

Physical Education Glossary

Note: This glossary provides definitions for some of the terms used in the physical education standards and grade-level outcomes. The terms and definitions included here are not meant to be a comprehensive list of essential concepts and ideas in physical education. Further information may be found in a variety of places, including the online sources listed at the end of this glossary.

Aerobic activity: Any sustained exercise that stimulates and strengthens the heart and lungs, thereby improving the body's use of oxygen. Examples of aerobic exercise include jogging, rowing, swimming, or cycling

Aerobic capacity: The maximum rate at which the body or an individual muscle can take up and use oxygen from the air; also known as maximal oxygen consumption (uptake) or $VO_2\text{max}$.

Agility: The ability to change body position quickly and to control one's physical movements.

Anaerobic activity: Any short-duration exercise that is powered primarily by metabolic pathways that do not use oxygen. Examples of anaerobic exercise include sprinting and weight lifting.

Artistic gymnastics: A discipline in which gymnasts perform short routines on different apparatus, which may include the balance beam, vault, bars, and floor.

Balance: The ability to keep an upright posture while stationary or moving.

Balance and control skills: The ability to control the movement of the body while stationary or moving.

Base of support: An area defined by the parts of the body and any assistive devices, such as canes or crutches, that are in contact with the support surface.

Biomechanical principles: Principles related to the study of physical forces. An understanding of biomechanical principles can help one move efficiently and avoid injury.

Body composition: All of the tissues that together make up the body: bone, muscle, skin, fat, and body organs.

Body systems: Groups of organs that work together to accomplish a specific physical or biological task.

- *Cardiovascular.* The heart, blood vessels, and blood, which provide oxygen and nutrients to the body.
- *Digestive.* The organs and glands that are responsible for ingestion, digestion, and absorption of food.
- *Endocrine.* The glands that produce hormones that regulate various body systems, including but not limited to metabolism, growth and development, tissue function,

reproduction, sleep, and mood.

- *Immune*. The system that protects against infections and other foreign substances, cells, and tissues.
- *Muscular*. The skeletal, smooth, and cardiac muscles that support movement and help maintain posture and circulate blood, among other functions.
- *Nervous*. A complex communication system that transmits nerve impulses between parts of the body.
- *Reproductive*. The organs and glands in the body that aid in procreation.
- *Respiratory*. The airways and passages that bring air, including oxygen, from outside the body into the lungs.
- *Skeletal*. The framework of the body, consisting of bones and connective tissues that protect and support the body tissues and internal organs.

Bones: Major bones of the body include the cranium, clavicle, sternum, vertebra, ribs, pelvis, humerus, ulna, radius, femur, tibia, fibula, patella, tarsals, metatarsals, carpals, metacarpals, and phalanges.

Borg rating: The measurement of intensity of physical activity based on exertion.

Cardiorespiratory endurance: The efficiency of the body's heart, lungs, and blood vessels to send fuel and oxygen to the body's tissues, most often during extended periods of moderate-to-vigorous activity.

Competency: One's ability, skill, and knowledge to perform a task.

Complex motor activities: Activities that involve more than one skill.

Complex motor skills: Skills that are made up of two or more skills. Examples include hopping and skipping, throwing and catching.

Complex movement sequences: Movements that require a combination of motor skills.

Components of health-related fitness: Aspects of physical fitness that help one stay healthy. Examples include:

- *Body composition:* All of the tissues that together make up the body: bone, muscle, skin, fat, and body organs.
- *Cardiorespiratory endurance:* The ability of the heart, lungs, and blood vessels to use and send fuel and oxygen to the body's tissues during long periods of moderate-to-vigorous activity.
- *Flexibility:* The ability to move the joints through a full range of motion.
- *Muscular endurance:* The ability of the muscles to perform physical tasks over a period of time without becoming fatigued.
- *Muscular strength:* The amount of force a muscle can exert.

Components of skill-related fitness: Aspects of physical fitness that help one perform well in sports and other activities that require certain physical skills. Examples include:

- *Agility:* The ability to change body position quickly and to control one's physical movements.
- *Balance:* The ability to keep an upright posture while stationary or moving.
- *Coordination:* The ability to use one's senses together with one's body parts, or to use two or more body parts together.
- *Power:* The ability to use strength quickly.
- *Reaction time:* The ability to react or respond quickly to what one hears, sees, or feels.
- *Speed:* The ability to perform a movement or cover a distance in a short period of time.

Concepts of direction: Forward, backward, left, right, clockwise, counter-clockwise, up, down, over, under, and through.

Concepts of effort: Exertion of physical or mental power in activities.

Concepts of levels: Low, medium, and high.

Concepts of pathways: Zigzag, straight, and curved movement.

Concepts of relationships: The position of the performer of an activity related to a piece of equipment or to other performers.

Concepts of spatial awareness: The location of objects in relation to one's own body.

Coordination: The ability to use one's senses together with one's body parts, or to use two or more body parts together.

Diminishing return: In physical activity, the point at which one's body is taking on more harm than benefit.

Defense: A means or method of defending or protecting.

Dynamic and cooperative situations: Situations where individuals use teamwork to overcome challenges.

Dynamic balance: Balance while moving. Or, the ability to balance under changing conditions of body movement. See also *Static balance*.

Dynamic environment: Changing surroundings in which one navigates.

Dynamic stretching: A form of stretching beneficial in sports using momentum from form, and the momentum from static-active stretching strength, in an effort to propel the muscle into an extended range of motion not exceeding one's static-passive stretching ability.

Eccentric action: An action that causes a muscle to elongate in response to a greater opposing force.

Educational gymnastics: A discipline that emphasizes body management and problem solving skills through movements such as stunts, balances, and poses.

Emerging pattern: The beginning stage of acquiring motor skills and knowledge.

Etiquette: Rules governing socially acceptable behavior.

Field/striking games: Games in which one team occupies positions throughout the space (field) and the other team tries to score by batting or striking an object into open space, with enough time for the hitter to run between bases (or wickets).

Fitness assessment protocol: A set of directions that accompanies a fitness assessment program.

Fitness log: A notebook used to record one's fitness activities.

FITT principle: A mnemonic formula of factors important to determining the correct amount of physical activity:

- *F = Frequency:* How often one does the activity each week.
- *I = Intensity:* How hard one works at the activity each session.
- *T = Time:* How long one works out at each session.
- *T = Type:* Which activities one selects.

The FITT principle for cardiorespiratory endurance:

- *Frequency:* Exercise 3–5 times per week.
- *Intensity:* Train at 60 to 85 percent of target heart rate zone.
- *Time:* Exercise for 20–60 minutes per session (recommended).
- *Type:* Any aerobic activity that keeps heart rate within the target heart rate zone. Examples include running, bicycling, swimming.

The FITT principle for muscular endurance:

- *Frequency:* Weight train 2–4 times per week.
- *Intensity:* To build endurance, lift lighter weight (less resistance) with more repetitions (8–15). Add or maintain weight and repetition during the workout.
- *Time:* A total workout of about 30–60 minutes.
- *Type:* Any activity that allows the muscles to perform a physical task over a period of time without becoming fatigued. Examples include resistance training, yoga, Pilates.

The FITT principle for muscular strength:

- *Frequency:* Weight train 2–4 times per week.
- *Intensity:* To build strength, lift heavier weights (more resistance) with fewer repetitions (3–8).
- *Time:* A total workout of about 30–60 minutes.
- *Type:* Anaerobic activities such as weight lifting and sit-ups.

The FITT principle for flexibility:

- *Frequency:* Daily stretching.
- *Intensity:* Stretch muscles and hold beyond their normal length at a comfortable stretch.
- *Time:* Hold stretch for 10–15 seconds, with the stretching workout lasting 15–30 minutes.
- *Type:* Stretches that allow the body to move through the full range of motion.

Fleeing: Traveling quickly away from a pursuing person or object.

Fleer: Someone who travels quickly away from a pursuer.

Flexibility: The ability to move the joints through the full range of motion.

Food label: A label found on the outside packages of food that states the number of servings in the container, the number of calories in each serving, and the amount of nutrients in each serving.

Force: The effort or tension generated in movement.

Fundamental motor skills: Foundation movements that are precursor patterns to the more specialized, complex skills (body management skills, locomotor skills, and manipulative skills) that are used in play, games, sports, dance, gymnastics, outdoor education, and physical recreation.

General space: All the area outside of someone’s personal space, for instance in a classroom, field, or gym.

Health and fitness plan: A plan for maintenance or improvement that includes an evaluation of current health and fitness levels for cardiorespiratory endurance, muscular strength, muscular endurance, and flexibility and an analysis of individual health behaviors such as diet, sleep, activity, fitness, and hydration.

Implement: Device used in the performance of a task.

Increasingly complex activities: Activities that involve progressively more difficulty.

Indicators of health: Physical, mental, emotional, and social.

Individual-performance activities: Activities that do not involve teamwork. Examples include gymnastics, figure skating, track and field, multisport events, in-line skating, wrestling, self-defense, and skateboarding.

Intrinsic motivation: A desire to seek out new things and new challenges that is driven by one’s interest or enjoyment in the task itself and does not rely on external pressures or a desire for reward.

Invasion games: Games in which teams score by moving an object into another team’s territory and either shooting into a fixed target (a goal or basket) or moving the object across an open-ended target (a line).

Inverted balance: Sustained balance, for approximately three seconds, in a position with the head below the body.

Isokinetic: Of or relating to muscular action with a constant rate of movement.

Isometric exercise: An action in which a muscle generates tension without changing length.

Isotonic contraction: An action in which tension remains constant, despite a change in muscle length.

Lifetime activity: An activity that is suitable for participation at any time across the life span.

Leading pass: A throw in which a manipulative is thrown ahead of the intended receiver so that the receiver can catch the manipulative while in motion.

Lead-up activity: An activity developed to limit the number of skills needed for successful participation.

Lead-up game: A game developed to limit the number of skills needed for successful participation.

Level: A measure of the relationship of one's body to the floor or an apparatus, or of an object to one's body. Examples of levels include high, low, and in between.

Locomotor: Movement that moves the body from one place to another. Examples include walk, jog, run, jump, hop, leap, gallop, slide, and skip.

Manipulative: An object designed to be moved by hand as a means of developing motor skills.

Manipulative skills: Skills for controlling or manipulating objects. Examples include kicking, striking, punting, rolling, tossing, throwing, catching, and dribbling.

Mature form: Performance of critical elements of a skill in a smooth and continuous motion.

Mature pattern: Execution of the critical elements a skill with efficiency in authentic environments.

Modified games: Small-sided games in which the rules have been modified to emphasize use of specific skills. An example of a modification is creating a penalty for dribbling to emphasize passing.

Motor skills: Actions that involve the movement of muscles in the body. Motor skills are divided into two groups:

- *Gross motor skills:* Large movements of arms, legs, feet, or the entire body, such as crawling, running, and jumping.
- *Fine motor skills:* Small, fine-tuned movements, such as grasping an object between the thumb and a finger or using the lips and tongue to taste objects.

Motor skill combinations: Actions involving two or more different motor skills, including gross motor skills and fine motor skills.

Movement concepts: Space, pathways, levels, relationships, speed, direction, force.

Muscular endurance: The ability of the muscles to perform physical tasks over a period of time without becoming fatigued.

Muscular strength: The amount of force a muscle can exert.

Muscles: Major muscles of the body include the abdominals, biceps, triceps, pectorals, hamstrings, quadriceps, gluteals, gastrocnemius, and trapezius.

MyPlate: A food guidance system that translates nutritional recommendations into the kinds and amounts of food to eat each day; a widely recognized nutrition education tool.

See ChooseMyPlate.gov.

Newton's Laws: Three physical laws of motion that, together, laid the foundation for classical mechanics. The laws describe the relationship between a body, the forces acting upon the body, and the body's motion in response to those forces. These laws have been expressed in different ways, and can be summarized as follows:

- *First law:* When viewed in an inertial reference frame, an object either remains at rest or continues to move at a constant velocity, unless acted upon by an external force.
- *Second law:* The vector sum of the external forces \mathbf{F} on an object is equal to the mass m of that object multiplied by the acceleration vector \mathbf{a} of the object: $\mathbf{F} = m\mathbf{a}$
- *Third law:* When one body exerts a force on a second body, the second body simultaneously exerts a force equal in magnitude and opposite in direction on the first body.

Nonlocomotor: Movement in which a body does not move from one place to another. Examples include bend, twist, stretch, push, pull, turn, swing, sway, and rock.

Offense: A means or methods of attacking or attempting to score.

Open space: A space where there are no defenders/opponents.

Overload: Idea that to improve physical fitness, one needs to do more physical activity than one normally does.

PACER: Abbreviation for Progressive Aerobic Cardiovascular Endurance Run, which is a test for cardiorespiratory fitness.

Pacing: An established rate of locomotion.

Palpate: To examine (part of the body) by touching it.

Pathways: The path a movement takes through space. For example, zigzag, curved, or straight.

Performance: Demonstration of a learned skill.

Personal risk assessment tool: A tool that allows an individual to learn about personal health risks, including the effects of a variety of health care interventions.

Personal space: The area immediately surrounding a person.

Phases of a workout:

- *Warm-up:* 5–10 minutes of light exercise to increase blood flow and raise the temperature in muscles.

- *Stretching*: About 5 minutes of stretching to increase flexibility and help avoid injury and strained muscles.
- *Physical activity*: The designated workout, lasting about 20–60 minutes.
- *Cool-down*: 5–10 minutes of reduced exercise to help heart rate, breathing rate, body temperature, and circulation return to the resting state.

Physical activity: Bodily activity that enhances or maintains physical fitness and overall health and wellness. Physical activity may be performed for various reasons, including strengthening muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, and merely enjoyment; it is of a well-rounded physical education program, but not a content area in itself.

Physical activity pyramid: A guide designed for adults to use to plan an active lifestyle. The physical activity pyramid recommends that adults participate in moderate-intensity cardio physical activity on three to five days for a minimum of 150 minutes each week, or in vigorous-intensity cardio physical activity on three to five days for a minimum of 75 minutes each week, as well as perform 8–10 strength-training exercises for 8–12 repetitions each twice each week.

Power: The ability to use strength quickly.

Principle: A basic truth, law, or assumption.

Proficiency: Advanced competency in any subject or skill.

Progression: Idea that the amount and intensity of physical activity needs to be increased gradually.

Progressive movement combinations: Sequence of actions.

Protocol: A system of rules or directions that explain the correct conduct and the procedures to be followed in formal situations.

Reaction time: The ability to react or respond quickly to what one hears, sees, or feels.

Repeatable sequences: Specific movements combined to create a desired outcome. An example might include traveling, rolling, balancing, and transferring weight in a smooth, flowing sequence with intentional changes in direction, speed, and flow.

Reversibility: The idea that fitness benefits are lost when training stops.

Rhythmic skills: Movement that aligns to a steady pulse or musical beat. Examples include creative movement to music, multicultural dance, and jump rope.

Safety principles: Ways to maintain personal safety when involved in activities.

Safety rules: Defined rules intended to keep participants safe.

Self-space: The space that one's body or body parts can reach without traveling away from a starting location.

Situational context clues: Awareness of surroundings. For example, awareness of being followed by someone.

Skill-related fitness assessments: Agility, balance, coordination, power, reaction time, and speed.

Skills performance: Demonstrating ability to do a specific task well; improves with practice.

Small-sided game play: An organized game in which the number of players is reduced from the conventional competitive version of the sport. Examples include 2v2 basketball, 3v3 volleyball, and 6v6 lacrosse.

Small-sided practice tasks: Tasks designed to practice particular skills.

SMART goals: Criteria for setting useful objectives. SMART goals are:

- Specific
- Measurable
- Attainable/Achievable
- Realistic/Relevant
- Timely/Time bound/Timeline

Specificity: Idea that specific types of exercise improve specific muscles or specific types of fitness.

Speed: The ability to perform a movement or cover a distance in a short period of time.

Sportsmanship: Fairness in following the rules of the game.

Static balance: Balance while stationary. Or, the ability to retain one's center of mass above one's base of support in a stationary position. See also *Dynamic balance*.

Static environment: Unchanging surroundings in which one navigates.

Static stretching: Used to stretch muscles while the body is at rest.

Strategy: A careful plan or method for achieving a particular goal, usually over a period of time.

Strike: To come into contact with an object via hand or handled implement. To perform various striking skills. For example, to place ball away from opponent in a racket sport, to place an overhead volleyball serve, or to punt a football.

Stretch:

- *Dynamic stretch:* Using momentum to propel a muscle into an extended range of motion not exceeding one's passive stretching ability
- *Static stretch:* Gradually lengthening a muscle to an elongated position while the body is at rest.

Tactics: The art or skill of employing available means to accomplish an end.

Tagger: A person who safely and appropriately touches a person or object.

Tagging: Traveling quickly toward a person or object for a safe touch.

Target games: Games in which players score by throwing or striking an object to a target.

Target heart rate (THR): Also known as training heart rate, THR is the range of heart rate desired during aerobic exercise to enable one's heart and lungs to receive the most benefit from the workout. Calculation of THR is based mostly on age; however, physical condition, sex, and previous training also are used in the calculation. The THR can be calculated as percent intensity.

Traditional sports: Athletic activities that are common in American culture, in terms of public attention and participation. Examples include soccer, hockey, and basketball.

Training principles:

- *Overload:* Idea that to improve fitness, one needs to do more physical activity than one normally does.
- *Specificity:* Idea that specific types of exercise improve specific muscles or specific types of fitness.
- *Progression:* Idea that the amount and intensity of physical activity needs to be increased gradually.
- *Reversibility:* Idea that fitness benefits are lost when training stops.
- *Diminishing return:* The point at which one is doing one's body more harm than good.

Transition: An act or process of passing from one state, stage, or place to another.

Traverse climbing activities: A type of climbing where one is never more than a few feet off the floor as one climbs across the wall (sideways).

Trajectory: The path followed by an object moving through space.

Volley: A shot or kick made by hitting an object before it touches the ground.

Weight-bearing exercise: Any activity done while on one's feet and legs that works the muscles and bones against gravity.

Weight transfer: Movement of body weight from one body part to another.

Wellness: An overall state of being in good health.

Resources for Further Exploration

[ChooseMyPlate.gov](http://www.choosemyplate.gov). Alexandria, VA: United States Department of Agriculture (USDA), Center for Nutrition Policy and Promotion, n.d. www.choosemyplate.gov

[EatSmart Nutrition Education](http://www.eatsmart.org). Lynnwood: Washington State Dairy Council, n.d. www.eatsmart.org

[Health and Physical Education](http://www.k12.wa.us/HealthFitness). Olympia, WA: Office of Superintendent of Public Instruction. www.k12.wa.us/HealthFitness

[Medical Dictionary Online](http://medical-dictionary.thefreedictionary.com/) at The Free Dictionary by Farlex. medical-dictionary.thefreedictionary.com/

[National Center for Health Statistics](http://www.cdc.gov/nchs), Centers for Disease Control and Prevention (CDC).
www.cdc.gov/nchs

[National PE Standards](http://www.shapeamerica.org/standards/pe). Reston, VA: SHAPE America (Society of Health and Physical Educators),
n.d. www.shapeamerica.org/standards/pe

[Nutrition.gov](http://www.nutrition.gov). Alexandria, VA: United States Department of Agriculture (USDA), 2015.
www.nutrition.gov

[PE Central](http://www.pecentral.org). Blacksburg, VA: PE Central, 2015. www.pecentral.org

p.e.l [inks4u: Promoting Active and Healthy Lifestyles](http://www.pelinks4u.org). Ellensburg: Central Washington
University, 2016. www.pelinks4u.org