

GRADE EIGHT

Students in grade eight demonstrate competence in skillful movement in modified, dynamic game/sport situations and in a variety of rhythmic and recreational activities. They transition from modified versions of movement forms to more complex applications across all types of activities. The grade-eight student applies knowledge of major body structures to explain how body systems interact with and respond to physical activity and how structures help the body create movement. Students will explain the relationship between nutrition, activity, and body composition to deepen understanding of energy balance. They will demonstrate socially responsible behavior as they show respect for others, make reasoned and appropriate choices, resist negative peer pressure, and exhibit integrity and fair play to achieve individual and group goals in the physical activity setting. Students are able to set goals, track progress, and participate in physical activities to improve health-related fitness. They have a repertoire of abilities across a variety of game/sport, dance, and recreational pursuits and begin to develop competence in specialized versions of lifelong game/sport activities.

Motor Skill Development

- 8.1 The student will apply and demonstrate movement concepts and skills in small-sided games/sports, rhythmic, dance, lifetime, and recreational activities.
- Demonstrate and apply movement forms to a variety of cooperative and tactical activities that include dynamic and unpredictable situations with a focus on defensive strategies, including reducing space, transitioning from offense to defense quickly, and selecting appropriate tactics to gain a defensive advantage.
 - Create a rhythmic movement or dance sequence to music as an individual or in a group.
 - Demonstrate skill-related components of fitness (agility, balance, coordination, power, reaction time, and speed) specific to various activities.
 - Demonstrate and explain the role of balance (center of support, center of gravity, and planes of motion) in a variety of activities.
 - Demonstrate physiological principles of warm-up, cool down, overload, specificity, and progression to improve performance.
 - Demonstrate the use of technology tools to analyze and improve performance.
 - Analyze movement performance/progressions (i.e., practice, self or peer assess, correct, practice at a higher level, and reassess) of a specific skill and use feedback to learn or improve the movement skills of self and others.

Essential Understandings	Essential Knowledge and Skills
<p>Motor skill development includes combining and applying movement and manipulative skills to changing physical activity/game situations. (8.1.a)</p> <p>Cooperative activities put an emphasis on team building, communication, and trust. (8.1.a)</p> <p>Tactical activities may include small-sided, modified games and sports that may include offense and defense that include dynamic and unpredictable situations. (8.1.a)</p> <ul style="list-style-type: none"> • Defense is the action of preventing an opposing team/opponent from scoring. Defensive strategies include defensive body positioning (lowering center of gravity, arms out), reducing space, use of sidelines, transitioning from offense to defense quickly, communicating with teammates, covering an individual opponent or area of the field of play, and selecting appropriate tactics to gain defensive advantage • Offensive skills include moving to open spaces, give and go, fakes, pivots, changing speed/direction, positioning in front of defender closer to a teammate, communicating with teammates, and continually moving/not standing still. <p>Dance and/or rhythms can provide opportunities for personal enjoyment, self-expression, challenge, and social interaction. (8.1.b)</p> <p>Movement competency involves patterns. (8.1.b)</p> <ul style="list-style-type: none"> • Student-created individual or group rhythmic movement sequence may include a beginning, ending, change in direction and pathways, and 	<p>In order to meet these standards, it is expected that students will</p> <ul style="list-style-type: none"> • demonstrate and apply movement forms in cooperative and tactical activities with a focus on defensive strategies (8.1.a); • create a rhythmic movement sequence to music (8.1.b); • demonstrate skill-related components of fitness in a variety of activities (8.1.c); • demonstrate the role of balance in a variety of activities and/or planes of movement (8.1.d); • explain the role of balance in a variety of activities/planes of movement (8.1.d); • demonstrate warm-up, cool down, overload, specificity, and progression (8.1.e); • demonstrate the use of technology tools to analyze and improve performance (8.1.f); • analyze movement performance and use feedback to learn or improve the movement skills of self-and/or others (8.1.g). <p>Additional resources: SHAPE America National Standards and Grade-Level Outcomes</p>

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<p>variety of skills/movements to counts of 4/8.</p> <p>Skill-related fitness components increases one’s ability to perform in various activities and leads to good overall health. (8.1.c)</p> <ul style="list-style-type: none"> • Agility: the ability to move quickly and easily; quick change of direction. • Balance: stability produced by even distribution of weight; muscles tense to keep the body in a balanced position. • Coordination: harmonious functioning of parts for effective results; it takes eye-hand coordination to strike an object. • Power: physical might; the ability to act or produce an effect; kicking a ball for distance. • Reaction time: the time required for a subject to initiate a prearranged response to a defined stimulus; the time between hearing a whistle and starting to run or the time between seeing a ball being thrown to a place out of reach and moving to catch it. • Speed: the rate of motion; the ability to move swiftly <p>Balance is a static and dynamic process that makes it possible for the body to maintain its center of gravity over its base of support. (8.1.d)</p> <ul style="list-style-type: none"> • Center of gravity: a balance point or that point about which a body would balance without a tendency to rotate. • Center of support: the area beneath a person that includes every point of contact that the person makes with the supporting surface; these points of contact may be body parts (e.g., feet or hands) or they may include things like crutches or a chair when a person is sitting in it. <p>The lower the center of the body, the larger the base of support, the closer the center of the body is to the base of support, the more stability increase. (8.1.d)</p>	<p>Open Physed Health Smart Virginia PE Central Dynamic PE ASAP</p>

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<p>Movement is stabilized in three planes of motion. (8.1.d)</p> <ul style="list-style-type: none"> • Frontal plane: the front and back halves of the body; side-to-side movements. • Sagittal plane: the right and left halves of the body; forward and backward movements. • Transverse plane: the top and bottom halves of the body; twisting movements. <p>Warming up and cooling down may help reduce risk of injury and improve athletic performance. (8.1.e)</p> <ul style="list-style-type: none"> • Warm-up: pumps nutrient-rich, oxygenated blood to muscles as it speeds up heart rate and breathing and raising body temperature, preparing the body for activity. A good warm-up should last five to 10 minutes and work all major muscle groups; start activity/exercise slowly, then pick up the pace. Warming up may help reduce muscle soreness and lessen risk of injury. • Cool down: after a workout, five to 10 minutes cooling down through a sequence of slow movements; helps prevent muscle cramps and dizziness while gradually slowing breathing and heart rate; gradual recovery of pre-exercise heart rate and blood pressure. <p>Improvements in performance depend upon the training principles of overload, specificity, and progression. (8.1.e)</p> <ul style="list-style-type: none"> • Specificity: desired adaption occurs in response to specific stress placed upon the body; exercise/activity needs to match desired outcome. • Overload: stress must be applied beyond that which the body is accustomed to; increase workload (added weight, time, intensity, and/or repetitions). 	

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<ul style="list-style-type: none"> Progression: once the body has adapted to a level of stress, additional stress is needed; progressively or gradually increase workload. <p>Technology can be used to provide opportunities to analyze movement, monitor progress toward motor skill and fitness goals, and assess learning/improvement. (8.1.f)</p> <p>Technology used to analyze and improve performance may include devices with video capability, apps with frame-by-frame and coaching markings, heart rate monitors, pedometers, and GPS-capable devices for speed and distance. (8.1.f)</p> <p>Movement-learning progression includes practice, self-assessment or peer assessment, correct movement/skill components, practice at a higher level, and reassessment. (8.1.g)</p> <p>Self-assessments/peer assessments allow students to observe specific skills to detect, analyze, and correct errors in personal movement patterns. (8.1.g)</p> <p>Feedback motivates, reinforces, and speeds learning. Feedback may be oral, written, or visual and should include specifics about what is being done well (in relation to critical elements) and what can be done to improve, and suggestions for ways to improve through practice. (8.1.g)</p>	

Anatomical Basis of Movement

- 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact with and respond to physical activity and movement.
- a) Explain how body systems interact with one another during physical activity.
 - b) Identify and describe biomechanical principles (e.g., spin, rebound, effects of levers, force, motion, rotation, and energy) to understand skillful movements.
 - c) Explain how offensive and defensive tactics and strategies are used to gain an advantage in games and sports.
 - d) Analyze performance in a variety of selected skills/activities using movement concepts of agility, power, coordination, reaction time, speed, force, motion, rotation, and energy of self and partner.
 - e) Analyze movement progressions (i.e., practice, self or peer assess, correct, practice at a higher level, and reassess) of a specific skill and use feedback to improve the movement skills of self and/or others.
 - f) Describe the effects of physical activity and exercise on the body, including cardiorespiratory, muscular, and nervous systems.
 - g) Apply knowledge of anatomy to accurately describe movements in relation to type of joint and associated movement/motion, associated bones and muscles, and type of muscle contraction.

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<p>Body systems interact during physical activity. (8.2.a, 8.2.f)</p> <ul style="list-style-type: none"> • The heart, which is part of the circulatory system, does not beat unless the brain, which is part of the nervous system, tells it to. • The muscular system needs the respiratory and circulatory systems to supply energy in the form of oxygen and nutrients. • Vigorous exercise stimulates the endocrine system, which causes the release of endorphins, which improve the mood and induce a feeling of calmness. <p>When the body is moving or producing movement, it obeys the same physical laws and biomechanical principles that apply to all types of motion. (8.2.b)</p> <ul style="list-style-type: none"> • Spin is created when a ball or any object is subjected to an external 	<p>In order to meet these standards, it is expected that students will</p> <ul style="list-style-type: none"> • explain how body systems interact with one another during physical activity (8.2.a); • identify and describe biomechanical principles to understand skillful movements (8.2.b); • explain how offensive tactics and strategies are used to gain an advantage in games and sports (8.2.c);

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<p>force creating a force couple. Topspin tends to shorten the flight of the ball, which dips sharply at the end of its flight. Backspin also shortens the flight of the ball, which falls more slowly at the end of the flight. Sidespin makes the ball curve left or right in the direction of the spin.</p> <ul style="list-style-type: none"> • Rebound (Newton’s Third Law): An object, when struck, will rebound in the opposite direction with the same amount of force with which it was hit. • Effects of levers: The bones of the body are levers as well as a stiff, straight object that can be used to lift weight, increase force, or create speed (example: bicep curl. The pivot point is the elbow, the lever is the lower arm/forearm, and the weight is the resistance. The force of the contraction of the muscles of the upper arm pulls up on the lever (lower arm/forearm), and arm and weight move up. • Force: a push or a pull; Newton’s Laws of Motion. • Motion: the process of moving or being moved. • Rotation: the action of rotating around an axis or center. • Energy: the capacity for doing work; energy in moving objects. <p>Offensive tactics involve the strategies or players that are used in an attempt to score in a game. (8.2.c)</p> <ul style="list-style-type: none"> • Offensive tactics include moving to open spaces, give and go, fakes, pivots, changing speed/direction, positioning in front of defender closer to a teammate, communicating with teammates, and continually moving/not standing still. <p>Defensive tactics involve the strategies or players that prevent the other team from scoring. (8.2.c)</p> <ul style="list-style-type: none"> • Defensive tactics include defensive body positioning (lowering center 	<ul style="list-style-type: none"> • analyze performance in a variety of selected skills/activities using movement concepts (8.2.d); • analyze movement progressions (practice, self-assessment or peer assessment, correct, practice at a higher level, and reassessment) of a specific skill and use feedback to improve the movement skills of self and/or others (8.2.e); • describe how physical activity and exercise affects the cardiorespiratory system (8.2.f); • describe the effects of physical activity and exercise on the body, including cardiorespiratory, muscular, and nervous systems (8.2.f); • apply knowledge of anatomy to accurately describe movements in relation to type of joint and associated movement/motion, associated bones and muscles, and type of muscle contraction. (8.2.g) <p>Additional resources: SHAPE America National Standards and Grade-Level Outcomes OPEN Online Physical Education Network</p>

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<p>of gravity, arms out), reducing space, use of sidelines, transitioning from offense to defense quickly, communicating with teammates, covering an individual opponent or area of the field of play, and reacting to gain defensive advantage.</p> <p>The ability to analyze components of a skill and movement concepts can result in improvement of self and/or others. (8.2.d)</p> <ul style="list-style-type: none"> • Movement performance examples using movement concepts: <ul style="list-style-type: none"> ○ Force: varies returns in net/wall games. ○ Agility: changing directions to hit a tennis ball. ○ Coordination: using the hands and eyes in a basketball dribble is called hand-eye coordination. ○ Speed: relying on speed to gain advantage, such as a basketball player making a fast break to perform a layup or a football player outrunning the defense to receive a pass. ○ Power: a combination of speed and muscular strength, such as a volleyball player moving quickly to the net and lifting their bodies high into the air. ○ Reaction time: to reach or respond quickly to what is seen, heard or felt. An example is stealing a base in baseball. <p>Movement learning progression includes practice, self-assessment or peer assessment, correct movement/skill components, practice at a higher level, and reassessment. (8.2.e)</p> <p>Self-assessments/peer assessments allow students to observe specific skills to detect, analyze, and correct errors in personal movement patterns. (8.2.e)</p> <p>Feedback motivates, reinforces, and speeds learning. Feedback may be oral,</p>	<p>Health Smart Virginia PE Central Dynamic PE ASAP KidsHealth.org</p>

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<p>written, or visual and should include specifics about what is being done well (in relation to critical elements) and what can be done to improve, and suggestions for ways to improve through practice. (8.2.e)</p> <p>Physical activity and exercise affect all major body systems. (8.2.f)</p> <ul style="list-style-type: none"> • Physical movement: stronger bones and muscles; promotes development of motor skills, joint flexibility, balance, coordination. • Body systems: improves muscle strength, endurance, delivers oxygen and nutrients to tissues from increased heart rate and respiration, helps cardiovascular system be more efficient, boosts energy; better sleep. • Brain development: movement/exercise increases heart rate, which pumps more oxygen to the brain, supplying brain cells with oxygen; promotes the production of new brain cells by the release of hormones; and aids in creating new synapses/new connections; improves thinking, cognition, and judgment skills. <p>Muscles move bones by working in pairs at joints. Flexors contract to bend a limb at the joint and then the flexor relaxes while the extensor contracts to straighten the limb at the same joint. (8.2.g)</p> <ul style="list-style-type: none"> • Joints and movements <ul style="list-style-type: none"> ○ Ball and socket: rounded surface of one bone moves within a depression on another bone; hip (head of femur and depression of pelvis); shoulder (humerus, scapula, clavicle); movement: flexion/extension. ○ Pivot: cervical vertebrae allows the head to from move side to side; the radius, ulna, and humerus allow for twist motion (movement of arm for forehand and backhand swing); movement: rotation of one 	

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<p>bone around another.</p> <ul style="list-style-type: none"> ○ Hinge: backward and forward swing motion; joints between bones of the fingers (phalanges); ankle (fibula, tibia, and talus of the foot); elbow (ulna and humerus); knee (femur, tibia, and patella); movement: flexion/extension. Example: arm bend at elbow. Type of joint: hinge; movement/motion: flexion/extension; bones: humerus, radius, ulna; muscles: biceps and triceps. The biceps contract while the triceps relaxes to bend the arm up, then the biceps relax and the triceps contracts to return the arm to the straight position. 	

Fitness Planning

- 8.3 The student will apply self-assessment skills and use technology to create and implement a personal fitness plan to improve or maintain personal fitness.
- a) Complete a self-assessment of current fitness levels and develop a comprehensive personal fitness plan, including SMART (specific, measurable, attainable, realistic, timely) goals, an action plan that incorporates the FITT (frequency, intensity, time and type of exercise) principle, a timeline, documentation of activities inside and outside school, roadblocks/barriers and solutions, midyear and end-of-year assessments, and reflection on progress for improving at least three components of health-related fitness.
 - b) Describe how an RPE scale can be used to adjust workout intensity during physical activity.
 - c) Use a variety of resources, including available technology tools and prior fitness data, to evaluate, monitor, and record activities for personal fitness improvement.
 - d) Create and implement an activity plan (that includes warm-up, cool-down and appropriate intensity levels) applying specificity, overload, and progression, and identify safety precautions to meet the Centers for Disease Control and Prevention’s Physical Activity Guidelines for Americans.
 - e) Describe the body’s physiological responses to warm-ups and cool downs.
 - f) Identify activities that use the anaerobic and aerobic energy systems.
 - g) Demonstrate perseverance in achieving fitness goals.

Essential Understandings	Essential Knowledge and Skills
<p>Fitness planning includes self-assessment of the health-related components of fitness and development and implementation of a personal fitness plan. (8.3.a)</p> <ul style="list-style-type: none"> • Health-related components of fitness <ul style="list-style-type: none"> ○ Muscular strength: the ability to exert a maximal amount of force for a short period of time, such as lifting weights. ○ Muscular endurance: the ability of a muscle to repeatedly exert force against resistance. ○ Flexibility: the ability of a joint to move through a full range of motion. 	<p>In order to meet these standards, it is expected that students will</p> <ul style="list-style-type: none"> • complete a self-assessment of current fitness levels and develop a comprehensive personal fitness plan (8.3.a); • describe how a rate of perceived exertion (RPE) scale can be used to adjust workout intensity (8.3.b);

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<ul style="list-style-type: none"> ○ Cardiovascular endurance: the ability of the heart, lungs, and blood vessels to deliver oxygen to working muscles. ○ Body composition: the components that make up a person’s body weight (percentages of fat, bone, water, and muscle in the human body). <p>Fitness planning includes:</p> <ul style="list-style-type: none"> • SMART (specific, measurable, attainable, realistic, timely) goals for improving and/or maintaining self-selected components of health-related fitness based on self-assessment of health-related components of fitness (using technology as appropriate) • An action plan that incorporates SOP (specificity, overload, and progression) training principles • An action plan that incorporates the FITT (frequency, intensity, time, and type of exercise) principle • A warm-up and cool down • Timeline for goal achievement and for activities • Documentation of activities inside and outside school using technology tools • Plan addresses/plans for roadblocks/barriers and solutions • Reassessment at mid-year and end-of-year • Reflection on progress at reassessment milestones and make changes to plan as needed. (8.3.a, 8.3.c, 8.3.d) <p>Perceived exertion is how hard a person feels like their body is working. Rate of perceived exertion (RPE) is a way of measuring physical activity intensity level. Scales may range from five to 20 levels. (8.3.b)</p> <p>Example (variation of Borg scale):</p>	<ul style="list-style-type: none"> • use a variety of resources to evaluate, monitor, and record activities for fitness improvement (8.3.c); • create and implement an activity plan (that includes a warm-up, cool down, and appropriate intensity levels) applying specificity, overload, and progression, and identify safety precautions to meet the Centers for Disease Control and Prevention’s Physical Activity Guidelines for Americans (8.3.d); • describe the body’s physiological responses to warm-ups and cool downs (8.3.e); • identify activities that use the anaerobic and aerobic energy systems (8.3.f); • demonstrate perseverance in achieving fitness goals. (8.3.g) <p>Additional resources: SHAPE America National Standards and Grade-Level Outcomes KidsHealth.gov Health Smart Virginia MyPlate.gov OpenPhyzed</p>

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<ul style="list-style-type: none"> • Level 1 – Very light activity (watching TV) • Level 2 – Light activity (can maintain for hours, easy to breathe) • Level 3 – Moderate activity (breathing heavily, somewhat comfortable) • Level 4 – Vigorous activity (borderline uncomfortable, short of breath) • Level 5 – Very hard activity (difficult to maintain exercise intensity, barely breathe) • Level 6 – Max effort activity (almost impossible to keep going, out of breath) <p>Fitness improvement can be evaluated through a variety of resources, including available technology, to evaluate, monitor, and record activities for fitness. (8.3.c)</p> <ul style="list-style-type: none"> • Technology available to monitor and record: pedometers, heart rate monitors, apps • Exercise journal: how you feel before, during, and after activity, energy level, successes and challenges, rate of perceived exertion <p>Selection of a measurement method of personal fitness depends on the purpose of the evaluation and what is being measured. (8.3.c)</p> <p>Combining the SOP principles will ensure that you are not only doing the right exercises but also doing them at a resistance, speed, and frequency that will force your body to adapt. (8.3.d)</p> <p>Activity planning based on Centers for Disease Control and Prevention’s Physical Activity Guidelines for Americans for 60 minutes of physical activity a day should include: (8.3.d)</p> <ul style="list-style-type: none"> • SMART goal(s) based on self-assessment of current physical activity 	<p>Physical Activity Guidelines for Americans, 2nd ed. Healthy Children.org</p>

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<p>levels</p> <ul style="list-style-type: none"> • Action plan strategies that include activities inside and outside school seven days a week and that includes warm-up, cool down, and appropriate intensity levels • Safety precautions for activities • Documentation of activities • Reflection of goal attainment. <p>The body has a physiological response to warm-ups and cool downs. (8.3.e)</p> <ul style="list-style-type: none"> • Effects of warm-ups: <ul style="list-style-type: none"> ○ Dilates the capillaries and raises the pulse rate, which enables more blood and oxygen to be available for the muscles. ○ Raises body temperature, which enhances the rate of ATP conversion. ○ Prepares muscles to operate over their full range. ○ Reduces the risk of injury. ○ Produces hormones like epinephrine, endorphins, growth hormone and testosterone, all of which increase the energy available for your workout. • Effects of cool downs: <ul style="list-style-type: none"> ○ Reducing to lighter exercises will help with the removal of lactic acid. ○ Prevents blood pooling that causes dizziness. ○ Stretching improves flexibility. ○ Slow down the heart rate. ○ Slows down the blood flow. ○ Slows down nervous system activity. ○ Helps minimize muscle fatigue and soreness. 	

Essential Understandings	Essential Knowledge and Skills
<p>Anaerobic exercise is typically used in non-endurance sports to build power and by body builders to build muscle mass. (8.3.f)</p> <ul style="list-style-type: none"> • Examples of anaerobic exercise: <ul style="list-style-type: none"> ○ Weightlifting ○ Sprinting and jumping ○ Any exercise that consists of short-exertion, high-intensity movement <p>Aerobic exercise includes any type of exercise but typically those performed at moderate levels of intensity for extended periods of time that maintain an increased heart rate. (8.3.f)</p> <ul style="list-style-type: none"> • Examples of aerobic exercise: <ul style="list-style-type: none"> ○ Walking ○ Running ○ Swimming ○ Cycling ○ Rowing <p>Having perseverance will help a person achieve their fitness goals. (8.3.g)</p> <ul style="list-style-type: none"> • Perseverance strategies <ul style="list-style-type: none"> ○ Set realistic goals (SMART goals) ○ Be persistent ○ Celebrate your successes ○ Create your non-negotiables (do away with excuses) ○ Monitor your progress 	

Social and Emotional Development

- 8.4 The student will describe and apply social and safety skills to achieve individual and group goals in physical activity settings.
- a) Describe and demonstrate best practices for participating safely in physical activity, exercise, and dance (e.g., injury prevention, proper alignment, hydration, use of equipment, implementation of rules, sun protection).
 - b) Describe and demonstrate appropriate encouragement and feedback to peers without prompting from the teacher.
 - c) Identify and demonstrate proper etiquette, respect for others, integrity, effective communication, problem-solving skills, conflict-resolution skills, self-management and teamwork skills while engaging in cooperative and dynamic physical activity and/or social dance.
 - d) Identify and demonstrate self-awareness in selecting stress-reducing activities (e.g., yoga, Pilates, tai chi).
 - e) Apply relationship skills and strategies (e.g., trust, compassion, empathy) that promote team/group dynamics and inclusion.
 - f) Analyze the proper use of equipment and self-management skills in relation to safety in physical activity.
 - g) Analyze and compare social and emotional benefits of participation in various activities.
 - h) Identify opportunities for social interaction through physical activity in the community.
 - i) Develop plans to enhance inclusion and reduce social exclusion/marginalization.

Essential Understandings	Essential Knowledge and Skills
<p>While there is a risk of injury with any type of physical activity, the benefits of staying active far outweigh the risks. (8.4.a)</p> <p>Safety practices for physical activity should include proper warm-up and cool down, safety equipment, injury prevention, proper alignment, hydration, use of equipment, implementation of rules, and sun protection. (8.4.a)</p> <ul style="list-style-type: none"> • Guidelines for safe physical activity: <ul style="list-style-type: none"> ○ Understand the risks but be confident that physical activity is safe for most individuals. ○ Choose types of physical activity that are appropriate for your current fitness level and health goals. ○ Increase physical activity gradually over time whenever more 	<p>In order to meet these standards, it is expected that students will</p> <ul style="list-style-type: none"> • describe and demonstrate best practices for participating safely in physical activity, exercise, and dance (8.4.a); • describe appropriate encouragement and feedback to peers (8.4.b); • identify and demonstrate proper etiquette, respect for others, integrity, and teamwork while engaging in physical activity and/or social dance (8.4.c); • identify and demonstrate basic

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<p>activity is necessary to meet health goals.</p> <ul style="list-style-type: none"> ○ Be protected by using appropriate gear and sports equipment, looking for safe environments, and following rules and procedures. Examples: Policies that promote the use of bicycle helmets reduce the risk of head injury among cyclists. Rules against diving into shallow water at swimming pools prevent head and neck injuries. ○ Making good choices about when, where, and how to be active reduces possible injuries and adverse events can be prevented. Example: During very hot and humid weather, lessen the chances of dehydration and heat stress by: <ul style="list-style-type: none"> ▪ Exercising in the cool of early morning as opposed to midday heat; ▪ Switching to indoor activities (playing basketball in the gym rather than on the playground); ▪ Changing the type of activity (swimming rather than playing soccer); ▪ Lowering the intensity of activity (walking rather than running). ○ Paying close attention to rest, shade, drinking enough fluids, and other ways to minimize effects of heat. ○ If you have chronic conditions or symptoms, consult your health care provider about the types and amounts of activity that is appropriate. <p>Appropriate encouragement and feedback should include positive specific comments about what a peer is doing well, specific comments that may help a peer improve skill/play, and effective verbal and nonverbal communication skills (8.4.b)</p>	<ul style="list-style-type: none"> ○ movements used in stress-reducing activities (8.4.d); ● apply relationship skills and strategies that promote team/group dynamics and inclusion (8.4.e); ● analyze the proper use of equipment and self-management skills used to be safe in physical activities (8.4.f); ● analyze and compare social and emotional benefits of participation in a variety of activities (8.4.g); ● identify opportunities for social interaction through physical activity in the community (8.4.h); ● develop plans to enhance inclusion and reduce social exclusion/marginalization (8.4.i). <p>Additional resources: OPEN Online Physical Education Network Health Smart Virginia PE Central EverFi KidsHealth.org</p>

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<p>Etiquette is a code of conduct based on a set of societal rules that act as a catalyst for positive human interactions (e.g., shaking hands/giving high fives/congratulating other team at the end of a game). (8.4.c)</p> <p>Respecting others may include (8.4.c)</p> <ul style="list-style-type: none"> • Showing interest and appreciation for other people’s cultures and backgrounds • Not insulting, teasing, or making fun of people • Listening to others when they speak • Being considerate of people’s likes and dislikes • Not talking about people behind their backs • Being sensitive to other people’s feelings. <p>Integrity is the quality of being honest and fair. Integrity in physical activity settings allows for inclusive, fair, and safe participation for all participants. (8.4.c)</p> <p>Teamwork skills may include communication, conflict resolution, decision making, problem solving, and self-management skills (8.4.c)</p> <ul style="list-style-type: none"> • Problem-solving <ul style="list-style-type: none"> ○ Identify/define the problem. ○ Generate several solutions. ○ Evaluate the pros and cons of each solution. ○ Choose a solution. ○ Implement, document, and reflect on the solution. • Conflict resolution skills <ul style="list-style-type: none"> ○ Capable of managing stress while remaining calm (calming oneself 	

Essential Understandings	Essential Knowledge and Skills
<p>before managing the conflict).</p> <ul style="list-style-type: none"> ○ Being emotionally aware of yourself and the other person (How are you feeling? How is the other person feeling?) ○ Stating the conflict. ○ Proposing solutions or compromises. ○ Agreeing on a solution or compromise to try. • Communication skills <ul style="list-style-type: none"> ○ Listening carefully to others. ○ Speaking directly to each other. ○ Speaking honestly, and with kindness. • Decision-making skills <ul style="list-style-type: none"> ○ Identify the decision to be made. ○ List all the possible options. ○ Evaluate the pros and cons of each option. ○ Make your decision based on the evaluation of each option. ○ Reflect on the decision that was made. • Self-management skills <ul style="list-style-type: none"> ○ Maintaining self-control. ○ Respecting the rights and feelings of others. <p>Physical activity is an effective means of reducing stress. Stress-reducing activities may include: (8.4.d)</p> <ul style="list-style-type: none"> • Yoga: mind-body exercises that include deep breathing, flexibility, strength, balance, coordination, and relaxation • Pilates: low-impact flexibility, muscular strength, and endurance movements that emphasizes postural alignment, core strength, and muscle balance 	

Essential Understandings	Essential Knowledge and Skills
<ul style="list-style-type: none"> • Tai chi: low-impact, slow-motion continuous movements, described as meditation in motion. <p>A responsible participant views behaving well and including others as important as playing safely. This includes displaying: (8.4.e)</p> <ul style="list-style-type: none"> • Trust: having confidence in one another • Compassion: recognizing others’ distress and having a desire to alleviate it • Empathy: being aware of and sensitive to others’ thoughts, feelings, and experiences <p>Team-building activities are simulating problem-solving tasks designed to help group members develop their capacity to work effectively together. (8.4.e)</p> <p>Group dynamics describes the way members of a group interact with one another. (8.4.e)</p> <p>Supportive behaviors may include listening, helping, encouraging, ensuring everyone is included, taking turns, following rules, and modifying rules as needed for inclusion. (8.4.e, 8.4.i)</p> <p>Using self-management skills and equipment properly allows for safe participation in physical activities. (8.4.f)</p> <ul style="list-style-type: none"> • Self-management skills: problem-solving, flexibility, honesty, communication, confidence, integrity <p>Exercise/physical activity improves mental health by reducing anxiety, depression, and negative mood and by improving self-esteem and cognitive</p>	

Essential Understandings	Essential Knowledge and Skills
<p>function. Exercise has also been found to improve feelings such as low self-esteem and social withdrawal. (8.4.g)</p> <p>Physical activity also causes the release of endorphins in the brain, a chemical that triggers a positive feeling in the body, the body’s natural “feel good” chemicals also help to reduce/relieve pain and stress. (8.4.g)</p> <p>Exercise enhances mood and overall well-being, provides opportunities to connect with family and friends, enjoy the outdoors, unwind, and meet new people with similar interests. Exercising with others can be motivating, create a sense of belonging, and provide opportunities to develop social skills. (8.4.h)</p> <p>Participation in physical activities creates enjoyment when engaging in activities that a person likes to do and participate with people they enjoy. (8.4.h)</p> <p>Opportunities for social interaction through physical activity in the community may include parks and recreation centers, youth leagues, faith community activities, and youth activities and clubs. (8.4.h)</p> <p>Creating opportunities that allow everyone to participate and succeed contributes to an inclusive environment. (8.4.i)</p> <ul style="list-style-type: none"> • Inclusion: feeling a sense of belonging, acceptance, and value. <ul style="list-style-type: none"> ○ Belonging: feeling needed, important, and respected within the group ○ Accepted: being welcomed into the class’s community ○ Valued: knowing you are worthy and desirable 	

Essential Understandings	Essential Knowledge and Skills
<ul style="list-style-type: none"> • Marginalization: treatment of a person or group as insignificant or peripheral 	

Energy Balance

- 8.5 The student will explain the relationship of caloric intake, caloric expenditure, and body composition.
- a) Describe the relationship between inadequate caloric intake and health risk factors.
 - b) Explain the role of energy balance in weight management and body composition.
 - c) Describe types of body-composition measures.
 - d) Explain a rate of perceived exertion (RPE) scale and how it relates to energy expenditure.
 - e) Create a one-day energy balance plan, including meals, snacks and physical activity, based on Recommended Dietary Allowance (RDA).

Essential Understandings	Essential Knowledge and Skills
<p>Inadequate caloric intake may affect growth and development and increase the risk of chronic disease, including obesity. (8.5.a)</p> <p>Energy balance is the balance between calories consumed (energy in/caloric intake) and calories expended (energy out/caloric expenditure). (8.5.b)</p> <p>Body composition is the components that make up a person’s body weight (percentages of fat, bone, water, and muscle in the human body). (8.5.b)</p> <p>Moderate to vigorous physical activity (MVPA) contributes to balancing the energy from calories consumed to help maintain weight. (8.5.b)</p> <p>Energy balance in children supports natural growth without promoting excess weight gain. (8.5.b)</p> <p>Many factors influence body composition, including gender, age, diet, activity level, and genetics. (8.5.c)</p>	<p>In order to meet these standards, it is expected that students will</p> <ul style="list-style-type: none"> • describe the relationship between inadequate caloric intake and health risk factors (8.5.a); • explain the role of energy balance in weight management and body composition (8.5.b); • describe types of body-composition measures (8.5.c); • explain a rate of perceived exertion (RPE) scale (8.5.d); • explain how RPE relates to energy expenditure (8.5.d); • create a one-day energy balance plan based on Recommended Dietary Allowance (RDA) and physical activity guidelines (8.5.e).

Essential Understandings	Essential Knowledge and Skills
<p>Body composition analysis is an important part of fitness assessment because it shows how much of your body weight is fat and lean muscle mass. (8.5.c)</p> <ul style="list-style-type: none"> • Body-composition measures <ul style="list-style-type: none"> ○ Body mass index (BMI) based on height and weight; a high BMI can be an indicator of a high percentage of body fat; can be used to screen for weight categories that may lead to health problems, but it is not diagnostic of the body fatness or health of an individual (CDC) ○ Skinfold calipers: measure the thickness of subcutaneous fat at three or seven different sites on the body ○ Body circumference measurements: may include neck, waist, and hips ○ Bioelectrical impedance analysis: a person places their hands on a device that runs a small current of electricity through the body for about 20 seconds to gauge body composition ○ Waist Hip Ratio: calculated by dividing waist measurement by hip measurement; $WHR = \text{waist circumference} / \text{hip circumference}$ ○ Waist circumference ○ Technologies are available for wearable (wrist) devices that measure body composition <p>Rate of perceived exertion (RPE) is a way of measuring physical activity intensity level. Intensity levels are part of the FITT principle for meeting personal fitness and exercise goals. Scales may range from five to 20 levels. (8.5.d)</p> <p>Example (variation of Borg scale):</p> <ul style="list-style-type: none"> • Level 1 – Very light activity (watching TV) • Level 2 – Light activity (can maintain for hours, easy to breathe) 	<p>Additional resources:</p> <ul style="list-style-type: none"> SHAPE America National Standards and Grade-Level Outcomes OpenPhyEd Health Smart Virginia PE Central KidsHealth.gov MyPlate.gov Physical Activity Guidelines for Americans, 2nd ed. American Heart Association

Essential Understandings	Essential Knowledge and Skills
<ul style="list-style-type: none"> • Level 3 – Moderate activity (breathing heavily, somewhat comfortable) • Level 4 – Vigorous activity (borderline uncomfortable, short of breath) • Level 5 – Very hard activity (difficult to maintain exercise intensity, barely breathe) • Level 6 – Max effort activity (almost impossible to keep going, out of breath) <p>Using the rate of perceived exertion (RPE) scale helps you to recognize your body’s signs of exertion and to modify your workout intensity. (8.5.d)</p> <ul style="list-style-type: none"> • The more intense an exercise is and/or the longer the duration of exercise, the greater the energy (calories) expended per minute. <p>Personalized meal plans are based on Recommended Dietary Allowance (RDA) for your age, sex, height, weight, and physical activity level. (8.5.e)</p> <p>When creating a one-day energy balance plan, consider all meals and snacks as well as incorporating 60 minutes of physical activity. (8.5.e)</p> <ul style="list-style-type: none"> • ChooseMyPlate.gov provides tools to personalize your RDA when creating a plan for energy balance. 	