activity guidelines.^{3, 4} More than 75% of Nevada's youth and 79% of Nevada's adult population do not meet the recommended guidelines.^{5, 6} Meanwhile, sedentary living is a global public health problem^{2, 7} and its cost and consequences are enormous and growing.⁸

Importance of High Quality Physical Education

School is a critical environment for providing and promoting life-long physical activity. It is the only setting that reaches nearly all children--most of whom are at school for over 6 hours per day for about 36 weeks a year for 12 years. In this regard, physical education (PE) is instituted as part of the K-12 school curriculum and has been shown to be an the most important contributor to children's moderate to vigorous physical activity minute accrual.^{9,10} PE is the only program where all children, even those that are least active child, can engage in physical activity at higher intensities.

Since 1996, numerous public health agencies (e.g., U.S. Surgeon General, Health and Human Services, the Centers for Disease Control and Prevention) and medical organizations (e.g., American Heart Association; American Academy of Pediatrics) have called for schools to provide high quality active daily physical education for U.S. children.

Rationale for Physical Education in Nevada Schools

The Surgeon General and CDC agree and recommended that communities "provide quality, preferably daily, K-12 physical education classes and hire physical education specialists to teach them" (Physical Activity and Health - A Report of the Surgeon General 1996).

A physically active and educated person is one who has mastered the necessary movement skills to participate confidently in many different forms of physical activity. Even before birth, children begin to move and learn about their world through sensory (i.e. kinesthetic) awareness and movement. The process continues from childhood through adolescence and into late adulthood. A physically educated person understands the importance of meeting physical activity guidelines and their relationship to fitness, overall health, and wellbeing. He or she participates regularly in physical activity and understands the benefits of engaging in physical activity.

It is the responsibility of schools to provide opportunities for all students to become physically educated and enjoy moving. Students who participate in quality physical education programs receive a variety of benefits in the areas of movement skills, physical conditioning, and knowledge so they can develop strategies and tactics to lead a physically active lifestyle. In physical education engage in health-enhancing physical activity and learn:

1. a variety of motor skills and abilities related to lifetime leisure activities,
2. the importance of maintaining a healthy lifestyle,
3. an understanding of movement and the human body,
4. knowledge of rules and strategies of particular games and sports, and
5. strategies to lead a physically active lifestyle

References

1. Strong, W, Malina, RM, Blimkie, CJR, et al. Evidence based physical activity for school-age youth. *Journal of Pediatrics*, 2005; 146: 732-737.
2. *2008 Physical Activity Guidelines for Americans*. Washington DC: U.S. Department of Health and Human Services; 2008. <http://www.health.gov/PAGuidelines/Guidelines/Default.aspx>. Accessed: May 6, 2012.
3. US Department of Health and Human Services (2000). *Healthy People 2010: Health Objectives for the Nation*. 2nd ed. Washington, DC: Government Printing Office.
4. Pate, RR, Davis, M.G., Robinson, T.N. et al. Promoting physical activity in children and youth: a leadership role for schools. *Circulation*, 2006; 114:1214-1224.
5. Centers for Disease Control and Prevention. 2009 Youth Risk Behavior Survey. Available at: <http://apps.nccd.cdc.gov/youthonline/App/Results.aspx?LID=NV>. Accessed on May 6, 2012.
6. Centers for Disease Control and Prevention. 2011 Behavioral Risk Factor Surveillance System. Available at: <http://apps.nccd.cdc.gov/brfss/display.asp?cat=PA&yr=2011&qkey=8291&state=NV>. Accessed on May 6, 2012.
7. World Health Organization. *Global Strategy on Diet, Physical Activity and Health*. Geneva, Switzerland: World Health Organization; 2004.
8. Janssen I, Katzmarzyk PT, Boyce WF, King MA, Pickett W. Overweight and obesity in Canadian adolescents and their associations with dietary habits and physical activity patterns. *J Adolesc Health*. 2004 Nov; 35(5):360-7.
9. Ward DS. School policies on physical education and physical activity. Active Living Research, Research Synthesis 2011. www.activelivingresearch.org/files/Synthesis_Ward_SchoolPolicies_Oct2011.pdf
10. Bassett DR, Fitzhugh EC, Heath GW, et al., Estimated energy expenditures for school-based policies and active living

Content Standard 1.0: Demonstrate competency in motor skills, movement patterns and safety needed to perform a variety of physical activities.

Indicator	Grade K-2	Grade 3-5	Grade 6-8	Grade 9-12
	<i>By the end of Grade 2, students know and are able to:</i>	<i>By the end of Grade 5, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 8, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 12, students know and are able to do everything required in previous grades and:</i>
Locomotor and Nonlocomotor Movement	1.2.1 Demonstrate the basic elements of movement forms.	1.5.1 Utilize locomotor and nonlocomotor movements in physical activities.	1.8.1 Apply locomotor and nonlocomotor movements into physical activities.	1.12.1 Demonstrate proficiency in multiple movement forms in physical activities.
Manipulative Skills	1.2.2 Perform a variety of basic level manipulative skills in isolation.	1.5.2 Perform manipulative skills in simple combinations.	1.8.2 Demonstrate manipulative skills in a variety of environments and under a host of conditions.	1.12.2 Perform manipulative skills in combination with locomotor and/or nonlocomotor movements in a variety of environments and under a host of conditions.
Motor Skills and Movement Patterns	1.2.3 Perform simple motor skills and movement patterns.	1.5.3 Perform simple and moderate motor skills and movement patterns.	1.8.3 Execute moderate and complex motor skills and movement patterns within physical activities.	1.12.3 Execute complex motor skills and various movement patterns within physical activities.
Safety	1.2.4 Demonstrate safe practices while participating in physical activities.	1.5.4 Demonstrate safe practices while participating in physical activities.	1.8.4 Apply safe practices while participating in physical activities.	1.12.4 Apply safe practices while participating in physical activities.

Content Standard 2.0: Apply knowledge of concepts, principles and strategies related to movement, performance and safety within physical activities.

Indicator	Grade K-2	Grade 3-5	Grade 6-8	Grade 9-12
	<i>By the end of Grade 2, students know and are able to:</i>	<i>By the end of Grade 5, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 8, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 12, students know and are able to do everything required in previous grades and:</i>
Concepts and Principles	2.2.1 Recognize the basic elements of movement.	2.5.1 Recognize critical elements of movement skills.	2.8.1 Apply knowledge of the critical elements in specialized skills.	2.12.1 Analyze complex skills in a physical activity setting.
Strategies	2.2.2 Demonstrate basic strategies in physical activities.	2.5.2 Explain strategies within physical activities.	2.8.2 Implement multiple strategies in physical activities.	2.12.2 Analyze strategies used in physical activity settings to improve movement skills.
Safety	2.2.3 Identify appropriate safety practices in general space for self and others.	2.5.3 Explain the importance of safety rules and procedures for self and others in physical activities.	2.8.3 Implement safe practices for self and others while participating in physical activities.	2.12.3 Demonstrate safe practices for self and others while participating in physical activities.

Content Standard 3.0: *Participate regularly in physical activity.*

Indicator	Grade K-2	Grade 3-5	Grade 6-8	Grade 9-12
	<i>By the end of Grade 2, students know and are able to:</i>	<i>By the end of Grade 5, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 8, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 12, students know and are able to do everything required in previous grades and:</i>
Moderate to vigorous physical activity	3.2.1 Demonstrate the differences between sedentary, light, moderate, and vigorous physical activity.	3.5.1 Participate in a variety of moderate to vigorous physical activities.	3.8.1 Engage in a variety of moderate to vigorous physical activities.	3.12.1 Engage in a variety of moderate to vigorous physical activities.
Establishing Healthy Activity Patterns and Values	3.2.2 Demonstrate healthy activity patterns by participating in physical activity.	3.5.2 Demonstrate healthy activity patterns by participating in physical activity.	3.8.2 Apply healthy activity patterns through participation in physical activity.	3.12.2 Apply lifelong activity patterns through participation in physical activity.
Self-Management Skills	3.2.3 Demonstrate ways to be physically active during the day.	3.5.3 Demonstrate opportunities at school for regular participation in physical activities.	3.8.3 Demonstrate opportunities at school for regular participation in physical activities.	3.12.3 Demonstrate opportunities at school for regular participation in physical activities.

Content Standard 4.0: *Achieves and maintains a health-enhancing level of physical fitness*

Indicator	Grade K-2	Grade 3-5	Grade 6-8	Grade 9-12
	<i>By the end of Grade 2, students know and are able to:</i>	<i>By the end of Grade 3, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 5, students know and are able to do everything required in previous grades and:</i>	<i>By the end of Grade 8, students know and are able to do everything required in previous grades and:</i>
Health-related Fitness Components	4.2.1 Practice health-related fitness components in various physical activities.	4.5.1 Participate in various physical activities utilizing the health related fitness components.	4.8.1 Develop a physical activity plan that includes training and conditioning principles to improve fitness.	4.12.1 Use personal fitness data to develop an exercise and physical activity plan to improve fitness.
Physiological Effects & Benefits of Physical Fitness	4.2.2 Identify physiological signs of light, moderate and vigorous physical activity.	4.5.2 Explain the long-term benefits of participation in physical activity.	4.8.2 Monitor physiological effects during various physical activities and intensity levels.	4.12.2 Analyze health and fitness benefits derived from participation in various physical activities.

Glossary

Aerobic – An individual’s ability to use oxygen for an extended period of time.

Agility –The ability of the body to change position rapidly and accurately while moving in space.

Balance – The body’s ability to maintain a state of equilibrium while remaining stationary or moving.

Biomechanical -The mechanics of biological and especially muscular activity (as in locomotion or exercise).

Body Composition – Proportion of body fat to lean body mass.

Cardiorespiratory/Aerobic Endurance – Involves the ability of the heart and lungs to supply oxygen to the working muscles for an extended period of time.

Complex Motor Skill – A combination of motor skills, such as a gymnastics routine.

Components of Physical Fitness – Aerobic/Cardiorespiratory Endurance, Body Composition, Flexibility, Muscular Strength and Endurance.

Concept – A general idea or understanding

Content Standards – Stated expectations that specify what students should know and be able to do for a given discipline.

Cool-down – A period of light activity following moderate to vigorous activity that allows the body to slow down and gradually return to near resting levels. The body needs this gradual recovery to ensure proper blood flow back to the heart, reduce muscle stiffness and soreness, remove lactic acid, and prevent lightheadedness, dizziness, or even fainting.

Coordination – The ability of the body to perform smoothly and successfully more than one motor task at the same time. The ability to combine the senses with movement (e.g. hand-eye coordination).

Dynamic Environment – An environment where one or more variables are introduced (i.e. speed, opponents, and combining two skills).

Elements – Basic part of a movement.

Etiquette – Established rules of conduct specific to particular games, sports, or activities (i.e., during a volleyball game, the ball is returned by rolling it under the net).

Exercise – A physical activity that is planned, structured, and repetitive bodily movement done to improve or maintain one or more of the components of health-related fitness.

FITT – A fitness principle that involves Frequency, Intensity, Time, and Type of exercise.

- **Frequency** – How often a person performs the target health-related physical activity.
- **Intensity** – How hard a person exercises during a physical activity period
- **Time** – How long an activity should be performed (duration).
- **Type** – What kind of activity a person chooses to perform in each area of health-related fitness.

Flexibility – The ability to move muscles and joints through a range of motion.

Goal Setting – Planning for a result that can be achieved.

Health/Wellness – Includes five parts or dimensions: physical/body, emotional, social, intellectual, and environmental.

Heart Rate – The number of heartbeats in a minute.

Locomotor Movement – Locomotor skills which move the body from one place to another or to project the body upward, including walking, running, jumping, leaping, hopping, skipping, sliding, and galloping.

Manipulative Skill – Movement that occurs in conjunction with an object (i.e. dribbling a basketball).

Mature – Demonstrates a movement that contains all the basic elements of that movement done in proper sequence and with proper timing.

Moderate Motor Skill – Motor skills such as, throwing, catching, a tennis serve, a basketball layup

Movement Form – All movement parts that define a skill (i.e. throwing, skipping, and catching).

Movement Pattern – An organized series of related movements.

Motor Skills – Physical activity that is directed toward a specific function or goal. The term can be used to refer to one discrete skill (e.g. Throwing) or a more general ability to perform physical skills competently (e.g. as in “The student has the motor skill needed to perform that sport”.)

Muscular Endurance – The ability of muscles to sustain repeated production of force at low to moderate intensity over an extended period of time.

Muscular Strength – The ability of muscles to produce force at high intensity over a short period of time.

Nonlocomotor Movement – Movement that is organized around the axis of the body, including bending and stretching, pushing and pulling, raising and lowering, twisting and turning, shaking, bouncing, circling, swinging etc.

Overload – A fitness principle that states that a body system (cardiorespiratory, muscular, or skeletal) must perform at a level beyond normal in order to adapt and improve physiological function and fitness.

Physical Activity – Any bodily movement produced by skeletal muscles that result in an expenditure of energy. These activities can require light, moderate, or vigorous effort and can lead to improved health if they are practiced regularly. *Children need 60 minutes a day of moderate to vigorous physical activity (MVPA) a day.*

- **Light activity** – not sitting still or lying down
- **Moderate activity** – activity that increases your heart and breathing rate and makes you sweat. You can talk but cannot sing.
- **Vigorous activity** – activity in which you are breathing rapidly and unable to speak in long sentences, only short phrases. Your heart rate is substantially increased and you are noticeably sweating.

Physical Fitness – The ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy, to engage in leisure –time pursuits, and to meet the above-average physical stresses encountered in emergency situations. Factors that affect fitness are exercise, nutrition, heredity, age and gender.

Physiological – The body’s physical functions (i.e. breathing, sweating, and heart rate).

Progression – A principle of training that establishes increases in the amount and intensity of physical activity needed to provide improvements over periods of time.

Power – The ability to transfer energy explosively into force. To develop power, a person must practice activities that required to improve strength, but at a faster rate involving sudden bursts of energy. It is the ability to combine strength and speed.

Reaction time – The time it takes to move after hearing, seeing, feeling, or touching; the time from stimulation to reaction.

Respect – Willingness to show consideration or appreciation for one another (i.e. listening to others, not using put-downs).

Rhythmic Movement – Use of hands, feet, drums, recorder and/or segments of music of various tempos.

Simple Motor Skill – Motor skills such as, walking or running

Specificity – A fitness principle that states that explicit activities that target a particular body system must be performed to bring about fitness changes in that area.

Speed – The ability of the body to perform movement in a short period of time, to move quickly.

Target Heart Rate – The number of heartbeats in a minute needed to improve fitness.

Technology – Heart rate monitors, pulse monitors, pedometers, caloric counters, stopwatches, video cameras, VCR/DVD, scales, and DLP projectors.

Warm-up – A low-intensity activity done before a full-effort or main activity to prepare the body for upcoming more intense activity. A proper warm-up improves muscle function, maximizes blood flow to the muscles, and improves flexibility.